Leveraging the Potential of Argentine Cities

A Framework for Policy Action

Elisa Muzzini, Beatriz Eraso Puig, Sebastian Anapolsky, Tara Lonnberg, and Viviana Mora
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Argentina is a country of cities, with 90 percent of its population living in urban areas. Argentine cities are extremely diverse geographically and in size—ranging from metropolitan Buenos Aires (one of Latin America’s urban giants) to the small, scattered urban settlements of the Patagonia region.

Although highly diverse, Argentine cities have a common denominator: they all play a key role in fostering Argentina’s sustainable economic growth and the improving living standards of its population, especially the most vulnerable. Not only are cities a spatial concentration of people, but they also generate agglomeration economies by concentrating ideas, talent, and knowledge.

However, leveraging the benefits of agglomeration economies, while containing its costs in terms of land, housing, and labor market failures, requires the right set of public policies, such as effective and coordinated territorial planning, affordable housing, an efficient municipal finance system, integrated urban transport, and inclusive social and employment policies. In highly urbanized countries like Argentina, these traditional urban policies also need to be complemented by second-generation urban policies aimed at fostering human capital and innovation to help the country move forward to a high-income economy.

What are the main trends and spatial patterns of Argentina’s urbanization that underlie agglomeration economies? How has urban poverty and livability evolved together with the employment generation capacity of Argentina’s cities? Are urban policies in Argentina leveraging or undermining the benefits of agglomeration economies? Are Argentine cities fully reaping the benefits of agglomeration economies to deliver improvements in prosperity and livability?

These are the questions addressed by this study, Leveraging the Potential of Argentine Cities: A Framework for Policy Action, which aims to deepen our empirical understanding of the interplay between urbanization and agglomeration economies in Argentina and the implications for policy action. This study provides a conceptual framework, empirical data, and strategic directions for leveraging the potential of Argentine cities. Rather than providing a comprehensive assessment of all public policies affecting the urban space in Argentina, the study exemplifies how selected traditional and second-generation urban policies can impact the prosperity and livability of cities. As a way to foster
Leveraging the Potential of Argentine Cities

Evidence-based dialogue on the urban agenda in Argentina, the study focuses on five policy areas: territorial planning, housing, municipal finance, urban transport, and local economic development.

Argentina’s path to economic prosperity and social well-being is through efficient, sustainable, and economically thriving cities. Cities are part of the solution to Argentina’s sustainable economic growth, given their assets—such as a strong, educated middle class; a long history of public policy making and industrial development; a skilled and highly creative workforce; and the supply of abundant natural resources.

However, the study finds that Argentine cities need to address three main challenges to take full advantage of the benefits of agglomeration economies: (1) moving toward a more balanced regional development; (2) transitioning from local to global cities; and (3) transitioning from urban sprawl to articulated densities.

To address these challenges, Argentina needs the leadership of the federal government, the coordinating power of provinces, and the capacity of empowered, financially sound municipalities. Argentine cities also need system-wide policy reforms in areas such as territorial planning, municipal finance, housing, transport, and local economic development.

The study strengthens the knowledge base for understanding urbanization and economic growth in Argentina by complementing analysis based on statistical data sources with innovative approaches to spatial analysis. For example, it makes use of nighttime light satellite imagery to estimate gross domestic product (GDP) at the agglomeration level in the absence of subnational GDP data. The study also presents the results of an innovative city-level diagnostic tool—the prosperity and livability indexes—applied to a sample of agglomerations in Argentina. As new data become available, the prosperity and livability indexes have the potential to become a useful tool to help decision makers guide policy making at the city level.

The study is the result of a collaborative effort and fruitful partnership with top research organizations and universities whose contributions and knowledge sharing have been invaluable for the conception of this book, including the Research Center of Urban and Housing Policies (Centro de Investigación de Políticas Urbanas y Vivienda, CIPUV) of the Universidad Torcuato Di Tella; the Center for Distributive, Labor, and Social Studies (Centro de Estudios Distributivos Laborales y Sociales, CEDLAS) of the Universidad Nacional de La Plata; and experts at the Universidad de Buenos Aires and Universidad Nacional de General Sarmiento in Argentina, and WorldPop at the University of Louisville in the United States.

The study aims to foster timely dialogue on Argentina’s urban policy directions, and assist in framing policies and interventions for addressing the challenges of urbanization and harnessing the great potential of Argentine cities. We hope this book will help government, private sector, civil society,
and development partners identify and think through the costs and benefits of policies intended to spur sustainable growth and improve livability in Argentina’s cities.

Jesko Hentschel
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The World Bank

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Social, Urban, Rural and Resilience Global Practice
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This report has been written by a team comprising Elisa Muzzini, senior economist and task team leader; Beatriz Eraso Puig, urban specialist; Sebastian Anapolsky, urban specialist and consultant; Tara Lonnberg, urban specialist and consultant; and Viviana Mora, economist and consultant. Luis Quintero, economist and consultant; Chandan Deuskar, urban specialist and consultant; Christoph Lakner, economist; Katie McWilliams, information technology officer; and Benjamin Stewart, GIS specialist provided inputs for part I of the report. For part II, inputs were provided by Fernando Murrillo, urban development consultant; Ignacio Brüera, regional economies consultant; Alejandro López Accotto, municipal finance consultant; Andrés Gartner, urban transport consultant; and Marisa García Lozano, urban analyst and consultant.

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Leveraging the Potential of Argentine Cities

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Lucia Spinelli, senior energy specialist; Santiago Scialabba, social development specialist; John Morton, senior urban environment specialist; and Karina Campos, environmental consultant. The team received support from Carolina Crerar, communications associate, and Fernando Braganca, Ana Daza and Caleb Johnson, program assistants.

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### Abbreviations

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<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<tr>
<td>ACUMAR</td>
<td>Autoridad de Cuenca Matanza Riachuelo (Matanza-Riachuelo River Basin Authority)</td>
</tr>
<tr>
<td>ANSES</td>
<td>Administración Nacional de la Seguridad Social (National Administration of Social Security)</td>
</tr>
<tr>
<td>AREA</td>
<td>Apoyo para la Reactivación del Empleo en Argentina (Technical Assistance for Employment Stimulation in Argentina)</td>
</tr>
<tr>
<td>BRT</td>
<td>bus rapid transit</td>
</tr>
<tr>
<td>CAECE</td>
<td>Centro de Altos Estudios en Ciencias Exactas</td>
</tr>
<tr>
<td>CALF</td>
<td>Cooperativa Provincial de Servicios Públicos y Comunitarios de Neuquén Limitada</td>
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<tr>
<td>CEDLAS</td>
<td>Centro de Estudios Distributivos Laborales y Sociales, Universidad Nacional de La Plata (Center for Distributive, Labor, and Social Studies, National University of La Plata)</td>
</tr>
<tr>
<td>CIPUV</td>
<td>Centro de Investigación de Políticas Urbanas y de Vivienda, Universidad Torcuato Di Tella (Research Center of Urban and Housing Policies, Torcuato Di Tella University)</td>
</tr>
<tr>
<td>COFEPLAN</td>
<td>Consejo Federal de Planificación (Federal Council for Planning)</td>
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<tr>
<td>CONAVI</td>
<td>Consejo Nacional de Vivienda (National Housing Council)</td>
</tr>
<tr>
<td>CNRT</td>
<td>Comisión Nacional de Regulación del Transporte (National Commission for Transport Regulation)</td>
</tr>
<tr>
<td>DAMI</td>
<td>Desarrollo de Áreas Metropolitanas del Interior (Development of the Interior Metropolitan Areas)</td>
</tr>
<tr>
<td>DN</td>
<td>digital number</td>
</tr>
<tr>
<td>ECOM</td>
<td>Ente de Coordinación Metropolitana (Metropolitan Coordination Body)</td>
</tr>
<tr>
<td>EIU</td>
<td>Economist Intelligence Unit</td>
</tr>
<tr>
<td>EPAS</td>
<td>Ente Provincial de Agua y Saneamiento (Water and Sanitation Provincial Entity)</td>
</tr>
<tr>
<td>EPEN</td>
<td>Ente Provincial de Energía del Neuquén (Neuquén Energy Provincial Entity)</td>
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<tr>
<td>EPH</td>
<td>Encuesta Permanente de Hogares (Permanent Household Survey)</td>
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Leveraging the Potential of Argentine Cities

Abbreviations

FGS  Fondo de Garantía de Sustentabilidad (Sustainability Guarantee Fund)
FONAVI Fondo Nacional de la Vivienda (National Housing Fund)
FONIPREL Fondo de Promoción a la Inversión Pública Regional y Local (Fund for the Promotion of Regional and Local Public Investment)
FSF Fondo Solidario Federal (Federal Solidarity Fund)
GDP gross domestic product
GIS geographic information system
GPP gross provincial product
GPS global positioning system
HHI Herfindahl-Hirschman Index
IBRD International Bank for Reconstruction and Development
ICT information and communications technology
IDB Inter-American Development Bank
IDESAN Instituto para el Desarrollo Social Argentino (Argentine Institute for Social Development)
IDUAR Instituto de Desarrollo Urbano, Ambiental y Regional (Institute for Urban, Environmental and Regional Development)
INDEC Instituto Nacional de Estadística y Censos (National Institute of Statistics and Censuses)
ISIC International Standard Industrial Classification
km kilometer
km² square kilometer
LAC Latin America and the Caribbean
LQ location quotient
NOAA National Oceanic and Atmospheric Administration
NTL nighttime light emissions
OE Oxford Economics
OECD Organisation for Economic Co-operation and Development
PET Strategic Territorial Plan (Plan Estratégico Territorial)
PIP Parque Industrial de Pila (Pilar Industrial Park)
PRO.CRE.AR Programa Crédito Argentino (Argentine Credit Program)
PROFEDER Programa Federal de Apoyo al Desarrollo Local Sustentable (Federal Program for Sustainable Local Development)
PROMEBA Programa de Mejoramiento de Barrios (Neighborhood Improvement Program)
PROSAP Programa de Servicios Agrícolas Provinciales (Provincial Agricultural Service Program)
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<tr>
<td>PTUMA</td>
<td>Proyecto de Transporte Urbano para Áreas Metropolitanas (Urban Transport Project for Metropolitan Areas)</td>
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<tr>
<td>R&amp;D</td>
<td>research and development</td>
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<tr>
<td>RENPI</td>
<td>Registro Nacional de Parques Industriales (National Registry of Industrial Parks)</td>
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<tr>
<td>SMEs</td>
<td>small and medium enterprises</td>
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<tr>
<td>SMS</td>
<td>short message service</td>
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<tr>
<td>SPL</td>
<td>Programa de Sistemas Productivos Locales (Local Production Systems Program)</td>
</tr>
<tr>
<td>SUBE</td>
<td>Sistema Único de Boleto Electrónico (Single Electronic Ticket System)</td>
</tr>
<tr>
<td>SUV</td>
<td>sport utility vehicle</td>
</tr>
<tr>
<td>UDI</td>
<td>Unidades de Inversión (Investment Unit)</td>
</tr>
<tr>
<td>UNPSJB</td>
<td>Universidad Nacional de la Patagonia San Juan Bosco (National University of Patagonia San Juan Bosco)</td>
</tr>
<tr>
<td>UNSAM</td>
<td>Universidad Nacional de San Martín (National University of San Martín)</td>
</tr>
<tr>
<td>WMATA</td>
<td>Washington Metropolitan Area Transit Authority</td>
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<tr>
<td>ZFUs</td>
<td>zones franches urbaines (urban “free zones”)</td>
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Overview

Argentina’s path to economic prosperity is through efficient, sustainable, and economically thriving cities. About 90 percent of Argentine people currently live in cities, which continue to grow faster than the national average. Not only are cities a spatial concentration of people, but also they generate agglomeration economies by concentrating ideas, talent, and knowledge. The benefits of agglomeration economies happen through jobs. Sharing of inputs, better labor matching, and knowledge spillovers are the main forces behind the geographic concentration of industries and economic activity in urban environments. However, coordination failures in labor, land, and housing markets often cause poor functioning in cities, limiting the benefits of agglomeration economies. Agglomeration externalities can therefore also lead to higher costs—from more expensive land to congestion and environmental degradation. The interplay of these opposing agglomeration externalities determines city-level outcomes of prosperity and livability. Agglomeration externalities thus need to be managed so that prosperity does not come at the expense of livability (see box O.1 for an overview of agglomeration economies).

Macroeconomic stability holds the key for economic growth. The macroeconomic story dominates the debate in Argentina, and stabilizing the macroeconomic environment is undoubtedly critical for cities to thrive. However, Argentina needs more than macroeconomic stability for economic growth. Argentine cities are part of the solution, and they have the potential to become a magnet for economic growth. They can count to a varying degree on a strong, educated middle class; a long history of public policy making and industrial development; a skilled and highly creative workforce; a supply of abundant natural resources; a vibrant and cultural arts scene; and the resilience of the Argentine people in the face of extreme crisis. The challenges that Argentine cities face need to be addressed now so that they will not become a binding constraint once macroeconomic imbalances are corrected. Thus, urban development is an agenda of national importance for Argentina.

Argentina’s national urban vision is reflected in the Strategic Territorial Plan (Plan Estratégico Territorial—PET) (Government of Argentina, Ministry of Federal Planning, Public Investment, and Services 2011, 2012). The vision is
Box O.1 Agglomeration Economies

The internal geography of a city is an outcome of the trade-off between the positive and negative externalities associated with agglomeration economies (see Fujita and others 1999; World Bank 2009). Urbanization results from the balance of two competing sets of agglomeration economies. On the one hand, urbanization gives rise to positive agglomeration externalities through the benefits that arise from spatial clustering and concentration of economic activities. In turn, those externalities promote greater efficiency, productivity, and innovation. Positive agglomeration externalities may result from clustering of firms in the same sector (localization economies) or may be generated by agglomeration of firms across sectors (urbanization economies). Firms gain from spatial clustering by an increased scale of markets, ease of communication, increased knowledge sharing and spillovers, and access to human capital and other inputs and outputs, as well as from sharing common urban infrastructure (see, for instance, Glaeser and others [1992] and Porter [1990]). On the other hand, market and coordination failures reduce the extent to which cities can benefit from agglomeration economies by generating negative externalities in land, housing, and labor markets. For example, the market fails to price the social value of open and green space, a motorist fails to bear the social costs of traffic congestion caused by his or her driving, and a real estate developer does not take into consideration the collective costs of public infrastructure needs caused by his or her projects.

The presence of negative externalities implies that spatial outcomes may not necessarily be optimal, thus justifying the role of public policy in addressing the associated market and coordination failures. Governments have several policy instruments to address market and coordination failures and to amplify the positive externalities of urbanization, thus affecting the ability of cities to generate prosperity and to provide adequate quality of life. Those interventions include traditional urban policies such as territorial planning, municipal finance, housing, and urban transport. For example, as urbanization pressures increase, demand for land rises and planning tools that will accommodate urban expansion becomes increasingly important. And the peculiarity of housing exposes it to multiple points of market and coordination failures not found together either in private consumer goods or in other capital goods. Those market and coordination failures (such as housing affordability and legal rights) need to be addressed by appropriate government policies.

In the current global environment, traditional urban policies are not enough to generate optimal outcomes in highly urbanized countries such as Argentina. Second-generation urban policies, which go beyond the traditional urban agenda, are needed to enhance and take full advantage of positive externalities among private firms and other players in the local economy. Such policies ultimately help the country move forward to a high-income economy. Those policies, often labeled under the local economic development umbrella, include a broad array of instruments for enhancing innovation, human capital formation, and skills. For example, universities and companies may invest too little in research for what would be socially optimal if they fail to take account of the economic benefits of knowledge spillovers for society as a whole.

to move toward balanced, integrated, sustainable, and equitable territorial development by (a) helping intermediate cities to grow; (b) addressing regional imbalances in economic outcomes, access to services, and living conditions; and (c) promoting accessibility and connectivity. Achieving this vision requires leveraging the potential of the whole system of Argentine cities.

This study aims to deepen the empirical understanding of the interplay between urbanization and agglomeration economies in Argentina by asking the following questions:

- What are the main trends and spatial patterns of Argentina’s urbanization that underlie agglomeration economies?
- Are urban policies leveraging or undermining the benefits of agglomeration economies?
- Are Argentine cities fully reaping the benefits of agglomeration economies to deliver improvements in prosperity and livability?

By addressing such questions and exploring underlying issues and their implications for action, this study provides a conceptual framework, empirical data, and strategic directions for leveraging the potential of Argentine cities and for supporting the government of Argentina in achieving its urban vision. As a way to exemplify how policies can have an important effect on prosperity and livability in the presence of externalities and of market and coordination failures, the diagnostics focus on traditional urban policy areas with a clear spatial outcome: territorial planning, municipal finance, housing, and urban transportation. And the diagnostics also cover urban policies for local economic development aimed at fostering innovation and human capital. Such policies are an example of second-generation urban policies that go beyond the traditional urban agenda (see box O.1 for a description of such policies).

The intent of this study is not to carry out a comprehensive assessment of all public policies in the urban space. Rather, it is to exemplify how urban policies can have an important effect on prosperity and livability by influencing the dynamics of urban development and the resulting internal geography of cities and distribution of resources. Therefore, this study does not cover other public policies that are equally important to correct market and coordination failures for enhanced prosperity and livability. Those public policies include education and skill formation, health policies, environmental policies, and social safety nets.

The report is organized in two parts. Part I assesses urbanization trends and spatial patterns that underlie agglomeration economies in Argentina. That part first provides an overview of urbanization and growth in Argentina; it then presents an assessment of main demographic trends affecting urbanization in Argentina in recent years. It also assesses spatial economic trends, including productivity, employment composition, and employment growth drivers, and it analyzes urban physical expansion trends from 2001 through 2010.

Part II assesses selected public policies and instruments that are available to Argentine cities for managing agglomeration forces, namely, territorial planning, municipal finance, housing, urban transport, and local economic development.
It then conducts a comparative assessment of prosperity and livability outcomes for a sample of agglomerations. Finally, it draws the main conclusions and proposes strategic directions for leveraging the potential of Argentine cities for enhanced prosperity and livability. The definition of Argentina’s urban space and classification of agglomerations used for the analysis are described in box O.2.

**Box O.2 Argentina’s Geography and Urban Space**

Argentina is a federal country with three levels of governments: federal, provincial, and local. It consists of 23 provinces and the city of Buenos Aires—whose status is similar to a province. On the basis of the statistical definition of the National Institute of Statistics and Censuses (INDEC), the country is divided into six geographical regions: metropolitan Buenos Aires, Pampeana, Northwest, Northeast, Cuyo, and Patagonia. Each geographic region comprises several provinces, as detailed in map BO.2.1. This study follows INDEC’s definition of regions unless otherwise specified. In a few instances when data were available only at the provincial level, it was not possible to disaggregate information for metropolitan Buenos Aires alone. In those cases, as noted throughout the report, the Buenos Aires region comprises metropolitan Buenos Aires and the rest of the Buenos Aires province that officially belongs to the Pampeana region.

Agglomerations comprise one or more localities. A locality is a territorial division whose boundaries are defined by geographic characteristics or modifications in the land (that is, buildings and streets). While localities are territorial entities defined by INDEC, municipalities are political entities established by the provincial governments. A municipality may coincide with a locality or can be composed of multiple localities, depending on the municipal system in place in the province. Based on INDEC’s official definition of urbanization, all localities with a population of 2,000 or more are considered urban.

The study adopts a geographic concept of urban settlement according to INDEC’s definition of agglomeration, rather than using a politico-administrative definition (INDEC 2009). An agglomeration is defined as a territory whose built-up area incorporates a city core (usually a municipality) and the suburban areas adjacent to the municipal boundaries. This study will use the terms agglomerations, urban areas, and cities interchangeably. Thus, the boundaries of agglomerations do not coincide with the politico-administrative boundaries of municipalities, and agglomerations tend to comprise several municipalities. Agglomerations are named by their core municipality—in other words, San Salvador de Jujuy in this report refers to the broader metropolitan area that surrounds (and includes) the municipality of San Salvador de Jujuy.

For analytical purposes, agglomerations are classified into the following six categories on the basis of 2010 population size (INDEC 2010): (a) metropolitan Buenos Aires, (b) top five agglomerations (700,000 to 1.5 million), (c) large agglomerations (700,000 to 300,000), (d) intermediate agglomerations (300,000 to 100,000), (e) small agglomerations (50,000 to 100,000), and (f) towns (2,000 to 50,000).

We refer to the agglomeration of Buenos Aires in this study as metropolitan Buenos Aires to distinguish it from the city of Buenos Aires, which is the center of the metropolitan area and a subnational government with special politico-administrative status. Note that metropolitan Buenos Aires, as defined by INDEC, is both a region and an agglomeration.
Buenos Aires includes the city of Buenos Aires and departments, or partidos, from 32 municipalities that belong to the Buenos Aires province. In this study, these localities are referred to as peri-urban metropolitan Buenos Aires. They compose the total area of 14 municipalities, plus portions of another 18 (INDEC 2003). The rest of the departments in the Buenos Aires province are in the Pampeana region.⁸

The analysis presented in the report uses census data for all the agglomerations in Argentina as well as data from INDEC’s Permanent Household Survey (Encuesta Permanente de Hogares, or EPH). The EPH covers a representative sample of 31 agglomerations (referred to as the “EPH agglomerations”), including all provincial capitals and 28 of the 31 agglomerations with more...
Box O.2 Argentina’s Geography and Urban Space (continued)

Map BO.2.2 Argentina’s EPH Agglomerations

Sources: Based on cartography from INDEC; INDEC 2010.

Notes: EPH = Permanent Household Survey (Encuesta Permanente de Hogares). City size categories are as follows: metropolitan Buenos Aires, top five agglomerations (700,000–1.5 million), large agglomerations (300,000–700,000), intermediate agglomerations (100,000–300,000), and small agglomerations (50,000–100,000). Catamarca refers to San Fernando del Valle de Catamarca.

than 100,000 inhabitants, accounting for approximately 70 percent of the total urban population. The location of each EPH agglomeration is detailed in map BO.2.2. The population census and the EPH adopt broadly consistent definitions of agglomerations. The statistical data are complemented with spatial analysis of nighttime light emissions and satellite images.

Note: a. A department (departamento) is an administrative subdivision of the province. In the Buenos Aires province, departments are referred to as partidos, and their boundaries coincide with municipal boundaries. In other provinces, departments generally comprise more than one municipality, with significant variation across provinces depending on the municipal system in place.
Part I Urbanization Trends and Spatial Patterns

Urbanization and Growth

Argentina is a highly urbanized country, which is characterized by a mature urban system of stark geographic contrasts, and has one of the highest primacies in Latin America. Its steady pattern of urbanization contrasts with repeated cycles of financial crises.

Argentina has one of the longest histories of urbanization among Latin American countries. In 1930, when Latin America was still largely a rural area, Argentina was already predominantly urban. On the basis of the official national definition of urbanization, Argentina is one of the most urbanized countries of Latin America—with 91 percent of the population living in urban areas (INDEC 2010a). It has largely completed the spatial transformation associated with urbanization—with only 8.3 percent of gross domestic product (GDP) in agriculture in 2014 (World Bank 2015a).

Argentina stands apart for its high concentration of population around the capital city. Argentina is one of the countries with the highest demographic concentration of population in the world. With a population of about 13.6 million, metropolitan Buenos Aires is one of Latin America’s urban giants, accounting for 37 percent of urban population and nearly half of Argentina’s GDP (INDEC 2010a). Whereas cross-country empirical evidence suggests that metropolitan Buenos Aires may be oversized, from a policy perspective the relevant question is not necessarily whether the city is too large but rather how the costs of agglomeration economies can be managed efficiently in a metropolitan area of this size, and how to avoid a policy bias that may indirectly benefit the capital city (Campante and Do 2009).

Argentina’s steady urbanization contrasts with its unsteady economic trajectory, which is characterized by repeated financial crises. Argentina’s economy has grown less than other highly urbanized Latin American countries in GDP per capita, with periods of reduction in GDP per capita in 1990 and 2002 in correspondence with the financial crises. As a result, empirical evidence indicates that urbanization and GDP per capita have been less correlated in Argentina than in the rest of Latin America from 1960 through 2013 (see figure O.1).

An analysis of agglomeration economies in Argentina cannot overlook the regional dimension. Argentina is a diverse land of stark geographic and economic contrasts. The correlation between urbanization and economic development varies to a significant extent across regions. The correlation is the weakest in the Northeast region from 1993 through 2013 (0.65 percent compared to an average of 0.79 percent in Argentina). The Northeast region experienced both the fastest urbanization and the lowest economic growth among Argentina’s regions. It has been characterized by a persistent pattern of urbanization without economic growth until 2009, although the correlation between urbanization and economic growth grew significantly stronger from 2009 through 2013. The disappointing economic development trajectory of the Northeast region contrasts with the economic dynamism of the Patagonia region, which exhibited the highest
correlation between urbanization and GDP per capita from 1993 through 2013. In the spatially dispersed, low-density, and distant-from-market Argentine south, the Patagonia region has succeeded in exploiting its resource-based comparative advantages while achieving solid economic growth and steady urbanization.

Argentina’s repeated cycles of financial crises have had a long-standing socio-economic effect on its cities. In 2002, Argentina suffered the culmination of a deep recession that started in 1998. The crisis resulted in an abrupt halt to the modernization of urban economies, because the country was cut off from international financial markets. The crisis affected the quality of jobs when many people were forced to seek employment in the informal sector (World Bank 2011). A general reduction in government expenditure led to a deterioration of urban infrastructure and services as well as overall quality of life. The crisis exacerbated social and economic exclusion, and crime and violence became more evident in cities (OAS 2012).

Metropolitan Buenos Aires, however, was not fully reaping the benefits of agglomeration economies even before cycles of financial crisis began to erode its economic performance. Empirical evidence suggests that even at the peak of its economic success in the early 1900s, metropolitan Buenos Aires was not

\[\text{Figure O.1 Urbanization and Economic Development in Selected Latin American Countries, 1960–2013}\]

Source: Based on World Bank 2015a.
Notes: GDP = gross domestic product. Percentage of population living in urban areas is based on national definitions of urbanization, which differ from one country to another.
as productive as it could have been given its strong locational advantage. Campante and Glaeser (2009) take an urban perspective to Argentina’s economic trajectory and compare metropolitan Buenos Aires with Chicago before World War I. The two places played similar functions in the economies of Argentina and of the United States’ Midwest in the 1900s. Yet, the two cities had significant differences—even then. Chicago was far more educated, more capital intensive, and was on the world’s technological frontier. Metropolitan Buenos Aires’ economic success was instead not matched by strong economic fundamentals in education and innovation—areas that are important predictors of long-term economic success of cities. In today’s global environment, human capital and innovation are even more important predictors of economic performance of urban giants such as metropolitan Buenos Aires. Remarkably, Glaeser and others (2009) find that the correlation between city size and productivity is particularly strong in cities with higher skills and is virtually nonexistent for less-skilled metropolitan areas in the United States today.

Spatial Demographic Trends

Argentine agglomerations continue to grow, and the gap in urbanization across regions is closing as a result of the significant increase in the urban population of the northern regions. Whereas metropolitan Buenos Aires is maintaining its high population share because of the fast growth of its peri-urban areas, the top five agglomerations are growing below average. Push factors are driving out-migration from the northern regions, while strong pull factors are attracting migrants to the fast-growing Patagonia region.

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Officially, 91 percent of Argentina’s population lives in urban areas, a percentage that is above the level in high-income countries such as the United States (at 81.4 percent) and Spain (at 79.4 percent) (United Nations 2014). However, Argentina’s official definition of urban areas, which is based on population size only, is overly lenient, because it includes all localities with a population of 2,000 or more (INDEC 2010a). Furthermore, the definition does not explicitly account for population density—an important defining criterion for urban areas because it enables the agglomeration economies that characterize urban centers.

When an urban population density threshold in line with international norms is adopted, Argentina is less urbanized than official statistics indicate. For example, on the basis of a conservative population density threshold of 300 persons per square kilometer (km²), the percentage of Argentina’s population living in urban areas is reduced to 64 percent, with significant regional variations from 74 percent in the Pampeana region to only 34 percent in the Patagonia region. Using a definition of urban areas that is based on spatial and demographic criteria, such as population size and population density thresholds, has several benefits. It can be a useful tool for planning because it detects “hidden” urbanization and reduces the reliance on rigid administrative boundaries. It also compares urbanization rates between countries by using the same criteria. However, because data on historic urbanization trends using the density-based definition are not available,
the demographic analysis carried out in this study is based on the official definition of urban areas.

The population in Argentina is concentrated in the highly urbanized central areas of the country. About 67 percent of the population lives in metropolitan Buenos Aires and the Pampeana region. However, it is in the northern regions that urbanization has increased the most. The Northeast region, which was the least urbanized region in the 1980s with 67 percent of the population living in urban areas, became 81 percent urban in 2010. As a result, the gap in urbanization across regions has reduced significantly since the 1980s (see figure O.2). However, regions still differ significantly in their urban structure. The Cuyo region has the most polarized urban structure, with the largest proportion of people living in the top five and large agglomerations; the Patagonia region has the most dispersed urban structure and has only one large agglomeration.

Argentina’s urban population has grown at an average annual rate of 1.3 percent from 2001 through 2010, slightly above the total population growth rate of 1.1 percent. A closer look reveals variation in population growth patterns across city size categories. Metropolitan Buenos Aires is still the largest contributor to urban population growth, thus maintaining its demographic primacy, with an average annual population growth rate of 1.3 percent from 2001 through 2010. Metropolitan Buenos Aires has grown at a higher rate than has Santiago.
(1 percent) or Mexico City and Rio de Janeiro, which both had average annual growth of 0.9 percent from 2000 through 2010, but at a lower rate than have São Paulo (1.4 percent) and Bogotá, which had significantly higher annual growth of 3.1 percent during the same period (United Nations 2014).

Metropolitan Buenos Aires, intermediate cities, small cities, and towns have grown above average. Towns and small cities registered the highest annual population growth at 1.4 percent, followed by metropolitan Buenos Aires at 1.3 percent. The top five agglomerations have grown significantly below average at 0.9 percent, and large agglomerations have also shown below average population growth at 1.1 percent. The share of urban population residing in large agglomerations has continued to grow (from 8.9 percent to 11.4 percent) from 2001 through 2010 as a result of the growth of 13 intermediate agglomerations, which changed category as they reached the 300,000 threshold.

Urban population growth varies significantly across regions, indicating that regional factors significantly affect population growth performance. One striking result is the low population growth of urban areas in the Pampeana region—the core of agriculture, livestock, and agroprocessing production of Argentina—across all city size categories. Overall, close to 80 percent of all agglomerations growing below the average of their categories are located in the Pampeana region, compared to only 9 percent in the Northwest region, 4 percent in the Cuyo region, and 3 percent in the Patagonia region. Agglomerations in the Patagonia region have grown significantly above the average across every city size category, with an annual growth rate of 2.3 percent. If one is to understand regional patterns of urban population growth, it is important to take into account differences in natural population growth rates among regions. The Pampeana region, which registered below-average urban population growth, is the region with the second-lowest natural population growth (0.9 percent), compared to the country average (1.3 percent).

Even within each region, the population growth performance is highly heterogeneous and is affected by location-specific factors, such as proximity to larger cities. For example, towns and small agglomerations in proximity to large agglomerations have higher population growth in all regions, except those located in Patagonia, the region with the most dispersed urban structure. The finding calls for an analysis of location-specific economic and employment growth drivers for an in-depth understanding of demographic trends.

Given Argentina’s advanced stage of urbanization, it is no surprise that spatial population movements are predominantly urban-to-urban migration flows. What is notable is the significant importance that a specific type of spatial movement—intra-metropolitan migration—has recently gained. Intra-metropolitan mobility in metropolitan Buenos Aires is the most important spatial movement in Argentina. Some 374,000 people moved their residence in the Buenos Aires region from 2005 through 2010, equivalent to 2 percent of the population of metropolitan Buenos Aires (see figure O.3). The importance of intra-metropolitan migration has been empirically shown for other Latin American cities, such as Mexico City, Santiago, and Lima (see Tuirán 2000; Sabatini 1999).
Over view

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Internal migration patterns in the Buenos Aires region are associated with rapid growth of peri-urban metropolitan Buenos Aires. Intra-metropolitan population movements in the Buenos Aires region are mainly from the center to the contiguous periphery. Overall, the Buenos Aires province receives net in-migration equivalent to 0.6 percent of its population, while the city of Buenos Aires has net out-migration equivalent to 3.1 percent of its population. About 228,000 people moved from the city of Buenos Aires to the Buenos Aires province, and 85 percent of migrants from the city settled in peri-urban metropolitan Buenos Aires. The periphery of metropolitan Buenos Aires is also the main destination of migrants from other provinces. About 73 percent of migrants to the Buenos Aires province settle in peri-urban metropolitan Buenos Aires. Those intra-metropolitan movements are strictly interlinked with the territorial expansion of metropolitan Buenos Aires, because the population growth of the periphery tends to be accompanied by low-density extension of the territory. Such a change poses socioeconomic challenges and can affect connectivity between the core and periphery, which can heighten spatial segregation unless managed well.

Patagonia is the region with the largest positive in-migration, whereas the Northeast region has the largest net out-migration. The Patagonia region has the

Sources: Based on INDEC 2001, 2010a.
Notes: Migrants are defined as people who changed their residency over the period 2005–10. Original location is for the year 2005; current location is for the year 2010. The definition of region adopted for the migration analysis differs from the official definition because data were available at the province level and could not be further disaggregated. Thus, the Buenos Aires region comprises metropolitan Buenos Aires and the rest of the Buenos Aires province that officially belongs to the Pampeana region.
largest net migration in absolute number and as a share of local population, with in-migration equivalent to 10 percent of the local population. In the northern regions, out-migration largely exceeds in-migration. Net out-migration is equivalent to 1.8 percent and 0.7 percent of the population in the Northeast and Northwest regions, respectively. International migration is also an important contributing factor to demographic change, whose relevance varies significantly across regions. The Buenos Aires and the Patagonia regions have the highest percentage of foreign-born population, equivalent to 8.6 percent and 7.1 percent of their population, respectively.

**Spatial Economic Trends**

Agglomeration economies are at play in Argentina—being a larger agglomeration is associated with higher labor productivity. Agglomerations in the northern regions have experienced the most pronounced poverty reduction and have succeeded in creating pro-poor jobs. Yet, firms in the northern regions have a productivity disadvantage, and the sustainability of the poverty reduction gains is at risk, given the sluggish growth of private employment. Argentine agglomerations also need better and more productive jobs. The only tradable sector driving employment growth in peri-urban metropolitan Buenos Aires is textiles. In the northern regions, agglomerations are caught in a low productivity trap—with only one employment growth driver in tradable sectors—whereas the specialization of agglomerations in the Patagonia region in extractive industries needs to be managed to promote economic diversification.

Economic activities are geographically concentrated in the central and coastal areas (see map O.1). Two-thirds of national GDP is produced in two regions alone—metropolitan Buenos Aires and the Pampeana region—and metropolitan Buenos Aires contributes to almost half of national GDP. In line with its demographic primacy, which has remained stable over time, metropolitan Buenos Aires

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**Map O.1 Employment Density of Argentina's Central and Coastal Areas, 2010**

Source: Based on INDEC 2010a.

Note: The employed population is estimated on the basis of the number of ocupados, defined by INDEC as those people older than age 10 years who worked for at least one hour during a one-week reference period.
has consolidated its economic primacy over the past decades, with fluctuations following national macroeconomic trends. Argentina has higher economic primacy than countries at the same level of economic development. For example, in 2012, Mexico City contributed 21 percent of its country’s national GDP, and São Paulo contributed 18 percent. In spite of recent improvements in economic performance, the northern regions continue to contribute to GDP far below their population share. The Northeast region accounts for only 5.0 percent of national GDP, significantly below its share of the total country population (9.2 percent), whereas the Northwest region contributes 7.6 percent of national GDP against a population share of 12.2 percent.

Argentina’s poorest agglomerations have experienced the most pronounced decrease in poverty. Moreover, available evidence indicates that those agglomerations where employment rates were lower were able to create more jobs from 2008 through 2013, significantly more so than in the five years (2003–08) following the financial crisis. Agglomerations in the northern regions registered the strongest pro-poor employment growth among the agglomerations surveyed in the INDEC’s Permanent Household Survey (Encuesta Permanente de Hogares, or EPH): above-average growth in employment rates was accompanied by an above-average reduction in poverty. However, recent trends raise concerns about the sustainability of these poverty reduction and employment gains. Growth in jobs created in the private sector declined significantly since 2009, and a steep recovery in public sector hiring followed the cuts made earlier in the decade after the financial crisis of 2001/02. Furthermore, the relative contribution of labor markets to poverty reduction decreased from 2008 through 2013, while the contribution of nonlabor income (such as public transfers, pensions, private transfers, and capital incomes) to poverty reduction increased (World Bank 2015b).

Larger agglomerations have higher economic density, thus confirming that economic density and population size are highly correlated. The distribution of economic density across agglomerations, however, reveals important regional patterns. The results show an important gap in economic density between metropolitan Buenos Aires and the top five agglomerations. And the city of Buenos Aires presents exceptionally high levels of economic density for its size compared with the other agglomerations. A significant gap in economic density between the city of Buenos Aires and the peri-urban areas indicates important economic disparities within the metropolitan area. Agglomerations in the northern regions have lower than average economic density, significantly underperforming expectations on the basis of size (see figure O.4).

Being a larger agglomeration is associated with higher labor productivity, indicating that agglomeration economies are present in Argentina. Doubling in the size of the agglomerations is associated with a growth in labor productivity of 2.2 percent, after controlling for firms and city-specific characteristics. The density of the agglomeration also matters for productivity. Having higher population, employment, and economic density is found to be associated with higher labor productivity, thus corroborating the finding that agglomeration economies are at play. And education positively affects the strengths of agglomeration economies.
Not only are wages higher in places with more educated workforces, but also education is found to enhance the effect of agglomeration economies, thereby highlighting the importance of human capital for cities’ economic growth.

However, evidence suggests that Argentine agglomerations may not fully exploit the benefits of size as much as comparable Latin American countries. The estimated elasticity of population size on wage premium is lower than in Mexico, where a doubling in the size of the agglomerations is associated with a growth in labor productivity of 4.2 percent, according to data from 2000 through 2010 (Ahrend and others 2014). And there are regional structural differences in productivity. Not only does the size of the agglomeration matter for productivity, but so does the region in which the firm is located. Firms in metropolitan Buenos Aires have a strong regional productivity advantage, whereas comparable firms have a disadvantage in productivity when located in the Northeast, Northwest,
and Cuyo regions. Firms located in the Northeast region have the strongest productivity disadvantage associated with regional effects. The results corroborate the concerns about sustainability of employment growth and poverty reduction gains in the northern regions.

Economic dynamism—that is, the economic growth trajectory of a city—is an important and complementary dimension of agglomeration economies. In the absence of reliable subnational data and for the purpose of the analysis, economic dynamism is proxied by GDP growth that is estimated by using change in nighttime light emissions. In Argentina, economic growth and population growth are happening in the same places. The strong correlation between population and economic growth indicates that agglomerations with higher demographic growth are more economically dynamic. A 1 percent increase in population growth is associated with a 2.2 percent increase in economic growth. Smaller agglomerations and agglomerations with lower initial economic density are found to be economically more dynamic, with higher rates of economic growth. Yet, there is no catching up in absolute terms. The lack of absolute convergence, or catching up, is indicated by the significantly larger increase in estimated GDP in absolute terms in the agglomerations with higher economic density.

A key element to understanding the evolving structure of urban economies is to identify in which sectors the employment growth drivers of cities lay. Such drivers are defined as sectors that have a higher-than-average share of employment and a higher-than-average growth in employment. The analysis confirms the important role of the city of Buenos Aires as a cultural and service center. High-end services and education are the main drivers of employment growth in the city of Buenos Aires. However, the results indicate that peri-urban metropolitan Buenos Aires has not been able to create the jobs required to move up the value-added ladder. Peri-urban metropolitan Buenos Aires have only one employment growth driver: the textiles sector (see figure O.5). Furthermore, other manufacturing sectors, which account for the bulk of manufacturing employment in peri-urban areas, are in decline. Because employment in the tradable sector holds the highest potential for productivity growth, the limited number of employment growth drivers in tradable sectors in peri-urban metropolitan Buenos Aires raises concerns about the international competitiveness of the metropolitan area. The results are further corroborated by evidence that metropolitan Buenos Aires has a lower share of employment in tradable sectors than do comparator cities, suggesting that peri-urban metropolitan Buenos Aires may not have harnessed the benefits of agglomeration economies to the extent that other cities around the world have.

Similar to metropolitan Buenos Aires, the top five agglomerations also have less employment in tradable sectors than do comparator cities, but those cities can rely on several emerging manufacturing clusters to promote economic diversification. The top five agglomerations have employment growth drivers in high-end services as expected, given the large size of their economies. For example, employment growth drivers in Rosario include finance; business and real estate services; and transport, and communications. Another important tradable sector for
Overview

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The top five agglomerations is agroprocessing—an employment growth driver in three of the top five agglomerations (Rosario, Mendoza, and San Miguel de Tucumán) and an emerging sector in the other two agglomerations (La Plata and Córdoba).

Furthermore, the top five agglomerations have potential for growth in manufacturing: the extractive industry is an emerging cluster in Córdoba and San Miguel de Tucumán; the textiles industry is in Mendoza, Córdoba, and San Miguel de Tucumán; and other manufacturing is in La Plata and Mendoza. If the top five agglomerations are to be globally competitive, the results suggest that appropriate strategies and policies are needed to boost the local and regional economic base and to remove barriers to growth of emerging clusters.

Large and intermediate agglomerations depend highly on exports of resource-based manufacturing products. Large agglomerations lack economic diversification, thereby concentrating employment growth in resource-based sectors, in construction and in public administration. Intermediate agglomerations depend the most on agroprocessing and extractive industries. The dependency on

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**Figure O.5 Location Quotient versus Employment Growth for Peri-Urban Metropolitan Buenos Aires, 2003–14**

Source: Based on INDEC 2003, 2014.

Note: The size of the bubble corresponds to the share of employment in the area of analysis for the given sector. Textiles include the manufacturing of textiles, garments, leather, and leather goods. Transport and communications include transportation, storage, communications and information technology. Commerce includes retail, wholesale, and services to repair motor vehicles and personal and household goods.
export-oriented, resource-based industries makes these urban economies vulnerable to changes in global demand and commodity prices. The analysis shows, however, that these economies have the potential to diversify. Sectors such as textiles and other manufacturing are emerging in many large and intermediate agglomerations and could become sustainable sources of employment with the appropriate policies.

Education also drives employment growth in many intermediate and selected large agglomerations, such as Santa Fe, San Salvador de Jujuy, Mar del Plata, Paraná, and La Rioja. Yet, in several large agglomerations, such as Resistencia, Corrientes, Neuquén, and Salta, education is a declining sector. This decline in the importance of education causes concern, given the critical role of human capital in fostering agglomeration economies.

Small agglomerations depend highly on employment in the public sector. Although a full analysis of employment growth drivers could not be undertaken for small urban areas, available evidence shows that the economy of those smaller agglomerations surveyed in the EPH depends more on public sector employment than do the average cities. The share of public employment ranges from 26 percent in metropolitan Buenos Aires to 41 percent in small urban areas. And in small cities, more than half of public sector jobs are in public administration services, a sector that has very weak links with agglomeration economies. Regionally, the share of public sector employment in administration is higher in agglomerations in the northern regions (45 percent in the Northeast region and 40 percent in the Northwest region) and in the Patagonia region (46 percent).

With the exception of agroprocessing in the Northwest region, agglomerations in the northern regions do not have any employment growth drivers in tradable sectors. The main employment growth in northern agglomerations is in public administration, commerce and construction. The results confirm concerns about the sustainability of pro-poor employment growth in those regions, given that employment growth is led by sectors that are highly cyclical. Furthermore, the results confirm the findings of the migration analysis—the lack of employment opportunities in high-productivity sectors in the northern regions is most likely one of the push factors driving out-migration from the northern regions. The analysis shows, however, potential for economic diversification in the northern regions. Manufacturing is featured as an emerging sector in agglomerations in these regions. Agglomerations in the Northeast and Northwest regions also show potential for growth in high-end services such as business and real estate services, transport and communications, which are emerging sectors in both regions.

In agglomerations in the Patagonia region, employment growth is driven by the extractive industries. Another important driver is construction, which is most likely a result of the boom in extractive industries, as well as the associated strong population growth and migration flows. The significant growth of extractive industries in the Patagonia region needs to be managed to ensure sustainability and to be complemented by investments in human capital to support economic diversification. International evidence highlights the importance of diversification of the local economies to mitigate the risk of international demand and price
volatile. Resource-rich cities tend to develop industrial structures with larger establishments, which can crowd out the entrepreneurial activity that generates long-term growth. To counter this risk, resource-rich economies need to develop institutions that support the accumulation of human capital and innovation. In this regard, the emergence of agroprocessing and other manufacturing sectors is promising because it indicates an incipient process of diversification of local economies in the Patagonia region.

Urban Expansion Patterns

Urban expansion in Argentine cities is characterized by sprawl, and agglomerations have mostly been growing by extension. This predominant low-density urban expansion pattern is not driven by economic dynamism. Instead, it is associated with institutional weaknesses in metropolitan management. And sprawl reduces the benefits of agglomeration economies, thus deterring productivity.

Urban expansion in Argentine cities accelerated from 2001 through 2010 compared to 1990 through 2001. The expansion of the built-up area in a sample of 26 agglomerations was 2.9 times higher than population growth from 2001 through 2010, compared to 2.4 times higher than the population growth from 1990 through 2001.\textsuperscript{18} Agglomerations expanded their built-up areas by 36 percent or, equivalently, at a rate of 3.5 percent annually over 2001 through 2010. The agglomerations that experienced the most significant annual increase in their built-up areas are in the Northwest region—San Fernando del Valle de Catamarca (7.0 percent), San Salvador de Jujuy (6.1 percent), and La Rioja (5.4 percent). Agglomerations mostly grew by extension—that is, outward development in areas adjacent to the existing urban area. Agglomerations that grew by extension accounted for more than half (53 percent) of territorial expansion in the surveyed agglomerations. Only 27 percent of the new development was created by infill, and about 20 percent of the growth was by leapfrog, that is, noncontiguous urban development.

Population density of built-up areas declined by 2.2 percent annually from 2001 through 2010. During those 10 years, all 26 surveyed agglomerations, except Corrientes, experienced a decline in the population density of their built-up areas (see figure O.6). As a result, the sprawl index increased from 1.4 in the decade from 1991 through 2000 to 2.3 in the decade from 2001 through 2010, with significant variations across agglomerations.\textsuperscript{19} Corrientes, with 346,000 inhabitants, is the only agglomeration that experienced an increase in urban density, whereas Posadas registered a minimal decrease in density (0.1 percent). In those two urban centers, a significant territorial expansion during 1990–2001 was followed by higher-density development during 2001–10. In the case of Corrientes, for example, 55 percent of the new development during 1990–2001 was caused by infill.

The predominant low-density expansion pattern of Argentine agglomerations is not driven by economic dynamism, that is, cities' growth in GDP proxied by change in nighttime light emissions—as indicated by the limited correlation between economic dynamism and sprawl among the 26 surveyed agglomerations. Rather, sprawl is caused by institutional weaknesses in metropolitan management. Urban areas in
Argentina are characterized by significant institutional fragmentation, which—in the absence of effective metropolitan coordination in planning and land use regulation—can encourage sprawl. Agglomerations with a more fragmented institutional structure are found to have a higher sprawl index. The results suggest that a more fragmented institutional structure may contribute to sprawl in Argentine cities. However, the results need to be treated with caution, given the small sample size.

In Argentine agglomerations, sprawl may reduce the benefits of agglomeration economies. Sprawl has an observed negative and statistically significant effect on economic density as measured by GDP per area estimated by nighttime light emissions per km² (see figure O.7). The results suggest that because of sprawl, firms lose out on positive externalities associated with economic density. Because economic density matters for productivity—regression analysis shows that agglomerations with higher economic density have higher labor productivity when everything else is equal—the findings indicate that sprawl may reduce agglomeration economies and deter overall productivity of firms. The results provide policy support for reducing sprawl and are consistent with the literature about the agglomeration and
productivity consequences of sprawl, showing that the higher the job density, the higher the productivity of the area. See, for example, Ciccone and others (1996).

In the past decade, metropolitan Buenos Aires experienced a marked change in its pattern of territorial expansion, with a significant increase in suburbanization and sprawl. The built-up area of metropolitan Buenos Aires has grown by 38 percent from 2001 through 2010. That growth is equivalent to an annual increase of 3.7 percent, which is above the average annual growth of 3.5 percent for the surveyed agglomerations and is significantly above that of capital cities in the Organisation for Economic Co-operation and Development (OECD). The expansion is more than double that from 1990 through 2001 (15 percent).
Instead of decentralizing into a dense polycentric form, metropolitan Buenos Aires is expanding into low-density, fragmented, and spatially segregated forms, which are characterized by isolated gated communities and low-income settlements marginalized to the city’s peri-urban areas. The population density of the built-up area has decreased by 2.2 percent annually from 2001 through 2010, compared to a decrease of 0.8 percent annually from 1991 through 2000. The dispersal pattern in the spatial structure of metropolitan Buenos Aires can be measured by the flattening of its residential density curve over time (Angel 2012).22 Similarly, in all top five agglomerations except Mendoza, inner cities experienced very limited or negative growth because most of the population growth has occurred in the periphery.

### Part II  Diagnostics of Urban Policies

#### Territorial Planning

Challenges in territorial planning are primarily institutional and are associated with (a) inadequate sectoral integration, (b) lack of mechanisms for horizontal coordination, and (c) outdated planning instruments. Those shortcomings have contributed to sprawl and unequal provision of services between core and periphery of urban areas, thus affecting the efficiency of urban development.23

The shortcomings of territorial planning in Argentine agglomerations are primarily institutional—the institutional setting for land use planning in Argentina presents several weaknesses. The federal government has no legal framework to guide urban development and territorial planning. Moreover, the provincial governments have weak regulatory frameworks to oversee municipal land use planning. Municipalities are responsible for land use planning, but they do not use all available planning tools to guide development of their territory. Both provinces and municipalities lack capacity or incentives to update land use regulations. And sectoral integration and coordination of local planning initiatives are inadequate. The limited responsibilities delegated by provinces to municipalities often prevent municipalities from integrating land use planning with transport systems and from carrying out long-term planning for public works, for which responsibilities are fragmented across tiers of governments.

Territorial development is challenged when urban development crosses administrative boundaries, and the lack of instruments for horizontal coordination is a constraint for metropolitan planning. From a territorial administrative perspective, two main models are found across Argentine provinces: (a) the integrated system, under which the territory of the province is divided in adjacent municipalities which are granted the responsibility of planning the entire territory, and (b) the fragmented system, under which the municipalities are granted the responsibility of planning only their urban areas, leaving the rural areas under provincial authority24 Whereas both models have advantages and disadvantages, they both lead to a mismatch between administrative boundaries and territorial dynamics when urban development crosses municipal boundaries. When the
main urban settlement of a metropolitan area is split across several local authorities, territorial planning depends on multiple governmental levels, each one with limited powers. Although a few initiatives have emerged to promote horizontal coordination, the lack of institutional instruments for metropolitan management is a constraint for scaling up such initiatives.

Municipal land use practices have fostered unsustainable patterns of urban development by extension. With weak planning instruments, low technical and implementation capacity, scarce fiscal resources, and no mechanisms for institutional coordination, the span of interventions of municipalities is restricted to piecemeal and reactive planning for urban growth. Furthermore, strict land use regulations contribute to constrain access to formal land and housing, thus promoting the growth of informal settlements. Municipalities have neither adequate planning instruments nor a regulatory framework to control sprawl and to promote sustainable urban growth. For example, use of land value capture instruments for planning is not yet common practice in Argentina, although innovative initiatives are emerging.

**Municipal Finance**

Municipal finance constraints severely affect the ability of municipal governments to fulfill their obligations. Municipalities lack significant own-source revenues and depend highly on provincial transfers distributed on the basis of outdated allocation formulas. In addition, municipalities have limited spending flexibility and lack predictable sources of funding for capital expenditures.
the provinces where property tax is transferred to municipalities, the property tax is not completely decentralized because provinces often retain responsibilities for the valuation of properties. In the absence of full decentralization of tax authority, the efficiency gains of decentralizing the property tax have not materialized.27 And financing subnational governments is accomplished through a complex and outdated intergovernmental transfer scheme. The primary distribution from provinces to municipalities, that is, the percentage of resources received by the provinces that are transferred to municipalities, varies widely from 12 percent to 50 percent. Allocation formulas for distribution of provincial transfers to municipalities lack flexibility, with low weight given to local needs and redistributive criteria.

In spite of the increase in spending, per capita municipal expenditures remain low, with municipalities in peri-urban metropolitan Buenos Aires having among the lowest spending per capita of the surveyed municipalities. More than half of municipalities’ current budget is for personnel—an indication of budget rigidity. Municipalities allocate an important but declining share of their budget for core urban functions, with an increasing shift in expenditure toward social services. The largest expenditure in basic urban services is for solid waste collection, although there are significant differences in spending among agglomerations. In metropolitan Buenos Aires, solid waste collection accounts for 14 percent of current expenditures compared to 7 percent in municipalities in the Northeast region. In spite of the higher needs, the top five agglomerations spend a lower share of their budgets on basic urban services, including solid waste management, than do smaller

Figure O.8 Own-Source Revenues and Total Expenditures at Municipal Level, 1993 and 2013

Source: Based on López Accotto 2015.
Note: Based on a sample of 277 municipalities plus the city of Buenos Aires.
agglomerations. Such trends suggest that core urban functions may receive less than the optimal amount of resources.

Municipal capital expenditures account for only 16 percent of total expenditures. It is the lowest in the top five agglomerations (9 percent) and the highest in the city of Buenos Aires (19 percent). Furthermore, the lack of predictable sources of funding for capital expenditures is an obstacle for multiyear investment planning. Municipalities receive ad hoc direct transfers from the federal government for public investments. However, the magnitude and timing of such funding are hard to predict because those transfers are the result of direct negotiation between the municipalities and the federal government. On average, the Federal Solidarity Fund (FSF), funded with volatile soybean export revenues, finances 12 percent of the municipal public investments. Municipalities in the Northwest and Cuyo regions, as well as the top five agglomerations, are highly dependent on the FSF for financing capital expenditures. The high dependence on the FSF for capital expenditures—combined with the low share of capital expenditures in the top five agglomerations—is worrisome, given the volatility of the FSF and the important infrastructure needs of these agglomerations.

Housing

Argentina has experienced a rise in its quantitative housing deficit. The rise has led to an increase in informal housing and affordability issues, in spite of the significant resources allocated to increasing the housing supply. Whereas barriers to housing finance are a binding constraint, Argentina also faces supply-side constraints that limit access to land for housing development.

An increasing quantitative housing deficit, a high level of housing informality, and housing affordability are the primary challenges facing the housing market in Argentina today. Unlike comparable Latin American countries, Argentina has a growing quantitative housing deficit, despite significant resources allocated to increase the housing supply through government-assisted housing programs. And the growing population living in informal settlements continues to be a challenge, in particular in metropolitan Buenos Aires. Not only is access to adequate shelter a challenge for Argentina’s poor, but also housing affordability is a growing concern for middle-income people in the largest cities where wages have not kept pace with increasing housing prices.

Currently the most binding constraints in the housing market are on the demand side. As a result of mortgage lending reduction, after the financial crisis of 2001/02, major barriers to housing finance in Argentina have translated to only high-income populations having access to the formal housing market. However, the housing market also faces important supply-side constraints related to land use planning and availability of land. Serious bottlenecks to the supply of affordable serviced land in Argentine agglomerations—including strict land use regulations such as minimum parcel size—have further contributed to increasing housing prices and large numbers of people living in slums and informal settlements. Most low-income housing is being developed in the periphery of cities, thereby
promoting low-density urban expansion. Argentina’s low rental rates is also a constraint for a sustainable housing market, and the lack of effective regulation impedes the development of formal rental markets. Argentina needs to address those supply-side constraints now so that the constraints do not become binding to housing development once the country has achieved macroeconomic stability.

The Argentine government dedicates substantial public funds to housing. In 2014, government investment in housing and urban development represented 0.77 percent of GDP, higher than comparable countries (for example, 0.28 percent of GDP in Colombia). Funding for public-assisted housing projects, such as Programa Crédito Argentino (PRO.CRE.AR), is highly centralized. Provincial expenditures on housing are instead limited and not correlated with the extent of housing challenges. Public-assisted housing programs responded to the dual objectives of reducing the housing deficit and creating employment as a postcrisis recovery measure. In part because of the need to meet these dual objectives, public-assisted housing programs have traditionally focused more on delivering housing units than providing housing services—with limited attention being paid to the accessibility and functionality of the newly built housing developments. In spite of addressing the housing deficit, the housing programs have thus been unable to effectively address the housing needs of low-income families. Participation of municipalities, which are closer to the beneficiaries, in the implementation of housing programs is limited. As a result, the programs are seldom integrated into local planning efforts. In addition, Argentina’s housing strategy of supporting the construction of complete housing units, rather than investing in partial or progressive housing, has not resulted in adequate incentives for the private sector to participate in the provision of housing for low-income populations.

Urban Transport

*Investments in public transport have not kept up with the extension of urban areas and population growth. The resulting lack of adequate public transportation significantly affects agglomeration economies by limiting mobility and accessibility and by contributing to segregation and social exclusion, thus diminishing quality of life in cities.*

In Argentina, people in larger cities tend to make a higher percentage of trips by public transport. Yet, the pattern is changing. Private transport has drastically increased in urban Argentina, and motorbikes are becoming an increasingly important way to travel (DNRPA 2015). Furthermore, public spending on road infrastructure has contributed to the increase of private vehicles. Because investments in public transport have not kept up with the growth of urban areas and population, some lower-density urban areas are left with low frequency and inferior services. The increase in private vehicles and the lack of enforcement of traffic rules have diminished the quality of life in many cities. Without enforcement of traffic rules, motorbikes have become a new source of traffic accidents and fatalities in urban areas. Motorbikes have also contributed to traffic congestion and put pressure on road infrastructure, thus creating new challenges for transportation planning (Government of Argentina, Ministry of the Interior and Transport 2012).
Public transport networks tend to be developed in a reactionary, ad hoc fashion. Urban transport plans of Argentine cities are generally not coordinated with the cities’ broader urban plans. And lack of mechanisms for horizontal coordination among transport and urban planning offices inhibits effective expansion and improvements of the public transport systems in metropolitan areas. Most local governments face major financing constraints, which prevent them from planning and developing urban transport systems. And the municipal offices in charge of transport rarely have the capacity or budgets to undertake public works projects or to upgrade existing transport networks. With a few exceptions, municipalities do not take advantage of instruments to capture land value for public transport projects. Furthermore, the large subsidy system for public transport has not addressed affordability and may have the unintended effect of discouraging investments in public transport. The current subsidies discourage bus operators to change their routes to less-dense, low-income peri-urban areas, because such a change could lead to a reduction in passengers and subsidies received.

Quality of public transport is decreasing in the largest cities. Public transport service in metropolitan Buenos Aires has been unable to meet the increased demand from changing mobility patterns, thus leading to a decline in ridership. Argentina’s top five agglomerations along with the large agglomerations are not providing quality transport services to peri-urban areas. In fact, the center of most large cities has much better public transport systems. In intermediate and small agglomerations, public transport systems are less well developed, and much of the population depends on private modes of transportation. Such challenges are significantly affecting agglomeration economies. For example, evidence from metropolitan Buenos Aires shows that shortcomings in public transport directly impact accessibility, thus affecting the economy and welfare of the metropolitan area (Peralta Quirós and others 2015). Those shortcomings not only limit mobility and accessibility but also contribute to segregation and social exclusion in peri-urban metropolitan Buenos Aires.

Local Economic Development

In spite of the macroeconomic constraints and limited functions, there are cases of municipal governments in Argentina that have successfully carried out local economic development initiatives in partnership with the private sector. But challenges remain. The city of Buenos Aires needs to further capitalize on its human capital, while peri-urban metropolitan Buenos Aires faces the challenge of transforming its economy toward higher value-added products and services. The top five agglomerations need appropriate strategies to reduce the competitiveness gap with metropolitan Buenos Aires. Large cities have to promote economic diversification, while intermediate and small cities can greatly benefit from establishing strong partnerships with the private sector.

At the national level, initiatives are under implementation to promote regional and local economic development with the involvement of several ministries, such as the Ministry of Production (formerly the Ministry of Industry) and the Ministry of Science, Technology, and Innovation. However, these national
programs often do not have an integrated approach, nor are they necessarily in line with the national urban vision established in the government of Argentina’s PET because national institutions usually pursue regional and local economic development without coordinating projects among other national agencies or provincial and local levels (Government of Argentina, Ministry of Federal Planning, Public Investment, and Services 2012).

The Ministry of Production has a well-established industrial park policy to support the growth of clusters. In recent years, the number of industrial parks has grown exponentially, from the 82 parks in 2003 to the 315 registered in 2015. Most industrial parks, however, are not taking advantage of the opportunities that clusters provide, because they are usually not specialized in a sector. One of the characteristics common to most industrial parks in Argentina is the great diversity in the number of productive sectors they contain. National interventions to support the economic development of the northern regions have focused primarily on improvements to connectivity and logistics to foster spatial integration. The federal government is also supporting the growth of strategic clusters in the north in a bid to reduce territorial economic disparities with the rest of the country. Historically, incentives for the economic development of the Patagonia region have fluctuated, and they are aimed primarily at promoting migration to the south.

Despite the macroeconomic conditions and the institutional framework that limits the role of municipal governments, evidence shows that several of Argentina’s municipalities have successfully led initiatives for local economic development. The city of Buenos Aires stands out because of its proactive policies to increase its economic competitiveness. An example is its policy for economic development districts to promote growth in strategic sectors such as technology, audiovisual, design, and arts. Its policy is now shifting toward the promotion of innovation to move up the value chain. However, the city needs to further leverage its human capital to strengthen its global competitiveness. Municipalities in peri-urban metropolitan Buenos Aires face the challenge of transforming their economy toward higher value-added products and services. One of the main constraints is the absence of a mechanism for core-periphery coordination that will promote an integrated economic development strategy for the entire metropolitan area. Nevertheless, some promising initiatives are emerging, such as the partnership with the National University of General San Martin in the municipality of General San Martin.

The top five agglomerations need appropriate local economic development policies and strategies to “go global” and to reduce the competitiveness gap with metropolitan Buenos Aires. Large cities must promote economic diversification and boost the growth of emerging clusters, for example, as Mar del Plata has done by developing a long-term vision to diversify its economic structure. Finally, intermediate and small cities, where municipal governments have limited capacity to influence local economic development, can greatly benefit from establishing strong partnerships with the private sector, as Rafaela has done. Since the beginning of the 1990s, the municipality of Rafaela has promoted small and medium
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enterprises, improved the offer of education programs, promoted innovation and a culture of exporting, and strengthened the collaboration between public and private sectors to design, implement, and coordinate local industrial policies. Cities in the northern regions are benefiting from national interventions to reduce logistics costs and support the growth of emerging clusters; yet, municipalities cannot take full advantage of these programs because they lack the capacity and resources to coordinate and enhance the impacts of federal and provincial programs. Agglomerations in the Patagonia region, such as Comodoro Rivadavia, can benefit from boosting human capital and innovation to diversify their economy and reduce their dependence on extractive industries.

Measuring Prosperity and Livability

The city of Buenos Aires has the strongest performance of all the cities in Argentina in generating prosperity and livability, but its peri-urban areas lag significantly behind. Furthermore, large cities face important livability challenges in housing, access to water and sanitation, and vulnerability to disasters. Agglomerations in the northern regions face special livability challenges in health and public transport.

This study developed two complementary metrics of city performance—prosperity and livability—to compare prosperity and living conditions for the EPH agglomerations that compose about 70 percent of the urban population of Argentina. Prosperity measures three different but interrelated dimensions of city performance: productivity, employment, and low level of poverty (this last component named “no-poverty” in the prosperity analysis). Livability comprises complementary dimensions of quality of life, covering public services, housing, public transport, health, education, social inclusion, and resilience. These two metrics are intended to be tools to assess the relative performance of cities and identify underperforming areas where policy action is required. They allow comparisons of overall city performance, as well as performance in specific components.

The study finds that the most prosperous agglomerations are also the most livable, thus indicating that agglomerations with the strongest capacity to take advantage of the benefits of agglomeration economies are also the most effective in controlling the costs of agglomeration economies (see figure O.9). Agglomerations in the Northeast region have the worst track record across all three components of prosperity: productivity, employment, and no-poverty. Agglomerations in the Patagonia region exhibit a strong performance. However, prosperity varies within regions, suggesting that not only the region but also the local context plays an important role in determining cities’ prosperity. The most populous agglomerations have a higher share of professional workers, indicating that they may have more skilled human capital. However, larger cities do not have an advantage in education outcomes, which is one component of the livability index described herein.

The city of Buenos Aires is not only the most prosperous but also the most livable city. In metropolitan Buenos Aires, core-periphery disparities in quality of life are even more pronounced than disparities in prosperity. Box O.3 presents an
Over view

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International comparison of livability of metropolitan Buenos Aires and is based on the Economist Intelligence Unit Livability Index. The comparison shows that the city is overall more livable than are direct comparator cities, but it lags in several areas, including stability, infrastructure, culture and environment, sprawl, connectivity, and natural assets.

Northern agglomerations have the lowest livability index, with a significantly lower than average performance in transport and health. The agglomeration with the worst performance in livability is Corrientes, in the Northeast region, preceded by Posadas, also in the Northeast region. Whereas most populous agglomerations have

Figure O.9 Comparing Prosperity and Livability Performance, EPH Agglomerations, by Region


Notes: EPH = Permanent Household Survey (Encuesta Permanente de Hogares). 100 = best, 0 = worst. Size of bubble corresponds to the 2010 population. The sample includes 29 of the 31 EPH agglomerations. The prosperity index could not be computed for Ushuaia and Mar del Plata. The line in the figure indicates the correlation. Catamarca refers to San Fernando del Valle de Catamarca.

a. The nighttime lights data used for the estimation of GDP for the prosperity index are the Global Radiance Calibrated Nighttime Lights product provided by the National Oceanic and Atmospheric Administration’s (NOAA) National Centers for Environmental Information Earth Observation Group. The latest version of this product is available for download from http://ngdc.noaa.gov/eog/dmsp/download_radcal.html.
Box O.3  Livability Index: An International Comparison with the Economist Intelligence Unit Liveability Ranking

The Economist Intelligence Unit (EIU) Liveability Index ranks cities according to their performance in five broad areas: stability, health care, culture and environment, education, and infrastructure. The EIU ranking finds that metropolitan Buenos Aires is more livable than direct comparator cities but lags behind best-practice comparator cities. In 2015, metropolitan Buenos Aires ranked 62 of the 140 cities surveyed, ahead of Istanbul (113), Bangkok (102), and São Paulo (92), but behind Seoul (58), London (53), and Paris (29). Metropolitan Buenos Aires outperforms the direct comparator cities in all five categories (see figure BO.3.1a). The city shows indicators at the levels of the best-practice comparator cities (Paris, Seoul, and London) for health care and education, while it ranks behind in stability, culture and environment, and infrastructure (see figure BO.3.1b).

Figure BO.3.1  Benchmarking Metropolitan Buenos Aires, EIU Liveability Index Categories, 2015

Source: Based on EIU 2015.
Notes: EIU = Economist Intelligence Unit. 100 = best; 0 = worst.

Source: Based on EIU 2015
a. Each factor in a city is rated as acceptable, tolerable, uncomfortable, undesirable, or intolerable. For qualitative indicators, a rating is awarded based on the judgment of in-house analysts and in-city contributors. For quantitative indicators, a rating is calculated based on the relative performance of a number of external data points. The five areas include the following indicators: (a) stability: prevalence of petty crime and violent crime, and threat of terror, military, and civil conflict; (b) health care: availability and quality of private and public health care, availability of over-the-counter drugs, and general health care indicators; (c) culture and environment: humidity/temperature, discomfort of climate to travelers, corruption, social or religious restrictions, censorship, sporting and cultural availability, food and drink, and consumer goods and services; (d) education: availability and quality of private education, and public education indicators; and (e) infrastructure: quality of road network, public transport, international links, energy provision, water provision, telecommunications, and availability of good-quality housing. The methodology for the 2015 EIU liveability index ranking is available at www.eiu.com.
b. Direct comparator cities are São Paulo, Bangkok, and Istanbul; and best-practice comparator cities are Paris, London, and Seoul.
better public transport, nevertheless they face important livability challenges. They are at a disadvantage in getting access to piped water supply and sewerage networks, have worse housing conditions, and are more vulnerable to the risk of flooding.

**Moving Forward: A Framework for Action**

Argentina faces the challenges of transitioning to more balanced regional development, moving from local to global cities and from urban sprawl to articulated densities. It needs the leadership of the federal government; the capacity of empowered, financially sound municipalities; and the coordinating power of provinces to address those challenges.

The study highlights three main challenges that Argentine cities need to address to leverage their potential. Argentina’s current patterns of urban development are characterized by (a) high primacy and unbalanced regional development; (b) limited global economic footprint of urban economies with employment concentrated in nontradable and resource-intensive sectors; and (c) unplanned low-density urban expansion. Thus, Argentina faces the challenges of transitioning toward a more balanced regional development, from local to global cities, and from urban sprawl to articulated densities to take full advantage of the benefits of agglomeration economies.

- **Toward a more balanced regional development.** Argentina has a system of geographically diverse cities, and it needs to harness the economic potential of the whole system of cities. The country needs a globally competitive metropolitan Buenos Aires to make the transition to a high-income country, given the primacy of the metropolitan area that accounts for more than half of national GDP. But Argentina also needs to bridge the economic gap between metropolitan Buenos Aires and the top five agglomerations to create vibrant secondary growth poles. In addition, a more balanced pattern of regional development is needed to bridge the prosperity and livability gap between the cities in the northern regions and the rest of the country and to manage the recent growth in the Patagonia region.

  To achieve this balance requires removing the bottlenecks that prevent cities in the north from catching up while promoting the sustainable growth of cities in the south. The recent employment growth in the northern regions, primarily driven by the public sector, has helped reduce poverty. Yet, agglomerations in the Northeast region continue to lag and to rank lowest in prosperity and livability. The explosive growth of resource-rich agglomerations in the Patagonia region—driven by the growth in extractive industries—needs to be sustainably managed to meet growing needs for urban services and housing, to protect the environment, and to reduce economic vulnerabilities.

- **From local to global cities.** Urban economies in Argentina have not been able to create the jobs required to move up the value-added ladder and become globally competitive. Argentine cities need to diversify their manufacturing base to reduce vulnerability to fluctuations in global demand for commodities. They also need to transition from low value-added nontradable services, which
are less likely to benefit from agglomeration economies, to higher value-added tradable services, such as information and communications technology, banking and finance, and other knowledge-based services.

Accelerating the transition from a local to a global economy is a high priority for peri-urban metropolitan Buenos Aires and large urban economies that lack diversification. Those economies concentrate most of their jobs in nontradable employment and low value-added services (with the notable exception of the city of Buenos Aires, which is leading in innovation). Textiles is the only tradable sector driving employment growth in peri-urban metropolitan Buenos Aires. In the northern regions, agglomerations are caught in a low productivity trap, with agroprocessing the only employment growth driver in tradable sectors. Resource-rich cities also face the challenge of diversifying their economies because their jobs are highly concentrated in extractive industries.

- **From urban sprawl to articulated densities.** Argentine cities face a difficult challenge arising from unplanned urban expansion: low-density sprawl that is poorly connected to urban cores. Managing this challenge is made even tougher by the mismatch between political administrative boundaries and built-up areas of agglomerations. The study finds that sprawl (a) inhibits the exploitation of agglomeration economies, thus imposing productivity and welfare losses, and (b) undermines livability, leading to costly services, inefficient use of land, and reduced connectivity between the core and peri-urban areas of cities. Cities need to transition from the current low-density, sprawling expansion pattern to the creation of articulated spatial structures to reduce the negative externalities associated with agglomeration economies.

The root cause of Argentina’s urban challenges is institutional. Responsibilities for urban development are fragmented across institutions, which lack mechanisms to coordinate metropolitan development. In Argentina, those challenges are particularly severe and exacerbated by the financial weakness of municipalities. Addressing such challenges calls for an institutional environment that enables all cities to thrive. To create such an enabling institutional environment, the study identifies three interrelated areas for institutional change:

- **Strengthening the leadership of the federal government.** The leadership of the federal government is central to leveraging the economic benefits of agglomeration economies. The urban agenda is a national agenda, given its importance for national economic growth. Thus, there is a strong economic rationale for strengthening the leadership of the federal government in guiding urban development within the existing legal framework.

- **Empowering municipalities.** Municipalities are financially weak and need to be strengthened. Although Argentina is highly urban, municipal governments in Argentina play a very small role in urban development. In Argentina, strengthening municipalities means shifting power, as well as selected responsibilities and resources, from provincial governments to municipal governments.
Enhancing the coordinating role of provinces. Argentina has strong provinces, which play a critical role in urban development. Yet, they have often failed to coordinate actions across municipalities and among tiers of governments. The political, economic, and financial strength of the provinces can be harnessed to enhance vertical coordination (among tiers of governments) and horizontal coordination (between municipalities).

Systemwide policy reforms are needed to realize the potential of Argentine cities. This section outlines a framework for policy action. It identifies five priority policy areas that, in conjunction with the three areas of institutional changes outlined previously, can contribute to unlock the potential of Argentine cities. The study proposes an integrated approach to policy reforms on the basis of the following five priorities: (a) promote sustainable and efficient spatial development; (b) position municipalities as competent and accountable service providers; (c) encourage sustainable and efficient housing development; (d) promote efficient, sustainable, and equitable urban transport; and (e) power the long-term economic growth of Argentine cities. For each priority area, the study articulates the main goals and policy directions required to achieve those goals. The policy matrix in table O.1 summarizes the way forward.

Priority 1: Promote sustainable and efficient spatial development. Argentina needs the leadership of the federal government to promote sustainable and efficient territorial development, given the significant spatial disparities in the country. Agglomerations face challenges (such as deficient access to basic services, low accessibility, and sprawl) that need to be addressed at the metropolitan level, and thus requires some form of horizontal cooperation between municipalities. Sprawling suburban development, combined with poor accessibility and segregated development, entails significant economic costs. Policy actions are needed to do the following:

a. Develop strategic and integrated territorial plans that are in line with the national vision. Developing such plans requires (i) strengthening the leadership of the federal government to promote equitable and sustainable territorial development; and (ii) preparing integrated metropolitan spatial plans in line with national and regional plans.

b. Create institutional changes and incentives for agglomeration-wide urban management. Such changes can be made by (i) establishing metropolitan observatories, and create an open repository of metropolitan geospatial data and information; (ii) promoting intermunicipal sectoral cooperation for the provision of services; and (iii) providing technical support and incentives to encourage horizontal coordination between municipalities.

c. Encourage efficient and sustainable land use planning by (i) promoting sustainable urban growth and increase in density; (ii) reforming the regulatory and incentive framework to unlock the supply of land; and (iii) introducing modern financing tools for territorial development.
Priority 2: Position municipalities as competent and accountable service providers. Argentina needs to empower municipalities and to position them as competent and accountable service providers. Argentina’s economic competitiveness is contingent on the capacity of municipalities to deliver high-quality services to their constituencies. Municipal governments are financially weak. Their revenue-raising powers need to be increased to reduce dependency on transfers. Municipal fiscal policy must also achieve greater efficiency and effectiveness in the collection of municipal revenues. Greater municipal collection efficiency needs to be accompanied by provincial reforms that endow municipalities with more fiscal capacities. Municipalities need predictable sources of funding so they can provide basic services and can finance urban infrastructure. The low share of capital expenditures of municipal governments, in particular, in the top five cities where infrastructure needs are the highest, is concerning. Addressing those challenges requires a gradual approach centered on the following policy areas:

a. Strengthen municipal capacity to mobilize municipal revenues and thus reduce dependency on transfers. To do so, (i) decentralize property taxes and other appropriate taxes for local collection, starting in the largest agglomerations; (ii) rationalize the sources of municipal revenues by gradually phasing out fees; and (iii) improve the efficiency of property tax collection.

b. Rationalize the intergovernmental fiscal transfer system. Such change would require: (i) reviewing the rules for more effective allocation and distribution of fiscal transfers to municipal governments; and (ii) considering the introduction of a system of direct transfers from the federal government to the municipalities for specific programs or policies aligned with national priorities.

c. Strengthen the financing framework for municipal service delivery and infrastructure. This framework can be fortified by (i) codifying functions of municipalities and gradually increasing responsibilities as municipal financial capacity increases; (ii) mainstreaming user-pay principles to cover the costs of basic services such as solid waste collection; (iii) developing a coherent and transparent national institutional framework for municipal infrastructure investment financing; and (iv) preparing long-term investment plans, starting in metropolitan areas—those plans need to be linked to spatial plans for the sustainable financing of urban infrastructure.

Priority 3: Encourage sustainable and efficient housing development. Housing typically accounts for 60 percent to 70 percent of the land use in cities. The way it is planned and built has permanent implications on the urban form, quality of life, and economic performance of cities. With the housing deficit in Argentina affecting about one-quarter of the population, housing policies will play a key role in determining cities’ long-term performance and sustainability.

Although current macroeconomic conditions constrain the development of a strong housing market, Argentina needs to take action now to lay the foundation
for better and more affordable housing options for when macroeconomic conditions improve. Aside from the contraction of mortgage lending, a number of challenges in the housing sector need to be addressed to resolve the deficit. Some major challenges include the absence of a comprehensive housing policy defining the sector’s strategy and coordinating government efforts, and limited housing solutions for low-income households that are often crowded out of publicly led programs. The housing market is also challenged by limited availability of urban land for housing development and lack of incentives for private sector participation in the low-income housing segment. Therefore, the following institutional and policy reforms are needed:

a. **Develop a comprehensive national housing policy to help coordinate efforts across different government levels.** Such a policy needs to (i) be backed by adequate regulatory and budgetary instruments; (ii) the government’s role needs to be refocused from housing provider to enabler, and private sector participation promoted while targeting public programs to low-income populations; and (iii) the institutional framework needs to be reformed to better articulate housing policy at the different government levels.

b. **Develop housing programs and solutions that are efficient, equitable, sustainable, and transparent.** To develop such solutions, (i) align public-assisted housing programs with national housing priorities and objectives; (ii) move from implicit to explicit housing subsidies and define clear targeting mechanisms in public-assisted programs to ensure access to housing for the low-income population; (iii) develop alternative housing models for low-income households that will include promotion of incremental housing solutions and regularization of informal settlements; (iv) facilitate access to formal rental markets for all income groups; (v) put an information system in place to monitor progress and evaluate the impact of housing policies and programs; and (vi) provide incentives for private developers to increase the speed and volume of housing development.

c. **Strengthen the housing finance market** by (i) developing a set of transitional instruments such as some form of credit and savings indexation that will address the lack of housing finance; (ii) allowing other banks to participate in PRO.CRE.AR; and (iii) developing nontraditional financing models for affordable housing.

d. **Improve the articulation of housing, urban, and land policies, with a focus on increasing access to urban land,** by (i) coordinating housing and urban policies to promote sustainable urban growth; and (ii) facilitating access to land for sustainable housing development.

**Priority 4: Promote efficient, sustainable, and equitable urban transport.** An efficient, sustainable, and equitable urban transport is essential to leverage the benefits and to manage the costs of agglomeration economies. Integrated transport planning poses complex challenges in Argentina’s institutional framework,
given (a) the fragmentation of responsibilities, (b) the mismatch between administrative and functional boundaries of metropolitan areas, and (c) the weaknesses of municipalities. The challenges of urban transport also vary significantly across regions and cities. Metropolitan Buenos Aires faces special challenges of intra-urban connectivity, given the size of the metropolitan area. Promoting efficient, sustainable, and equitable urban transport requires a number of priority interventions as follows:

a. Develop a national policy for efficient, sustainable, and equitable urban transport. Argentina needs to (i) develop a national strategy on urban transport and sustainable mobility by providing proper incentives for long-term planning, managing, and investing in urban transport; (ii) mainstream the use of technology to improve planning and efficiency of public transport; (iii) redefine the existing federal subsidy policy for public transport to improve targeting to the most vulnerable groups; and (iv) lay out the principles for institutionalizing and encouraging metropolitan coordination in the transport sector.

b. Improve the efficiency of the urban transport system in metropolitan Buenos Aires. To do so, (i) expand and improve the public transport network in metropolitan Buenos Aires to hold the diseconomies of urbanization in check; (ii) promote integrated and efficient management of the urban transport system in the metropolitan area; and (iii) empower the Buenos Aires Metropolitan Transport Agency with the resources required to coordinate actions and investments throughout the metropolitan area.

c. Modernize urban transport systems in the top five and the large agglomerations. To do so, (i) develop new mass transit corridors as part of integrated urban growth strategies; (ii) consider implementing transit-oriented urban development strategies to increase the density of peri-urban areas; (iii) implement travel demand management that will discourage using private motor vehicles in city centers and will promote nonmotorized transport options; and (iv) develop policies for urban freight transportation that will make city logistics more efficient, thereby reducing adverse effects on traffic and congestion.

d. Improve sustainability of public transport in intermediate and small cities. To do so, (i) start planning for an expansion of urban transport networks; and (ii) provide infrastructure and incentives to increase the use of nonmotorized transport.

Priority 5: Power the long-term economic growth of Argentine cities. Although Argentine cities have strong economic potential, they are not taking full advantage of the economic benefits of agglomeration forces. Powering the long-term growth of Argentine cities requires a multipronged and diversified strategy based on second-generation urban policies to unlock their full economic potential as a system of cities. The objectives, activities, and implementation will depend on several factors, including the local economic base, the specific challenges faced by the cities, and the capacity of local governments.
Therefore, the strategic directions are grouped by city size category and take into consideration regional challenges. In the largest agglomerations, implementing those strategic directions is contingent on establishing effective coordination for local economic development. As one looks ahead, actions in the following policy areas will be critical to power the long-term economic growth of Argentine cities:

a. *Strengthen the global economic competitiveness of the city of Buenos Aires*. To do so, (i) capitalize on higher education institutions that will boost human capital and innovation; (ii) place innovation at the center of policies for economic development districts; and (iii) develop formal partnerships with businesses and local communities to maximize the socioeconomic benefits of those economic development districts.

b. *Increase the competitiveness of the peri-urban areas of Buenos Aires*, by (i) developing a metropolitan area-wide economic development strategy and Investment plan; (ii) promoting economically driven regeneration of peri-urban areas; and (iii) building durable academy-industry links as part of ecosystem development.

c. *Promote economic diversification in large and resource-rich agglomerations*. To do so, (i) develop export-oriented competitiveness strategies to promote economic diversification with a global reach in the top five and large agglomerations; (ii) promote strategically located industrial parks to encourage economic diversification, and spearhead urban reforms in the largest agglomerations; and (iii) invest in human resources for innovation-driven economic diversification of resource-rich cities.

d. *Improve economic efficiency in intermediate and small cities*. To do so, (i) develop public-private partnerships as a platform for designing and coordinating local economic development initiatives; and (ii) build municipal capacity to implement local economic development initiatives.

e. *Promote an enabling environment for sustainable economic growth in agglomerations in the northern regions*. To do so, (i) develop integrated regional competitiveness strategies to improve prosperity and livability of agglomerations in the north in partnership with the private sector; and (ii) build municipal capacity to enhance the effectiveness of public programs.

Moving forward, we need further research to enhance our understanding of how cities can contribute to Argentina’s economic growth. This study covers selected public policies that affect urban prosperity and livability and that can ultimately contribute to the country’s economic growth. However, more research is required on other public policies, which are not covered by the study but are equally important to correct market and coordination failures, including second-generation policies (such as skill formation and innovation) as well as health policies, environmental policies, and social safety nets. In addition, better data are needed at the agglomeration level to strengthen the analysis of livability and prosperity. Such information would allow the formulation of policies on the basis of more robust empirical evidence.
### Table O.1 Policy Matrix: Priorities, Goals, and Policy Directions

#### Priority 1. Promote sustainable and efficient spatial development

<table>
<thead>
<tr>
<th>Goal 1.a Develop strategic and integrated territorial plans that are in line with the national vision</th>
<th>Goal 1.b Create institutional changes and incentives for agglomeration-wide urban management</th>
<th>Goal 1.c Encourage efficient and sustainable land use planning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policy directions</td>
<td>Policy directions</td>
<td>Policy directions</td>
</tr>
<tr>
<td>• Strengthen the leadership of the federal government to promote equitable and sustainable territorial development</td>
<td>• Establish metropolitan observatories, and create an open repository of metropolitan geospatial data and information</td>
<td>• Promote sustainable urban growth and increases in densities</td>
</tr>
<tr>
<td>• Prepare integrated metropolitan spatial plans in line with national and regional plans</td>
<td>• Promote intermunicipal sectoral cooperation for the provision of services</td>
<td>• Reform the regulatory and incentive framework to unlock the supply of land</td>
</tr>
<tr>
<td></td>
<td>• Provide technical support and incentives to encourage horizontal coordination between municipalities</td>
<td>• Introduce modern financing tools for territorial development</td>
</tr>
</tbody>
</table>

#### Priority 2. Position municipalities as competent and accountable service providers

<table>
<thead>
<tr>
<th>Goal 2.a Strengthen municipal capacity for mobilizing revenues to reduce dependency on transfers</th>
<th>Goal 2.b Rationalize the intergovernmental fiscal transfer system</th>
<th>Goal 2.c Strengthen the financing framework for municipal service delivery and infrastructure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policy directions</td>
<td>Policy directions</td>
<td>Policy directions</td>
</tr>
<tr>
<td>• Decentralize property taxes and other appropriate taxes for local collection, starting in the largest agglomerations</td>
<td>• Review the rules for more effective allocation and distribution of fiscal transfers to municipal governments</td>
<td>• Codify functions of municipalities, and gradually increase responsibilities as municipal financial capacity increases</td>
</tr>
<tr>
<td>• Rationalize the sources of municipal revenues by gradually phasing out fees</td>
<td>• Consider introducing a system of direct transfers from the federal government to the municipalities for specific programs or policies aligned with national priorities</td>
<td>• Mainstream user-pay principles to cover the costs of basic services such as solid waste collection</td>
</tr>
<tr>
<td>• Improve the efficiency of property tax collection</td>
<td></td>
<td>• Develop a coherent and transparent national institutional framework for municipal infrastructure investment financing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Prepare long-term investment plans that are linked with spatial plans for the sustainable financing of urban infrastructure, starting in metropolitan areas</td>
</tr>
</tbody>
</table>

*table continues next page*
**Table O.1 Policy Matrix: Priorities, Goals, and Policy Directions (continued)**

**Priority 3: Encourage sustainable and efficient housing development**

<table>
<thead>
<tr>
<th>Goal 3.a</th>
<th>Goal 3.b</th>
<th>Goal 3.c</th>
<th>Goal 3.d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop a comprehensive national housing policy to help coordinate efforts across different government levels</td>
<td>Develop housing programs and solutions that are efficient, equitable, sustainable, and transparent</td>
<td>Strengthen the housing finance market</td>
<td>Improve the articulation of housing, urban, and land policies, with a focus on increasing access to urban land</td>
</tr>
</tbody>
</table>

**Policy directions**

- Develop a comprehensive national housing policy that is backed by adequate regulatory and budgetary instruments
- Refocus government’s role from housing provider to enabler, and promote private sector participation while targeting public programs to low-income populations
- Reform the institutional framework to better articulate housing policy at the different government levels
- Align public-assisted housing programs with national housing priorities and objectives
- Move from implicit to explicit housing subsidies, and define clear targeting mechanisms in public-assisted programs to ensure access to housing for low-income populations
- Develop alternative housing models for low-income households, including promoting incremental housing solutions and regularizing informal settlements
- Facilitate access to formal rental markets for all income groups
- Put in place an information system to monitor progress and to evaluate the impact of housing policies and programs
- Provide incentives for private developers to increase the speed and volume of housing development
- Develop transitional instruments, such as some form of credit and savings indexation, to address the lack of housing finance
- Allow other banks to participate in Programa Crédito Argentino (PRO.CRE.AR)
- Develop nontraditional financing models for affordable housing
- Coordinate housing and urban policies to promote sustainable urban growth
- Facilitate access to land for sustainable housing development

*table continues next page*
Table O.1 Policy Matrix: Priorities, Goals, and Policy Directions (continued)

**Priority 4: Promote efficient, sustainable, and equitable urban transport**

| Goal 4.a Develop a national policy for efficient, sustainable, and equitable urban transport |
| Goal 4.b Improve efficiency of the urban transport system in metropolitan Buenos Aires |
| Goal 4.c Modernize urban transport systems in the top five and large agglomerations |
| Goal 4.d Improve sustainability of public transport in intermediate and small cities |

**Policy directions**

- **Goal 4.a**
  - Develop a national strategy on urban transport and sustainable mobility by providing proper incentives for planning, managing, and investing in urban transport
  - Mainstream the use of technology for improving planning and efficiency of public transport
  - Redefine the existing federal subsidy policy for public transport to improve targeting to the most vulnerable groups
  - Lay out the principles for institutionalizing and encouraging metropolitan coordination in the transport sector

- **Goal 4.b**
  - Develop a national strategy on urban transport and sustainable mobility by providing proper incentives for planning, managing, and investing in urban transport
  - Mainstream the use of technology for improving planning and efficiency of public transport
  - Redefine the existing federal subsidy policy for public transport to improve targeting to the most vulnerable groups
  - Lay out the principles for institutionalizing and encouraging metropolitan coordination in the transport sector

- **Goal 4.c**
  - Develop new mass transit corridors as part of integrated urban growth strategies
  - Consider implementing transit-oriented urban development strategies to increase the density of peri-urban areas
  - Implement travel demand management to discourage the use of private motor vehicles in city centers and to promote nonmotorized transport options
  - Develop urban freight transportation policies to make city logistics more efficient, thus reducing adverse effects on traffic and congestion

- **Goal 4.d**
  - Start planning for expansion of urban transport networks
  - Provide infrastructure and incentives for increasing the use of nonmotorized transport
Table O.1 Policy Matrix: Priorities, Goals, and Policy Directions (continued)

**Priority 5: Power the long-term economic growth of Argentine cities**

<table>
<thead>
<tr>
<th>Goal 5.a Strengthen the global economic competitiveness of the city of Buenos Aires</th>
<th>Goal 5.b Increase the competitiveness of peri-urban metropolitan Buenos Aires</th>
<th>Goal 5.c Promote economic diversification in large and resource-rich agglomerations</th>
<th>Goal 5.d Improve economic efficiency in intermediate and small cities</th>
<th>Goal 5.e Promote an enabling environment for sustainable economic growth in agglomerations in the northern regions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Policy directions</strong></td>
<td><strong>Policy directions</strong></td>
<td><strong>Policy directions</strong></td>
<td><strong>Policy directions</strong></td>
<td><strong>Policy directions</strong></td>
</tr>
<tr>
<td>• Capitalize on higher education institutions to boost human capital and innovation</td>
<td>• Develop a metropolitan area-wide economic development strategy and investment plan</td>
<td>• Develop export-oriented competitiveness strategies to promote economic diversification with a global reach in the top five and large agglomerations</td>
<td>• Develop public–private partnerships as a platform for designing and coordinating local economic development initiatives</td>
<td>• Develop integrated regional competitiveness strategies to improve prosperity and livability of agglomerations in the north in partnership with the private sector</td>
</tr>
<tr>
<td>• Place innovation at the center of economic development district policies</td>
<td>• Promote economically driven regeneration of peri-urban areas</td>
<td>• Promote strategically located industrial parks to encourage economic diversification, and spearhead urban reforms in the largest agglomerations</td>
<td>• Build municipal capacity to implement local economic development initiatives</td>
<td>• Build municipal capacity to enhance the effectiveness of public programs</td>
</tr>
<tr>
<td>• Develop formal partnerships with business and local communities to maximize the socioeconomic benefits of economic development districts</td>
<td>• Build durable academy-industry links as part of ecosystem development</td>
<td>• Promote economically driven economic diversification of resource-rich cities</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Export-oriented competitiveness strategies to promote economic diversification with a global reach in the top five and large agglomerations.
Notes

1. Excluding city states and small islands.
2. Based on Oxford Economics dataset 2000–12. The Oxford Economics data reported here were obtained from Oxford Economics and analyzed by the World Bank. For information on Oxford Economics, see oxford economics.com.
3. Henderson (2003) finds that at a low output per worker (of US$1,100), optimal primacy is 48 percent, while at middle (US$8,100) and high (US$36,000) output per worker, it is 32 percent and 21 percent, respectively. Foregone output is estimated at 1.41 percent per year for one standard deviation (15 percent) increase (or decrease) in primacy above (or below) its optimal level.
4. GDP share is based on available official gross provincial product (GPP) data from 1993 through 2013 from the Ministry of Economy and Public Finance and national GDP data from INDEC, the National Institute of Statistics and Censuses of Argentina. For the years and provinces for which GPP data are not available, figures were estimated by the World Bank team on the basis of available turnover tax data. Therefore, the results should be interpreted with caution.
5. Metropolitan Buenos Aires comprises the city of Buenos Aires and peri-urban areas, including departments, or partidos, from 32 adjacent municipalities. See box O.2.
6. In the least well-educated one-third of metropolitan areas, the authors found virtually no connection between city size and productivity or income.
7. The top five agglomerations are (a) Córdoba, (b) Rosario, (c) Mendoza, (d) San Miguel de Tucumán, and (e) La Plata. See box O.2.
8. The spatial demographic analysis presented in this section is based on 2010 data from the Population and Housing Census (INDEC 2010a).
9. The analysis is based on population distribution data produced by the WorldPop project, which uses built-up areas and other inputs to model the country’s population at a 100m × 100m spatial grid. See http://www.worldpop.org.uk/data.
10. The classification of cities into city size categories is made on the basis of INDEC’s 2001 population census data. See box O.2.
11. The analysis is based on 2010 population census data (INDEC 2010a). The definition of region adopted for the migration analysis differs from the official definition presented in box O.2 because data were available at the province level and could not be further disaggregated. Thus, the Buenos Aires region comprises metropolitan Buenos Aires and the rest of the Buenos Aires province that officially belongs to the Pampeana region.
12. Based on Oxford Economics dataset 2000–12. The Oxford Economics data reported here were obtained from Oxford Economics and analyzed by the World Bank. For information on Oxford Economics, see oxford economics.com.
13. In the absence of subnational GDP data, the study uses nighttime light emissions as a proxy for agglomerations’ GDP building on the empirical evidence of strong correlation between nighttime light emissions and economic activity found in the literature (Henderson and others 2012). Regression analysis shows a positive and significant relationship between economic activity and nighttime lights at the province level in Argentina.
14. A regression analysis was carried out to determine whether and to what extent cities are taking advantage of agglomeration economies and whether any significant regional differences exist in agglomeration economies. Following the literature, wages are used to capture labor productivity in the regression analysis; the strength of agglomeration
economies is proxied by the population size of the agglomeration, as well as by measures of densities—population, employment, and economic densities. Wage differential estimates are based on nominal rather than price-adjusted wages. The relationship between cost of living and wage differentials is not known because of a lack of information about cost of living. Nevertheless, the results provide valuable insights on differences in firm-level productivity across locations, because higher productivity allows firms to pay higher nominal wages.

15. Comparing the elasticity of agglomerations across countries is, however, challenging given the variation in the wide range of magnitude of the estimates reported in the literature (see, for instance, Melo and others 2009).

16. Drawing on location quotient (LQ)—which is a measure of the concentration of economic activity in a given sector within an urban area—versus employment growth analysis, this study assesses the employment growth drivers of cities to help understand the dynamics of urban economies. To provide a complete picture of the economic base of agglomerations, the study identifies and compares employment growth drivers (large clusters with above-average employment growth); emerging sectors (small clusters but with above-average employment growth); and important sectors in decline (large clusters with below-average employment growth) across city size categories by plotting sector importance (proxied by the LQ) against employment growth in the sector.

17. Glaeser and others (2015) tested this hypothesis by examining the growth trajectories of metropolitan areas across the United States with large concentrations of extractive industries (measured as proximity to mines) at the turn of the 20th century. They found that those cities still have larger firms and fewer start-ups today, across all their industries, and that the employment picture there is correspondingly bleaker than in cities with fewer natural resources.

18. This section presents the results of a study on urban expansion patterns carried out by the Research Center for Urban Policy and Housing at the Torcuato Di Tella University (Goytia 2015) as a background paper for this study. The study covers a sample of agglomerations for 2001–10 on the basis of population census data and satellite imagery and compares the results with those of an earlier study for the period 1990–2001 on the basis of the same methodology (Torcuato Di Tella University 2013). The analysis was carried out for 26 of the 31 agglomerations included in the Argentine Permanent Household Survey carried out by INDEC.

19. The sprawl index measures the increase in the built-up area relative to a benchmark where the urban built-up area would have increased in line with population growth. The sprawl index is equal to zero when both population and the urban built-up area are stable over time. It is greater (or smaller) than zero when the growth of the urban built-up area is greater (or smaller) than the growth of population, that is, the city density has decreased (or increased).

20. Only 5 of the 26 agglomerations are completely contained in the same administrative area. The remaining 21 consist of multiple administrative units. Among the 21 agglomerations, 4 of the 21 agglomerations span not only several local governments but also two different provinces, such as Neuquén.


22. The population density gradient—the slope of the density curve—is a measure of the degree of decentralization of a metropolitan area. The more uniform the population density as a function of the distance from the city center, the smaller the gradient.
23. The territorial planning analysis presented in this section is based on Goytia and others 2015, a background paper to this study.

24. The first administrative model allows for more integrated management of a territory’s urban and rural areas under the same local authority and within a clearly defined boundary. In the second administrative model, the province has the advantage of overseeing the territorial dynamics and coordinating rural land uses for integrated regional planning.

25. The municipal finance analysis presented in this section is based on López Accotto 2015, a background paper to this study. The paper analyzes the fiscal situation of a sample of 277 municipalities across the country, including information on revenues and expenditures from 1993 to 2013.

26. Tax burden is defined as the collection of taxes, fees, rights, and contributions as a share of GDP.

27. A recent study on the fiscal effect of decentralizing property taxes found no significant differences in collection efficiency between municipalities and provinces (López Accotto and others 2014).

28. The housing analysis presented in this section is based on Goytia and others 2015, a background paper to this study.

29. The information presented in the local economic development section is based on Bruera 2015, a background paper to this study.

30. For each component, a number of indicators has been selected based on available data. In the absence of subnational GDP data, GDP estimates for the productivity component are based on nighttime light emissions.

References


Overview


CHAPTER 1

Introduction

Summary
This chapter presents the objectives of the study and its conceptual framework. The study aims to deepen the empirical understanding of the interplay between urbanization and agglomeration economies in Argentina and to provide a framework for leveraging the potential of Argentine cities. The study first assesses the urbanization trends and spatial patterns that underlie agglomeration economies in Argentina. It then carries out an assessment of the effectiveness of selected public policies that are available to cities for managing agglomeration forces. The study is not intended to carry out a comprehensive assessment of all urban policies. Rather, its intention is to exemplify how urban policies can affect prosperity and livability in important ways by influencing the dynamics of urban development and the resulting internal geography of cities and distribution of resources.

Introduction
The macroeconomic story dominates the debate in Argentina, and stabilizing the macroeconomic environment is undoubtedly critical for cities to thrive. However, Argentina needs more than macroeconomic stability for economic growth. Argentine cities are part of the solution: they have the potential to become magnets for economic growth. They can count to a varying degree on a strong, educated middle class; a long history of public policy making and industrial development; a skilled and highly creative workforce; a supply of abundant natural resources; a vibrant cultural and arts scene; and the resilience of the Argentine people in the face of extreme crisis. The challenges that Argentine cities face need to be addressed now so that they will not become a binding constraint once macroeconomic imbalances are corrected. Thus, urban development is an agenda of national importance for Argentina.

Argentina’s national urban vision is reflected in the Strategic Territorial Plan (Plan Estratégico Territorial—PET) (Government of Argentina, Ministry of Federal Planning, Public Investment, and Services 2011). The vision is to move toward a balanced, integrated, sustainable, and equitable territorial development model by
Leveraging the Potential of Argentine Cities

Introduction

(a) helping intermediate cities grow; (b) addressing regional imbalances in economic outcomes, access to services, and living conditions; and (c) promoting accessibility and connectivity. Achieving that vision requires leveraging the potential of the whole system of Argentine cities.

This study argues that Argentina’s path to economic prosperity is through efficient, sustainable, and economically thriving cities, and provides a framework for leveraging the potential of Argentine cities. It aims to deepen the empirical understanding of the interplay between urbanization and agglomeration economies in Argentina by asking the following questions:

- What are the main trends and spatial patterns of Argentina’s urbanization that underlie agglomeration economies?
- Are urban policies leveraging or undermining the benefits of agglomeration economies?
- Are Argentine cities fully reaping the benefits of agglomeration economies to deliver improvements in prosperity and livability?

By answering such questions and exploring underlying issues and their implications for action, this study provides a conceptual framework, empirical data, and strategic directions for leveraging the potential of Argentine cities and for supporting the government of Argentina in achieving its urban vision. To address these questions, the study draws on an organizing analytical framework that is based on the urban and spatial economic literature, and which has been adapted for the purpose and focus of the study. This chapter describes that framework.

The internal geography of a city is an outcome of the trade-off between the positive and negative externalities of agglomeration economies (see Fujita and others 1999; World Bank 2009). Urbanization generates two competing sets of agglomeration forces. On the one hand, urbanization gives rise to positive agglomeration externalities through the benefits that arise from spatial clustering and the concentration of economic activities. In turn, those externalities promote greater efficiency, productivity, and innovation. Positive agglomeration externalities may result from the clustering of firms in the same sector (localization economies), or they may be generated by the agglomeration of firms across sectors (urbanization economies). Firms gain from spatial clustering by an increased scale of markets, ease of communication, increased knowledge sharing and spillovers, and access to human capital and other inputs and outputs, as well as from sharing common urban infrastructure. See, for instance, Glaeser and others (1992) and Porter (1990). On the other hand, market and coordination failures reduce the extent to which cities can benefit from agglomeration economies by generating negative externalities in land, housing, labor markets, and urban transport. For example, the market fails to price the social value of open and green space, a motorist fails to bear the social costs of traffic congestion.
caused by his or her driving, or a real estate developer does not consider the collective costs of the public infrastructure needs caused by his or her projects.

The presence of negative externalities implies that spatial outcomes may not necessarily be optimal, thus justifying the role of public policy in addressing the associated market and coordination failures. Governments have several policy instruments to address market and coordination failures and to amplify the positive externalities of urbanization, thus affecting the ability of cities to generate prosperity and to provide an adequate quality of life. Those interventions include traditional urban policies, such as territorial planning, municipal finance, housing, and urban transport. For example, as urbanization pressures increase, demand for land rises and planning tools that will accommodate urban expansion become increasingly important. And the peculiarity of housing exposes it to multiple market and coordination failures not found together either in private consumer goods or in other capital goods. Those market and coordination failures (such as housing affordability and legal rights) need to be addressed by appropriate government policies.

In the current global environment, traditional urban policies are not enough to generate optimal outcomes in already highly urbanized countries such as Argentina. Second-generation urban policies, which go beyond the traditional urban agenda, are needed to enhance and take full advantage of positive externalities among private firms and other players in the local economy. Such policies ultimately help the country move forward to a high-income economy. Those policies—often labeled under the local economic development umbrella—include a broad array of instruments for enhancing innovation, human capital formation, and skills. For example, universities and companies may invest too little in research for what would be socially optimal if they fail to take account of the economic benefits of knowledge spillovers for society as a whole.

As a way to exemplify how policies can have an important effect on prosperity and livability in the presence of externalities and of market and coordination failures, the diagnostics focus on traditional urban policy areas with a clear spatial outcome: territorial planning, municipal finance, housing, and urban transport. And the diagnostics also cover urban policies for local economic development aimed at fostering innovation and human capital. Such policies are an example of second-generation urban development policies that go beyond the traditional urban agenda.

This study is not intended to carry out a comprehensive assessment of all public policies in the urban space. Rather, it is intended to illustrate how urban policies can affect prosperity and livability in important ways by influencing the dynamics of urban development and the resulting internal geography of cities and distribution of resources. Therefore, this study does not cover other public policies that are equally important for correcting market and coordination failures for enhanced prosperity and livability. Those public policies include education and skill formation, health policies, environmental policies, and social safety nets.
The study broadly defines prosperity and livability outcomes at the city level. Prosperity measures three different but interrelated dimensions of city performance: productivity, employment, and low level of poverty (with this last component named “no-poverty” in the prosperity analysis). Livability comprises complementary dimensions of quality of life, covering public services, housing, public transport, health, education, social inclusion, and resilience. The organizing analytical framework for the study is summarized in figure 1.1. The definition of Argentina’s urban space and classification of agglomerations used for the analysis is described in box 1.1.

Figure 1.1 Organizing Analytical Framework

Note: The study covers selected urban policies affecting agglomeration economies, with a focus on traditional urban policies and local economic development. Other second-generation urban policies are not extensively covered in this study.
Box 1.1 Argentina’s Geography and Urban Space

Argentina is a federal country with three levels of governments: federal, provincial, and local. It consists of 23 provinces and the city of Buenos Aires—whose status is similar to a province. On the basis of the statistical definition of the National Institute of Statistics and Censuses (INDEC), the country is divided into six geographic regions: metropolitan Buenos Aires, Pampeana, Northwest, Northeast, Cuyo, and Patagonia. Each geographic region comprises several provinces, as detailed in map B1.1 and table A.1 in appendix A. This study follows INDEC’s definition of regions unless otherwise specified. In a few instances when data were available only at the provincial level, it was not possible to disaggregate information for metropolitan Buenos Aires alone. In those cases, as noted throughout the report, the Buenos Aires region comprises metropolitan Buenos Aires and the rest of the Buenos Aires province that officially belongs to the Pampeana region.

Agglomerations comprise one or more localities. A locality is a territorial division whose boundaries are defined by geographic characteristics or modifications in the land (i.e., buildings and streets). While localities are territorial entities defined by INDEC, municipalities are political entities established by the provincial governments. A municipality may coincide with a locality or can be composed of multiple localities, depending on the municipal system in place in the province. Based on INDEC’s official definition of urbanization, all localities with a population of 2,000 or more are considered urban.

The study adopts a geographic concept of urban settlement according to INDEC’s definition of agglomeration, rather than using a politico-administrative definition (INDEC 2009). An agglomeration is defined as a territory whose built-up area incorporates a city core (usually a municipality) and the suburban areas adjacent to the municipal boundaries. This study will use the terms agglomerations, urban areas, and cities interchangeably. Thus, the boundaries of agglomerations do not coincide with the politico-administrative boundaries of municipalities, and agglomerations tend to comprise several municipalities. Agglomerations are named by their core municipality—in other words, San Salvador de Jujuy in this report refers to the broader metropolitan area that surrounds (and includes) the municipality of San Salvador de Jujuy.

For analytical purposes, agglomerations are classified into the following six categories on the basis of 2010 population size (INDEC 2010): (a) metropolitan Buenos Aires, (b) top five agglomerations (700,000 to 1.5 million), (c) large agglomerations (300,000 to 700,000), (d) intermediate agglomerations (100,000 to 300,000), (e) small agglomerations (50,000 to 100,000), and (f) towns (2,000 to 50,000).

We refer to the agglomeration of Buenos Aires in this study as metropolitan Buenos Aires to distinguish it from the city of Buenos Aires, which is the center of the metropolitan area and a subnational government with special politico-administrative status. Note that metropolitan Buenos Aires, as defined by INDEC, is both a region and an agglomeration. Metropolitan Buenos Aires includes the city of Buenos Aires and departments or partidos, from 32 municipalities that belong to the Buenos Aires province. In this study, these departments are referred to as peri-urban metropolitan Buenos Aires. They compose the total area of 14 municipalities, plus portions of another 18 (INDEC 2003). The rest of the departments in the Buenos Aires province are in the Pampeana region.8
The analysis presented in the report uses population census data for all the agglomerations in Argentina as well as data from INDEC’s Permanent Household Survey (Encuesta Permanente de Hogares, or EPH). The EPH covers a representative sample of 31 agglomerations (referred to as the “EPH agglomerations”), including all provincial capitals and 28 of the 31 agglomerations with more than 100,000 inhabitants, accounting for approximately 70 percent of the total urban population. The location of each EPH agglomeration is detailed...
Box 1.1 Argentina’s Geography and Urban Space (continued)

in map B1.2. Table A.1 in appendix A lists the 31 EPH agglomerations by province, while table A.2 presents the 31 EPH agglomerations by population size based on the above classification. The population census and the EPH adopt broadly consistent definitions of agglomerations. The definitions of agglomerations according to the EPH and the population census are presented in table A.3 in appendix A. The statistical data are complemented with spatial analysis of nighttime light emissions and satellite images (see box 4.1 in chapter 4 for an overview of nighttime light data and appendix B for the methodology for estimating subnational GDP using nighttime light data).

a. A department (departamento) is an administrative subdivision of the province. In the Buenos Aires province, departments are referred to as partidos, and their boundaries coincide with municipal boundaries. In other provinces, departments generally comprise more than one municipality, with significant variation across provinces depending on the municipal system in place.

Structure of the Report

The report is organized in two parts. Part I assesses urbanization trends and spatial patterns that underlie agglomeration economies in Argentina. That part first provides an overview of urbanization and growth in Argentina; it then presents an assessment of the main spatial demographic trends that have affected urbanization in Argentina in recent years. It also assesses spatial economic trends, including productivity, employment composition, and employment growth drivers, and it analyzes urban expansion trends from 2001 through 2010.

Part II assesses selected public policies and instruments that are available to Argentine cities for managing agglomeration externalities, namely, territorial planning, municipal finance, housing, urban transport, and local economic development. It then conducts a comparative assessment of prosperity and livability outcomes for a sample of agglomerations. Finally, Part II draws the main conclusions and proposes strategic directions for leveraging the potential of Argentine cities for enhanced prosperity and livability.

References


CHAPTER 2

Urbanization and Growth

Summary
This chapter provides an overview of urbanization and economic trends in Argentina. Argentina is one of the most urbanized countries in Latin America, and its population and gross domestic product (GDP) are highly concentrated in and around metropolitan Buenos Aires. With repeated financial crises, the country’s economic growth has been less steady than its urbanization. Urbanization and GDP per capita have been less correlated in Argentina than in Latin America as a whole.

An analysis of agglomeration economies in Argentina cannot overlook the regional dimension. Argentina’s urbanization is characterized by its stark geographic and economic contrasts. The correlation between urbanization and GDP per capita varies significantly across regions. The weakest correlation has been in the Northeast region, and the strongest correlation has been in the Patagonia region. Whereas the distant south has succeeded in turning its resource-based advantages into economic successes, the northern regions have not been able to close the economic gap with the rest of the country despite rapid urbanization.

Argentina’s financial crises have turned into urban crises. The recession associated with the financial crisis of 2001/02 has had long-term effects on cities, with most Argentine cities experiencing high unemployment, deteriorating urban infrastructure, and worsening social exclusion in the aftermath of the crisis. The informal sector remains dominant in Argentine cities.

Evidence shows that metropolitan Buenos Aires was not fully reaping the benefits of agglomeration economies even before the financial crisis began to erode its competitiveness. Even at the peak of its economic success in the early 1900s, the metropolitan area was not as productive as it could have been. In part, this historically low productivity is due to relatively weak economic fundamentals that are important predictors of the long-term economic success of cities, such as education and innovation.
Introduction

Argentina has one of the longest histories of urbanization among Latin American countries. Argentina urbanized significantly earlier than most Latin American countries did. In 1930, when Latin America was still largely rural, Argentina was already predominantly urban. Still, Argentina’s history of urbanization is strictly interwoven with agricultural production. Buenos Aires prospered through the commercial and industrial activities associated with agricultural exports (Bethell 1998). Four main drivers have historically fueled urbanization in Argentina.¹

- First, the substantial flow of migrants from abroad during the final decades of the 19th century and the first 30 years of the 20th century—mainly Spaniards and Italians—contributed to urbanization. Many immigrants remained close to the ports where they disembarked. By 1910, more than 50 percent of the working class in Buenos Aires and Rosario had been born abroad.
- Second, the development of the railway system led to the establishment of new settlements during the rapid expansion of agricultural activity in the Pampeana region.
- Third, an internal flow of migrants from the less developed interior to the growing agglomerations in the Pampeana region began in the final years of the 19th century. This “periphery-center” migration was due to the increasing economic deterioration of the interior regions because of foreign competition. Products traditionally made in the interior provinces were being substituted with foreign products.
- Fourth, rural-to-urban migration took place within the Pampeana region from the 1930s onward as demand for urban labor grew at the height of the industrialization period when imports were being substituted by domestic products. While the labor demand grew, farmers had incentive to migrate because land-tenure regulations discouraged land ownership (Rofman 1985).

This chapter provides an overview of urbanization and economic trends in Argentina. The chapter consists of three sections. The first section describes how Argentina’s urban system is dominated by metropolitan Buenos Aires. The second section focuses on the relationship between urbanization and economic development in the country. Finally, the third section provides a historical perspective of urbanization and growth since the late 1800s.

Urban Hierarchy

Argentina’s urban hierarchy is dominated by the weight of metropolitan Buenos Aires, which is nearly 11 times as large as the second largest agglomeration, Córdoba. Metropolitan Buenos Aires is one of Latin America’s urban giants (see photo 2.1), accounting for 37 percent of Argentina’s urban
population and nearly half of its GDP. Argentina is also one of the countries with the highest demographic and economic concentrations in the world (see figure 2.1). It is notable that Argentina has the highest concentration of population in the capital city among countries with large territories, according to the index of spatial concentration developed by Campante and Do (2009).

For decades, policy makers and researchers have been debating the optimal size of primate cities. 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 the 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 regression for the period 1960–95, 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. The results of this empirical work suggest that metropolitan Buenos Aires may be oversized. However, the relevant question for policy making is not necessarily whether a primate city is too large. Rather, the relevant questions are (a) how can the costs of agglomeration forces be managed and (b) how can a policy bias that may indirectly favor the capital city be avoided to level the playing field.
Urbanization and Economic Development

With 91 percent of its population living in urban areas (according to Argentina’s official definition of urbanization), Argentina has one of the highest rates of urbanization in Latin America. It has largely completed the economic transformation associated with urbanization, with only 8.3 percent of GDP in 2014 in agriculture (World Bank 2015). Economic development and urbanization are interwoven so strictly because economic development requires transformation from a rural, agricultural economy to an industrial and service economy. From a perspective of economic geography, this transformation gives rise to economies of agglomeration, which determine prosperity and livability outcomes (see box 2.1). Countries that are more urbanized thus tend to have higher GDPs. This finding is illustrated by the high correlation coefficient across countries between the percentage of urban...
Box 2.1 Urbanization from an Economic Geographic Perspective

Agglomeration economies drive spatial economic outcomes. A country’s economic geography results from the balance between forces of concentration and dispersion (Fujita and others 1999). When concentration forces prevail, firms have an economic advantage to agglomerate in order to benefit from proximity to markets, firms, and businesses in the same industry (localization economies) or firms and businesses in different industries (urbanization economies). See, for example, Glaeser and others (1992) and Porter (1990).

From a perspective of economic geography, spatial outcomes are measured in economic density (GDP or value added per square kilometer) rather than population density (people per square kilometer). The two are conceptually distinct. A large concentration of people is not enough to create economic density, and increasing economic density does not always imply creating a heavier concentration of people (see maps B2.1 and B2.2).

In the early stage of a country’s spatial transition, concentration of people and concentration of economic activities go hand in hand. However, the two processes unlink as economies mature. A shift in the economic structure of a metropolitan area from labor-intensive manufacturing toward high-tech manufacturing and knowledge-based services, for example, leads to an increase in economic density (value added per square kilometer)—represented in the maps by taller “mountains”—without necessarily increasing the size of the labor pool. The shift in production processes toward higher value-added production, however, requires a shift in the workforce’s skill mix, from local and abundant cheap labor to an internationally mobile specialized and experienced workforce.

If well managed, agglomeration economies can make cities prosperous and livable. At the city level, the outcomes of agglomeration economies can be measured by prosperity, that is, the ability of a city to provide productive economic opportunities to all, and by livability, that is, the ability of a city to offer adequate quality of life. See also chapter 1 for an illustration of the analytical framework adopted for the study.

Map B2.1 People per Square Kilometer in Latin America, 2005

Map B2.2 Economic Production per Square Kilometer in Latin America, 2005

Sources: Fujita and others 1999; Glaeser and others 1992; Porter 1990.
population and GDP per capita. The correlation is estimated at 0.85 for a sample of 70 countries over the period 1960 through 1995 (Henderson 2003). The correlation between the percentage of urban population and GDP per capita for Latin American countries is similarly strong, at 0.77, although it is slightly below the international average.

However, the definition of urbanization is not the same across countries, thus making it difficult to compare urbanization across countries on the basis of a national definition. To compare urbanization between countries, the World Bank developed a uniform measure of urban concentration, the agglomeration index (see World Bank 2009). Figure 2.2 situates Argentina among other countries plotted on the basis of their respective measure of the agglomeration index and the GDP per capita. It illustrates the substantial unrealized potential of the country on the basis of its level of urbanization. Assessing urbanization levels with the agglomeration index, one finds that Argentina is still one of the most urbanized countries in the world, with an estimated agglomeration index of 71.8 percent in 2010.
The difference in GDP per capita with the other countries—mostly members of the Organisation for Economic Co-operation and Development—and with comparable levels of agglomeration index reveals the unrealized economic potential of Argentine cities. As a mature urban system, Argentina faces the challenge of fully exploiting the productivity advantage associated with its economies of agglomeration.

Comparative analysis between Latin American countries reveals significant differences in the patterns of urbanization and economic growth in the region, suggesting that country-specific forces affect the relationship between the two patterns. Whereas Argentina has continued to urbanize (albeit at a lower rate than other countries in the region), its economy has grown less than other highly urbanized countries in GDP per capita, with periods of reduction in GDP per capita in 1990 and 2002. GDP per capita has grown by 1.6 percent annually over the period 1960 through 2013 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 development as Argentina, whereas neighboring Bolivia shows a distinct pattern of urbanization without economic growth. The correlation between the percentage of urbanized population and GDP per capita in Argentina from 1960 through 2013 is significantly lower (0.47) than in the largest countries in Latin America. The correlation is more than 0.95 for Brazil, Colombia, and Mexico; 0.82 for Chile; and 0.56 for Peru. Bolivia is an outlier with a correlation of only 0.27. Yet, the correlation between urbanization and GDP per capita is significantly stronger for Argentina from 1993 through 2013 (0.79) (see figure 2.3). However, urbanization is determined by country-level statistical definitions of urban areas, which are not necessarily comparable.

An analysis of agglomeration economies in Argentina cannot overlook the regional dimension. Argentina is a diverse land of stark geographic and economic contrasts. Whereas the distant south has succeeded in turning its resource-based advantages into economic success, the north has not been able to close the economic gap with the rest of the country despite rapid urbanization. The correlation between urbanization and GDP per capita varies significantly across regions, indicating important differences in regional economic trajectories (see figure 2.4). The correlation is the weakest in the Northeast region (0.65 compared to an average of 0.79 in Argentina, from 1993 through 2013). The Northeast region has been characterized by a persistent pattern of urbanization without economic growth until 2009. During this period, the Northeast region rapidly urbanized from a relatively low base, but benefited the least from agglomeration economies. However, the correlation between urbanization and economic growth grew significantly stronger from 2009 through 2013 when urbanization was accompanied by a comparable increase in prosperity. The Patagonia region has the
highest correlation between urbanization and GDP per capita. In the spatially dispersed, low-density, and distant-from-market south, the Patagonia region has succeeded in exploiting its natural resources, thus achieving solid economic growth. To varying degrees, all regions have experienced periods of urbanization without growth in conjunction with Argentina’s financial crisis.6

**Urbanization and Growth: A Historical Perspective**

Argentina’s steady urbanization contrasts with its unsteady economic trajectory. A century ago, Argentina was one of the most prosperous countries in the world.2 In the late 1800s and early 1900s, Argentina enjoyed rapid economic growth founded on rising exports of beef and wheat to Europe, made possible by the new technologies of railroads and refrigerator ships (Bethell 1998). The Great Depression of the 1930s and World War II in the 1940s, however, stimulated import-substitution industrialization. Combined with the modernization of agriculture, this industrialization gave rise to rapid urbanization by fueling
rural-to-urban migration. But industrial-led urbanization was accompanied by a highly volatile economic performance that led to (a) the repeated recessions of the 1970s and 1980s, (b) the hyperinflation of 1989/90, and (c) the financial crisis of 2001/02 (Bethell 1998). After the financial crisis of 2001/02, Argentina returned to high growth rates, aided by a prolonged commodity boom. Yet, in 2009 and 2012, the country was affected by a global slowdown, and the recent decline in commodity prices exposed long-standing fragilities in the Argentine economy.

Argentina’s financial crisis of 2001/02 manifested itself as an urban crisis. In 2002, Argentina suffered the culmination of a deep recession that started in 1998. Before the crisis ended, the economy had shrunk by one-fifth and Argentina underwent what was then the world’s biggest sovereign default (Reuters 2014). Unemployment skyrocketed, reaching 20 percent (Reuters 2014). The recession has had a long-standing socioeconomic effect on its urban fabric. The crisis resulted in an abrupt halt to the modernization of
high-end services of the urban economies, as the country was cut off from international financial markets. The crisis affected the quality of jobs as many people were forced to seek job opportunities in the informal sector. In Argentina, informal employment in urban centers increased during the mid-1990s and was close to 45 percent during the peak of the crisis in the early 2000s (World Bank 2011). Household survey data suggest that informal employment continues to remain dominant in Argentina’s cities, comprising between 35 percent and 39 percent of salaried workers in urban centers during the first half of 2010 (World Bank 2011). A general reduction in government expenditure led to a deterioration of urban infrastructure and services and overall quality of life. The crisis exacerbated social and economic exclusion, and crime and violence became more evident in cities. Argentina has an average robbery rate of 973 per 100,000 people, above the average for South America (404), as well as the rates of Uruguay (410), Brazil (415), and Chile (542) (OAS 2012).

Whereas the financial crisis of 2001/02 was triggered by macroeconomic factors, its socioeconomic effect was compounded by cities’ inadequate policy and financial levers to tackle the crisis. In spite of its high level of urbanization, municipalities do not play a key role in the management of urban functions (Prud’homme and others 2004). Argentina is a federal state, comprising the city of Buenos Aires and 23 provinces (INDEC 2010). Although it is difficult to generalize, given the difference in institutional arrangements governing cities across provinces, in most provinces, municipalities have little weight in financial, economic, and political terms (see chapter 7 on municipal finance). Argentina is highly decentralized to the provincial level, but the country has limited decentralization from the provincial to the municipal level. Municipalities are often not responsible for many of the tasks allocated in most countries to municipal governments (water and sanitation, housing, education, health, and security), and have weak financial resources to carry out their limited tasks (Prud’homme and others 2004). Municipal borders do not coincide with the physical limits of agglomerations. It is typical for agglomerations to span several municipalities. Horizontal coordination between adjacent municipalities and institutional incentives for agglomeration-wide urban management are very weak or nonexistent, even in the largest metropolitan areas such as Buenos Aires (Goytia and others 2010). Issues involving two or more municipalities are addressed at the provincial level, whereas issues involving two or more provinces are the responsibility of the federal government (Prud’homme and others 2004).

Empirical evidence suggests that Buenos Aires, even at the peak of its economic success in the early 1990s, was not as productive as it could have been, given its location as a port city with access to an exceptionally fertile hinterland. Campante and Glaeser (2009) compared Buenos Aires before World War I with Chicago, another important shipment hub for meat and grains. Buenos Aires’ evolution in the 19th century is broadly similar to that of Chicago. The similarities start with the fact that what turned Buenos Aires into a major
commercial hub was its productive hinterland, rather than its location as a strategic port, when compared to possible competitors such as Montevideo. Buenos Aires and Chicago played similar functions in the economies of Argentina and the United States’ Midwest in the 1900s. Yet there were significant differences in the two cities, even in the 1990s. Chicago’s population was more educated than Buenos Aires’, and its jobs were more capital intensive. In addition, Chicago was on the world’s technological frontier (see box 2.2). Evidence indicates that even before cycles of political instability and the financial crisis of 2001/02 began to erode the economic performance of Buenos Aires, the city’s economic success was not matched by an equally strong

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**Box 2.2  A Tale of Two Cities—Buenos Aires and Chicago in the 1990s**

Both Buenos Aires and Chicago grew over the late 19th century as nodes of a transportation network that brought the produce of American farmland and ranch land to more densely populated markets. In the early 1900s, the two cities dominated meat-packing in the Americas and were important centers of grain shipments. In both cases, beef and wheat played a disproportionate role in the commerce. Improved shipping technologies, especially refrigeration, enabled the economies of both cities to grow. About one-half of the residents of each city were immigrants who had come to take advantage of high wages in urban areas. By 1910, Chicago and Buenos Aires were “nature’s metropolises.” Over the course of the 20th century, however, the paths of the two cities significantly diverged, just as the paths of Argentina and the United States have diverged. The two cities differed in four main areas a century ago:

First, Buenos Aires attracted migrants who were less educated than those who moved to Chicago. Whereas wages were lower in real terms in Buenos Aires than in Chicago, controlling for differences in education of the workforce explains a significant part of the wage difference. For example, literacy rates stood at 95 percent in Chicago in 1895, whereas less than 75 percent of porteños (residents of the city of Buenos Aires) knew how to read and write. The main reason for this difference was that migrants from rural areas in the United States were better educated, thus reflecting the strength of the U.S. education system in the early 19th century. Chicago also had more immigrants from Germany, who had relatively high levels of education. Buenos Aires disproportionately attracted immigrants from Spain and Italy, who came with lower levels of education.

Second, Chicago was an industrial town by 1930, whereas Buenos Aires remained focused on raw production and commerce. Chicago moved more quickly to become an industrial producer as well as a transformer of raw commodities than did Buenos Aires. Capital per worker was about 2.44 times higher in Chicago than in Buenos Aires in 1914. Value added per worker was also 2.25 times higher in Chicago, explaining the wage gap. To a large extent, Chicago’s production of goods was oriented to providing goods for the prosperous Midwest. The market for manufactured goods made in Buenos Aires was much smaller because Argentine farmers were poorer.
performance in the economic fundamentals. Those fundamentals, such as human capital and innovation, are important predictors of long-term economic success of cities.

In today’s global environment, human capital and innovation are even more important predictors of the economic success of urban giants like metropolitan Buenos Aires. While most jobs in the majority of industrial nations are in the local consumer service sector, such jobs do not drive economic growth as their productivity tends to remain stable over time. On the contrary, employment in tradable sectors is a key determinant of city productivity and growth. Jobs in tradable sectors have a multiplier effect on the economy, increasing jobs and salaries in the local consumer service sector. But in megacities facing the pressure of global competition, employment in tradable sectors is not enough to achieve economic success. Successful megacities are those able to turn their comparative advantages into competitive advantages by investing in human capital and innovation. Remarkably, Glaeser and others (2009) find that the correlation between city size and productivity is stronger in metropolitan areas with high skills, but does not hold for less skilled metropolitan areas in the United States today. In the least well-educated metropolitan areas, there is virtually no connection between city size and productivity or income (Glaeser and others 2009). As globalization and technological progress continue to raise the economic returns on human capital and innovation, urban giants such as metropolitan Buenos Aires will face increasing global competition in attracting a highly mobile and skilled workforce as well as innovative companies (Moretti 2012).

Notes

1. For additional information on the history of human settlements and urbanization in Argentina, see Ministry of Federal Planning, Public Investment, and Services (2008).
2. The information about the percentage of Argentina’s urban population and GDP comes from INDEC (2010) and the Oxford Economics dataset 2000–12. The Oxford Economics data reported here were obtained from Oxford Economics and analyzed by the World Bank. See box 4.4 in chapter 4 of this book for information about the Oxford Economics dataset. For information on Oxford Economics, see oxfordeconomics.com.

3. A primate city is the leading city in its country or region, disproportionately larger than any others in the urban hierarchy, with at least twice as much population as the second largest city. A primate city may or may not be the capital city.

4. Henderson (2003) finds that at a low output per worker (of US$1,100), optimal primacy is 48 percent, whereas at middle (US$8,100) and high (US$36,000) output per worker, it is 32 percent and 21 percent, respectively. Forgone output is estimated at 1.41 percent per year for one standard deviation (15 percent) increase (or decrease) in primacy above (or below) its optimal level.

5. The agglomeration index measures the percentage of the country’s population living in areas with a population density higher than 150 people per square kilometer and located less than one hour away by road from a settlement of at least 50,000 people (World Bank 2009).

6. The report uses available official gross provincial product (GPP) data for 1993 through 2013 from the Ministry of Economy and Public Finance and national GDP data from INDEC. For the years and provinces for which GPP data are not available, figures were estimated by the World Bank team on the basis of available turnover tax data. Given that some GPP data are estimates, the results should be interpreted with caution.

7. A century ago, there were only seven countries in the world that were more prosperous than Argentina (Belgium, Great Britain, Switzerland, and four former English colonies, including the United States). In 1909, per capita income in Argentina was 50 percent higher than in Italy, 180 percent higher than in Japan, and almost five times higher than in neighboring Brazil (Glaeser 2009).

8. It is difficult to generalize about the role of municipalities in Argentina. Municipalities are legally subject to the jurisdiction of the provinces, and each province treats its municipalities in a different fashion. Furthermore, in certain provinces, municipalities enjoy some autonomy (for example, in tax matters), which results in differently functioning urban systems even within provinces (see chapter 7 on municipal finance).

9. These challenges are outlined in more detail in chapter 6 on territorial planning.

10. Whereas a comparative advantage is a static concept linked to the existence of—or lack of—natural endowments, a competitive advantage is a dynamic concept associated with the continual economic and social upgrading of a city and its ongoing reinvention to deal with economic shocks and the associated decline of old industries (Zhang 2010).

References


CHAPTER 3

Spatial Demographic Trends

Summary
This chapter analyzes the main demographic and migration trends affecting the dynamics of urbanization in Argentina in recent years. The study finds that Argentina is a highly urbanized country, and regional differences in level of urbanization have decreased significantly since the 1980s, with the Northeast region experiencing the fastest increase in urbanization. Yet, Argentina’s urban system is spatially polarized, with one of the highest levels of urban demographic concentration in the world.

Metropolitan Buenos Aires maintains a strong primacy, having almost 11 times the population of Córdoba, the second-largest city in Argentina, and it has been the largest contributor to urban population growth, driven by its peri-urban areas. In addition to metropolitan Buenos Aires, the strongest population growth was registered in intermediate cities and towns, whereas the growth of the top five agglomerations has been significantly below average. Significant differences in rates of population growth are found across regions as well as within regions, suggesting that both regional and local factors play major roles in explaining growth performance of agglomerations. For instance, proximity to large cities matters for population growth in small cities and towns.

Migration patterns contribute to regional differences in population growth. Metropolitan Buenos Aires is the region with the highest mobility—having the highest number of in-migrants and out-migrants as a share of the metropolitan population, as well as the highest intra-metropolitan mobility. Migration patterns in metropolitan Buenos Aires are associated with strong peri-urbanization, with peri-urban areas being the main destination for migrants from within the city of Buenos Aires and other regions. Strong pull factors are driving migratory flows to the south, and equally strong push factors are contributing to out-migration from the north. The Patagonia region has the largest net in-migration, and the Northeast region has the largest net out-migration.
Introduction

Argentina is one of the most urbanized countries in the world. On the basis of the official definition of urban areas of the National Institute of Statistics and Censuses of Argentina (INDEC), which includes all localities with a population of 2,000 or more, Argentina was 91.4 percent urbanized in 2010 (see box 1.1 in chapter 1 for a definition of localities). Argentina’s official urbanization level exceeds the levels in high-income countries such as the United States (81.4 percent) and Spain (79.4 percent) (United Nations 2014).

This chapter carries out an assessment of demographic and migration patterns in Argentina on the basis of 2001 and 2010 population census data (INDEC 2001, 2010). The chapter is organized in two sections. The first section analyzes demographic trends by region and agglomeration size over the period 2001–10. The second section presents internal migration trends over the period 2005–10, with a focus on regional in-migration and out-migration patterns, and international migration trends. The methodology used for the analysis, including classification of city size categories, is presented in box 1.1 in chapter 1. Map 3.1 shows Argentina’s urban system according to INDEC’s official definition and the city size categories adopted for the study.

Demographic Trends

Argentina—along with Uruguay and Chile—was already predominantly urban by the 1930s. In the 1940s, Argentina was the most urbanized country in Latin America, with 61 percent of the population living in urban areas, followed by Chile and Uruguay. In the 1980s, Chile reached Argentina’s level of urbanization—more than 80 percent of both countries’ populations lived in urban areas. Argentina’s rate of urbanization then declined slightly compared with other countries in Latin America. Its share of urban population increased from 73.6 percent in 1960 to 91.4 percent in 2014. By comparison, the population living in urban areas in Mexico increased from 50.7 percent to 78.7 percent during the same period.

Argentina’s official definition of urban population, which is based on only population size (‘all localities with a population of 2,000 or more’), rests on a lower threshold than most other countries’ definitions. Among countries that use settlement population thresholds (either as the sole criterion or together with others), the average of all thresholds is a little less than 5,000 people. Furthermore, defining urban areas based on population alone does not explicitly account for population density, which is an important factor in delineating the urban–rural nexus.

A WorldPop population distribution map for Argentina was prepared for this study using built-up areas and other inputs to model the country’s population. That analysis revealed that for 91.4 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 (Stevens and others 2015). In comparison, countries
Map 3.1 Argentina’s Urban System Based on Official Definition, 2010

Source: Based on INDEC 2010.

Notes: The classification of agglomerations into city size categories is based on 2010 population census data (INDEC 2010). City size categories are as follows: metropolitan Buenos Aires, top five agglomerations (700,000–1.5 million), large cities (300,000–700,000), intermediate cities (100,000–300,000), small cities (50,000–100,000), and towns (2,000–50,000).
that use population density to define urban areas use significantly higher threshold values that average around 730 people per km$^2$ (see box 3.1).\(^2\)

From a density-based perspective of urban areas, Argentina is less urbanized than official statistics suggest, albeit still at a high level of urbanization. When a conservative threshold with a population density of 300 people per km$^2$ is used, together with a population size threshold of 2,000 people, the share of Argentina’s population considered to be living in urban areas is reduced to 64 percent, with significant regional variations—from 74 percent in the Pampeana region to only 34 percent in the Patagonia region. The difference between official urbanization (according to population size) and density-based urbanization is highest in the Patagonia region, given the peculiar geography of the region, which is characterized by small, low-density, and interspersed urban centers (see figure 3.1). This analysis also shows that the level of urbanization is sensitive to changes in the threshold value of population density. The methodology for applying a density-based urban definition to Argentina is presented in box 3.1.

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**Box 3.1 Applying a Density-Based Urban Definition to Argentina**

To estimate density-based urbanization for Argentina, this study adopted population density thresholds in line with international norms. Nine countries use minimum population density thresholds to define urban areas according to the census definitions listed by the UN Population Division (United Nations 2014). Only one of those, Germany, uses population density as a sole criterion for defining urban areas, whereas others use density thresholds in combination with other criteria (for example, total settlement population, area, or proportion of nonagricultural employment). Table B3.1.1 shows the population density thresholds used by these countries. The average density threshold among these

<table>
<thead>
<tr>
<th>Country</th>
<th>Population density threshold of urban areas (people per km$^2$)</th>
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<tbody>
<tr>
<td>Seychelles</td>
<td>1,500</td>
</tr>
<tr>
<td>China</td>
<td>1,500</td>
</tr>
<tr>
<td>Philippines</td>
<td>1,000</td>
</tr>
<tr>
<td>Bhutan</td>
<td>1,000</td>
</tr>
<tr>
<td>Canada</td>
<td>400</td>
</tr>
<tr>
<td>India</td>
<td>400</td>
</tr>
<tr>
<td>United States</td>
<td>386*</td>
</tr>
<tr>
<td>Cambodia</td>
<td>200</td>
</tr>
<tr>
<td>Germany</td>
<td>150</td>
</tr>
</tbody>
</table>


Note: *1,000 people per square mile. km$^2$ = square kilometer.
Box 3.1 Applying a Density-Based Urban Definition to Argentina (continued)

countries is 726 people per km\(^2\). The weighted average, based on a country’s total 2010 population, is 891 people per km\(^2\).

The following methodology was applied to estimate density-based urbanization in Argentina using WorldPop maps. First, pixels (100-meter by 100-meter grid squares) were grouped into two clusters on the basis of population density and population size thresholds: (a) urban clusters, which correspond to the overall urban population of the country, and (b) high-density urban clusters, which meet higher density and size thresholds and are meant to define large urban centers within the urban clusters. When this approach was applied to European countries by the European Commission, the thresholds used were (a) 300 people per km\(^2\) and a total of 5,000 people for urban clusters, and (b) 1,500 people per km\(^2\) and a total of 50,000 people for high-density clusters (Dijkstra and others 2014). For this analysis, a wide range of density and size thresholds was applied to Argentina to understand how levels of urbanization are affected by changes in thresholds.

Applying this approach to a population distribution grid for Argentina for 2010, and using a constant threshold size of 2,000 people (as in Argentina’s official definition),\(^4\) the analysis found that the total urban population of the country (that is, the population in urban clusters) in 2010 ranged from 30.4 million (74 percent of the total population, when a density threshold of 100 people per km\(^2\) is applied) to 26.2 million (64 percent of the total population, when a density threshold of 300 people per km\(^2\) is applied) to 21.1 million (51 percent of the total population based on a density threshold of 1,000 people per km\(^2\)). Using the European Commission’s thresholds for high-density clusters (1,500 people per km\(^2\) as the density threshold and 50,000 people as the size threshold), the analysis found that 18.3 million people (44 percent of the total population) live in high-density clusters; of these, 12.2 million (30 percent of the total population) are in metropolitan Buenos Aires, the largest high-density cluster.

Drawing on WorldPop maps, this study also compared the share of population that lives in (a) high-density urban clusters, and (b) urban clusters in Argentina and several countries using the European Commission thresholds. Comparing density-based urbanization levels with official urbanization figures reveals that Argentina, along with many other Latin American countries, reports its official urbanization level as much higher than what this analysis suggests. In contrast, many other countries, including several in Africa and Asia, underestimate their own urbanization levels in their statistics.

Sources: Dijkstra and others 2014; WorldPop spatial data from http://www.worldpop.org.uk/data.

Note: a. Changing the threshold size from 2,000 to 10,000 has a limited effect on the results.

Defining urban areas using both demographic and spatial criteria, such as population size and population density thresholds in line with international norms, has several benefits. Although a country may often have valid reasons to use a definition of urban areas that is suited to its own national context, supplementing data based on a national definition with more objectively derived data can be a useful tool for planning purposes, in that it provides a more complete and comparable picture of urbanization, for a number of reasons. First, a threshold-based approach is not affected by whether or not a place is administratively designated...
as “urban.” This approach can detect “hidden” urbanization, since official designations are sometimes outdated and may not capture newly urbanized areas. Second, it is a valuable and flexible tool for planning, especially when urbanization crosses administrative boundaries, because it reduces the reliance on rigid administrative boundaries, which often exclude urbanized areas that fall outside the boundary of a city or include areas that are not urban. Map 3.2 compares boundaries of selected agglomerations—using both Argentina’s official definition and a density-based definition—to show differences in the footprint of various agglomerations, depending on the definition used. Third, adopting a threshold-based approach in line with international norms allows comparison of urbanization levels between countries using the same criteria, which is not possible when using the United Nations data, which are based on varying national definitions. However, because historic urbanization trends using a density-based definition are not yet available, the demographic analysis carried out in the rest of the chapter uses the official definition of urban areas based on United Nations data (United Nations 2014).

With a population of about 13.6 million (INDEC 2010), metropolitan Buenos Aires, comprising the city of Buenos Aires and 32 adjacent departments (partidos), is the third-largest megacity in Latin America after Mexico City and São Paulo. And a larger megacity comprising metropolitan Buenos Aires and La Plata has begun to emerge, with a total population of about 16 million.

Argentina’s urban system is one of the most spatially polarized in Latin America: Argentina has one of the highest levels of urban demographic concentrations in the world (see figure 3.2). Metropolitan Buenos Aires accounts for 37 percent of the urban population in Argentina. By comparison, São Paolo and Mexico City account for a significantly lower share of their countries’ urban population (12 percent and 21 percent, respectively). Metropolitan Buenos Aires...
Map 3.2 Official versus Density-Based Definitions of Urban Areas, Selected Agglomerations, 2010

a. Metropolitan Buenos Aires

b. Salta (large agglomeration)

c. La Rioja (intermediate agglomeration)

d. Neuquén (intermediate agglomeration)

e. Posadas (intermediate agglomeration)

Sources: Based on INDEC 2010; GeoData Institute 2015.
Notes: km² = square kilometers; min. = minimum. The thresholds used for the density-based definition are (a) 300 people per km² and 2,000 people for urban clusters, and (b) 1,500 people per km² and 50,000 people for high-density clusters. INDEC’s official definition uses a constant threshold size of 2,000 people.
is also a primate city, with almost 11 times the population of Córdoba, the second-largest city in Argentina. Chile has a similar level of polarization in its urban structure, with its capital, Santiago, accounting for 40 percent of the country’s urban population. However, Santiago’s level of primacy is less pronounced than that of metropolitan Buenos Aires; Santiago’s population of 6.5 million is 7.2 times that of Chile’s second-largest city (United Nations 2014).

Further down the urban hierarchy, the top five Argentine agglomerations—Córdoba, Rosario, Mendoza, San Miguel de Tucumán, and La Plata—with populations of between 700,000 and 1.5 million, account for about 14 percent of Argentina’s population. The second-largest city, Córdoba, has a population of almost 1.5 million and accounts for 4 percent of the urban population in Argentina (see photo 3.1). Rosario is the third-largest city with a population of more than 1.2 million in 2010. Below the top five agglomerations, the next 10 large cities, with 300,000 to 700,000 inhabitants, account for 11.4 percent of Argentina’s population. Further down the hierarchy, 6.9 percent of the population lives in 15 intermediate cities with 100,000 to 300,000 inhabitants,
and 7.8 percent lives in 36 small cities with 50,000 to 100,000 inhabitants. Another 22.3 percent of the population lives in 879 towns with populations of between 2,000 and 50,000.

Metropolitan Buenos Aires’ relative demographic importance declined from 1950 to 1990. Metropolitan Buenos Aires was the only metropolis in the Latin America region that lost its relative demographic importance starting in the 1950s, at a time when most Latin American countries were experiencing a concentration of population in their largest cities. The share of Argentina’s population residing in metropolitan Buenos Aires decreased from 46 percent to 37 percent from 1950 to 1990, as large and intermediate cities grew faster than the capital city. Starting in the 1990s, the deconcentration process stopped, however, and metropolitan Buenos Aires’ primacy has stabilized with a slight increase in recent years. The share of population residing in metropolitan Buenos Aires increased slightly from 37 percent in 1990 to 39 percent in 2015.

Historically, Argentine cities with more than 300,000 inhabitants have been growing in importance, steadily increasing their urban population share from 9 percent in 1950 to 20 percent in 1990 and 26 percent in 2010 (see figure 3.3) (United Nations 2014). The number of cities with more than 300,000 inhabitants increased from 9 to 13 from 1990 to 2001 and to 16 in 2010. However, significant variation exists in the population growth trends of the largest cities. The population share of the top five agglomerations has stagnated, remaining broadly constant from 1950 to 2010, at about 15 percent (see figure 3.4). Among the 16 cities with more than 300,000 inhabitants in 2014, the agglomerations
Figure 3.3  Share of Urban Population, by Agglomeration Size, 1950–2010

Source: Based on United Nations 2014.

Figure 3.4  Share of Urban Population Residing in Top Five Agglomerations, 1950–2010

Source: Based on United Nations 2014.
whose population share has increased the most since the 1950s are Neuquén (from 0.1 percent to 0.9 percent) and Salta (from 0.7 percent to 1.5 percent), followed by Resistencia, Posadas, and San Salvador de Jujuy, where population share increased by 0.5 percent. The decrease in Rosario’s share of urban population from 4.9 percent in 1950 to 3.4 percent in 2010 is notable (see figure 3.4). The population share of cities with fewer than 300,000 inhabitants declined from 45.7 percent in 1950 to 37.1 percent in 2010 (see figure 3.3).

From 1980 to 2010, Argentina added more than 13 million urban residents, and the urban population in the country as a whole increased from 83.0 percent in 1980 to 91.4 percent in 2010 (INDEC 2010). Over the same period, the regional gap in the level of urbanization narrowed significantly (see figure 3.5). In the 1980s, there was a marked difference in urbanization across regions. The percentage of the population living in urban areas in the 1980s ranged from 95 percent in metropolitan Buenos Aires to 58 percent in the Northeast region, the region with lowest urbanization. The Northeast is the region that has experienced the fastest urbanization, with the urban population increasing from 58 percent in the 1980s to 80 percent by 2010. The percentage of the urban population also increased significantly in the Northwest (from 66 percent to 81 percent), Cuyo (70 percent to 83 percent), and Patagonia (77 percent to 91 percent) regions during the same period.

**Figure 3.5 Urbanization, by Region, 1980–2010**

*Source:* Based on INDEC 2010.
Argentina's population is highly concentrated in the center of the country. About 69 percent of the population lives in the central regions, including metropolitan Buenos Aires and the Pampeana region (see map 3.3). According to the 2010 population census, about 37.2 percent of the total population resides in metropolitan Buenos Aires, 31.9 percent lives in the Pampeana region, 19.0 percent is in the northern regions, 6.5 percent is in the Cuyo region, and 5.3 percent is in the Patagonia region. The average population density in the country is relatively low, at 14 people per km\(^2\), with significant geographic variation. The Pampeana
region has the highest density of all regions (excluding metropolitan Buenos Aires), at 32 people per km², followed by the Northeast region (12), the Cuyo region (10), the Northwest region (8), and the Patagonia region, which has the lowest density at 3 people per km². The city of Buenos Aires has a very high population density with more than 14,000 people per km² (see map 3.3).

The urban structure differs significantly across regions. Cuyo is the region with the most polarized urban structure. The Cuyo region has the largest proportion of people living in the top five and large agglomerations (59 percent), followed by the Northwest region (51 percent), the Pampeana region (39 percent), and the Northeast region (36 percent). In the Cuyo region, 59 percent of the population lives in two cities (40 percent in Mendoza and 19 percent in San Juan). In the Northwest region, about half of the population lives in four cities: San Miguel de Tucumán (20 percent), Salta (14 percent), Santiago del Estero (9 percent), and San Salvador de Jujuy (8 percent). In the Pampeana region, 39 percent of the population lives in five cities, including three of Argentina’s top five agglomerations—Córdoba (12 percent), Rosario (11 percent), and La Plata (7 percent)—and two large cities: Mar del Plata (5 percent) and Santa Fe (4 percent). In the Northeast region, 36 percent of the population lives in three large cities: Resistencia (13 percent), Corrientes (12 percent), and Posadas (11 percent). The Patagonia region has the most dispersed urban structure because of its geography; 18 percent of the population lives in one large city, Neuquén, and 15 percent lives in intermediate cities. The proportion of people living in intermediate cities is larger in the Patagonia region than in the other regions: 11 percent in the Pampeana region, 9 percent in the Northwest region, and 8 percent in the Northeast region. Photo 3.2 shows a typical small settlement in Ushuaia, Patagonia. Almost half (46 percent) of the population in the Northeast region lives in towns, compared with 36 percent in the Pampeana region, 37 percent in the Patagonia region, 36 percent in the Northwest region, and 20 percent in the Cuyo region (see figure 3.6).

Over the 2001–10 period, urban areas grew at an average annual rate of 1.3 percent, slightly above the total population growth rate of 1.1 percent. Urban population growth is determined by natural growth, net migration, and reclassification from rural to urban. In Argentina, rural-to-urban reclassification of localities accounts for a very limited share (4.5 percent) of the urban population growth. Over the 2001–10 period, a total of 62 localities, equivalent to 0.4 percent of the Argentine urban population, were reclassified from rural to urban as their populations crossed the threshold of 2,000 people. The annual growth rate of Argentina’s rural population (accounting for 9 percent of the total population in 2010) is negative, at −0.5 percent, with significant variation across regions. If rural-to-urban reclassification is excluded from urban areas and accounted for as rural areas, rural population growth rate is higher at 0.02 percent, reflecting the higher-than-average growth of reclassified areas. Excluding reclassification, urban population growth is 1.28 percent.

A negative, albeit modest, correlation exists between city population in 2001 and population growth in 2001–10 (see figure 3.7). The negative correlation
Photo 3.2 Ushuaia: A Typical Small Urban Settlement in the Patagonia Region


Figure 3.6 Urban Population, by Agglomeration Size and by Region, 2010

Source: Based on INDEC 2010.
Note: The classification of agglomerations into city size categories is based on 2010 population census data (INDEC 2010). City size categories are as follows: metropolitan Buenos Aires, top five agglomerations (700,000–1.5 million), large agglomerations (300,000–700,000), intermediate agglomerations (100,000–300,000), small agglomerations (50,000–100,000), and towns (2,000–50,000).
suggests that smaller cities have experienced more sustained population growth. The correlation is slightly higher if towns and metropolitan Buenos Aires are excluded. Towns also have the highest dispersion in population growth rates, with 5 of them growing more than 8 percent annually and 63 of them having decreasing urban populations. The significant dispersion in the population growth rates of small cities is also notable, with three small cities (Luján, Caleta Olivia, and Puerto Madryn) growing at rates of about 4 percent per year. A total of 11 cities (8 small and 3 intermediate) have grown at a rate of 2 percent to 3 percent per year, significantly above average.

At the regional level, the negative correlation between population size in 2001 and growth in 2001–01 is strongest in the Northeast and Patagonia regions, where smaller cities have registered faster growth relative to average, and weaker in the Northwest, Cuyo, and Pampeana regions. The stronger correlation in the Patagonia region is due to the exceptionally high population growth in a relatively large number of towns.

Metropolitan Buenos Aires, intermediate cities, small cities, and towns have grown above average. The strongest annual population growth is registered in towns and small cities, at 1.4 percent, followed by metropolitan Buenos Aires at 1.3 percent. Small towns with populations ranging from 2,000 to 20,000 have grown at an even higher rate of 1.6 percent, compared with 1.2 percent for larger towns (20,000–50,000). Growth of the top five agglomerations...
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has been significantly below average, at 0.9 percent. Large cities have also been growing below the average rate, at 1.1 percent4 (see table 3.1).

Metropolitan Buenos Aires is still the largest contributor to urban population growth. It contributed 39 percent of Argentina’s urban population growth between 2001 and 2010, slightly above its population share in 2001 of 37 percent (see figure 3.8). Peri-urban metropolitan Buenos Aires has been driving population growth, with an average annual growth of 1.6 percent compared with only 0.4 percent annual growth rate in the city of Buenos Aires (see table 3.2). Metropolitan Buenos Aires has grown 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, but at a lower rate than São Paulo (1.4 percent) and Bogotá, which had significantly higher annual growth of 3.1 percent during the same period (United Nations 2014).

The top five agglomerations and large cities registered the lowest annual population growth rate of all city categories. They contributed 10.2 percent and 7.7 percent, respectively, of the urban population growth, below their population shares of 14.8 percent and 8.9 percent, respectively (see figure 3.9). The exceptions were La Plata and Salta, which had annual growth of 1.4 percent and 1.8 percent, respectively, and contributed to urban population growth above their population shares of 2.1 percent and 1.4 percent, respectively. Córdoba and Rosario had notably low population growth rates of 0.7 percent per year (see table 3.2). The low growth rates of large cities were recorded in all regions except the Patagonia region, where the large city of Neuquén grew at the high rate of 1.8 percent a year, above average when compared with other regions, although below the average for the Patagonia region.

Intermediate cities, particularly in the Patagonia region, showed dynamic population growth for 2001–10. Intermediate cities grew at an average rate of 1.3 percent, contributing 9.4 percent of the urban population growth, above their population share of 9 percent (see figure 3.9). In the Patagonia region, intermediate cities showed a significant high annual growth rate (2.6 percent) and accounted for an important share of total urban population growth (25 percent) in the region.

### Table 3.1 Annual Urban Population Growth Rate, by Agglomeration Size, 2001–10

<table>
<thead>
<tr>
<th>Agglomeration categories</th>
<th>Population range</th>
<th>Number in 2001</th>
<th>Annual urban population growth rate, percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metropolitan Buenos Aires</td>
<td>14 million</td>
<td>1</td>
<td>1.3</td>
</tr>
<tr>
<td>Top five agglomerations</td>
<td>700,000–1.5 million</td>
<td>5</td>
<td>0.9</td>
</tr>
<tr>
<td>Large cities</td>
<td>300,000–700,000</td>
<td>7</td>
<td>1.1</td>
</tr>
<tr>
<td>Intermediate cities</td>
<td>100,000–300,000</td>
<td>16</td>
<td>1.3</td>
</tr>
<tr>
<td>Small cities</td>
<td>50,000–100,000</td>
<td>35</td>
<td>1.4</td>
</tr>
<tr>
<td>Towns</td>
<td>2,000–50,000</td>
<td>822</td>
<td>1.4</td>
</tr>
<tr>
<td>Argentina</td>
<td>886</td>
<td></td>
<td>1.3</td>
</tr>
</tbody>
</table>

**Sources:** Based on INDEC 2001, 2010.

**Notes:** The classification of cities into city size categories is based on 2001 population census data (INDEC 2001). Reclassification is excluded.
Figure 3.8  Urban Population, 2001, and Contribution to Urban Population Growth, 2001–10, by Region

![Graph showing urban population and growth by region](image)

**Sources:** Based on INDEC 2001, 2010.

### Table 3.2  Annual Population Growth, Metropolitan Buenos Aires and Top Five Agglomerations

<table>
<thead>
<tr>
<th></th>
<th>Urban population (thousands)</th>
<th>Annual urban population growth rate, percent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2001</td>
<td>2010</td>
</tr>
<tr>
<td>Metropolitan Buenos Aires</td>
<td>12,046</td>
<td>13,588</td>
</tr>
<tr>
<td>City of Buenos Aires</td>
<td>2,776</td>
<td>2,890</td>
</tr>
<tr>
<td>Peri-urban metropolitan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buenos Aires</td>
<td>9,270</td>
<td>10,698</td>
</tr>
<tr>
<td>Córdoba</td>
<td>1,364</td>
<td>1,451</td>
</tr>
<tr>
<td>Rosario</td>
<td>1,159</td>
<td>1,236</td>
</tr>
<tr>
<td>Mendoza</td>
<td>849</td>
<td>937</td>
</tr>
<tr>
<td>San Miguel de Tucumán</td>
<td>736</td>
<td>793</td>
</tr>
<tr>
<td>La Plata</td>
<td>694</td>
<td>787</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>16,848</strong></td>
<td><strong>18,793</strong></td>
</tr>
</tbody>
</table>

**Sources:** Based on INDEC 2001, 2010.
In the Northwest region, intermediate cities also showed strong growth at 1.9 percent, representing 20 percent of total urban population growth in the region. In contrast, intermediate cities in the Northeast and Cuyo regions exhibited a lower average growth rate of 1.3 percent, accounting for 18 percent and 13 percent of regional urban population growth, respectively. In the Pampeana region, intermediate cities have grown at a rate of only 1 percent per year, accounting for 10 percent of total growth, below their population share (see figure 3.10).

Small cities and towns show the highest population growth for 2001–10, particularly in the Patagonia region. Small cities have grown at an average rate of 1.4 percent, contributing 8.5 percent of the urban population, above their population share (7.6 percent) (see figure 3.9). In the Patagonia region, small cities have shown a high annual growth rate (2.4 percent) and accounted for a significant share of total urban population growth (29 percent) in the region. In the
Northeast region, although small cities also showed important growth at 1.7 percent, that represented only 9 percent of total growth in the region. Small cities in the Northwest and Cuyo regions exhibited a lower growth rate at 1.2 percent, accounting for 5 percent and 10 percent of growth, respectively. In the Pampeana region, small cities grew at a rate of only 1.1 percent per year, accounting for 16 percent of total growth in the region (see figure 3.10).

Towns contributed to urban population above their population share over the period 2001–10 and exhibited the strongest growth in the Patagonia and Northeast regions. Towns exhibited an annual growth rate of 1.4 percent, excluding reclassification (1.7 percent including reclassification). Towns contributed to 25.2 percent of urban population growth between the years 2001 and 2010—above their population share (22.4 percent) (see figure 3.9). Annual growth for towns was above average in all regions except in the Pampeana region, where the growth was 1.2 percent. Towns in Patagonia showed a very high annual growth rate of 3 percent, well above the average, and contributed to 46 percent of urban population growth in the region (against a population share of 41 percent). Towns in the Northeast, Northwest, and Cuyo regions also showed above-average growth rates of 2.2 percent, 1.9 percent, and 1.9 percent, respectively. In the Northeast region, towns contributed to more than half (58 percent) of urban population growth.
population growth (significantly above their population share of 48 percent), compared with 37 percent in the Northwest region and 26 percent in the Cuyo region. In the Pampeana region, towns accounted for 40 percent of urban population growth, only slightly above their population share of 36 percent (see figure 3.10).

As a result of intermediate cities’ change in category to large cities, the share of the urban population accounted for by large cities increased over the period 2001–10, from 8.9 percent to 11.4 percent. The contribution of intermediate cities to urban population decreased from 9.0 percent to 6.9 percent over 2001–10, mainly because 13 intermediate cities (equivalent to about 30 percent of the population of intermediate cities in 2010) were reclassified as large cities when their populations crossed the 300,000 threshold. Only three small cities and five towns changed categories over the period, which is equivalent to 7.9 percent and 3.3 percent of their 2010 urban populations, respectively. Despite the top five agglomerations registering the lowest annual population growth rates, their population share has remained broadly constant over the 1950–2010 period (see figure 3.4).

The population growth of each agglomeration was compared with the average growth of its category to assess relative growth performance within each city size. The analysis shows significant variation in urban population growth across regions. Overall, close to 80 percent of all agglomerations growing below the average of their categories are located in the Pampeana region, and 9 percent are in the Northwest region, compared with only 4 percent and 3 percent in the Cuyo and Patagonia regions, respectively. Agglomerations in the Patagonia region have grown significantly above the average across every city size category, with an annual growth rate of 2.3 percent (see map 3.4).

To understand regional patterns of urban population growth, one must take into account differences in natural population growth rates (that is, birth rates) among regions. The Pampeana region, which registered below-average urban population growth over the period 2001–10, is the region with the second-lowest natural population growth (0.9 percent), compared with the country average (1.3 percent). The natural population growth rate of the Pampeana region was below that of the Patagonia region (1.6 percent) and the northern regions (between 1.4 percent and 1.5 percent) in 2010, but above the natural population growth rate of metropolitan Buenos Aires (0.8 percent).

Even within regions, growth performance is highly heterogeneous, suggesting that not only regional but also local economic conditions play a significant role in explaining population growth trends. Even within the Patagonia region, which exhibited a strong growth performance, urban growth rates vary significantly, from 10.6 percent to –0.6 percent. In the Pampeana region, population growth varies from 7.4 percent to –1.1 percent. The finding calls for an analysis of location-specific factors, such as economic and employment growth drivers, for an in-depth understanding of regional and local demographic trends.

For small cities and towns, proximity to large agglomerations matters for population growth. Those located within 25 kilometers of larger
Map 3.4 Urban Population Growth Performance, by Agglomeration Size, 2001–10

Sources: Based on INDEC 2001, 2010.
Notes: Bubble size corresponds to size of population. For each agglomeration, population growth is compared to the average annual growth rate of its city size category. Average growth refers to +/−10 percent of the average annual growth rate of the city size category. The map excludes reclassified towns, that is, towns that were rural in 2001. City size categories are as follows: metropolitan Buenos Aires and top five agglomerations (above 700,000), large agglomerations (300,000–700,000), intermediate agglomerations (100,000–300,000), small agglomerations (50,000–100,000), and towns (2,000–50,000). Catamarca refers to San Fernando del Valle de Catamarca.
agglomerations (with populations of more than 300,000 in 2010) have a higher annual population growth rate than small cities and towns that are not in this range.\(^5\) Towns in the 25-kilometer range grew at 1.8 percent between 2001 and 2010, whereas those not in that range grew at 1.4 percent. Small cities in particular showed a higher growth rate of 2.2 percent when near larger cities, compared with an average growth of 1.3 percent for those farther away. Notably, these results also hold in the Pampeana region, where small cities and towns within 25 kilometers of larger agglomerations grew at a significantly higher growth rate of 1.8 percent, compared with a 1 percent growth rate for those not in that range. Two small cities (Campana and Luján in the Pampeana region near metropolitan Buenos Aires) and 47 towns in the Pampeana region fall within 25 kilometers of larger agglomerations, including metropolitan Buenos Aires, Córdoba, Rosario, and La Plata. Similarly, in the Cuyo regions, small cities and towns close to larger cities grew at 2.2 percent, compared with 1.4 percent for those not in the range.

The results suggest that larger cities affect regional growth dynamics beyond their urban boundaries, whereas small cities and towns play an important economic function in supporting the economy of larger cities. The Patagonia region is the exception, given its more dispersed urban system of only one large agglomeration, Neuquén. The analysis shows that in the Patagonia region, small cities and towns near Neuquén grew at 2.2 percent, slightly less than small cities and towns farther away (2.3 percent).

**Migration Trends**

Given Argentina’s advanced state of urbanization, the fact that its population movements are predominantly urban-to-urban migration flows is not surprising. What is notable is the importance that a specific type of spatial mobility, namely, intra-metropolitan migration, has recently gained. A total of 374,000 people moved their residence within the Buenos Aires region over the period 2005–10, equivalent to 2 percent of the population of the region\(^6\) (see figure 3.11, panel a). Intra-metropolitan migration is becoming an important regional trend in Latin America. Indications of the importance of intra-metropolitan migration have also been empirically shown for Mexico City, as well as Santiago and Lima (Sabatini 1999; Tuirán 2000).

The Buenos Aires region has the highest mobility of all the regions. It had the highest migration turnover, defined as the total number of in-migrants and out-migrants over the period 2005–10 as a share of the region’s population.\(^2\) On the one hand, the Buenos Aires region received the most in-migrants from the rest of the country over the period 2005–10. In-migrants from the Northeast region (about 73,000) and the Pampeana region (about 62,000) are the most important flows to the Buenos Aires region. On the other hand, it is also the region with the largest out-migration. The main destinations for out-migrants are the adjacent Pampeana region (about 72,000) and the Patagonia region (about 51,000) (see figure 3.11, panel b).
Internal migration patterns vary significantly across regions. Between 2005 and 2010, in-migration exceeded out-migration in the Patagonia and Pampeana regions, whereas in the northern regions, out-migration exceeded in-migration. In absolute numbers, the largest recipients of net in-migration in 2005–10 were the Patagonia region, with about 55,000 migrants, and the Pampeana region, with about 36,000 migrants. Out-migration largely exceeded in-migration in the Northeast and Northwest regions, which during the same period had net out-migration of about 67,000 and 33,000 people, respectively. The Cuyo region had the lowest in- and out-migration of all regions in Argentina (see figure 3.12). In the Buenos Aires region, in-migration and out-migration were similar in size, and net in-migration represented only 0.03 percent of the local population (see figure 3.12).

Intra-metropolitan population movements in the Buenos Aires region are mainly from the center to the contiguous peri-urban areas. About 228,000 people moved from the city of Buenos Aires to the Buenos Aires province, and 85 percent of migrants from the city settled in peri-urban metropolitan Buenos Aires.
Figure 3.12 Migration, by Region, 2005–10

a. Number of migrants (’000)

b. Migrants as a share of local population

Sources: Based on INDEC 2001, 2010.
Notes: The definition of region adopted for the migration analysis differs from the official definition because data were available at the province level and could not be further disaggregated. Thus, the Buenos Aires region comprises metropolitan Buenos Aires and the rest of the Buenos Aires province that officially belongs to the Pampeana region.

The city of Buenos Aires has net out-migration equivalent to 3.1 percent of its population or about 90,000 people (see figure 3.13). The city of Buenos Aires has the largest out-migration flows of all the provinces as a share of local population (10.1 percent), followed by Tierra del Fuego province in the Patagonia region (7.9 percent). As mentioned previously, the largest out-migration flow from the city of Buenos Aires is to the Buenos Aires province, in particular peri-urban metropolitan Buenos Aires. The city of Buenos Aires receives net in-migration flows only from the provinces of Río Negro, Neuquén, and Formosa, whereas there is net out-migration to all other provinces.

Overall, the Buenos Aires province receives net in-migration equivalent to 0.6 percent of its population, or about 96,000 people (see figure 3.13). Peri-urban metropolitan Buenos Aires is the main destination of in-migrants from other provinces. About 73 percent of in-migrants to the Buenos Aires region settled in peri-urban metropolitan Buenos Aires. Besides the city of Buenos Aires, the Buenos Aires province receives positive net migration from the Corrientes and Chaco provinces. Those migration flows are strictly interlinked with the territorial expansion of metropolitan Buenos Aires, since the growth of the peri-urban areas tends to be accompanied by an expansion of the territory. Such growth poses socioeconomic challenges and can affect connectivity between the core and periphery. And if not well managed, they can heighten spatial segregation of poor and marginalized groups (see chapter 5 on urban expansion patterns).
The Patagonia region has the largest net in-migration, both in absolute numbers and as a share of local population. The high migration to the Patagonia region suggests strong pull factors. The Patagonia region has net in-migration equivalent to 2.6 percent of its inhabitants (see figure 3.12). In-migration is equivalent to 7.5 percent of the region’s population—the highest in-migration flow in Argentina. Within the Patagonia region, all provinces registered net in-migration. The largest influx of migrants to the Patagonia region was from the Buenos Aires region, with 2.4 percent of Patagonia’s inhabitants in 2010 residing in the Buenos Aires region in 2005 (see figure 3.11). The provinces with the largest net in-migration as a share of local population are Santa Cruz (7.2 percent) and Tierra del Fuego (7 percent), both in the Patagonia region (see figure 3.14, panel a).

The origins of migrants vary significantly across provinces in the Patagonia region. For example, a closer look at the origins of in-migrants to the Santa Cruz province shows that most are from the Salta province, followed by the Formosa and Buenos Aires provinces. In-migrants to the Santa Cruz province are settling mainly in two small cities, Río Gallegos (36.2 percent) and Caleta Olivia (18.4 percent), and a town, Pico Truncado (8.0 percent), whereas the remaining 37.0 percent are migrating to rural areas. Internal migration within the Patagonia region is also significant, equivalent to 1.6 percent of the local population (see figure 3.11). Patagonia also has the highest urban natural growth among the regions, at 1.6 percent in 2010 compared with 1.3 percent at the country level.

Although the Pampeana region is the second-largest receiver of net migration (see figure 3.12), a closer look at migration patterns at the province level shows considerable variation in migration flows across provinces within the region. Within the Pampeana region, only the Córdoba province has some net in-migration as a share of local population (0.9 percent), whereas all other regions
recorded little net in-migration or net out-migration (see figure 3.14, panel b). Less than half of the migrants to the Córdoba province (41 percent) settle in the city of Córdoba; 20 percent settle in large cities (for example, Río Cuarto, Villa María, San Francisco, or Villa Carlos Paz), 17 percent migrate to towns, 11 percent migrate to small cities, 8 percent migrate to intermediate cities (for example, Arroyito, Deán Funes, Laboulaye, or Colonia Caroya), and 3 percent migrate to rural areas.

The northern regions experienced the largest net out-migration in Argentina. Net out-migration is equivalent to 1.8 percent and 0.7 percent, respectively, of the population in the Northeast and Northwest regions (see figure 3.12, panel b). In the Northeast region, Formosa is the province with the largest net out-migration (2.7 percent of the local population), followed by Corrientes (1.8 percent) (see figure 3.15, panel a). Most of the out-migration from Formosa is to the Buenos Aires province and the Santa Cruz province in the Patagonia region. In the Northwest region, the Santiago del Estero province has the largest net out-migration (1.5 percent of the local population); La Rioja is the only province with positive net migration in the region (see figure 3.15, panel b).

Although both northern regions have experienced net out-migration, important migratory flows have occurred within the region. It is notable that internal migration is an important pattern in both regions—0.7 percent and 0.6 percent of the population had changed residence within the Northeast and Northwest regions, respectively, over the period 2005–10 (see figure 3.11,
Figure 3.15  Migration as a Share of Local Population, by Province: Regions with Negative Net Migration, 2005–10

Panel a). The main poles of attraction for within-region migration are the largest agglomerations. For example, 61 percent of total in-migrants to the Salta province and 56 percent of total in-migrants to the Jujuy province migrated from within the Northwest region.

In addition to the demographic relevance of internal migration in Argentina, international migration is an important contributing factor to demographic change. International migrants, estimated by the share of foreign-born population, accounted for 4.5 percent of the population in Argentina in 2010, a slight increase from 4.4 percent in 2001 (INDEC 2010). Likewise, international migration constitutes a significant component of the demographic dynamics of many Latin American countries. Although internal migration is largely urban to urban, a large portion of international migrants to Argentina are from neighboring countries Bolivia and Paraguay and, most likely, from the rural areas of those countries.

The relevance of international migration varies significantly across regions and agglomerations. Metropolitan Buenos Aires and Patagonia are the regions attracting the most international migrants. In metropolitan Buenos Aires, 8.6 percent of the population was born outside the country in 2010, compared with 7.8 percent in 2001. The Patagonia region has the second-highest number of foreigners, at 7.1 percent of its total population (compared with 8.3 percent in 2001). All other regions have between 1.5 percent and 2.4 percent of their total populations. Agglomerations with the highest percentage of foreigners (more than 5 percent of the total population) are metropolitan Buenos Aires and La Plata in the Pampeana region; Puerto Iguazú and Clorinda in the Northeast region; and Río Gallegos, General Roca, Caleta Olivia, and Ushuaia in the Patagonia region (see map 3.5). These agglomerations have strong pull factors attracting international migrants.

Sources: Based on INDEC 2001, 2010.
Most international migrants are from neighboring countries, but the country of origin of the foreign-born population varies significantly by region. Of the foreign-born population in Argentina, 69 percent are from neighboring countries, 17 percent are from Europe, and 10 percent are from other Latin American countries. The largest foreign-born migrant population is from Paraguay (30 percent), followed by Bolivia (19 percent) and then Chile (11 percent). The Northeast and Northwest regions have a very high percentage of foreign-born migrants from their neighboring countries: in the Northwest region, 75 percent of foreign-born migrants are from Bolivia; in the Northeast region, 69 percent are from Paraguay, and 19 percent are from Brazil. The Patagonia region has the highest percentage of migrants from Chile, accounting for 69 percent of its foreign-born population.

In the Pampeana region, most foreign-born migrants are from Europe, followed by Paraguay and Bolivia, accounting for 24 percent, 19 percent, and 16 percent, respectively, of the foreign-born population in the region. Metropolitan Buenos Aires has a high share of migrants from Paraguay, Europe, and Bolivia, accounting for 37 percent, 18 percent, and 17 percent, respectively, of the metropolitan area’s foreign-born population (see figure 3.16).
Notes

1. This study uses the terms agglomerations, urban areas, and cities interchangeably. See box 1.1 in chapter 1 for an overview of Argentina’s geography and urban space.

2. The analysis is based on population distribution data produced by the WorldPop project, which uses built-up areas and other inputs to model the country’s population at a 100-meter by 100-meter spatial grid. See http://www.worldpop.org.uk/data/.

3. A primate city is the leading city in its country or region, disproportionately larger than any others in the urban hierarchy, with at least twice as much population as the second largest city. A primate city may or may not be the capital city.

4. Cities are classified by size on the basis of 2001 population census data (INDEC 2001).

5. A proximity analysis was performed using GIS (geographic information system) to calculate 25-kilometer buffers from cities with populations exceeding 300,000 in 2010 (including metropolitan Buenos Aires). Then, the population growth between 2001 and 2010 of small cities and towns falling in that 25-kilometer range was calculated to identify whether their growth was driven by proximity to large cities.

6. The analysis is based on the 2010 population census data (INDEC 2010). The definition of region adopted for the migration analysis differs from the official definition presented in box 1.1 in chapter 1 because data were available at the province level and could not be further disaggregated. Thus, the Buenos Aires region comprises metropolitan Buenos Aires and the rest of the Buenos Aires province that officially belongs to the Pampeana region.

8. Out-migration, however, does not always result in lower population growth because natural population growth rates (that is, birth rates) differ across provinces and regions. For example, natural population growth in the Northeast and Northwest regions was above average, at 1.4 percent and 1.5 percent, respectively, compared with an average for Argentina of 1.3 percent. Along with the notable migration dynamism, the Buenos Aires region’s natural population growth is the lowest among the regions.

References


Spatial Economic Trends

Summary

This chapter assesses spatial economic trends in Argentina in recent years. Argentina is characterized by a concentration of economic activities in metropolitan Buenos Aires and significant regional disparities. Over the 2008–13 period, the poorest agglomerations in the northern regions experienced rapid urbanization, a pronounced decrease in poverty, and pro-poor employment growth. Yet, agglomerations in the northern regions still contribute significantly below their population share to the national gross domestic product (GDP).

Agglomeration economies are at play in Argentine cities. A doubling in the population size of the agglomerations is associated with a growth in labor productivity of 2.2 percent. However, firms located in the northern regions do not fully leverage the benefits of agglomeration economies because of a regional productivity disadvantage. And the important gap in economic density between the city of Buenos Aires and peri-urban metropolitan Buenos Aires is a constraint for the competitiveness of the entire metropolitan area. While larger agglomerations have higher productivity, agglomerations with lower initial economic density are the ones that are economically more dynamic—they have higher rates of estimated GDP growth, proxied by growth in nighttime light emissions. Yet, those agglomerations are not catching up in absolute terms, because larger agglomerations recorded higher absolute change in estimated GDP.

International benchmarking indicates that metropolitan Buenos Aires and the top five agglomerations have a smaller share of employment in tradable sectors—the component of the economy with the highest potential for productivity growth—than selected comparator cities, suggesting that they may be at a disadvantage in leveraging the benefits of agglomeration economies. The limited number of employment growth drivers—defined as important sectors for the local economies with above-average employment growth—in tradable sectors in peri-urban metropolitan Buenos Aires is particularly concerning for the
competitiveness of the metropolitan area. Furthermore, the significant growth of extractive industries in the Patagonia region needs to be managed to ensure sustainability of urban growth and to support economic diversification. The results also raise concerns about the long-term sustainability of pro-poor employment growth in agglomerations in the northern regions. With the exception of agroprocessing in the Northwest region, agglomerations in the northern regions have no employment growth drivers in tradable sectors.

**Introduction**

Understanding agglomeration economies in a country’s system of cities is fundamental for sound policy formulation, especially for identifying cities that might not be fully exploiting their economic potential. Cities benefiting from agglomeration economies are more productive and have higher economic growth.

This chapter reviews spatial economic trends and explores the roles of agglomeration economies in Argentine cities. The chapter consists of five parts. The first section describes the broad spatial and regional trends, with a focus on economic performance, poverty alleviation, and employment over the past decades. The second section carries out a comparative assessment and regression analysis of productivity to explore whether agglomeration economies are at play in Argentine cities. The third section looks at economic dynamism as a complementary measure of economic performance. The fourth section focuses on assessing and comparing the sectoral composition of employment across agglomerations, with a focus on employment in tradable sectors—an important indicator of the economic potential and dynamism of local economies. Finally, the fifth section identifies and compares employment growth drivers of agglomerations to understand the evolving structure of sectors and to identify sectors with the highest economic potential. Unless otherwise stated, the analysis is carried out for the 31 agglomerations sampled in the National Institute of Statistics and Censuses’ (INDEC) Permanent Household Survey (Encuesta Permanente de Hogares, or EPH) and referred to throughout this chapter as the “EPH agglomerations.” The sample accounts for 70 percent of the total urban population in Argentina (see box 1.1 in chapter 1 for an overview of the urban system in Argentina and appendix A for the list of EPH agglomerations).

In the absence of subnational GDP data, the study uses nighttime light emissions as a proxy for the agglomerations’ GDP, thus building on the empirical evidence of a strong correlation between nighttime light emissions and economic activity found in the literature (Henderson and others 2011; Henderson and others 2012; Henderson and others 2009).\(^1\) In contrast with official GDP data, nighttime light data provide the advantage of being available at arbitrary small levels of disaggregation. (See box 4.1 for an overview of nighttime light data and appendix B for the methodology for estimating subnational GDP using nighttime light data.)
Box 4.1 Nighttime Light Data

Nighttime lights are free, globally available satellite data that summarize the extent and intensity of human settlements. Nighttime light data have been correlated with changes in population, economic activity, electrification, and numerous other development indicators. The global extent combined with the long-time range of the data allows for consistent quantitative assessment of development across the world in a way that is not always possible using traditional development data.

Urban extents were estimated from radiance-calibrated nighttime light data in 1996 and 2010. Radiance-calibrated data are a special subset of nighttime light data that do not suffer from sensor saturation in bright urban cores that is present in the raw nighttime light data. Thus, the radiance-calibrated data are more suitable for urban analysis. The urban extents were created by applying a single brightness threshold to both years of nighttime light imagery, where all areas above the threshold were considered urban. Everything else was considered nonurban. The urban threshold for Argentina was 65 and was calculated by comparing the nighttime light values and the land cover classifications of GlobCover, the land cover product of the European Space Agency (ESA 2009).

The nighttime light data can be used to compare spatial patterns of growth from an economic perspective. As map B4.1 shows, important differences exist between official boundaries of agglomerations, based on INDEC’s statistical definition, and the footprint defined by nighttime light data. Because the data measure not only the presence of light but also its intensity, they can also be used to assess the degree to which a city is growing intensively (increasing levels of economic activity and density in its preexisting footprint) versus extensively (outward economic expansion of its footprint over time), as shown in figure 5.9 in chapter 5.

Map B4.1 Comparing Statistical and Economic Footprints, Selected Agglomerations

a. Metropolitan Buenos Aires

b. Salta (large agglomeration)
Spatial Economic Trends

This section explores spatial economic trends, including recent geographic and regional economic patterns, poverty reduction, and employment growth trends.

Economic activities in Argentina are geographically concentrated in the central and coastal areas. Two-thirds of national GDP is produced in two regions alone: metropolitan Buenos Aires and Pampeana. Aerial images confirm the clustering of economic activities in the two regions. Similarly, the employment density map reveals the development of an economic megaregion as a string of agglomerations centered on metropolitan Buenos Aires and spreading inland toward Córdoba and Rosario (see maps 4.1 and 4.2).

Nighttime light emissions are computed for 29 of the 31 EPH agglomerations. For two EPH agglomerations (Ushuaia and Mar del Plata), it was not possible to compute nighttime light emissions because the light emissions of these two agglomerations in 1996 were below the brightness threshold used for the definition of urban areas (as mentioned previously, an area is determined to be urban when the light goes beyond a brightness threshold which is used to measure the intensity of nighttime light data).

Sources: Based on INDEC 2010; NOAA.

Note: a. The nighttime lights data used for the estimation of GDP are the Global Radiance Calibrated Nighttime Lights product provided by the National Oceanic and Atmospheric Association’s (NOAA) National Centers for Environmental Information Earth Observation Group. The latest version of this product is available for download from http://ngdc.noaa.gov/eog/dmsp/download_radcal.html.

Economic Trends

This section explores spatial economic trends, including recent geographic and regional economic patterns, poverty reduction, and employment growth trends.

Economic activities in Argentina are geographically concentrated in the central and coastal areas. Two-thirds of national GDP is produced in two regions alone: metropolitan Buenos Aires and Pampeana. Aerial images confirm the clustering of economic activities in the two regions. Similarly, the employment density map reveals the development of an economic megaregion as a string of agglomerations centered on metropolitan Buenos Aires and spreading inland toward Córdoba and Rosario (see maps 4.1 and 4.2).

Employment density varies to a significant extent across regions—from 578 employed people per square kilometer (km²) in metropolitan Buenos Aires to only 1 employed person per km² in the Patagonia region (INDEC 2010). At the agglomeration level, employment density ranges from 4,060 employed people...
Map 4.1 Employment Density, Argentina, 2010

Source: Based on INDEC 2010.
Note: The employed population is estimated on the basis of the number of ocupados, defined by INDEC as those people older than age 10 who worked for at least one hour during a one-week reference period.

Map 4.2 Employment Density of Argentina’s Central and Coastal Areas, 2010

Source: Based on INDEC 2010.
Note: The employed population is estimated on the basis of the number of ocupados, defined by INDEC as those people older than age 10 who worked for at least one hour during a one-week reference period.
per km² in metropolitan Buenos Aires to 1,256 employed people per km² in Rawson in the Patagonia region on the basis of a sample of 26 agglomerations.²

Argentina is more concentrated economically than demographically: the province of Buenos Aires together with the city of Buenos Aires accounts for 55 percent of national GDP, above its population share (46 percent). It is, however, notable that the adjacent Pampeana region,³ the heart of agriculture and agroprocessing, contributes to national GDP slightly below its share of population (see figures 4.1 and 4.2).

Metropolitan Buenos Aires is the engine of growth for Argentina. Metropolitan Buenos Aires is home to about 37 percent of Argentina’s urban population and contributes to almost half (48.5 percent) of the national GDP. It is followed at a significant distance by the top five agglomerations with populations exceeding 700,000 inhabitants,⁴ which together account for 11.5 percent of GDP and 14.3 percent of the urban population.⁵ Argentina has a level of economic concentration higher than the average for high middle-income countries.⁶ Only 11 cities have a larger economic concentration of economic activities than Argentina among the sample of 746 cities included in Oxford Economics dataset 2000–12.⁷ Furthermore, the contribution of metropolitan Buenos Aires to GDP, at 48.5 percent, is the

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**Figure 4.1 Share of National GDP, by Region, 2013**

<table>
<thead>
<tr>
<th>Region</th>
<th>GDP Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buenos Aires</td>
<td>55.2</td>
</tr>
<tr>
<td>Pampeana</td>
<td>18.8</td>
</tr>
<tr>
<td>Northwest</td>
<td>7.6</td>
</tr>
<tr>
<td>Northeast</td>
<td>5.0</td>
</tr>
<tr>
<td>Cuyo</td>
<td>6.3</td>
</tr>
<tr>
<td>Patagonia</td>
<td>7.1</td>
</tr>
</tbody>
</table>

**Sources:** Based on Government of Argentina, Ministry of Economy and Public Finance 2015.
**Notes:** GDP = gross domestic product. GDP share based on available official gross provincial product (GPP) data for the period 1993–2013 (Government of Argentina, Ministry of Economy and Public Finance 2015), and national GDP data from INDEC 2015. For the years and provinces for which GPP data were not available, figures were estimated on the basis of available turnover tax data. The definition of “region” adopted for the analysis differs from the official definition because data could not be further disaggregated to estimate GDP for metropolitan Buenos Aires. The Buenos Aires region thus comprises the entire province of Buenos Aires and the city of Buenos Aires.
Evidence suggests that geographic concentration of economic activities rapidly rises with economic development before stabilizing at a higher level of income (World Bank 2009) and that there is an efficient level of economic primacy above which the costs of congestion outweigh the benefits of agglomeration economies. When that is the case, the primate city may absorb the majority of resources for infrastructure investments and service delivery, further exacerbating the gap with other cities (Henderson 2002). From an urban policy perspective, how well a primate city is managed is therefore key for efficient urbanization.

The economic primacy of Buenos Aires has remained stable since 2000, with fluctuations following national macroeconomic trends between 49.5 percent and 48.5 percent during the 2000–12 period. The slight reduction in the contribution of metropolitan Buenos Aires to national GDP coincides with the financial crises of 2001/02 and 2008/09. Overall, metropolitan Buenos Aires’ economic primacy is in line with demographic trends, as the metropolitan area has also maintained its demographic primacy over the same period—the share of the urban population living in metropolitan Buenos Aires has increased slightly from

**Figure 4.2 Share of Total Population, by Region, 2010**

<table>
<thead>
<tr>
<th>Region</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pampeana</td>
<td>20.1</td>
</tr>
<tr>
<td>Northwest</td>
<td>12.2</td>
</tr>
<tr>
<td>Northeast</td>
<td>9.2</td>
</tr>
<tr>
<td>Cuyo</td>
<td>7.1</td>
</tr>
<tr>
<td>Patagonia</td>
<td>5.2</td>
</tr>
<tr>
<td>Buenos Aires</td>
<td>46.2</td>
</tr>
<tr>
<td>Patagonia, Cuyo, Northwest, Pampeana, Buenos Aires, Northeast</td>
<td></td>
</tr>
</tbody>
</table>

**Source:** Based on INDEC 2010.

**Notes:** For the years and provinces for which gross provincial product data were not available, figures were estimated on the basis of available turnover tax data. The definition of ‘region’ adopted for the analysis differs from the official definition because data could not be further disaggregated to estimate gross domestic product for metropolitan Buenos Aires. The Buenos Aires region thus comprises the entire province of Buenos Aires and the city of Buenos Aires.
37.2 percent to 37.4 percent over the 2001–10 period.\footnote{Given its strong economic advantage relative to the top five agglomerations, as further corroborated by the productivity analysis presented in the next section, metropolitan Buenos Aires will continue to be the principal engine of Argentina’s growth.}

The stabilization of economic primacy of metropolitan Buenos Aires is in line with the experience of other primate cities in Latin America. The growth of most of Latin America’s urban giants no longer exceeds that of the rest of the region’s economy, according to a study by the McKinsey Global Institute (2011). For example, between 2000 and 2012, Rio de Janeiro’s contribution to national GDP declined from 9.0 percent to 7.3 percent, and Mexico City’s went from 22.5 percent to 21.5 percent.\footnote{Metropolitan Buenos Aires is highly vulnerable to national economic shocks. Given its weight in Argentina’s economy, the economic trajectory of metropolitan Buenos Aires is highly correlated with national economic trends. Metropolitan Buenos Aires is therefore more vulnerable to economic shocks than other large agglomerations in Argentina. For instance, city-level GDP growth shows that metropolitan Buenos Aires was more affected than most of the top five agglomerations by the financial crises of 2001/02 and 2008/09 (see figures 4.3 and 4.4).}

Metropolitan Buenos Aires is more insulated from international shocks than comparator cities. Although the 2008/09 international economic crisis had a significant effect on metropolitan Buenos Aires, the GDP growth rate between 2008 and 2009 was still higher (−1.03 percent) than comparator cities.

\textbf{Figure 4.3 GDP Growth in Metropolitan Buenos Aires and Top Five Agglomerations, 2001–12}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure4.3}
\caption{GDP Growth in Metropolitan Buenos Aires and Top Five Agglomerations, 2001–12}
\end{figure}

\textit{Source:} Based on Oxford Economics dataset 2002–12.

in Europe and the United States, and employment growth was the highest among comparator cities (1.08 percent). After the crisis, metropolitan Buenos Aires experienced the highest GDP growth rate among the selected comparator cities (9.8 percent) (see figure 4.4). However, the slowdown in GDP growth in the 2010–12 period is concerning.

The Northeast and Northwest regions have urbanized rapidly over the past two decades. The Northeast region experienced the largest increase in urbanized population over 1993–2010, from 70 percent to 80 percent, with urban population growth rates almost four times that of the country. However, the fast urbanization in the Northeast region was not associated with strong economic growth over 2003–08. The Northeast region still accounts for only 5 percent of national GDP, significantly below its share of the country’s total population (9.2 percent). The Northwest region experienced faster economic growth than the Northeast. Its contribution to GDP increased by 2.1 percent over the 1993–2013 period, but its share of GDP (7.6 percent) is still significantly smaller than its population share (12.2 percent) (see figures 4.1 and 4.2).

Agglomerations with highest poverty experienced a more pronounced decrease in poverty (see figures 4.5 and 4.6). Results indicate a strong correlation between poverty headcount in 2003 and annual poverty reduction between

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**Figure 4.4 GDP Growth in Metropolitan Buenos Aires and Comparator Cities, 2003–12**

Source: Based on Oxford Economics dataset 2002–12.
Notes: GDP = gross domestic product. See box 4.4 for an overview of Oxford Economics’ methodology for city-level GDP estimation and selection methodology of comparator cities.
The strong poverty reduction over the 2003–08 period coincided with the rebound after the financial crisis of 2001/02. Average annual reduction in poverty was 3.3 percent, ranging between 0.8 percent in the city of Buenos Aires and 5.3 percent in Corrientes. The agglomeration of Corrientes in the Northeast region had the highest poverty rate in 2003 (62.1 percent) and experienced the most pronounced annual poverty reduction during 2003–08 (5.3 percent). Poverty reduction continued over the 2008–13 period, albeit at a slower pace, with an average annual rate of 1.3 percent. Poverty reduction ranged from −0.1 percent in Comodoro Rivadavia to 3.1 percent in Santiago del Estero, with an equally strong correlation between poverty headcount and poverty reduction (0.9) than in 2003–08 (see figures 4.5 and 4.6).

Agglomerations in the northern regions have succeeded in creating jobs since 2008. During the 2008–13 period, those agglomerations that had the lowest employment rates, defined as employed people as a share of population, were able to create more jobs. For instance, in the Northeast region, employment in Posadas, which had an employment rate of 34 percent, grew an average of 0.9 percent, whereas Paraná’s 39 percent employment rate grew an average
of 1.0 percent. The strong job creation performance of agglomerations with the lowest employment rates continued and was even more pronounced in 2008–13 than in the five years (2003–08) following the financial crisis of 2001/02 (see figures 4.7 and 4.8).

In most agglomerations in the northern regions, employment growth has been pro-poor: above-average growth in employment rates was accompanied by above-average reduction in poverty (see figure 4.9). For instance, agglomerations in the Northwest region, such as San Miguel de Tucumán and Salta, and in the Northeast region, such as Posadas and Corrientes, exhibited such pro-poor employment growth. In contrast, peri-urban metropolitan Buenos Aires, which experienced faster population growth and migration than agglomerations in the northern regions, experienced below-average employment growth rates and below-average reduction in poverty (see figure 4.9). Those outcomes necessitate a closer look into the factors driving this employment growth for a more in-depth understanding of the sustainability of the job creation process.

Employment grew across all firm types between 2004 and 2012, and the growth was higher among large firms (with more than five workers)—increasing
Employment growth trends, however, changed significantly from 2004 to 2012. On the one hand, since 2009, a steep recovery occurred in hiring in the public sector following the cuts made earlier in the decade after the financial crisis of 2001/02. Between 2009 and 2012, the total growth in public sector employment was 15 percent. On the other hand, private sector employment growth slowed since 2009, with only 1 percent total employment growth in small firms (firms with five or fewer employees) between 2009 and 2012 and 4 percent growth in large firms (Garriga and others 2015).

Although labor markets were the main drivers of poverty reduction from 2004–13, their importance compared with nonlabor income contribution decreased during the 2008–13 period. At the national level, labor income and other income accounted for 74 percent of total poverty reduction during the 2004–08 period, whereas nonlabor income (such as public transfers, pensions, private transfers, and capital income) contributed 26 percent. However, this trend was reversed during the 2008–13 period when the contribution of labor income to poverty reduction declined to 49 percent, and nonlabor income contribution increased to 51 percent (see figure 4.11).
At the agglomeration level, the contribution of nonlabor income to poverty reduction varies significantly. Over the entire 2004–13 period, nonlabor income was the most important driver of poverty reduction than labor income in four agglomerations. For example, nonlabor income contributed to 65 percent of poverty reduction in Santa Rosa and to 60 percent of poverty reduction in Mar del Plata. At the other end of the spectrum, nonlabor income’s contribution has been less important in driving poverty reduction in agglomerations such as Bahía Blanca (23 percent) and Rosario (26 percent) over the same period.

Decomposing the changes in poverty by region indicates that nonlabor income became a more significant driver of poverty reduction across all six regions over the period 2008–13. For instance, nonlabor income accounted for 26 percent and 31 percent of poverty reduction in the Cuyo and Patagonia regions, respectively, over the period 2004–08; while the contribution of nonlabor income to poverty reduction increased significantly to 70 percent and 76 percent, respectively, in those two regions over the period 2008–13 (see figure 4.11).

These trends raise concerns about the sustainability of poverty-reduction gains. On the one hand, evidence shows an important reduction in poverty and significant growth in pro-poor employment in the poorest agglomerations. On the other hand, the slowdown in private employment growth and the shift in

\[\text{Sources: Based on INDEC 2003, 2008, 2013.}\]
\[\text{Notes: The analysis is carried out for the 29 of the 31 EPH agglomerations. Employment rate is measured as the share of the agglomeration’s population that is employed. The employed population is estimated on the basis of the number of ocupados, defined by INDEC as those people older than age 10 who worked for at least one hour during a one-week reference period.}\]
the drivers of poverty reduction from labor to nonlabor income raise concerns about the long-term sustainability of poverty-reduction gains and the productivity gains in employment growth, in particular, in agglomerations in the northern regions, which registered the largest fall in poverty over the 2008–13 period.

To what extent has pro-poor employment growth translated into improved productivity? And are the poverty gains sustainable? The next sections seek to shed light on these questions by carrying out an in-depth assessment of the nexus between productivity and agglomeration economies, the sectoral composition of employment (with a focus on employment in tradable sectors), and the employment growth drivers of Argentine agglomerations.
Figure 4.10 Employment Growth, 2004–12

Source: Garriga and others 2015.
Note: 2004 was used as the base year for the calculation of accumulated employment growth.

Figure 4.11 Drivers of Poverty Reduction, by Region, 2004–13

Source: Garriga and others 2015.
Note: 2004 was used as the base year for the calculation of accumulated employment growth.
Productivity and Agglomeration Economies

This section explores the role of agglomeration economies in the system of Argentine cities. It carries out a regression analysis to determine whether and to what extent cities are taking advantage of agglomeration economies and whether any significant regional differences exist in agglomeration economies. Following the literature, the strength of agglomeration economies is estimated by the population size of the agglomeration, as well as by measures of densities—population, employment, and economic densities.

Most populous agglomerations have higher economic density, measured by estimated GDP per area, proxied by nighttime light emissions per km², indicating that population size and economic densities are two highly correlated measures of agglomeration economies in Argentina. The correlation between size of agglomeration and economic density is high (0.76). The results show that an important gap in economic density exists between metropolitan Buenos Aires and the top five agglomerations. And the city of Buenos Aires presents exceptionally high levels of economic density with respect to the
other agglomerations for its size. Even within metropolitan Buenos Aires, the analysis reveals a significant gap in economic density between the city of Buenos Aires and peri-urban metropolitan Buenos Aires. The economic density in agglomerations in the Northeast region falls significantly short of expectations based on size. However, significant intraregional variations exist, with Resistencia in the Northeast region and San Miguel de Tucumán in the Northwest region having economic density levels similar to Santa Fe in the Pampeana region (see figure 4.12).

In the presence of agglomeration economies, labor productivity is expected to be higher in the largest agglomerations, all else being equal. A regression analysis using data from the Permanent Household Survey for 2004 for the EPH

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**Figure 4.12 Agglomerations’ Economic Density** and Population, by Region, 2010

![Diagram showing economic density and population of various cities and regions in Argentina.](http://dx.doi.org/10.1596/978-1-4648-0840-1

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Sources: Based on INDEC 2010; NOAA.\(^b\)

Notes: GDP = gross domestic product; km\(^2\) = square kilometers; NTL = nighttime light emissions. The analysis is carried out for 29 of the 31 EPH agglomerations, excluding Ushuaia and Mar del Plata.

- Economic density of an agglomeration is an estimate of the gross domestic product (GDP) per km\(^2\), where the GDP is proxied by nighttime light emissions (see box 4.1 for an overview of nighttime light data and appendix B for the methodology for estimating subnational GDP using nighttime light data).

- The nighttime lights data used for the estimation of GDP are the Global Radiance Calibrated Nighttime Lights product provided by the National Oceanic and Atmospheric Association’s (NOAA) National Centers for Environmental Information Earth Observation Group. The latest version of this product is available for download from [http://ngdc.noaa.gov/eog/dmsp/download_radcal.html](http://ngdc.noaa.gov/eog/dmsp/download_radcal.html).
agglomerations finds consistent evidence of a productivity premium associated with agglomeration economies. This finding suggests that positive agglomeration forces are at play, thus outweighing the costs associated with diseconomies of agglomerations (see table 4.1).

Wages are used to capture labor productivity in the regression analysis, as the relationship between marginal productivity of labor and wages has been fully documented in economic theory. Wage differential estimates are based on nominal rather than price-adjusted wages. The relationship between cost of living and wage differentials is not known because of a lack of information about cost of living. Nevertheless, the results provide valuable insights on differences in firm-level productivity across locations, because higher productivity allows firms to pay higher nominal wages. Agglomeration economies are proxied by the population size of the agglomerations as well as density-based measures.

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 (see table 4.1, regression i). The results are consistent with evidence of the higher labor productivity associated with agglomeration economies and indicate an attraction effect of large cities.

However, evidence suggests that Argentine cities may not be fully exploiting the benefits of population size as much as cities in comparable Latin American countries. The estimated elasticity of population size on wage premium is lower than in Mexico, where a doubling in the size of the agglomerations is associated with a growth in labor productivity of 4.2 percent, based on

**Table 4.1 Estimated Elasticity of Wage Premium to Measures of Agglomeration Economies**

<table>
<thead>
<tr>
<th>Regression</th>
<th>Agglomeration economies measure</th>
<th>Elasticities</th>
</tr>
</thead>
<tbody>
<tr>
<td>i.</td>
<td>Population size</td>
<td>0.0221***</td>
</tr>
<tr>
<td>ii.</td>
<td>Economic density</td>
<td>0.1660***</td>
</tr>
<tr>
<td>iii.</td>
<td>Population density</td>
<td>0.1560***</td>
</tr>
<tr>
<td>iv.</td>
<td>Employment density</td>
<td>0.1500***</td>
</tr>
<tr>
<td>v.</td>
<td>Interaction of population size and years of education</td>
<td>0.0193***</td>
</tr>
</tbody>
</table>

**Sources:** Based on INDEC 2010, 2014.

**Notes:** The basic regression model used is as follows: ln(yi) = βx + Γ ln(cj) + εi, where yi is the average wage as a measurement of labor productivity for worker i, x is a vector of workers’ and firms’ characteristics as control factors, and cj is a measurement of agglomeration for city j. The elasticity of wages to the measure of agglomeration is given by the estimate of Γ. The regression is based on a sample of 29 of the 31 EPH agglomerations, excluding Ushuaia and Mar del Plata. Full results of the regression analysis are available upon request. In regression (iii), economic density of an agglomeration is an estimate of the gross domestic product (GDP) per km², where the GDP is proxied by nighttime light emissions. See box 4.1 for an overview of nighttime light data and appendix B for the methodology for estimating subnational GDP using nighttime light data.

*** Statistically significant at the 1 percent level. A statistically significant correlation at the 1 percent level is indicated by a probability value of less than 0.01. This means that the probability of obtaining such a correlation coefficient by chance is less than 1 percent, so the result indicates the presence of a strong relationship.
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 the results obtained for Argentina against a benchmark a challenging task. A comprehensive review of the empirical literature on elasticities of agglomeration carried out by Rosenthal and others (2004) argues that doubling urban size increases productivity between 3 percent and 8 percent. Limited evidence exists on the factors explaining such a wide range of magnitude in the elasticities. Melo and others (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 economies by analyzing 729 elasticities 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 example, 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 show that the service sector tends to derive considerably larger benefits from agglomerations. The size of the elasticity for the service sector 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 the service sector tends to be more dependent on proximity to large urban areas because of urbanization economies. These findings highlight the need to consider the estimates of agglomeration economies in context and that there is no reason to expect similar estimates of comparable magnitude between sectors, urban areas, or countries.

Source: Based on Melo and others 2009.

2000–10 data (Ahrend and others 2014) (see box 4.2). Comparing the elasticity of agglomerations across countries is, however, challenging, given the variation in the wide range of magnitude of the estimates reported in the literature (see box 4.2).

The robustness of the results has been tested by using alternative measures of agglomeration economies—population, employment, and economic densities. These specifications give consistent results, with a positive and statistically significant elasticity. For instance, a 1.0 percent growth in economic density is associated with a growth in labor productivity of 0.16 percent after controlling for city and firm characteristics (see table 4.1, regression ii). A similar positive
elasticity is found when population and employment densities are used as a proxy of agglomeration economies in the regression analysis (see table 4.1, regressions iii and iv). Figure 4.13 shows the positive association between economic density and wage premium among the sampled agglomerations. It also highlights the extremely high level of wage premium in agglomerations in the Patagonia region because of the importance of extractive industries in the local economies.

Sources: Based on INDEC 2014; NOAA.
Notes: Size of the bubble corresponds to population size. GDP = gross domestic product; km² = square kilometers; NTL = nighttime light emissions. The analysis is carried out for 29 of the 31 EPH agglomerations, excluding Ushuaia and Mar del Plata. Catamarca refers to San Fernando del Valle de Catamarca. Tucumán refers to San Miguel de Tucumán.

a. Economic density of an agglomeration is an estimate of GDP per km², where the GDP is proxied by nighttime light emissions. See box 4.1 for an overview of nighttime light data and appendix B for the methodology for estimating subnational GDP using nighttime light data.
b. The nighttime lights data used for the estimation of GDP are the Global Radiance Calibrated Nighttime Lights product provided by the National Oceanic and Atmospheric Administration’s (NOAA) National Centers for Environmental Information Earth Observation Group. The latest version of this product is available for download from http://ngdc.noaa.gov/eog/dmsp/download_radcal.html.
The results also indicate that education affects the strengths of agglomeration economies. Not only are wages higher in places with a better-educated workforce, but education also enhances the effect of agglomeration economies—the higher the average education in the agglomeration, the higher the elasticity of the size of the agglomeration to labor productivity. When the elasticity of agglomeration size to labor productivity is allowed to vary by education level as measured by years of education (see table 4.1, regression v) in addition to controlling for education level, the estimated interaction is positive. The results are consistent with empirical evidence showing that the spatial concentration of highly educated workers matters for agglomeration economies (Rauch 1993), and higher levels of education can lead to increasing returns to scale (Acemoglu 1996). The results are also consistent with the finding of the literature presented in chapter 2—the correlation between city size and productivity is stronger in metropolitan areas with high skills (Glaeser and others 2009).

Not only does the size of the agglomeration matter for productivity, but so does the region in which the firm is located. To test the hypothesis that structural differences in productivity exist across regions (regardless of the size of the agglomeration), regional effects were included in the regression analysis. The results confirm that differences in productivity occur across regions, all other factors being equal (see table 4.2, panel a). The results indicate that firms with comparable characteristics have a productivity disadvantage when located in the Northeast and Northwest regions relative to firms in metropolitan Buenos Aires as well as those in the Patagonia and Pampeana regions. Firms located in the Northeast region have the strongest productivity disadvantage associated with regional effects. Figure 4.14 shows the distribution of wages across agglomerations by region.

Overall, the significant regional differences in labor productivity suggest that in spite of migration movement, persistent differences remain in the performance of labor markets across regions. Those structural differences in productivity levels could be associated with the important differences in the economic structures of agglomerations. In particular, the distribution of wage premiums indicates important regional variations across agglomerations in the Patagonia region, with an extremely high wage premium in economies specializing in extractive industries (see also figure 4.13). The findings also corroborate the evidence that cities in the northern regions continue to lag in economic performance, in spite of the recent important strides in reducing poverty and boosting employment.

The hypothesis that agglomeration economies vary by region is tested by allowing for the possibility of regions having different elasticity of employment density—a measure of agglomeration economies—to productivity levels (see table 4.2, panel b). The results indicate slight but statistically significant differences in the strength of agglomeration economies between regions. The estimated elasticities are high in the Patagonia and Pampeana regions as well as in
Table 4.2 Estimated Elasticity of Wage Premium and Regional Patterns

\(a.\) Regression with regional dummies

<table>
<thead>
<tr>
<th>Region</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patagonia</td>
<td>0.4100***</td>
</tr>
<tr>
<td>Metropolitan Buenos Aires</td>
<td>0.2050***</td>
</tr>
<tr>
<td>Pampeana</td>
<td>0.1760***</td>
</tr>
<tr>
<td>Northwest</td>
<td>−0.0904***</td>
</tr>
<tr>
<td>Northeast</td>
<td>−0.1380***</td>
</tr>
</tbody>
</table>

\(b.\) Regression with interaction of employment density and regional dummy

<table>
<thead>
<tr>
<th>Interaction</th>
<th>Elasticities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment density, Patagonia</td>
<td>0.1760***</td>
</tr>
<tr>
<td>Employment density, Pampeana</td>
<td>0.1507***</td>
</tr>
<tr>
<td>Employment density, Metropolitan Buenos Aires</td>
<td>0.1425***</td>
</tr>
<tr>
<td>Employment density, Cuyo</td>
<td>0.1270***</td>
</tr>
<tr>
<td>Employment density, Northwest</td>
<td>0.1119***</td>
</tr>
<tr>
<td>Employment density, Northeast</td>
<td>0.1083***</td>
</tr>
</tbody>
</table>

Sources: Based on INDEC 2010, 2014.
Notes: The basic regression model used is as follows: \(\ln(y_i) = \beta x_i + \Gamma \ln c_j + \varepsilon_i\), where \(y_i\) is average wage as a measurement of productivity for worker \(i\), \(x_i\) is a vector of workers' and firms' characteristics as control factors, and \(c_j\) is a measurement of agglomeration for city \(j\). The elasticity of productivity to the agglomeration measure is given by the estimate of \(\Gamma\). The regression is based on a sample of 29 of the 31 EPH agglomerations, excluding Ushuaia and Mar del Plata. Full results of the regression analysis are available on request.

Panel a: Effect on labor productivity of belonging to each region measured by adding a dummy by region.
Panel b: Elasticity of labor productivity to employment density by region measured as the interaction between employment density and a dummy by region.

*** Statistically significant at the 1 percent level. A statistically significant correlation at the 1 percent level is indicated by a probability value of less than 0.01. This means that the probability of obtaining such a correlation coefficient by chance is less than 1 percent, so the result indicates the presence of a strong relationship.

metropolitan Buenos Aires, and are significantly lower in the rest of the regions. A higher elasticity means that a 1 percent increase in density of employment has a slightly higher percentage effect in the productivity level of an agglomeration in the Patagonia region, for instance, than in one located in the northern regions. The slightly higher agglomeration economies in the Patagonia region compared with metropolitan Buenos Aires could be in part associated with the significant differences in the economic structure within the metropolitan area. When the effect of the city of Buenos Aires is isolated, the elasticity of employment density is higher in the city of Buenos Aires than in the Pampeana region, but still slightly lower than in the Patagonia region. These elasticities should be interpreted carefully, as they refer to percentage changes with respect to the initial levels. In other words, the absolute growth in productivity implied by the estimated elasticity depends on the initial levels of productivity. For example, because metropolitan Buenos Aires has higher average productivity than other cities, the same percentage increase in productivity would mean a higher absolute increase in productivity in metropolitan Buenos Aires than in other cities.16
This section explores economic dynamism—that is, the economic growth of a city—and how it is an important and complementary dimension of economic performance. Figure 4.15 shows a strong correlation between population and economic growth. That correlation indicates that agglomerations with higher demographic growth are economically more dynamic, showing more significant economic growth over the periods considered. The results indicate that a 1.0 percentage increase in population growth is associated with a 2.2 percentage increase in economic growth, measured by estimated GDP growth proxied by the increase in nighttime light emissions. Map 4.3 shows the growth in the nighttime light emissions from 1996 to 2010 in selected agglomerations, indicating that expansion in the nighttime light footprint has been significant in agglomerations such as metropolitan Buenos Aires, Neuquén, and Salta.
Although larger agglomerations have higher productivity, smaller agglomerations show higher economic growth (see figure 4.16). For example, Río Gallegos (96,000 inhabitants in 2010) and La Rioja (179,000 inhabitants in 2010) experienced the highest economic growth among the EPH agglomerations. The higher economic growth of smaller agglomerations is also evident for small and intermediate agglomerations not included in the EPH sample. Figure 4.17 shows the increase in total nighttime light emissions for agglomerations in the Tucumán province. The growth in nighttime light emissions is significantly
Map 4.3 Economic Footprint Growth, Selected Agglomerations, 1996–2010

a. Metropolitan Buenos Aires

Nighttime light emissions, 1996
Nighttime light emissions, 2010

b. Neuquén (intermediate agglomeration)

Nighttime light emissions, 2010

Sources: Based on INDEC 2014; NOAA.a

Note: a. The nighttime lights data are the Global Radiance Calibrated Nighttime Lights product provided by the National Oceanic and Atmospheric Administration’s (NOAA) National Centers for Environmental Information Earth Observation Group. The latest version of this product is available for download from http://ngdc.noaa.gov/eog/dmsp/download_radcal.html.
Figure 4.16  Agglomerations’ Economic Growth,\(^a\) 1996–2010, and Population Size, 2010

Sources: Based on INDEC 2014; NOAA.\(^b\)
Notes: GDP = gross domestic product; NTL = nighttime light emissions. The analysis is based on a sample of 29 of the 31 EPH agglomerations need to spell out? agglomerations of the Permanent Household Survey (Encuesta Permanente de Hogares, or EPH), excluding Ushuaia and Mar del Plata.
\(a\). Economic growth of an agglomeration is estimated based on growth in GDP of the built-up area over the period 1996–2010, where the growth in GDP is proxied by the change in nighttime light emissions. See box 4.1 for an overview of nighttime light data and appendix B for the methodology for estimating subnational GDP using nighttime light data.
\(b\). The nighttime lights data used for the estimation of growth in GDP are the Global Radiance Calibrated Nighttime Lights product provided by the National Oceanic and Atmospheric Administration’s (NOAA) National Centers for Environmental Information Earth Observation Group. The latest version of this product is available for download from http://ngdc.noaa.gov/eog/dmsp/download_radcal.html.

Stronger in the smallest agglomerations compared with the largest city, San Miguel de Tucumán.

Significant intraregional variation, however, exists in the level of economic dynamism, as shown in figure 4.18. For instance, Comodoro Rivadavia (Patagonia) and San Salvador de Jujuy (Northwest) have economic growth levels similar to Concordia, the agglomeration with the lowest economic dynamism in the Pampeana region. As expected, economic growth for the city of Buenos Aires and peri-urban metropolitan Buenos Aires is lower than average, given the initial higher level. The findings indicate that the sampled agglomerations in the Northwest region are showing signs of economic recovery with higher-than-average economic dynamism; however, agglomerations in the Northeast region continue to lag, with the lowest level of economic
Agglomerations with lower economic density are more dynamic (see figure 4.19). However, these agglomerations are not catching up. Agglomerations with lower economic density grow faster with respect to percentage ($\beta$-convergence), but they are not necessarily catching up in absolute terms (no $\sigma$-convergence). The lack of absolute convergence, or catching up, is indicated by the significantly larger increase in estimated GDP in absolute terms in the agglomerations with higher economic density (see figure 4.20). The same pattern of relative, but not absolute, convergence is evident at the regional level.

While agglomerations with the highest economic density tend to have the lowest economic growth, there are, however, exceptions. Agglomerations in the Patagonia region tend to show both higher than expected economic density and economic dynamism, whereas agglomerations in the Northeast region have both lower than expected economic density and low economic dynamism. Three agglomerations—Posadas (Northeast), Concordia (Pampeana), and San Salvador de Jujuy (Northwest)—have both the lowest economic density and the lowest economic growth among the EPH agglomerations. Three agglomerations—Mendoza (Cuyo), Neuquén, and Río Gallegos (both in Patagonia)—are the best performers with the highest economic density and growth.

Sources: Based INDEC 2014; NOAA.
Notes: NTL = nighttime light emissions.
a. The nighttime lights data are the Global Radiance Calibrated Nighttime Lights product provided by the National Oceanic and Atmospheric Administration’s (NOAA) National Centers for Environmental Information Earth Observation Group. The latest version of this product is available for download from http://ngdc.noaa.gov/eog/dmsp/download_radcal.html.

dynamism, lowest level of GDP, and lowest productivity (see also table 4.2, panel a).
Figure 4.18 Economic Growth,\(^a\) by Region, 1996–2010

Sources: Based on INDEC 2014; NOAA.\(^b\)
Notes: Size of the bubble corresponds to population size. GDP = gross domestic product; NTL = nighttime light emissions. The analysis is based on a sample of 29 of the 31 EPH agglomerations excluding Ushuaia and Mar del Plata. Metropolitan Buenos Aires comprises the city of Buenos Aires and peri-urban metropolitan Buenos Aires.

\(^a\) Economic growth of an agglomeration is estimated based on growth in GDP of the built-up area over the period 1996–2010, where the growth in GDP is proxied by the change in nighttime light emissions. See box 4.1 for an overview of nighttime light data and appendix B for the methodology for estimating subnational GDP using nighttime light data.

\(^b\) The nighttime lights data used for the estimation of growth in GDP are the Global Radiance Calibrated Nighttime Lights product provided by the National Oceanic and Atmospheric Administration’s (NOAA) National Centers for Environmental Information Earth Observation Group. The latest version of this product is available for download from http://ngdc.noaa.gov/eog/dmsp/download_radcal.html
Figure 4.19 Agglomerations’ Economic Density, a 1996, versus Average Economic Growth, b by Region, 1996–2010

Sources: Based on INDEC 2014; NOAA c.
Notes: Size of the bubble corresponds to population size. GDP = gross domestic product; NTL = nighttime light emissions; km² = square kilometers. The analysis is based on a sample of 29 of the 31 EPH agglomerations excluding Ushuaia and Mar del Plata.
a. Economic density of an agglomeration is an estimate of the GDP per km², where the GDP is estimated by nighttime light emissions.
b. Economic growth of an agglomeration is based on GDP growth of the built-up area over the period 1996–2010, where the GDP growth is estimated by the change in nighttime light emissions. See box 4.1 for an overview of nighttime light data and appendix B for the methodology for estimating subnational GDP using nighttime light data.
c. The nighttime lights data used for the estimation of GDP are the Global Radiance Calibrated Nighttime Lights product provided by the National Oceanic and Atmospheric Administration’s (NOAA) National Centers for Environmental Information Earth Observation Group. The latest version of this product is available for download from http://ngdc.noaa.gov/eog/dmsp/download_radcal.html.
This section assesses and compares the sectoral composition of employment across agglomerations. It looks closely at employment in tradable sectors as an indicator of the economic potential and dynamism of local economies. By analyzing the economic structure of the EPH agglomerations, the section seeks to ascertain the extent to which patterns of structural transformation associated with agglomeration economies apply to Argentina (see box 4.3 for an overview of cities’ structural transformation and economic development).

**Figure 4.20 Agglomerations’ Economic Density, \(^a\) 1996, versus Absolute Economic Growth, \(^b\) by Region, 1996–2010**

Sources: Based on INDEC 2014; NOAA.\(^c\)

Notes: Size of the bubble corresponds to population size. GDP = gross domestic product; NTL = nighttime light emissions; \(\text{km}^2\) = square kilometers. The analysis is based on a sample of 29 of the 31 EPH agglomerations excluding Ushuaia and Mar del Plata.

- \(a\). Economic density of an agglomeration is an estimate of the GDP per \(\text{km}^2\), where the GDP is estimated by nighttime light emissions.
- \(b\). Absolute change in GDP of an agglomeration is based on change in GDP of the built-up area over the period 1996–2010, where the GDP change is estimated by the change in nighttime light emissions. See box 4.1 for an overview of nighttime light data and appendix B for the methodology for estimating subnational GDP using nighttime light data.
- \(c\). The nighttime lights data used for the estimation of GDP are the Global Radiance Calibrated Nighttime Lights product provided by the National Oceanic and Atmospheric Administration’s (NOAA) National Centers for Environmental Information Earth Observation Group. The latest version of this product is available for download from http://ngdc.noaa.gov/eog/dmsp/download_radcal.html.

**Sectoral Composition of Employment: Role of Tradable Sectors**

This section assesses and compares the sectoral composition of employment across agglomerations. It looks closely at employment in tradable sectors as an indicator of the economic potential and dynamism of local economies. By analyzing the economic structure of the EPH agglomerations, the section seeks to ascertain the extent to which patterns of structural transformation associated with agglomeration economies apply to Argentina (see box 4.3 for an overview of cities’ structural transformation and economic development).
Box 4.3 Cities’ Structural Transformation and Economic Development Trends

On average, about two-thirds of the jobs in a city are in nontradable sectors. As defined by Turok (2004), this untraded component of the urban economy includes a wide range of services, from education, health care, and public utilities to retailing, entertainment, banking, accountancy, real estate, and security. They are local activities, as they must be located close to the final user for their delivery.

Although higher in number, jobs in nontradable sectors do not drive city prosperity. Instead, city prosperity depends mainly on tradable sectors, which include export-oriented manufacturing as well as high-end services. This component of the economy has significantly more potential for productivity and average income growth and has multiplier effects on the economy, indirectly creating additional jobs in nontradable sectors. Additionally, promoting an enabling environment where human capital and innovation can thrive can contribute to a more stable long-term path to increasing city prosperity.

The structural composition of employment varies with the size and level of a city’s economic development, as agglomerations of different size and level of economic development tend to attract firms that benefit from different types of agglomeration economies (World Bank 2009). Agglomeration economies can take two basic forms: localization economies or urbanization economies. Localization economies are the benefits derived by firms in the same industry from locating next to each other, whereas urbanization economies are the productivity advantages that firms in different industries derive from locating in the same area (see box 2.1 in chapter 2).

The structural composition of employment determines cities’ level of specialization and diversification. A system of cities comprises urban areas with varying degrees of diversity and specialization, which tend to vary with city size. Large cities have, on average, a more diversified economic base than intermediate cities as a result of stronger urbanization economies. Small and intermediate cities tend to have a more specialized economic base as they benefit from localization economies as well as economies of scale (World Bank 2009).

Furthermore, the structural composition of employment varies with the level of city income. The shift from agriculture to traditional manufacturing is characteristic of low-income cities, where the structural transformation is at an incipient stage. As cities’ income levels rise, a second structural transformation occurs with a shift from traditional and mature manufacturing (such as textiles, food, and pulp and paper) to high-end services (such as finance, insurance, and real estate) and high-tech manufacturing industries (such as electronic components and instruments). The World Bank’s report “Competitive Cities for Jobs and Growth: Who, What, and How” (Kilroy and others 2015), which is based on Oxford Economics data, shows that the second structural transformation from traditional manufacturing to high-end services and manufacturing occurs only at relatively high levels of income of US$20,000 GDP per capita. Thus, for most cities, improving productivity is all about improving what they are already good at.

Sources: Kilroy and others 2015; Turok 2004; World Bank 2009.
About 30 percent of urban jobs in Argentina are in tradable sectors—the component of the economy with the highest potential for productivity growth. Because jobs in tradable sectors hold the highest potential for productivity growth, they have an important multiplier effect on the overall economy. The percentage of jobs in tradable sectors is an important indicator of the economic potential and dynamism of a local economy. Consistent with the definition used by the World Bank (2015) and Turok (2004), the tradable sectors—for the purpose of the analysis—include all manufacturing employment (excluding construction), as well as high-end services (business, finance and real state services, and transport, storage, communications and information technology.) (Kilroy and others 2015).

The remaining 70 percent of urban jobs in Argentina are in nontradable sectors, that is, services that are provided and consumed locally and that are insulated from regional and international competition (see figure 4.21).

Very limited variation exists in the tradable sectors’ contribution to employment across agglomerations categorized by their size (see box 1.1 in chapter 1 and appendix A for a description of city size categories used in the report). The share of employment in manufacturing ranges from 10 percent in large cities to 16 percent in metropolitan Buenos Aires. However, more pronounced differences occur in the contribution of high-end services to employment across city size categories. As expected, high value-added services are a more important

**Figure 4.21 Employment Composition, by Agglomeration Size, 2012–14 Average**

![Employment Composition Diagram](image)

**Sources:** Based on INDEC 2012, 2014.

**Notes:** The sample includes the 31 EPH agglomerations. The sample is not representative of large, intermediate and small agglomerations because of the small sample size. The number of agglomerations in each category is as follows: metropolitan Buenos Aires, top five agglomerations (populations of 700,000–1.5 million), 10 large agglomerations (populations of 300,000–700,000), 11 intermediate agglomerations (populations of 100,000–300,000), and 4 small agglomerations (populations of 50,000–100,000). For each agglomeration, employment is the average of four observations corresponding to the period 2012–14. The employed population is estimated on the basis of the number of ocupados, defined by INDEC as those people older than age 10 who worked for at least one hour during a one-week reference period. Transport and communications include transportation, storage, communications and information technology.
source of employment in metropolitan Buenos Aires (19 percent) than in small cities (11 percent). Significant differences also exist in the percentage of employment in tradable sectors across regions. The share of employment in tradable sectors is smallest in the sampled agglomerations in the northern regions (17 percent in the Northeast region and 21 percent in the Northwest region) and highest in metropolitan Buenos Aires (35 percent) (see figure 4.22).

International benchmarking was carried out to compare the share of jobs in tradable sectors in metropolitan Buenos Aires with comparator cities. Box 4.4 describes the choice of comparator cities based on population size, GDP, and economic structure. Metropolitan Buenos Aires has lower employment in tradable sectors compared with the average for both direct comparator cities and best-practice comparator cities (see figure 4.23). The difference is more striking for high-end services; metropolitan Buenos Aires has 19 percent of employment in high-end services, the same as the average for direct comparator cities but considerably below the average (38 percent) in best-practice comparator cities.

The gap between the top five agglomerations and comparator cities is narrower than for metropolitan Buenos Aires. On average, the top five agglomerations have lower employment in tradable sectors compared with the average for both direct and best-practice comparator cities (see figure 4.24). Since employment in tradable sectors drives city prosperity, the results suggest that metropolitan Buenos Aires and the top five agglomerations may be at a greater disadvantage than comparable cities in leveraging the benefits of agglomeration economies.
Box 4.4 Benchmarking Analysis: Oxford Economics Data and Selection of Comparator Cities

The benchmarking analysis of city economies is based on economic indicators from the Oxford Economics (OE) dataset 2000–12. The database covers 750 cities—defined in the data set as metropolitan areas—across 140 different countries. The cities were selected from the United Nations’ list of agglomerations with at least 750,000 inhabitants and then supplemented with other strategic cities, such as country capitals. The data set contains 13 years of historical data, from 2000–12 for most cities; it includes 90 different variables covering demographics, output, productivity and employment (each by sector), household income, consumer spending, and retail sales.

The benchmarking analysis uses city-level output, productivity, and employment data from the Oxford Economics dataset 2000–12. Oxford Economics’ methodology for estimating productivity varies, depending on available city-level data. Where city-level gross domestic product (GDP) data exist, they are used directly. Where those data are unavailable, city-level output, productivity, and employment data are scaled down (from national or regional level) or scaled up (from narrower city definitions) using the closest matching GDP or gross value added data and population data. Generally, scaling is done by deriving employment estimates by sector. Then, city productivity is estimated from available national or regional productivity estimates and is adjusted to reflect likely productivity differentials between the country or region and the city. The adjusted productivity estimates are applied to city employment to arrive at a city’s gross value added by sector.

The Oxford Economics dataset 2000–12 contains information for seven of the largest agglomerations in Argentina (metropolitan Buenos Aires, La Plata, Córdoba, Rosario, Mendoza, San Miguel de Tucumán, and Salta). The data were used to compare GDP trends in these agglomerations and their contribution to the national GDP. Official employment statistics from INDEC’s Permanent Household Survey have been used to complement Oxford Economics’ data. The Oxford Economics dataset 2000–12 was used to benchmark these agglomerations against other urban areas in the world. In the case of metropolitan Buenos Aires, three direct comparators (Bangkok, Istanbul, and São Paulo) were selected on the basis of comparable GDP per capita and similar economic structure estimated based on employment data, while ensuring coverage from different regions. Additionally, three best-practice comparators (London, Paris, and Seoul) were selected on the basis of comparable population size and higher GDP per capita. Similarly, direct comparators and best-practice comparators were selected to benchmark the top five agglomerations with a population exceeding 700,000 based on similar criteria. The selected direct comparators are Mérida (Mexico), Arequipa (Peru), and Port Elizabeth (South Africa), and the best-practice comparators are Calgary (Canada), Essen (Germany), and Ulsan (Republic of Korea).

Figure 4.23 Employment Composition in Metropolitan Buenos Aires and Comparator Cities, 2012

Notes: Oxford Economics’ data for comparator cities include construction sector employment within the industry category; to ensure consistency with this data for comparator cities, construction has also been included in the industry category for metropolitan Buenos Aires. The percentage of employment in tradable sectors is therefore likely to be an overestimate. Transport and communications include transportation, storage, communications and information technology. Direct comparator cities for metropolitan Buenos Aires are São Paulo, Bangkok, and Istanbul; best-practice comparators are Paris, London and Seoul. (see box 4.4 for the selection methodology).

Figure 4.24 Employment Composition in Top Five Agglomerations and Comparator Cities, 2012

Notes: Oxford Economics’ data for comparator cities include construction sector employment within the industry category; to ensure consistency with this data for comparator cities, construction has also been included in the industry category for the top five agglomerations. The percentage of employment in tradable is therefore likely to be an overestimate. Transport and communications include transportation, storage, communications and information technology. Direct comparator cities for Argentina’s top five cities are Mérida (Mexico), Arequipa (Peru) and Port Elizabeth (South Africa); best-practice comparators are Calgary (Canada), Essen (Germany), and Ulsan (Republic of Korea) (see box 4.4 for the selection methodology).
Distinct patterns exist in the composition of manufacturing employment across city size categories. On the one hand, metropolitan Buenos Aires has the largest share of manufacturing employment in the textiles sector across all regions, with textiles accounting for 32 percent of total manufacturing employment in the metropolitan area. On the other hand, large and intermediate cities with populations in the range of 100,000 to 700,000 have the largest share of employment in resource-based sectors, including agroprocessing and extractive industries.

Large agglomerations have the largest share of manufacturing employment in agroprocessing across city size categories, with agroprocessing accounting for 28 percent of total manufacturing employment, followed by the top five agglomerations and intermediate cities. Intermediate cities have the largest percentage of employment in extractive industries (12 percent). Furthermore, employment in extractive industries is regionally concentrated in the Patagonia region, in agglomerations such as Comodoro Rivadavia, Neuquén, and Río Gallegos, which have the largest share of manufacturing employment in the extractive industries sector among the EPH agglomerations. The largest share of employment in other manufacturing is observed in small cities (see figure 4.25).

Figure 4.25  Agglomerations’ Composition of Employment in Manufacturing, by Agglomeration Size, 2012–14 Average

Sources: Based on INDEC 2012, 2014.
Notes: The textile sector includes manufacturing of textiles, garments, leather, and leather goods. Agroprocessing includes manufacturing of food, beverages, and tobacco. Other manufacturing includes manufacturing and assembly of machinery, electronics, furniture, cars and transport equipment, chemical manufacturing, and metallurgy. The construction sector is excluded. The sample includes the 31 EPH agglomerations. Average employment by sector for the 31 EPH agglomerations is as follows: extractive industries (3 percent), textiles (28 percent), agroprocessing (18 percent), and other manufacturing (51 percent). The sample is not representative of large, intermediate and small agglomerations because of the small sample size. The number of agglomerations under each category is as follows: metropolitan Buenos Aires, top five agglomerations (populations of 700,000–1.5 million), 10 large agglomerations (populations of 300,000–700,000), 11 intermediate agglomerations (populations of 100,000–300,000), and 4 small agglomerations (populations 50,000–100,000). For each agglomeration, employment is the average of four observations corresponding to the period 2012–14. The employed population is estimated based on the number of ocupados, defined by INDEC as those people older than age 10 who worked for at least one hour during a one-week reference period.
Metropolitan Buenos Aires has a large share of employment in the public sector—at 26 percent of total city employment, above the share in direct comparator and best-practice comparator cities, which have 15 percent and 20 percent of public sector employment, respectively (see figure 4.23); smaller cities have an even larger share of employment in the public sector (see figure 4.21). The share of public employment ranges from 26 percent of total city employment in metropolitan Buenos Aires to 41 percent in small agglomerations. Furthermore, smaller cities tend to have a larger share of people employed in public administration, which have the weakest links with agglomeration economies (see figure 4.26). Notably, more than 50 percent of the public sector jobs in small cities are in public administration. There are also marked regional variations in the contribution of the public sector to city-level employment. Agglomerations with the largest share of public administration employment within the public sector are those in the northern regions (45 percent in the Northeast region and 40 percent in the Northwest region) and in the Patagonia region (46 percent), compared with an average of 31 percent for the EPH agglomerations.

The literature suggests that a city’s level of specialization varies with size: large cities benefiting the most from urbanization economies tend to have a more diversified economic base, whereas small and intermediate cities tend to be more specialized as they benefit more from localization economies.
(see box 4.3). In Argentina, there are no strong patterns of specialization across city size categories. No significant difference exists in the degree of specialization of cities with different sizes. The Herfindahl-Hirschman Index (HHI)\textsuperscript{22} of specialization for the EPH agglomerations is not strongly correlated with city size (see figure 4.27).\textsuperscript{23} The analysis shows that the HHI is broadly the same across city size categories. The average HHI for the EPH agglomerations is 0.09 for the 2012–14 period. The specialization of Argentina’s EPH agglomerations is comparable to the specialization of Brazilian cities of similar size. Cities with more than 100,000 inhabitants in Brazil had an HHI of around 0.1 in 2008, similar to those in Argentina (World Bank 2013).

However, a more in-depth analysis including smaller agglomerations (with populations below 100,000) would be needed to assess differences and changes in the degree of specialization across city size categories in the Argentine urban system. For example, empirical evidence suggests that comparable countries like Brazil show a more distinct pattern of specialization and diversification when looking at the entire system of cities. In Brazil between 1995 and 2008, the HHI increased in small cities with a population under 50,000,\textsuperscript{24} indicating an increase in the pattern of specialized production activities in the smaller cities when compared with larger cities, whose HHI remained unchanged.

**Figure 4.27 Herfindahl-Hirschman Index and Agglomerations’ Population, 2003–14**

*Sources:* Based on INDEC 2012, 2014.

*Notes:* The Herfindahl-Hirschman Index is the sum of the square of the employment shares of each sector in the agglomeration. It gives greater weight to larger sectors, reaching a value of 1.0 when employment is concentrated in one sector. It was calculated based on employment data from the EPH agglomerations for 18 sectors following the International Standard Industrial Classification (ISIC), revision 3. The graph excludes metropolitan Buenos Aires. For the three agglomerations of San Nicolás de los Arroyos, Rawson, and Viedma, data were not available for 2003–05, so data from 2006–08 were used instead for the earlier period.

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**Employment Growth Drivers of Agglomerations**

The previous section provided a snapshot of the employment structure of the EPH agglomerations; this section complements the analysis with an assessment of the employment growth drivers of the economies in these agglomerations.

A key element to understanding the evolving structure of urban economies is the identification of the sectors in which the employment growth drivers lay. To provide a complete picture of the economic base of agglomerations, the following sectors are identified and compared across city size categories: (a) employment growth drivers (key sectors with a larger-than-average share of employment and above-average growth in employment); (b) emerging sectors (dynamic sectors with a smaller-than-average share of employment but with above-average employment growth); and (c) important sectors in decline (sectors with a larger-than-average share of employment but with below-average employment growth). The comparison is done by plotting sector importance against employment growth. Sector importance is proxied by the location quotient (LQ)—a measure of the concentration of economic activity in certain sectors within urban areas (see the methodology in box 4.5).

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**Box 4.5 Location Quotient and Employment Growth Rate Analysis**

Location quotient (LQ) analysis is a measure of the concentration of economic activity in certain sectors within urban areas. The LQ is a useful tool for identifying clusters and highly concentrated sectors. The LQ compares the share of local employment with the share of national employment in a given sector. An LQ below 1 indicates that the area is less specialized in a particular sector than the country as a whole; an LQ above 1 indicates that the sector is more concentrated in the area than in the country as a whole. The interaction between the LQ and the below-average and above-average employment growth is used to determine the importance of a particular sector in the local economy.

The upper right-hand quadrant of figure B4.5.1 includes the employment growth drivers—sectors with both high LQs and above-average employment growth. Local development strategies may focus on these sectors to create or maintain adequate economic dynamism. The upper left-hand quadrant includes sectors with LQs above 1 and declining employment growth. These declining sectors provide opportunities to strengthen important areas of the local economy. The lower right-hand quadrant shows emerging sectors with LQs below 1 but with rapidly growing employment. These sectors represent possibilities in employment as growth generators in the local economies and as potential emerging clusters. The lower left-hand quadrant presents sectors with low LQs and below-average employment growth. They represent the least promising sectors for local economies.

In Argentina, the LQ was calculated from the second semester of 2012 to the first semester of 2014 for the EPH agglomerations. Employment growth was calculated as the growth in the sector at the agglomeration level minus the sector growth at the aggregate level; the initial

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*box continues next page*
period used was the second semester of 2003 to the first semester of 2005 included in the EPH data. The LQ analysis is based on a grouping of 18 sectors: agriculture, fishing, agroprocessing, extractive industries, textiles, other manufacturing, construction, utilities, commerce, restaurants and hotels, transport and communications, finance, business and real estate services, public administration, education, health and social services, other services, and domestic services.

Notes: a. Metropolitan Buenos Aires is split between the city of Buenos Aires and peri-urban metropolitan Buenos Aires. b. Employment growth is estimated using the number ofocupados, defined by INDEC as people (older than 10) who worked for at least one hour over a reference period (one week). c. For three of the agglomerations (Rawson, San Nicolás de los Arroyos, and Viedma), the period from the second semester of 2006 to the first semester of 2008 was used, as those agglomerations were only included in the INDEC’s Permanent Household Survey (Encuesta Permanente de Hogares, or EPH) in 2006 (INDEC 2012).

The analysis shows a stark difference in the growth dynamics of the city of Buenos Aires and peri-urban metropolitan Buenos Aires; the results confirm the city of Buenos Aires’ important role as a cultural and service center. High-end services and education are the main drivers of growth in the city of Buenos Aires (see figure 4.28). Business and real estate services are in decline, whereas other high-end services (finance, transport and communications) are growing. In contrast with the growth dynamics of the city of Buenos Aires, and in spite of its economic and demographic importance, peri-urban metropolitan Buenos Aires does not have strong employment growth drivers in tradable sectors. These peri-urban areas exhibit only one employment growth driver in the textiles
sector—a low-technology manufacturing sector (see figure 4.29); other manufacturing sectors, which account for the bulk of manufacturing employment in peri-urban areas, are in decline. The emerging clusters in peri-urban metropolitan Buenos Aires are mostly consumer (nontradable) services, which include utilities, and hotels and restaurants. The growth in consumer services is most likely driven by the sustained population growth and migration in-flows in the peri-urban areas of metropolitan Buenos Aires.

The limited number of employment growth drivers in tradable sectors in peri-urban metropolitan Buenos Aires raises concerns about the international competitiveness of the metropolitan area. It suggests that employment generation in peri-urban areas of metropolitan Buenos Aires—sustained by strong demographic growth and in-migration rates—may not have been in the most productive sectors. Given the strong correlation between human capital and productivity in metropolitan areas of high-income countries, the priority for metropolitan Buenos Aires is to promote an enabling environment where human capital and innovation can thrive. Such an enabling environment would
support the diversification of the metropolitan economy and promote a shift to the higher value-added emerging clusters identified in the LQ and employment growth analysis.

The top five agglomerations have employment growth drivers in high-end services, as expected given their large economies (see figure 4.30). For example, the employment growth drivers in Rosario include finance; business and real estate services; and transport, and communications. Another important tradable sector for the top five agglomerations is agroprocessing. Agroprocessing is an employment growth driver in three of the top five agglomerations (Rosario, Mendoza, and San Miguel de Tucumán) and an emerging sector in the other two (La Plata and Córdoba).

Furthermore, several manufacturing activities are emerging clusters in the top five agglomerations. The extractive industries are an emerging sector in Córdoba and San Miguel de Tucumán; textiles in Mendoza, Córdoba, and San Miguel de Tucumán; and other manufacturing in La Plata and Mendoza. The results suggest that appropriate strategies and policies are needed to
Figure 4.30 Employment Growth Drivers, by Agglomeration Size, 2003/05–2012/14

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Sources: Based on INDEC 2012, 2014.
Notes: (1) See box 4.5 for a definition of employment growth driver and a description of the methodology. (2) Analysis includes the 31 EPH agglomerations. The sample is not representative of large, intermediate and small agglomerations because of the small sample size. The number of agglomerations under each category is as follows: metropolitan Buenos Aires, top five agglomerations (populations of 700,000–1.5 million), 10 large agglomerations (populations of 300,000–700,000), 11 intermediate agglomerations (populations of 100,000–300,000), and 4 small agglomerations (populations of 50,000–100,000); 2010 population of the agglomerations is within brackets. (3) The average over four semesters of a period of three years is taken as the base period (2003 second semester to 2005 first semester) and end period (2012 second semester to 2014 first semester) of the analysis. (4) Textiles include the manufacturing of textiles, garments, leather, and leather goods. Transport and communications include transportation, storage, communications and information technology. Commerce includes retail, wholesale, and services to repair motor vehicles and personal and household goods.
boost the local and regional economic base and to remove the barriers to growth of emerging clusters in the top five agglomerations. Particular attention should be paid to the dynamics in emerging manufacturing sectors to enable their growth, as well as in the other high value-added emerging clusters identified in the LQ and employment growth analysis, including construction.

Large and intermediate cites have employment growth drivers in resource-based manufacturing. The LQ and employment growth analysis identifies resource-based manufacturing—namely, agroprocessing and extractive industries—as employment growth drivers in large and intermediate agglomerations (see figure 4.30). A high dependency on export-oriented, resource-based industries can, however, make local economies vulnerable to changes in global demand and commodities prices (see box 10.3 in chapter 10 for lessons learned from international experience of resource-rich cities and countries). For example, analysis indicates that the extractive industries are an important sector in decline in Comodoro Rivadavia in the Patagonia region. The decline is expected to have a significant negative effect on job creation in the agglomeration, given its large share of manufacturing employment in the sector.

Other employment growth drivers in large and intermediate agglomerations are public administration and construction (see figure 4.30). Relying excessively on these two sectors as employment growth drivers raises questions regarding the sustainability of job creation in the long term. The analysis shows, however, that local economies are diversifying, as sectors such as agroprocessing, textiles, and other manufacturing are emerging in many large and intermediate agglomerations and could become sustainable employment growth drivers in the future with appropriate policies.

Education is an employment growth driver in many intermediate cities and selected large cities, such as Santa Fe, San Salvador de Jujuy, Mar del Plata, Paraná, and La Rioja. However, in several large cities, such as Resistencia, Corrientes, Neuquén, and Salta, education is an important sector in decline. The decline is concerning in light of the role of human capital in fostering agglomeration economies.

Agglomerations in the northern regions have no employment growth driver in tradable sectors, with the exception of agroprocessing in agglomerations in the Northwest region. The main employment growth drivers in agglomerations in the northern regions are public administration, commerce, and construction (see figure 4.31). The results indicate that employment growth in these agglomerations has not been accompanied by equally important growth in productivity. The findings thus confirm concerns about sustainability of pro-poor employment growth in the northern regions, given that employment growth is led by highly cyclical sectors. The livability index presented in chapter 11 further reinforces these concerns, as it shows that agglomerations in the Northeast region still lag behind in critical areas such as percentage of working professionals and informality in spite of the strong employment growth. The results are also consistent with the findings of the migration analysis in chapter 3—the limited employment opportunities in
high-productivity sectors are most likely one of the push factors driving out-migration from the northern regions.

Building an enabling environment for private sector employment growth in tradable sectors will be critical for long-term economic growth and poverty reduction in the northern regions. Manufacturing features as an emerging sector in these agglomerations, signaling the potential for manufacturing growth. Agglomerations in the Northeast and Northwest regions also show potential for growth in high-end services such as business and real estate services, transport and communications, which are emerging sectors in both regions (see figure 4.32).

In agglomerations in the Patagonia region, employment growth is driven by the extractive industries. Another important employment growth driver is construction, which is most likely the result of the boom in the extractive industries and the associated strong population growth and migration flows (see figure 4.31). The rapid growth of agglomerations in the Patagonia region raises concerns about the sustainability of the growth dynamics and associated territorial expansion. The significant growth of extractive industries in the

**Figure 4.31 Regional Employment Growth Drivers, Selected Agglomerations, 2003/05–2012/14**

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| Northeast                 | | | | | |
| Patagonia                 | | | | | |

Sources: Based on INDEC 2012, 2014. Notes: See box 4.5 for a definition of employment growth driver and a description of the methodology. Analysis includes the 31 EPH agglomerations. With the exception of metropolitan Buenos Aires, the sample is not representative at the regional level because of the small sample size. The number of agglomerations in each region is as follows: metropolitan Buenos Aires (1), Pampeana (11), Cuyo (3), Northeast (4), Northwest (6), and Patagonia (6). The average over four semesters of a period of three years is taken as the base period (2003 second semester to 2005 first semester) and end period (2012 second semester to 2014 first semester) of the analysis. Textiles include the manufacturing of textiles, garments, leather, and leather goods. Transport and communications include transportation, storage, communications and information technology. Commerce includes retail, wholesale, and services to repair motor vehicles and personal and household goods. a. Blue filled-in squares correspond to employment growth drivers in the city of Buenos Aires and blue outline squares correspond to employment growth drivers in peri-urban metropolitan Buenos Aires.
Patagonia region also needs to be managed to support economic diversification. International evidence highlights the importance of diversification of resource-rich economies to mitigate the risk of international demand and price volatility. Resource-rich cities tend to develop industrial structures with systematically larger establishments, which can crowd out the entrepreneurial activity that generates long-term growth (see box 10.3 in chapter 10 for lessons learned from international experience of resource-rich cities and countries and chapter 10 for a description of local economic development policies to support the diversification of resource-rich economies). In this respect, the emergence of agroprocessing and other manufacturing sectors in agglomerations in the Patagonia region is promising, as it indicates an incipient process of diversification of local economies (see figure 4.32). Although the share of public sector employment is large in agglomerations in the Patagonia region and the northern regions, the growth trajectories of the sector are different in the two regions: public administration is an important sector in decline in the Patagonia region, whereas it remains one of the main employment growth drivers of agglomerations in the northern regions.
Notes

1. Regression analysis shows a positive and significant relationship between economic activity and nighttime light emissions at the province level in Argentina. See appendix B for the methodology for estimating subnational GDP using nighttime light data.

2. Estimations for the 26 agglomerations are based on data from the Permanent Household Survey (INDEC 2012). The built-up areas were estimated by Torcuato Di Tella University (UTDT-CIPUV 2013). The employment data are based on INDEC (2010). Employed population is estimated using the number of ocupados defined by INDEC as people (older than 10) who worked for at least one hour over a reference period of one week. They include (a) people who worked at least one hour, whether or not they were paid (in cash or in kind) for such activity; and (b) people who had a job, but who were temporarily not working and maintained a formal attachment to their job. This last group includes people who did not work during the week because of holidays, sick leave, or other types of leave; who were suspended with pay; or who were absent for other work-related causes (inclement weather, mechanical breakdowns, shortages of raw materials, and so on). Also included in this category are those who had a business or company and did not work for circumstantial reasons during the reference period. Note that employment figures in the group of 10-year-olds to 14-year-olds are virtually zero.

3. For this estimation, the part of Buenos Aires Province that officially belongs to the Pampeana region is excluded, as the Gross Provincial Product (GPP) were available at the province level and could not be further disaggregated.

4. When presenting GDP data at the city level, this section focuses on six of the largest agglomerations (metropolitan Buenos Aires, Rosario, Córdoba, La Plata, Mendoza, and San Miguel de Tucumán) for which data are available in the Oxford Economics dataset 2002–12. See box 4.4 for more information on the Oxford Economics dataset and methodology.

5. Population information is based on INDEC (2010), and GDP information comes from the Oxford Economics dataset 2002–12. The top five agglomerations contribute to GDP as follows: Rosario (3.8 percent), Córdoba (3.5 percent), La Plata (1.8 percent), Mendoza (1.7 percent), and San Miguel de Tucumán (0.8 percent).


7. Excluding city-states and small islands. The data reported here were obtained from the Oxford Economics dataset 2002–12 and analyzed by the World Bank. See box 4.4 for information about the Oxford Economics dataset. For information on Oxford Economics, see oxfordconomics.com.


10. Ibid.


12. The analysis is based on the moderate poverty line of US$4.00 per day (2005 purchasing power parity) for the EPH agglomerations surveyed by INDEC (2012). The same trends were found using the extreme income poverty line of US$2.50.

13. The Shapley decomposition of poverty changes shows the contribution of the different income sources in reducing poverty. For a detailed explanation of the
methodology and results for the Latin America and Caribbean region, see Castañeda and others (2015). In this exercise, poverty is measured as the share of the population living on less than US$4 a day.

14. The labor income and other income component aggregates the contributions of labor income and the share of working females and males in the household, as well as the demographic effect of the dependency ratio in Argentine urban households. Labor income and the share of people employed are calculated only for adults with ages between 15 and 69.

15. The estimated coefficient for the control variables behaves as expected, which gives further reassurance about the specification of the econometric model. The inclusion of an instrumental variable may improve the robustness of the regression exercise to account for possible correlation among explanatory variables and could be the subject of future research.

16. The absolute growth implied by the estimated elasticity on productivity is different depending on the initial productivity levels. For example, an average household in an agglomeration in the Pampeana region (with an average hourly wage of Arg$46.34) would see its wage increase by 1.5 percent (which implies an absolute growth of Arg$0.69, for a new wage of Arg$47.03) with an increase of 10 percent in its employment density. An average household in metropolitan Buenos Aires, with an hourly wage of Arg$53.01, would have higher absolute growth even if it had the same high elasticity (it would have an absolute growth of Arg$0.75, for a new wage of Arg$53.80).

17. Annual growth is calculated for each variable according to data availability: growth in nighttime light emissions per area is calculated for the years 1996–2010, population growth is calculated for the years 2001–10.

18. Two types of convergence are observed in the empirical analysis of economic growth: (a) β-convergence, when the correlation between income growth over time and its initial level is negative, and (b) σ–convergence, when the dispersion of income per capita across a group of economies decreases over time (Young and others 2008).

19. Because of the limited number of households surveyed in the EPH agglomerations, it was not possible to disaggregate service employment data further. Thus, employment in high-end services may have been overestimated since some non-tradable local services such as banking and real estate are included under high-end services.

20. Manufacturing is disaggregated in the following sectors: agroprocessing, textiles, extractive industries, and other manufacturing. Further disaggregation was not possible because of sample size.

21. The textile sector includes the manufacturing of textiles, garments, leather, and leather goods.

22. The HHI is the sum of the square of the employment shares of each sector in the agglomeration. It gives greater weight to larger sectors, reaching a value of 1.0 when employment is concentrated in one sector. It was calculated using employment data from the EPH agglomerations for 18 sectors following the International Standard Industrial Classification (ISIC), revision 3.

23. The results need to be treated with caution, however, since the sample of cities includes only 31 agglomerations, of which only 4 are small (under 50,000).
24. The HHI increased from 0.37 to 0.41 in cities with population under 20,000 and from 0.25 to 0.28 in cities with population between 20,000 and 50,000 (World Bank 2013).

25. In the least well-educated third of metropolitan areas, virtually no connection exists between city size and productivity or income (Glaeser and others 2009).

References


Chapter 5

Urban Expansion Patterns

Summary
This chapter analyzes urban physical expansion trends in Argentina. Expansion of agglomerations in Argentina accelerated during the 2001–10 decade compared with the previous decade. Agglomerations expanded their built-up areas at a higher rate than their population grew, and they experienced a parallel decline in the population density of their built-up areas. The predominant low-density expansion pattern of Argentine cities is not driven by economic dynamism, that is, cities' growth in gross domestic product (GDP) (proxied by change in nighttime light emissions in this study). Rather, it is caused by institutional weaknesses. And sprawl reduces the benefits of agglomeration economies, thus deterring productivity. The analysis shows a negative and statistically significant effect of sprawl on economic density, that is, GDP per area (proxied by nighttime light emissions per square kilometer [km²]): as a result of sprawl, firms lose out on the positive externalities that are associated with economic density.

International benchmarking finds that Argentine agglomerations experienced a greater decline in population density of built-up areas than comparable Organisation for Economic Co-operation and Development (OECD) cities over 2001–10. Most of the expansion of Argentine agglomerations has happened by extension, that is, outward development in areas adjacent to the existing urban area. Metropolitan Buenos Aires has experienced a marked change in its pattern of territorial expansion in the decade 2001–10, with significant peri-urbanization and sprawl. Metropolitan Buenos Aires is expanding into low-density, fragmented, and spatially segregated forms that are characterized by isolated gated communities and low-income settlements marginalized to the periphery. Most top five agglomerations have also experienced very limited or negative growth in their inner cores, with most of the population growth occurring in peri-urban areas.
**Introduction**

This chapter presents empirical evidence on urban expansion patterns characterizing Argentine cities. It analyzes the evolution of the predominant pattern of low-density expansion and its effect on cities’ ability to leverage the benefits of agglomeration economies. The empirical evidence presented in the chapter draws on the results of a study carried out by the Research Center for Urban Policy and Housing at the Torcuato Di Tella University in Argentina (Goytia 2015). The study analyses urban expansion patterns for 26 of the 31 agglomerations sampled in the Permanent Household Survey (Encuesta Permanente de Hogares, or EPH) of the National Institute of Statistics and Censuses (INDEC) using population census data and satellite imagery over the decade 2001–10, and compares the results with those of a previous study analyzing urban expansion patterns for the same 26 agglomerations over the period 1990–2001 (Torcuato Di Tella University 2013). See box 5.1 for an overview of the sample and the methodology.

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**Box 5.1 Urban Expansion Analysis—Methodology**

This chapter presents the results of a study on urban expansion patterns carried out by the Research Center for Urban Policy and Housing at the Torcuato Di Tella University (Goytia 2015). The study covers a sample of agglomerations for the period 2001–10 on the basis of population census data and satellite imagery and compares the results with those of an earlier study for the period 1990–2001 on the basis of the same methodology (Torcuato Di Tella University 2013).

The analysis was carried out for 26 agglomerations included in the Permanent Household Survey (Encuesta Permanente de Hogares, or EPH) carried out by the National Institute of Statistics and Censuses (INDEC). Although the sample is not fully representative of all urban areas, it represents about 62 percent of the total population and 68 percent of the urban population in 2010. The sample includes 24 of the 31 agglomerations with more than 100,000 people, and 2 agglomerations with populations below 100,000 (the provincial capitals of Viedma and Rawson). Five agglomerations included in the EPH could not be analyzed because complete information was not available for performing satellite image reading. Those cities are Río Cuarto, Concordia, San Nicolás de los Arroyos, Río Gallegos, and Ushuaia.

To match the physical extension of the city with the population census data, the analysis calculated population density on the basis of population census data for 2001 and 2010 and on the geographical areas of the agglomerations defined by the EPH (see table A.3 in appendix A for the geographical definition of agglomerations). However, INDEC’s official demarcation of agglomerations does not always include the total extension of the built-up area, that is, of the urban footprint; therefore, sprawl could go beyond the limits of the agglomerations considered for the analysis in some cases.

For the purpose of comparing sprawl across agglomerations, the sprawl index is computed as the difference between the average annual growth of the built-up area and the average annual population growth in the agglomeration. The index measures the increase
The chapter is organized in four sections. The first section analyzes urban expansion trends over the period 1990–2010 of a sample of 26 agglomerations. Agglomerations have expanded their built-up areas by 36.0 percent (3.5 percent annually) over the period 2001–10 and have incorporated a total of 1,023 km² of built-up land. On average, the built-up area growth rate of the surveyed agglomerations was 2.9 times higher than population growth (1.3 percent annually) for the decade 2001–10, and higher than the expansion experienced in the previous period (1990–2001), when the physical increase was 27.0 percent (2.4 percent annually). Yet, even in 1990–2001, the surveyed agglomerations added 597 km² to the 2,214 km² existing at the beginning of the 1990s, and the rate of annual growth of their built-up areas, was 2.4 times higher than population growth, at 1.0 percent per year.

The extent of agglomerations’ territorial expansion in Argentina shows important differences across agglomerations and within regions. The agglomerations

**Box 5.1 Urban Expansion Analysis—Methodology (continued)**

in the built-up area relative to a benchmark where the built-up area would have increased in line with population growth. The sprawl index is equal to zero when both the population and the built-up area are stable over time. It is greater than zero when the growth of the built-up area is greater than the growth of the area’s population, that is, the population density has decreased, and it is smaller than zero when the area has increased less than population (OECD 2015).

Furthermore, patterns of urban expansion are analyzed and classified in the following categories based on Angel and others 2010:

- **Infill.** New development takes place in all the open spaces contained in the existing urban area.
- **Extension.** New development takes place in contiguous clusters immediately adjacent to the existing urban area.
- **Leapfrog.** Development skips out and away from the existing urban area, leaping over swaths of open space.

_Sources:_ Angel and others 2010; Goytia 2015; OECD 2015.

**Expansion Trends of Agglomerations**

Argentina’s agglomerations have expanded faster than population growth. Agglomerations have expanded their built-up areas by 36.0 percent (3.5 percent annually) over the period 2001–10 and have incorporated a total of 1,023 km² of built-up land. On average, the built-up area growth rate of the surveyed agglomerations was 2.9 times higher than population growth (1.3 percent annually) for the decade 2001–10, and higher than the expansion experienced in the previous period (1990–2001), when the physical increase was 27.0 percent (2.4 percent annually). Yet, even in 1990–2001, the surveyed agglomerations added 597 km² to the 2,214 km² existing at the beginning of the 1990s, and the rate of annual growth of their built-up areas, was 2.4 times higher than population growth, at 1.0 percent per year.
that experienced the most significant expansion of their built-up areas are located in the Northwest region. Among the surveyed agglomerations, San Fernando del Valle de Catamarca experienced the most significant annual growth in built-up area (7.0 percent), followed by San Salvador de Jujuy (6.1 percent) and La Rioja (5.4 percent), over the 2001–10 period. The territorial expansion of both Comodoro Rivadavia and Rawson—two agglomerations in the Patagonia region that experienced annual growth in built-up areas of 5.3 percent and 5.1 percent, respectively—is notable, in particular when compared with the much lower expansion of other agglomerations in the region, including Viedma (1.9 percent) and Neuquén (3.0 percent). In the Cuyo region, San Luis and San Juan experienced above-average expansion in their built-up areas (4.5 percent and 5.3 percent, respectively), and Mendoza registered below-average territorial growth. In addition to Viedma in the Patagonia region, the cities with the lowest territorial growth rates include Corrientes and Posadas (0.8 percent and 1.6 percent, respectively) in the Northeast region and Córdoba and Rosario (2.4 percent and 2.6 percent, respectively) in the Pampeana region.

The population density of built-up areas declined in most agglomerations between 2001 and 2010. Figure 5.1 compares the population density of the 26 agglomerations in 2001 and 2010. The average density of the agglomerations declined from around 9,100 inhabitants per km² in 1990, to 7,900 in 2001, and to 6,500 in 2010. In 2010, Rawson had the lowest population density (2,575 inhabitants per km²), followed by La Rioja (2,862 inhabitants per km²), and by Santa Rosa and La Plata (each with 3,542 inhabitants per km²). By contrast, metropolitan Buenos Aires had the highest density (7,979 inhabitants per km²), followed by Corrientes (7,176 inhabitants per km²).

During 2001–10, all surveyed agglomerations except Corrientes experienced a decline in the population density of their built-up areas. On average, the agglomerations decreased in density by 2.2 percent annually. San Fernando del Valle de Catamarca had the largest decline in population density (an average annual decline of 5 percent), followed by San Salvador de Jujuy (4.6 percent). Corrientes, with 346,000 inhabitants, is the only agglomeration that experienced an increase in population density, from 7,036 to 7,176 inhabitants per km². Posadas experienced a minor decrease (0.1 percent) in density. In both Corrientes and Posadas, a significant territorial expansion during 1990–2001 was followed by higher-density development during 2001–10. In the case of Corrientes, for example, 55 percent of the new development in 2001–10 was due to infill. Figure 5.2 compares the average annual growth rate of built-up areas and population for the 26 agglomerations. The comparison shows the important territorial expansion that most of the agglomerations experienced over 2001–10.

International experience shows that, on average, density of built-up areas is consistently declining across cities. For example, Angel, Parent, Civco, and Blei (2010) find that population densities of built-up areas in a global sample of 120 cities with populations above 100,000 declined at an average long-term annual rate of 1.0–1.5 percent over 1990–2000, a higher rate than that of metropolitan Buenos Aires over the same period (0.8 percent annually). However, Argentine
Figure 5.1  Population Density of Selected Agglomerations, 2001 and 2010

Sources: Based on INDEC 2010; Goytia 2015.
Notes: Bubble size corresponds to population density, which is calculated as population per square kilometer (km²) of built-up areas. The analysis is based on a sample of 26 agglomerations.
agglomerations experienced a greater decline in population density of built-up areas than comparable OECD cities over 2001–10. OECD capital cities with populations above 500,000 experienced a decline in the population density of their built-up areas of 0.15 percent annually over the period 2000–06, with an average density of 4,406 inhabitants per km² in 2006. Figure 5.3 shows that during 2001–10, Argentine agglomerations with populations above 500,000 experienced a significantly higher loss in population density (2.2 percent annually) than comparable OECD cities.

**Sprawl and Agglomeration Economies**

Agglomerations in Argentina are experiencing high levels of sprawl. On average, the sprawl index in the 26 agglomerations increased from 1.4 in 1990–2001 to 2.3 in 2001–10, with significant variations across agglomerations. The sprawl index, as described in box 5.1, is expressed as the difference between the
built-up area’s average annual growth rate and the average annual population growth rate in an agglomeration. Between 2001 and 2010, among the 26 agglomerations, San Fernando del Valle de Catamarca had the highest sprawl index (5.4), followed by San Salvador de Jujuy (4.9) and San Juan (4.3). In 18 of the 26 agglomerations, the sprawl index was higher in 2001–10 than in the previous decade. In a few agglomerations, the sprawl index was very high in the 1990–2001 decade, followed by a significant decrease in 2001–10, as in the cases of Corrientes, Comodoro Rivadavia, and Posadas. By contrast, agglomerations such as San Fernando del Valle de Catamarca and San Salvador de Jujuy, with a very low sprawl index (around 1.0) in the 1990–2001 decade, experienced very high levels of sprawl in the 2001–10 decade (5.4 and 4.9, respectively). Figure 5.4 compares the sprawl index by region and by agglomeration size. The analysis shows significant differences in the average sprawl index across regions, ranging from 2.8 in the Cuyo region to 1.0 in the Northeast region. Intermediate and small cities also showed a high sprawl index of 2.8.
Agglomerations that experience the highest incidence of sprawl are not necessarily the most dynamic economically. For the purpose of the analysis, economic dynamism of an agglomeration is estimated by growth in gross domestic product (GDP) of the built-up area over the period 1996–2010. The growth in GDP is estimated by the change in nighttime light emissions. (See box 4.1 in chapter 4 for an overview of nighttime light data and appendix B for the methodology on estimating subnational GDP using nighttime light data). The limited correlation between economic dynamism and sprawl suggests that sprawl is not associated with faster economic growth (see figure 5.5). Thus, the predominant low-density expansion pattern of Argentine cities is not driven by economic dynamism but rather is caused by structural weaknesses in land use planning and housing policies. See chapters 6 and 8 for a review of territorial planning and housing policies in Argentina.
This finding raises concerns with regard to the economic costs of the predominant low-density expansion pattern of Argentine cities. For example, agglomerations such as San Salvador de Jujuy, La Plata, and Santiago del Estero, which have significantly expanded outward (with above-average growth in their built-up areas and decreasing population density), have registered below-average economic dynamism since 1996. Conversely, several agglomerations have experienced above-average economic dynamism and below-average sprawl (such as Neuquén, Mendoza, and Santa Rosa), thus showing that economic growth and increases in population density are strictly linked.

Evidence indicates that sprawl may reduce the benefits of agglomeration economies in Argentine cities. The analysis shows a negative and statistically significant effect of sprawl on economic density, measured by GDP per area.
The findings suggest that as a result of sprawl, firms lose out on positive externalities associated with economic density. Because the regression analysis found that economic density matters for productivity—agglomerations with higher economic density have higher labor productivity, everything else being equal (see table 4.1, regression ii in chapter 4)—the findings indicate that sprawl may reduce the benefits of agglomeration economies and deter overall productivity of firms. The results provide policy support for reducing sprawl and are consistent with the literature on the consequences of sprawl on productivity, showing
that the higher the density of jobs, the higher the productivity of the area (see, for example, Ciccone and others 1996).

Low-density urban expansion tends to be associated with lower efficiency and higher costs in the provision of urban services. One of the fundamental dimensions in which density or sprawl can affect urban life is municipal public spending. A recent study conducted an empirical analysis of about 8,600 municipalities of Brazil, Chile, Ecuador, and Mexico. The study found that per capita municipal spending on public services is strongly and non-linearly correlated with urban population density (Libertun de Duren and others 2015). According to the study, as cities go from low density toward the optimal density, expenditure per capita decreases with additional inhabitants per km². These savings are the result of increasing scale and gains in efficiency. Optimal expenditure levels for municipal services are achieved with densities close to 9,000 residents per km². After this optimal level, however, expenditures increase as congestion costs begin to dominate in the cost of providing services. In that study, 85 percent of all municipalities were found to be below the optimal density level, implying that they would significantly benefit from more compact urban forms. The result provides strong policy support for reducing sprawl, particularly in intermediate cities of developing countries, because sprawl will result in lower efficiency and increasing expenditures in the provision of public services, thus preventing cities from fully leveraging the benefits of agglomeration economies.

Agglomerations in Argentina are characterized by significant institutional fragmentation, which—in the absence of effective metropolitan coordination in planning and land use regulation—can encourage sprawl (see chapter 6 for a review of territorial planning). Only 5 of the 26 surveyed agglomerations are completely contained in the same municipal administrative area; the remaining 21 consist of multiple administrative units. Four of the 21 agglomerations span not only several local governments but also two different provinces, such as the agglomeration of Neuquén. Agglomerations with a more fragmented institutional structure have a higher sprawl index. Institutional fragmentation, measured by the number of local governments per 100,000 inhabitants, is correlated with sprawl, as shown in table 5.1.

### Table 5.1 Sprawl and Institutional Fragmentation, Selected Agglomerations, 2001–10

<table>
<thead>
<tr>
<th>Institutional fragmentation</th>
<th>Low</th>
<th>Intermediate</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average annual population growth rate, percent</td>
<td>1.3</td>
<td>1.0</td>
<td>1.3</td>
</tr>
<tr>
<td>Average annual built-up area growth rate, percent</td>
<td>3.5</td>
<td>3.1</td>
<td>4.6</td>
</tr>
<tr>
<td>Sprawl index</td>
<td>2.2</td>
<td>2.1</td>
<td>3.3</td>
</tr>
</tbody>
</table>

*Source:* Based on Goytia 2015.

*Notes:* The analysis is based on a sample of 26 agglomerations. The institutional fragmentation index is defined as the number of local governments per 100,000 inhabitants. Fragmentation is defined as follows: low = fewer than 0.5 local governments per 100,000 inhabitants; intermediate = between 0.5 and 1.0 local governments per 100,000 inhabitants; and high = more than 1.0 local governments per 100,000 inhabitants. See box 5.1 for the definition of sprawl index.
The 8 agglomerations with the highest institutional fragmentation (more than one local government per 100,000) show a higher sprawl index of 3.3 than do the 8 agglomerations with the lowest institutional fragmentation (less than 0.5 local governments per 100,000) and the 10 agglomerations with intermediate institutional fragmentation (between 0.5 and 1.0 local governments per 100,000), have a sprawl index of 2.2 and 2.1, respectively. The results suggest that a more fragmented institutional structure may contribute to sprawl and thus increase the cost of service provision in cities with below-optimal density.

**Metropolitan Buenos Aires’ Changing Patterns of Expansion**

Metropolitan Buenos Aires experienced a marked change in its pattern of territorial expansion in the period 2001–10, with a significant increase in peri-urbanization (see photo 5.1). The built-up area of metropolitan Buenos Aires grew by 38 percent, equivalent to an annual increase of 3.7 percent, higher than the average annual growth of 3.5 percent for the 26 agglomerations analyzed and than that of OECD capital cities (0.6 percent) over the period 2001–10. This expansion is more than double that of the previous decade (15 percent from 1990 to 2001).

The territorial expansion of metropolitan Buenos Aires has resulted in a significant decrease in population density, from 10,566 inhabitants per km² in 1990 to 9,779 inhabitants in 2001 and to 7,979 inhabitants in 2010. The population density of the built-up area decreased by 2.2 percent annually over the period 2001–10, compared with a decrease of 0.8 percent annually over 1990–2001.

**Photo 5.1 A Bird’s-Eye View of Metropolitan Buenos Aires at Night**

During the decade 2001–10, four municipalities in the third ring\(^2\) of metropolitan Buenos Aires showed an extremely high decline in population density close to 60 percent, with current population density levels below the minimum recommended (3,000 inhabitants per km\(^2\)) to provide affordable public transport services (Holtzclaw 1994). However, not all areas in metropolitan Buenos Aires experienced a decline in density—the city of Buenos Aires and La Matanza (one of the largest departments of peri-urban metropolitan Buenos Aires, with about 2 million inhabitants) have experienced an increase in population density of about 5.5 percent and 11.3 percent, respectively, over 2001–10. Map 5.1 shows

**Map 5.1 Territorial Expansion of Metropolitan Buenos Aires, 1990, 2000, and 2010**

Sources: Goytia 2015; Goytia and others 2012; Torcuato Di Tella University 2013.
the expansion pattern and growth of metropolitan Buenos Aires between 1990 and 2010. A number of policy factors could explain this pattern of demographic and territorial growth in metropolitan Buenos Aires. The factors include deficiencies in land use regulation and housing policies and inadequate mechanisms for metropolitan coordination (see box 5.2 and chapters 6, 8, and 9).

Box 5.2 Urban Expansion of Metropolitan Buenos Aires

In a recent study, Peralta Quirós and others (2014) examined trends in spatial development in metropolitan Buenos Aires from 1990 to 2010. Remote sensing data for two time periods as well as auto and transit access for workers—calculated using an open-source accessibility tool being developed by the World Bank and OpenTripPlannerAnalyst—were used to analyze the area’s spatial growth patterns. The study found that although south and southwest sections of the city of Buenos Aires have a public transport system that provides good connectivity to the center of the city, limited development has occurred in these areas (see map B5.2.1).

Map B5.2.1 Population Density Changes in Metropolitan Buenos Aires and Location of New Residential Developments, 2000–10

Source: Peralta Quirós and others 2014.
Box 5.2 Urban Expansion of Metropolitan Buenos Aires (continued)

Most development has occurred in peri-urban areas of metropolitan Buenos Aires, where there is poor public transport access for workers.

The observed pattern of urban expansion in metropolitan Buenos Aires has a direct effect on the efficiency of public infrastructure and public service provision, environmental sustainability, mobility, and housing supply. Low-density expansion affects accessibility, employment opportunities, and access to social services, particularly for low-income groups, reinforcing social and economic fragmentation and segregation.

Several institutional, socioeconomic, and policy factors could explain the patterns of sprawl characterizing territorial expansion of Buenos Aires, including urban transport policies, land use and housing policies, and institutional fragmentation of metropolitan areas.

Urban transport policies
Improvements in the suburban highways in metropolitan Buenos Aires after 1980 increased accessibility but also promoted sprawl. The period after 2001 also corresponds with the freeze of public transport tariffs. A national system of transport subsidies in the aftermath of the financial crisis of 2001/02 made transportation in metropolitan Buenos Aires very affordable and decreased commuting time and costs. The subsidies made living outside the city in lower-density suburbs more affordable, leading to an increase in land consumption per housing unit. (See chapter 9 for a review of urban transport policies.)

Land use and housing policies
Sprawl may be encouraged by a lack of flexibility in land use regulation and a lack of incentives to developers to increase density. Sprawl also occurs when informal low-density settlements are the only mechanism for providing housing to low-income populations who lack access to formal land markets. The growth of informal settlements has also been accompanied by growth in gated communities, which have exacerbated the fragmentation and dispersal of urban areas in metropolitan Buenos Aires in the 1990–2010 period. (See chapters 6 and 8 for a discussion of territorial planning and housing policies, respectively.)

Institutional fragmentation of metropolitan areas
A fragmentated territorial structure can contribute to urban sprawl in the absence of coordinated mechanisms to promote coherent urban growth policies or incentives and to regulate land uses. Several studies have analyzed the structure of metropolitan governance in relation to the efficiency and equity of service delivery and to the distribution of wealth. Metropolitan Buenos Aires is a highly fragmented metropolitan area that comprises the federal government, the provincial government, and departments, or partidos, from 32 municipalities. Metropolitan coordination is lacking, with a few exceptions, such as the Buenos Aires Metropolitan Transport Agency and the Matanza-Riachuelo River Basin Authority. See chapter 6 for a discussion of the challenges of metropolitan coordination in Argentina.

Source: Peralta Quirós and others 2014.
Since the 1930s, metropolitan Buenos Aires has been transformed from a monocentric to a polycentric agglomeration. The city of Buenos Aires started to change when industrial plants began to relocate from the center to peri-urban areas. The horse-drawn carriage, then the electric trolley and railways, transformed Buenos Aires from a pedestrian city into a monocentric city by extending the reach of public transportation into the periphery while maintaining the dominance of the center. The working population’s reliance on access to radial transportation lines ensured that Buenos Aires remained largely a monocentric city. However, from 1935 to 1994 the share of industrial jobs in the city of Buenos Aires decreased from 80 percent to 37 percent, and by 2010, Buenos Aires had become a polycentric metropolitan area.

Although the city of Buenos Aires continues to provide a large number of jobs and population density remains high, more than four-fifths of all trips by public transport originating from metropolitan Buenos Aires are outside the city (Diez 2007). A closer look at a mobility survey for metropolitan Buenos Aires (Government of Argentina, Ministry of the Interior and Transport 2009) confirms the polycentric nature of the metropolitan area. In 2010, the city of Buenos Aires was the destination of only 46 percent of all trips that were registered as being for work in metropolitan Buenos Aires. Of those work trips that originated in the city of Buenos Aires, 88 percent had the city as the destination. However, only 29 percent of all work trips that originated in peri-urban metropolitan Buenos Aires had the city of Buenos Aires as the destination, with the rest of the trips ending in peri-urban areas.

Metropolitan Buenos Aires has decentralized into a low-density, fragmented, and spatially segregated polycentric city (Angel 2012), characterized by isolated gated communities and low-income settlements marginalized to the city’s peri-urban areas. The spatial inequality that arises from dispersal forces is reinforced by failures in housing and transportation policies (see chapters 8 and 9), with high socioeconomic costs in terms of infrastructure. (See, for example, Diez [2007] and figures 6.1 and 6.2 in chapter 6, showing a significant difference in access to water and sanitation between core and peri-urban areas of metropolitan Buenos Aires). The dispersal pattern in the spatial structure of metropolitan Buenos Aires can be measured by the flattening of its residential density curve over time—the density curve examines how population density in the built-up area of a city changes as a function of distance from the city center. The gradient of the density curve for metropolitan Buenos Aires declined from 0.36 persons per hectare in 1869 to 0.06 persons per hectare in 2001 (Angel 2012), thus indicating a significant reduction in density.4

**Expansion of Peri-Urban Areas**

In the largest agglomerations, peri-urban areas have been growing faster than city centers over the period 2001–10. Population growth gradients (see figure 5.7) show the patterns of population growth according to the distance from the city center. The results of the gradient analysis for metropolitan Buenos Aires and the
top five agglomerations indicate that city centers have been adding population at slower rates than peri-urban areas, with the exception of Mendoza. In metropolitan Buenos Aires, 85 percent of the total population growth (equivalent to the addition of around 900,000 people) over the period 2001–10 occurred in peri-urban areas, in the range of 15–30 km from the city center, with little growth in the areas closer to the city center. Only 3 percent of the population growth was within the range of 5 km from the city center.

Córdoba and Rosario have some population growth in their city centers, but they have negative growth, with a decline in population, in the range of 3–5 km from the city center. In both cities, most of the population growth occurred...
in the range of 7–20 km from the city center (90 percent in Córdoba and 66 percent in Rosario). San Miguel de Tucumán presents a similar growth pattern, with a decline in population in the city center and about 90 percent of the growth in the range of 3–8 km from the city center. In La Plata, the city center exhibited some population growth (10 percent of total growth), but 70 percent of the growth was in the range of 3–8 km from the center. Mendoza is the only agglomeration where about 40 percent of the population growth occurred in the city center, with another 40 percent of the growth in the range of 6–11 km from the inner core. The low or negative population growth in the city centers of the largest agglomerations can be in part attributed to changes in land uses from residential to commercial or administrative.

Agglomerations mostly grew by extension, or contiguous growth, over the period 2001–10. Extension accounted for more than half (53 percent) of territorial expansion in the 26 surveyed agglomerations (see box 5.1 for definitions of infill, extension, and leapfrog growth). Only 27 percent of the agglomerations’ new development was infill in existing urban areas, and 20 percent of the growth was leapfrog development, that is, expansion into new noncontiguous urban areas. However, the types of expansion vary significantly across agglomerations (see figure 5.8). For example, 52 percent and 45 percent of the territorial expansion in Paraná and Santa Fe in the Pampeana region, respectively, were leapfrog growth. In contrast, Corrientes, the only agglomeration with an increase in population density, showed the highest share of territorial expansion by infill (55 percent).

The type of urban expansion has an important effect on the need for and costs of infrastructure and provision of services. Infrastructure costs and coverage needs are lower when the growth is infill, but they increase when new development is due to extension, and they are even higher for leapfrog development. No conclusive correlation was found between the type of territorial expansion and the agglomerations’ population size and growth rates. However, evidence shows that smaller agglomerations tend to have higher rates of expansion by infill, although the correlation turns negative for larger cities (with built-up areas larger than 150 km²).

Although population dynamics clearly shows that peri-urban areas are growing faster than city centers, analysis based on changes in nighttime light emissions, a proxy for the economic footprint of an agglomeration, shows that the economic dynamism of the urban core and peri-urban areas of a city are linked. A positive correlation exists between the growth of nighttime light emissions in the urban core (intensive change) and the growth of nighttime light emissions in peri-urban areas (extensive change). In other words, the degree to which a city is growing intensively (increasing economic activity in the city’s pre-existing economic footprint) versus the degree to which it is growing extensively (outward economic expansion of its footprint over time) are correlated (see figure 5.9).

The analysis shows that several cities have expanded their economic footprints but still retain an economically vibrant city center—these are the
agglomerations with above-average intensive growth and also with above-average extensive growth (such as La Rioja, Mendoza, Río Gallegos, Salta, and San Fernando del Valle de Catamarca). Several cities have been growing more intensively than extensively, compared to the average. They include Concordia, Córdoba, Formosa, metropolitan Buenos Aires, Paraná, Rosario, Santa Fe, and San Juan. The results indicate that in these cities, the urban core is retaining an important economic role, because the growth in the cities’ preexisting economic footprint (measured as the change in nighttime light emissions) is
stronger than outward economic expansion. Evidence also indicates that extensive growth is correlated with population growth, indicating that cities with high population growth also tend to experience outward economic expansion.

**Notes**

1. The built-up area of an agglomeration includes paved surfaces, rooftops, and other impervious surfaces identified in the satellite imagery as belonging to urban and peri-urban areas.
2. The optimal density of cities is the result of the interaction of costs and benefits associated with agglomeration forces. The benefits of agglomeration forces offset the congestion costs when denser cities provide a more efficient framework for the provision of infrastructure and services as well as numerous advantages in terms of environmental sustainability (Stone and others 2007; UN-Habitat 2012), quality of life (Gaigné and others 2012), human capital accumulation (Glaeser 1999), and social inclusiveness (Burton 2000). At the same time, denser cities also can cause higher costs, such as increases in land prices (Glaeser and others 2001), spatial congestion (Wheaton 1998), and crime (Glaeser and others 1999). Given that these two opposing forces are in play, assessing the optimal level of density and the socioeconomic costs of sprawl is an empirical question and can vary by city.

3. The departments (partidos) that form Metropolitan Buenos Aires are divided in three rings that surround the city of Buenos Aires. They are called the first, second, and third ring according to their relative distance to the city of Buenos Aires, their urban characteristics, and when they were incorporated into the metropolitan area.

4. The population density gradient—the slope of the density curve—is a measure of the degree of decentralization of a metropolitan area. The more uniform the population density as a function of the distance from the city center, the smaller the gradient.

5. The following intensive and extensive growth metrics have been calculated by comparing nighttime light emissions between 1996 and 2010 (nighttime light emissions are a proxy of the economic footprints of agglomerations; see box 4.1 in chapter 4). Intensive change is a measure of the growth of urban cores. This metric measures how intensive the growth of the agglomeration has been. It is defined as the increase in the brightness of the urban core—that is, the preexisting economic footprint of 1996 that is held constant over the period of the analysis. Extensive change is a measure of growth of peri-urban areas of agglomerations. This metric measures how extensive the expansion of the agglomeration toward the outskirts has been. It is defined as the area that was above the urban “brightness” threshold in 2010 but was below it in 1996 (see box 4.1 in chapter 4 and appendix B).

References


———. 2015. “Rapid Diagnostics: Urban Expansion Patterns in Argentina.” Background paper to this study, Research Center for Urban Policy and Housing (CIPUV), Torcuato Di Tella University, Buenos Aires.


CHAPTER 6

Territorial Planning

Summary
This chapter looks at how territorial planning in Argentina is affecting its cities’ ability to tap the benefits of agglomeration economies. The primary challenges of territorial planning in Argentine cities are institutional. The federal government has no legal framework to influence urban development and territorial planning, and the provincial governments have weak regulatory frameworks to guide municipal land use planning. Municipalities often lack basic planning instruments and have limited incentives and capacities to update their plans. Local planning initiatives lack sectoral integration and coordination, and institutional fragmentation is a constraint for metropolitan planning. Although a few initiatives promote horizontal coordination, the lack of institutional instruments for metropolitan planning prevents scaling up those efforts.

Furthermore, strict land use regulations contribute to constrained access to formal land and housing in urban areas for all urban residents and have thus indirectly promoted informal settlements. Municipalities have neither adequate planning instruments nor a regulatory framework to control sprawl and promote sustainable urban growth. The use of instruments to capture land values is not yet common practice in Argentina, although innovative initiatives are emerging.

Such shortcomings in territorial planning are a major barrier to Argentina’s tapping the benefits of agglomeration economies. They directly affect prosperity and livability in agglomerations by encouraging sprawl, which reduces efficiencies of urban development.

Introduction
Territorial planning aims to promote development that is economically, socially, and environmentally sustainable and that meets the needs of current and future generations. For instance, land use planning sets rules and guidelines that control the supply and location of land and its uses for many legally defined purposes. Planning inevitably involves trade-offs, so any planning system has both benefits and costs. For instance, inadequate planning contributes to limiting access to
formal land, thus deterring economic activities, as well as increasing housing prices. Planning failures often stem from institutional fragmentation of responsibilities and inadequate coordination, which challenge the ability of municipal governments to plan for urban growth.

One of the most common manifestations of the costs of inadequate planning is sprawl—the low-density expansion pattern that characterizes many agglomerations in Argentina (see chapter 5). This pattern of urban expansion directly affects prosperity and livability in agglomerations by reducing the efficiencies of urban development and contributing to the unequal provision of urban services between core and periphery of urban areas. For instance, low-density urban expansion in the peri-urban areas of cities, which was initiated in the 1980s and consolidated in the 1990s, has not been followed by an equivalent increase in access to infrastructure and services, such as piped water supply and sewerage system, resulting in widening gaps in access between the center and the peri-urban areas of large agglomerations (INDEC 2010) (see figure 6.1 and figure 6.2). The access gap is particularly striking for sewerage; sanitation systems are provided mostly in city centers, with very limited coverage in peri-urban areas. Such important gaps in access to infrastructure and services within agglomerations are indicative of the

**Figure 6.1** Access to Piped Water Supply in Selected Agglomerations: Core versus Periphery, 2010

<table>
<thead>
<tr>
<th>City</th>
<th>Percentage of Population with Access to Piped Water Supply</th>
</tr>
</thead>
<tbody>
<tr>
<td>Santiago del Estero</td>
<td></td>
</tr>
<tr>
<td>San Miguel de Tucumán</td>
<td></td>
</tr>
<tr>
<td>Santa Rosa</td>
<td></td>
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<tr>
<td>San Salvador de Jujuy</td>
<td></td>
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<td>San Juan</td>
<td></td>
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<tr>
<td>San Fernando del Valle de Catamarca</td>
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<tr>
<td>Mendoza</td>
<td></td>
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<tr>
<td>La Plata</td>
<td></td>
</tr>
<tr>
<td>Córdoba</td>
<td></td>
</tr>
<tr>
<td>Metropolitan Buenos Aires</td>
<td></td>
</tr>
</tbody>
</table>

*Source:* Based on INDEC 2010.
unsustainability and high costs of the current urban expansion patterns, and they negatively affect livability (see chapter 11).

This chapter provides an overview of territorial planning in Argentina and identifies the main challenges in the current institutional environment that are preventing municipal governments from taking full advantage of agglomeration economies. The results reported in this chapter largely draw on the responses from a survey of residential land use regulation (referred to as the “2010 land use survey”) that was carried out in 2010 in nearly a hundred municipalities across Argentina and covered 28 major urban agglomerations (Goytia and others 2010). The chapter is organized in two sections: the first section reviews the institutional framework for territorial planning; the second section presents the main challenges of territorial planning in urban areas in Argentina.

**Institutional Framework for Territorial Planning**

Argentina has a complex and diverse administrative structure at the local level, with 23 provinces as well as one autonomous government (the city of Buenos Aires)\(^1\) comprising 1,148 municipalities (INDEC 2010). Argentina’s provinces have adopted different institutional structures that are guided by their respective provincial constitutions and municipal regimes. For instance, delegation of
responsibilities to municipalities varies significantly across provinces. Furthermore, not all local jurisdictions are administered by municipalities; local governments with populations below the minimum required for a municipality are governed as communal governments with a different institutional structure and set of responsibilities.2 This section provides an overview of the institutional framework for territorial planning in Argentina.

From a territorial administrative perspective, two main models are adopted across Argentina’s provinces: (a) the integrated system, under which the territory of the province is divided into adjacent municipalities (whose boundaries include both urban and rural space) that are granted the responsibility of planning their entire territory and (b) the fragmented system, under which the municipalities are granted the responsibility of planning only their urban areas, leaving the rural areas under provincial authority. Both models are described in box 6.1.

Box 6.1 Territorial Administrative Models in Argentina

Argentina’s provinces follow one of two main territorial administrative models. Under the first model, the integrated administrative system, the entire provincial territory is divided into municipalities, which consist of both urban and rural areas. Under this territorial model, municipalities are adjacent and cover the entire provincial territory, with administrative control over both urban and rural areas. Provinces that have organized territorial development according to this model are Buenos Aires, Catamarca, Chaco, Corrientes, Jujuy, La Pampa, La Rioja, Mendoza, Misiones, Salta, San Juan, Santa Fe, and Tucumán. Also within this model, there are differences in the organization of the territory across provinces. For instance, in the provinces of Buenos Aires, La Rioja, Mendoza, and San Juan, the boundaries of departments (that is, administrative divisions of the provinces) and municipalities coincide. Yet, in the rest of the provinces, municipalities and communal governments can span several departments.

In those provinces organized according to the second model, the fragmented administrative system, the boundaries of the municipalities are defined by the boundaries of the urban areas, and rural areas are administered by the provinces. In this second model, the boundaries of municipalities are not adjacent, and most of the territory is kept directly under the control of the provincial government. The provinces that have adopted this territorial model are Chubut, Córdoba, Entre Ríos, Formosa, Neuquén, Río Negro, San Luis, Santa Cruz, Santiago del Estero, and Tierra del Fuego. This type of territorial administration is typical of, but not limited to, the Patagonian provinces, where localities arise as isolated nodes in a territory. The Córdoba province has also adopted this model despite having a high density of localities.

The first administrative model allows for more integrated management of a territory’s urban and rural areas under the same local authority and within a clearly defined boundary. Thus, municipalities can control the growth of their cities by periodically expanding the boundaries of the urban areas within their territories. However, the model is challenged when urban development crosses municipal boundaries, thus involving more than one local government with different planning systems in the administration of one contiguous urban area. To keep the territorial administrative system functioning effectively, provincial governments need to periodically adjust municipal boundaries. In the second administrative model, the municipalities manage only their urban areas, so the province has the advantage of overseeing the territorial dynamics and coordinating rural land uses for integrated regional planning. The major disadvantage of this fragmented model is that municipalities are limited to controlling only their urban areas. As a result, municipalities face challenges in coordinating with adjacent localities for the provision of services, such as garbage collection or flood prevention, which requires involvement of both urban and rural territories belonging to separate municipalities.

In both types of territorial administrative models, the largest agglomerations face significant challenges in coordinating urban development at the metropolitan scale. When a metropolitan area is split across several local governments, territorial planning is shared between multiple governmental levels, each one with limited powers. For instance, the agglomeration of San Miguel de Tucumán is a metropolitan area comprising nine jurisdictions with different levels of local autonomy. The metropolitan territory spans the three “first category” municipalities of San Miguel de Tucumán, Banda del Río Sali, and Tafi Viejo, three “second category” municipalities, and three rural communes (as defined by the provincial constitution). The provincial law establishes that urban decisions made by a rural commune must be authorized by the provincial council, whereas the government of the municipality of San Miguel de Tucumán—as a “first category” municipality—has the autonomy to make decisions. Such diversity in administrative structures within the same territory in the absence of mechanisms for cooperation creates difficulties for urban and regional planning, as described in the next section.

To address the significant variation in land use policy among Argentina’s provinces and municipalities, the federal government has provided a strategic vision for territorial development in the Plan Estratégico Territorial of 2011 (Government of Argentina, Ministry of Federal Planning, Public Investment, and Services 2011a) as well as a national framework for regional and urban development (Government of Argentina 2015). However, the government has not provided municipalities with the regulatory tools or the financing for implementing the vision. Overall, the federal government has limited leverage and control of land use planning, which remains under the purview of provincial and local governments. The existing legislation thus forms a diffuse set of rules—laws, decrees, and ordinances—stemming from provincial and municipal governments, with no federal legal framework overseeing urban development and land use. Yet, the importance of urban growth for achieving national development
outcomes calls for the federal government to play a more proactive role by guiding and providing incentives to provinces and municipalities to move toward territorial development in line with national goals and objectives.

Over the past decade, the federal government has taken some steps to support provinces’ territorial planning within their jurisdictions with the creation of the Federal Council for Planning (Consejo Federal de Planificación, or COFEPLAN) in 2008. This national agency, which comprises the federal government, all provinces, and the city of Buenos Aires, was given a mandate to issue guidelines that would address planning bottlenecks in the specific legal framework of each province. Since its creation, COFEPLAN has promoted initiatives to address current institutional bottlenecks for territorial planning, including the development of a national urbanization law (Anteproyecto de Ley Nacional de Ordenamiento Territorial) together with the Ministry of the Interior, Public Works, and Housing (replacing the Ministry of Federal Planning, Public Investment and Services). The law was, however, met with strong resistance and not approved, as some provinces argued that it would limit their constitutional rights to plan their own territories (the law established harmonized rules and procedures to develop and to approve planning documents).

Results from the 2010 land use survey (Goytia and others 2010) indicate that only 30 percent of municipalities have some higher level of government norms—such as provincial laws or regulations—that provide basic guidelines for land use at the local level. Several provinces grant total autonomy to municipal governments for setting all land use regulatory requirements in their jurisdictions (such as Catamarca, Córdoba, La Pampa, Neuquén, Salta, San Luis, and Santa Cruz, among others). Despite this autonomy to municipal bodies being mandated by each province’s constitution, a coherent regulatory framework has been lacking at the provincial level to guide local planning efforts. Only two provinces, Buenos Aires and Mendoza, have taken steps to guide land use in municipalities by enabling regulations, which establish harmonized instruments and responsibilities for local governments across the province. In the province of Buenos Aires, the Decree-Law No. 8912, in effect since 1977, has been complemented by Law No. 14.449, Equitable Access to Habitat (Acceso Justo al Hábitat), which was approved by the provincial government in 2013 but has not yet been applied in any municipality. In Mendoza, a land use planning law has been in effect since 2009.

Reforms to Argentina’s national constitution in 1994 granted further planning autonomy to local governments. The reforms have provided local governments with the tools to address territorial management challenges by improving local capacities to plan and regulate territorial development. However, municipalities do not use all of the available tools to guide inclusive development in their territories. Most municipal governments (94 percent) have a set of ordinances to regulate land use, and the majority (70 percent of the surveyed municipalities) has municipal plans for land use (Goytia and others 2010). About one-third of municipal governments thus rely solely on municipal ordinances for land use regulation. In addition, these instruments have limited reach and are not
conducive to sustainable urban development. An additional 28 percent of municipal governments have another set of complementary norms and plans as part of their regulatory environment for land use. For example, Rosario has a particular set of comprehensive complementary plans (metropolitan plans and plans for preservation of historic areas, among others), and other provinces have strategic plans that sometimes are, however, not linked to current ordinances for land use.

Land use changes are generally approved by municipal governments, but provincial involvement in the approval process is also significant, constraining the autonomy of the municipalities. An urban development project that requires a zoning change is proposed by the municipal executive council and approved by the municipal local council. However, other bodies, such as planning commissions or planning offices at the provincial level, still play a role in approving zoning changes in many municipal governments (35 percent). Involvement of provincial bodies remains significant, mainly in municipalities where provincial laws and plans are in place, such as in the Buenos Aires province where municipalities still have little autonomy in land use decisions. Although environmental review boards are less involved in granting zoning changes, their participation is mandatory in some localities (10 percent). Several municipal governments have an additional set of requirements for granting zoning changes, such as the approval by the legislative power of the provincial government, or more specific ad hoc commissions formed within the municipal administration (Goytia and others 2010).

**Challenges of Territorial Planning**

Territorial planning presents several institutional constraints, including the lack of a national framework guiding urban development, the weakness of provincial land use regulation, the limited planning instruments at the local level, and the mismatch between administrative boundaries and the functional boundaries of agglomerations. This section outlines the challenges that provincial and municipal governments face when planning for urban development in the current institutional environment and presents examples of innovative initiatives to address these challenges that have been recently implemented within the constraints of the existing institutional framework.

The 2010 land use survey shows that few jurisdictions, whether municipal or provincial, have recently updated their plans or cadastres. Many of them have plans and laws regulating land use that date back as much as 47 years, with an average age of almost 12 years for municipal plans and 15 years for provincial plans. Only a few municipal ordinances have been recently updated, with the average time since the last update being 12 years, and the longest time being 36 years. Cadastre registers have been updated in only 53 percent of the municipalities, with only about 5 percent of those updated having been revised in the past five years. Five percent of jurisdictions last updated their cadastres before 1980.
The failure to update local plans is related to municipalities’ weak capacity. Municipalities receive limited technical support directly from provinces and the federal government. To address this bottleneck, the federal government and certain provincial governments have recently developed targeted municipal technical assistance programs, with the objective of training municipal technical teams to use urban planning instruments and to provide them with the technical tools necessary to develop land use plans or strategic plans, as illustrated by the example of Santa Fe (see box 6.2). Municipalities also have few financial or other incentives to update their plans, and they lack sufficient resources to implement the plans (see chapter 7 on municipal finance). The governance challenges that municipalities face to update land use regulation in a fragmented institutional setting may also, in part, explain the difficulties they face in land use planning, as exemplified by the case of Luján (see box 6.3).

The limited responsibilities delegated by the provinces to municipalities often prevent municipalities from integrating land use planning with transport systems in urban areas, and also prevent them from carrying out long-term planning for public works, for which responsibility is fragmented across tiers of governments. The provinces manage and regulate the provision of infrastructure—social housing, road networks, and water supply—separately. Furthermore, several provincial or national agencies carry out interventions that have significant territorial impacts, but without integrating their actions across sectors. Sectoral approaches have resulted in fragmented efforts across areas that require a comprehensive program, such as transportation, solid waste, watershed management, management of parks and open spaces, economic development, health, security, and disaster risk management. The case of the agglomeration of Neuquén, which comprises municipalities under the jurisdiction of two different provinces, is

Box 6.2 Support to Municipalities for the Development of Land Use Plans in the Province of Santa Fe

As part of its Provincial Strategic Plan (Plan Estratégico Provincial), the province of Santa Fe supports intermediate-size cities in their planning efforts through its Ministry of Governance and State Reform and Ministry of Public Works and Housing (Government of the Province of Santa Fe 2012). The province provides those cities with technical and management tools to formulate basic urban plans. The initiative aims to fill the scarcity or lack of technical instruments and/or municipal regulations by supporting municipalities’ efforts to strategically approach territorial growth and urban development. Support helps municipalities define strategic and priority projects, identify future interventions, and review existing land use regulations and plans. It also helps municipalities integrate the territory’s infrastructure components and other elements into the planning efforts, such as the roadway and transportation systems, water supply systems, areas at risk, basic services and infrastructure, zones available for expansion, and reserve areas.

Source: Goytia and others 2015.
Box 6.3  The Governance Challenge of Updating Land Use Regulations: The Case of Luján

With a population of about 106,300 in 2010 (INDEC 2010), the municipality of Luján is composed of five localities, all of which are under municipal authority. The municipality is located on the fringe of metropolitan Buenos Aires. In the past 30 years, the municipality has never updated its land use regulation. In 2013, the municipality decided to modernize its land use regulation to address major urban development challenges. Problems that Luján aimed to address included the proliferation of informal settlements, abandoned industrial areas, and recurrent flooding. Another major concern was the sprawl that is merging the city with municipalities adjacent to peri-urban metropolitan Buenos Aires, separated only by a big waste disposal camp. The regulation required important changes to respond to these challenges.

The municipality also sought to update its land use regulation to boost real estate development and industrial activities. The revised land use regulation proposed significantly increasing low-density residential uses by promoting higher-income gated communities to double Luján’s built-up area. A protest against the regulation, which was already approved by the city council, resulted in its being vetoed by the mayor. The protest argued that such low-density expansion would require conversion of rural land into urban land, which would result in serious environmental consequences, because the land conversion would lead to a loss of wetlands that function as a major water reservoir during the frequent periods of flooding.

In 2014, a participatory process involving all political forces and stakeholders was coordinated by the University of Buenos Aires, resulting in the revision of land uses and densities proposed by the previously vetoed regulation. Whereas a new version was prepared by the municipality, it still aimed to double the areas assigned to gated communities and significantly expand the industrial areas. The regulation was approved by the municipality and was submitted to the provincial planning authority for final approval. However, flooding in 2013 and a major flood in 2014—the third worst in the history of the country, which affected 20,000 people and resulted in high economic losses—created strong demand for the municipality to withdraw the revised land use regulation. Environmental organizations pointed out the negative effects the proposed land uses would have on wetlands, which would worsen future flooding.

Approval of the revised land use regulation is now pending the final decision of the provincial authority. The uncertainty is significantly affecting investment in the municipality, as well as blocking social housing programs and creating unrest because of the local population’s fear that the planning decision would make their communities more vulnerable to disasters. Similar governance challenges were experienced by other municipalities in the Buenos Aires province that attempted to update their land use regulation.

Source: University of Buenos Aires 2014.
illustrative of the challenges of sectoral coordination (see box 6.4). Only a regional planning approach can address the limited integration between sectoral policies and the institutional fragmentation in areas where responsibilities overlap among different tiers of governments. Coordination between tiers of government is particularly important for effective territorial management in provinces that follow the fragmented territorial model, where rural areas adjacent to urban areas are administered by provincial governments.

Even when local governments have been given the tools to design and implement urban plans, the largest agglomerations have limited success in carrying out integrated planning because of the mismatch of administrative boundaries and the absence of mechanisms for horizontal coordination within the metropolitan area. Economies of scale require coordinated management at the metropolitan level among the different jurisdictions. In addition to planning and regulation of land use, other functions that require interjurisdictional coordination include provision of infrastructure and services at the metropolitan level. For example,

**Box 6.4 Challenges of Integrating Planning with Infrastructure Service Provision: The Case of Neuquén**

The process of urban expansion, in the absence of integrated territorial planning, generates inefficiencies in the provision of services and poses operational difficulties for the local governments. One challenge for integrated planning is the fragmentation of institutional responsibilities for service provision across several tiers of government. Whereas the urban planning process happens at the municipal level, basic services such as water, electricity, and gas are the responsibility of public agencies and are managed at different governmental levels: provincial, municipal, national, or private entities. The case of the agglomeration of Neuquén illustrates this challenge.

This agglomeration is a metropolitan area spanning two provinces (Neuquén and Río Negro), two departments (Confluencia and General Roca), and six municipalities (Neuquén, Centenario, Senillosa, Plottier, Cipolletti, and Cinco Saltos). The provision of services in the agglomeration is highly fragmented. For instance, Ente Provincial de Agua y Saneamiento (EPAS) is responsible for provision of potable water and the sewerage network for the municipalities of Neuquén, Centenario, and Senillosa; Cooperativa Provincial de Servicios Públicos y Comunitarios de Neuquén Limitada (CALF) is responsible for electricity services in the municipality of Neuquén; and Camuzzi Gas del Sur provides gas. Ente Provincial de Energía del Neuquén (EPEN) provides electricity services in Senillosa, and the Cooperativa de Servicios Públicos de Plottier is responsible for its water supply, sanitation, and electricity.

In the five-year plan for water and sanitation, the provincial governments have laid out a plan to execute coordinated investments in water and sanitation works in the metropolitan area to address the challenge of integrating planning with service provision. The objective is to maintain the current coverage and provide access for the growing population within the territorial boundaries (see map B6.4.1). Implementation of the plan will require coordination among all service providers as well as the concerned municipalities.

*box continues next page*
Box 6.4 Challenges of Integrating Planning with Infrastructure Service Provision: The Case of Neuquén (continued)

Map B6.4.1 Households with Access to Electricity, Water, Gas, and Sanitation in Neuquén, 2001 and 2010

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provision of public transportation at the metropolitan level requires coordination between all municipalities responsible for regulating transportation within their jurisdictions; the provincial government, which has the primary responsibility for providing intermunicipal public transport; and the federal government, which is responsible for interprovincial transportation services. Lack of metropolitan planning, institutional fragmentation, and lack of horizontal coordination within the metropolitan areas restrict agglomerations’ ability to benefit from the advantages of agglomeration economies. This is particularly the case in metropolitan Buenos Aires, which has its own administrative complexities and faces particularly severe metropolitan planning challenges. The complex challenges of metropolitan planning call for special institutional arrangements and more sophisticated planning tools for integrated territorial development. Such tools must complement traditional planning instruments and consider strategic planning, local economic development, vulnerability assessment, and risk reduction strategies.

Several recent initiatives have emerged, with varying degrees of success, to find pragmatic solutions for interjurisdictional coordination and forge new
institutional arrangements to promote coordination at the metropolitan level. The results of those initiatives indicate that a one-size-fits-all model of metropolitan coordination will not work in Argentina, given the differences in institutional arrangements across provinces. With a few exceptions, most of the initiatives are based on voluntary coordination using a diverse set of institutional arrangements, including partnerships between municipalities, local government forums, and contracts of cooperation with a specific purpose. An exception is the recent legally mandated interjurisdictional initiative for environmental remediation of the Matanza-Riachuelo River basin (see box 6.5).

Initiatives also vary with respect to the tier of government that is leading the effort. In several provinces, the legal framework does not include provisions for horizontal coordination among municipalities; involvement of the provincial governments is therefore required for territorial planning and execution of intermunicipal projects. Some provinces that have taken a lead role in intermunicipal coordination are Córdoba, San Juan, Mendoza, and Buenos Aires. In other cases, central municipalities are the ones leading the coordination efforts. In Posadas, Rosario, and Salta, for instance, the central municipality plays a fundamental role in promoting metropolitan management. Rosario exhibits a tradition of coordinating planning efforts that extend throughout the entire metropolitan area with its Metropolitan Strategic Plan (Plan Estratégico Metropolitano) of 2008–18 (Government of the Municipality of Rosario, Province of Santa Fe 2008). In 2010, the municipality of Rosario led the establishment of the voluntary agency, the Metropolitan Coordination Body (Ente de Coordinación Metropolitana, or ECOM), in which 22 of the metropolitan region’s 23 municipalities currently participate on a voluntary basis (see also case study C in chapter 10 for a review of the initiatives promoted under the Metropolitan Strategic Plan to improve the economic competitiveness of Rosario). The varying degree of success of these initiatives also shows that the main challenges to interjurisdictional coordination are the lack of institutional instruments and the difficulty of building consensus among local governments, which often have different sizes, capacities, and interests. See chapters 9 and 10 for a review of the specific challenges of metropolitan planning and coordinated interventions in the areas of public transport and local economic development, respectively.

Most municipalities have in place strict land use regulation and exercise some type of density control. About three-fourths of municipal governments (72 percent) have minimum lot size requirements for low-density areas, and 67 percent have such restrictions for high-density areas (Goytia and others 2010). The average minimum lot size requirements for low- and high-density areas among the surveyed municipalities are 495 and 393 square meters, respectively. However, the variation across jurisdictions is high. The minimum lot size may be as low as 100 square meters and as high as 1,000 square meters for high-density residential use. Other density requirements, such as percentage of buildable area—for example, building coverage ratio and floor area ratio—are present in most municipalities. The determination of an urban perimeter or boundary,
within which urbanization can take place, is observed in 48 percent of the municipalities (Goytia and others 2010).

A stringent regulatory environment constrains development of formal land. For example, the regulations on allocation of open space inevitably skew the supply to a specific segment of the market. For instance, the territorial regulation of the province of Buenos Aires (Province of Buenos Aires’ Decree-Law No. 8912 of 1977) prescribes that in a land subdivision, public spaces should not exceed
10 percent of the area, and that no more than 4 percent should be reserved for public use. The regulation is imposed in all local governments in the province, taking away any flexibility to diverge from the standard and allocate more public spaces and green areas. Goytia and others (2010) find that provinces and municipalities that have enacted strict land use regulations have more informal housing, suggesting that regulations setting minimum plot size or minimum green area per inhabitant can contribute to the proliferation of informal settlements in Argentina. With the passage of Law No. 14.449 in 2013, the province of Buenos Aires introduced more flexible standards for land subdivision, facilitating access to land for the most vulnerable groups. Although the law provides a way forward with regard to dealing with informality in the province, it has thus far been seldom applied (Government of Argentina, Ministry of the Interior and Transport 2015).

With weak planning instruments, a low technical and implementation capacity, and scarce fiscal resources, and without mechanisms for institutional coordination, municipalities’ interventions are restricted to piecemeal and reactive planning for urban growth. With the exception of a few isolated, and important, initiatives, municipalities in Argentina have not proactively adopted land use regulations that would favor increased density of central areas, renewal of underused areas, and mobilization of vacant land. The 2010 land use survey shows that, on average, 25 percent of zoned land is designated for low-density residential use, 12 percent is allocated for high-density use, and 20 percent is allocated for mixed uses (Goytia and others 2010). However, several jurisdictions devote up to 80 percent of their zoned areas for low-density residential use. Many agglomerations have unoccupied areas or a high quantity of vacant lots in highly urbanized sections of the city. Vacant land accounts for 13.5 percent of land in metropolitan areas (Goytia and others 2010); San Juan, the capital city of the San Juan province, for example, has 1,561 plots with no buildings. In many cases, the low coverage of infrastructure services has constituted a serious limitation for increasing the density of central areas (for instance, the challenges faced by Salta are described in box 6.6). Most of the potential for increasing density in city centers therefore remains unexploited.

A few municipalities have recently started introducing more flexible planning instruments or a regulatory framework to contain sprawl and promote sustainable urban growth. The province of Buenos Aires has taken steps to promote increasing urban density by applying differential and progressive property tax rates to penalize those who hold on to vacant urban land (Goytia and others 2010). This action, in line with international experience, shows that vacant land taxes could be applied over a whole municipality or over delimited target areas. Similar initiatives to discourage vacant land have also been implemented as part of an overall effort to improve land use planning in the municipalities of Malvinas Argentinas, Moreno, San Isidro, and Trenque Lauquen in the Buenos Aires province. Furthermore, to overcome the rigidity of the planning process, municipalities have started directly negotiating legal agreements (convenios urbanísticos) with developers for specific urban development projects to introduce more
Box 6.6  The Challenges of Increasing Density in City Centers: The Case of Salta

Salta is experiencing a complex and conflicting urbanization process, including increased population density in the city center on the one hand, and rapid urban expansion of peri-urban areas and proliferation of gated communities on the other hand (see photo B6.6.1). Both urbanization patterns have their challenges, and they should be analyzed together. This case study focuses on the increased density associated with the growth of high-rises in the city center. Although the construction of 90 high-rise buildings in the center of Salta has had the desired effect of increasing population density, it has also created challenges because of the absence of adequate planning instruments. First, density is increasing in areas with inadequate basic infrastructure, such as piped water supply, sewerage system, and electricity. Second, measures have not been taken to mitigate the effects of increased density on traffic. Because Salta is one of Argentina’s main tourist attractions, drawing visitors to its landscape as well as its colonial architecture, the increase in traffic may lead to economic losses. Furthermore, Salta is located in an earthquake area; high-rise buildings demand expensive technologies to reduce seismic risk, affecting the price of the housing units. Finally, the municipality did not originally provide a permit for the construction, as required by the local land use plan; the construction was only subsequently approved by the municipality, making the development process unclear from the perspective of local inhabitants.

Photo B6.6.1  Urban Expansion in Salta


Source: Government of the Municipality of Salta 2015.
flexibility in land use planning and regulation for urban expansion. However, these kinds of initiatives remain the exception rather than the rule.

The use of land-based financing instruments for managing urban expansion is not yet common practice in Argentina. Land value capture instruments, such as betterment taxes, have the advantage of improving the efficiency and sustainability of land development. Such instruments may also reduce the likelihood that households will resort to informal land markets. Although not yet common practice in Argentina, a number of innovative initiatives have been piloted, and a number of municipalities have adopted policies for capturing land value as a way to manage urban growth. For example, municipalities in the province of Buenos Aires apply betterment taxes to recover some of the public investment costs of infrastructure. Other innovative cases of land-based financing are found in Rosario and Trenque Lauquen (see box 6.7). Another innovative instrument for managing urban expansion is land readjustment with public-private participation. A provision for land readjustment is incorporated in Law No. 14.449, Acceso Justo al Hábitat (Equitable Access to Habitat), enacted by the province of Buenos Aires in 2013. The law allows both provincial and municipal governments to carry out land readjustments. However, the instrument has not yet been applied.

The municipality of San Jose in the Entre Ríos province provides another example of how municipalities can use innovative urban instruments to improve local land use planning. Municipal By-Law No. 27 of 2012 established a municipal land bank as a development fund for urban initiatives.

Box 6.7 Innovation in Land-Based Financing: The Case of Rosario and Trenque Lauquen

Innovative land-based financing involves making changes to regulatory frameworks to enable government jurisdictions at all levels to play a more active role in land and infrastructure development and finance. The case of Rosario is a good example of a municipality that has taken proactive steps in guiding urban growth and infill development while also capturing the value of large-scale public investments. The government grants building rights—notably in high-income areas—as long as part of the proceeds are used to fund the public investments necessary to support higher densities and to provide land served by public utilities for affordable housing or informal settlements. Trenque Lauquen, a municipality with a population of about 43,000 inhabitants located in the province of Buenos Aires, is also famous for its applications of land-based financing for urban development. The municipality imposes a betterment tax on all administrative acts involving a change in land use or density parameters. The initiative has led to an expansion of the urban perimeter of the city. The proceeds are used to finance infrastructure investments as well as to provide services on land for urban development, thus allowing the city to manage urban growth and make land available for different uses, including low-income housing. Although limited in scope, this success shows that land-based financing is a feasible and flexible instrument that can help expand urban services.

Source: Duarte 2015.
The regulation that established the land bank has enabled the municipality to enter into agreements (convenios urbanísticos) with private developers to receive land in exchange for the provision of infrastructure as part of the city’s urban expansion strategy. The land becomes part of the municipal land bank, allowing the bank to play a dynamic role in the local real estate market (Government of Argentina, Ministry of the Interior and Transport 2015).

Notes

1. Argentina has 23 provinces and the city of Buenos Aires, which is an autonomous government with a special jurisdiction. For more information on Argentina’s geography and urban space, see box 1.1 in chapter 1.

2. Like Argentina’s municipalities, its communal governments have locally elected representatives, except in the Santa Cruz and Tierra del Fuego provinces, where local representatives are designated by the provincial executive power.

3. Whereas Tafi Viejo is considered part of the metropolitan area by the Plan Estratégico Territorial, it is not officially incorporated into the metropolitan area of San Miguel de Tucumán.

4. For more information on the concept of agglomeration, see box 1.1 in chapter 1.

5. Many Argentine municipalities have made efforts to improve planning; for instance, municipalities of Malvinas Argentina introduced a new urban planning code in 2005, Moreno created the Instituto de desarrollo urbano, ambiental y regional (IDUAR) in 2000, San Isidro introduced a new urban planning code in 2014, and Trenque Lauquen developed an urban expansion plan to develop land for residential use in 2009.

6. Land value capture instruments include all public policy instruments and initiatives aiming to capture the increase in the value of land created by change in land use regulation or public infrastructure investments.

References


Goytia, Cynthia, Marcela Cristini, and Gonzalo Fernandez. 2015. “Rapid Diagnostic Assessment of Urban Policies in Argentina.” Background paper to this study. Research Center for Urban Policy and Housing, Torcuato Di Tella University, Buenos Aires.


CHAPTER 7

Municipal Finance

Summary
This chapter evaluates the state of municipal finance in Argentina based on a sample of 277 municipalities across the country. Although the mandates of municipalities tend to be limited and vary significantly across provinces, functions performed by municipalities have been increasing over time, resulting in increased municipal expenditures. As municipal expenditures have increased in real terms more than own-source revenues, municipal financial autonomy has consequently decreased sharply, whereas the dependence on transfers has increased.

The primary challenges of municipal finance in Argentine cities are institutional. Only 10 out of 23 provinces have decentralized some type of tax authority to their municipalities, and only 7 provinces have decentralized the urban property tax to municipalities. Even in those seven provinces, the property tax is not fully decentralized since provinces often retain responsibilities for the valuation of properties. In the absence of a full decentralization of tax authority, the efficiency gains of decentralizing property taxes have not materialized. Municipalities rely on the creation of a broad range of diverse and small fees to compensate for the lack of power to raise taxes; those fees have high efficiency costs. The transfer system to subnational governments is complex and outdated. The allocation formula for distributing provincial transfers to municipalities lacks flexibility, with low weight given to local needs and redistributive criteria.

In spite of the increased expenditures in real terms, per capita municipal expenditures remain low, with municipalities in peri-urban metropolitan Buenos Aires having among the lowest spending per capita. Municipalities spend more than half of their current resources for personnel—an indication of budget rigidity. Municipalities allocate an important but declining share of their budget to core urban functions, with an increasing shift in expenditures toward social services. In spite of the greater needs, the top five agglomerations spend a smaller share of their resources on basic urban services than do smaller agglomerations. Municipalities lack predictable sources of funding for capital expenditures. Capital expenditures account for only 16 percent of total expenditures, and
they are the lowest in the top five agglomerations. The lack of predictable sources of funds for capital expenditures is an obstacle for multiyear investment planning.

Introduction

Argentina’s government has three levels: federal, provincial, and local. Argentina comprises 23 provinces plus the city of Buenos Aires—which has attributions of both a municipal and a provincial government. Each province has its own constitution. According to the National Institute of Statistics and Censuses (INDEC 2010), of the 2,294 local governments, 1,148 are constituted as municipalities. The Constitution of Argentina, as amended in 1994, makes local governments part of the provincial regime, leaving to the provinces decisions about the scope of attributions to local governments. Therefore, 23 different provincial laws determine the functions, attributions, and financial resources of local governments. Consequently, institutional mandates of municipalities in Argentina vary significantly, depending on the province in which they are located, and it is not possible to characterize local governments’ institutional arrangements uniformly.

In general terms, functions under the jurisdiction of municipalities include basic urban services, such as street lighting, street cleaning, solid waste collection, public transport, municipal road maintenance, monitoring and regulation of vehicular traffic, conservation of local monuments, and hygiene and safety inspections of commercial establishments. That range of municipal functions is performed with varying intensity, depending on the institutional structure of each province and the characteristics of each municipality.

Overall, municipal functions are limited in Argentina compared with the functions that are traditionally decentralized to municipal governments in other countries. For example, it is worth noting that providing water and sanitation services to households (which are traditional local government functions in most countries) is generally not within the purview of Argentine municipalities. Generally, water and sanitation services are provided by provincial utilities.

The number and complexity of the functions performed by municipalities, in particular those that are part of the largest agglomerations, have, however, been increasing over time. It has been observed that in recent years some municipalities, moved by citizen demand, have started assuming responsibilities in areas such as public safety, the environment, and social protection. This general trend has arisen through a combination of the following three circumstances.

First, new functions are explicitly transferred through rules or administrative acts from the national or provincial government to municipal governments, such as certain activities related to health, education, or public safety. For example, some municipalities in the Buenos Aires province now have local police forces, although the province collaborates in financing them.

Second, new functions are also transferred implicitly, without any rules or administrative acts, from the federal or provincial government to municipal governments. Transfer occurs when certain activities cease to be performed at the
higher jurisdictional level or are insufficiently or inadequately performed, leading to citizens and social actors to direct their demands to the local authorities because of proximity. In response, municipal governments—for both political and social reasons, and despite not having the legal mandate or the necessary financial support—initiate actions to meet the demands of their population in areas as diverse as local economic development, employment, public safety, health care, or education (for example, some municipalities in the Córdoba province are now responsible for maintaining public school buildings, and municipalities in several provinces have created a specific agency for local economic development).

Third, municipal governments are taking on new emerging policy areas because of their increasing closeness to the public. These new areas are not always adequately covered by the allocation of financial resources between levels of government, and they modify and expand the local public agenda, incorporating new sectors, problems, and approaches. Some examples include environmental protection and climate change, promotion of different channels of citizen and community participation to strengthen the democratic processes, and development of policies to improve jurisdictional coordination in the largest agglomerations.

Table 7.1 presents a broad allocation of responsibilities among the three levels of governments. Nevertheless, as mentioned earlier and explained in detail in the chapter, the responsibilities of municipal governments vary significantly by province.

### Table 7.1 Allocation of Responsibilities among Three Levels of Government

<table>
<thead>
<tr>
<th>Government level</th>
<th>Responsibilities and functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal</td>
<td>National defense, foreign affairs, foreign trade regulation, postal services, telecommunications and utilities, higher education, federal justice, national highways, health policies, social security, and basic education policies</td>
</tr>
<tr>
<td>Federal and provincial</td>
<td>Economic development and regional infrastructure, water supply and sanitation, social protection, and housing</td>
</tr>
<tr>
<td>Provincia</td>
<td>Basic, secondary, and higher education; teacher training; provincial highways; provincial justice; and social security</td>
</tr>
<tr>
<td>Provincial and municipal</td>
<td>Health services, sanitation services, and civil defense</td>
</tr>
<tr>
<td>Municipal</td>
<td>Traditional functions: street lighting, street cleaning, solid waste management, public transport, maintenance of public roads, maintenance of public places, traffic management, conservation of local monuments, social security, hygiene and safety inspections of commercial establishments Newly transferred or implicit functions: local economic development, climate change, health services, education, and public safety</td>
</tr>
</tbody>
</table>

**Source:** Based on World Bank 2015

**Notes:**

- a. Some provincial governments are responsible for higher education, managing public universities.
- b. In the largest agglomerations, water and sanitation services are provided as follows: in peri-urban metropolitan Buenos Aires, services are provided by a national public utility; a provincial public utility; municipalities, or cooperatives; in Córdoba and Mendoza, services are provided by a concession at the provincial level; in San Miguel de Tucumán and La Plata, services are provided by a provincial public utility; and in Rosario, services are provided by a public utility, of which 51 percent is owned by the province, 39 percent is owned by the municipality, and 10 percent is owned by the utility workers.
- c. Some provinces and municipalities have transferred their public servants' social security systems to the federal government.
Box 7.1 Methodology for Municipal Finance Analysis

The municipal finance analysis presented in this chapter is based on 277 municipalities with more than 2,000 people selected across the country. The sample (including the 277 municipalities and the city of Buenos Aires) covers a population of about 26.5 million people (70 percent of Argentina’s population). The characteristics of the sample are presented in table B7.1.1. The analysis aims to present the fiscal situation of the municipalities, including municipal resources, expenses, financial autonomy, and financial results. More details about the methodology for the analysis are presented in López Accotto 2015.

Results are presented and analyzed by region and by agglomeration size. For the purpose of the analysis, municipalities are grouped into agglomerations, as defined by the National Institute of Statistics and Censuses (INDEC 2010). For example, the analysis for the top five agglomerations category (between 700,000 and 1.5 million inhabitants) is based on a total of 13 municipalities that are part of these five agglomerations. It is, however, important to note that the sample is not always representative of each city size category. The city of Buenos Aires is not included in the average results for the country, as the city has attributions of both a municipal and a provincial government.

### Table B7.1.1 Sample Coverage

<table>
<thead>
<tr>
<th>Category of agglomeration</th>
<th>Population size (in thousands)</th>
<th>Percentage of national population</th>
<th>Number of municipalities</th>
<th>Percentage of population within the category&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Percentage of national population&lt;sup&gt;b&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peri-urban metropolitan Buenos Aires&lt;sup&gt;c&lt;/sup&gt;</td>
<td>27</td>
<td>24&lt;sup&gt;d&lt;/sup&gt;</td>
<td>93</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Top five</td>
<td>700–1,500</td>
<td>13</td>
<td>13</td>
<td>81</td>
<td>11</td>
</tr>
<tr>
<td>Large</td>
<td>300–700</td>
<td>11</td>
<td>20</td>
<td>91</td>
<td>10</td>
</tr>
<tr>
<td>Intermediate</td>
<td>100–300</td>
<td>8</td>
<td>20</td>
<td>97</td>
<td>8</td>
</tr>
<tr>
<td>Small</td>
<td>50–100</td>
<td>8</td>
<td>29</td>
<td>68</td>
<td>5</td>
</tr>
<tr>
<td>Towns</td>
<td>2–50</td>
<td>24</td>
<td>171</td>
<td>18</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>91&lt;sup&gt;e&lt;/sup&gt;</td>
<td>277&lt;sup&gt;f&lt;/sup&gt;</td>
<td>—</td>
<td>63</td>
<td></td>
</tr>
</tbody>
</table>

**Source:** López Accotto 2015.

**Notes:**
- a. Coverage is calculated as a percentage of total population of the agglomerations within the category included in the sample. Sample coverage as a percentage of the population in the regions is as follows: metropolitan Buenos Aires (94 percent), Pampeana (76 percent), Northwest (48 percent), Northeast (47 percent), Cuyo (56 percent), and Patagonia (48 percent).
- b. Coverage is calculated as a percentage of national population included in the sample in each category.
- c. The city of Buenos Aires is treated as a separate category for the purpose of the municipal finance analysis given its special jurisdiction.
- d. Peri-urban metropolitan Buenos Aires covers departments, or partidos, from 32 municipalities that belong to the Buenos Aires province, including 14 municipalities and the partial area of an other 18. The sample covers the following 24 of the 32 municipalities in peri-urban metropolitan Buenos Aires: Almirante Brown, Avellaneda, Berazategui, Esteban Echeverría, Ezeiza, Florencio Varela, General San Martín, Hurlingham, Ituzaingó, José C. Paz, La Matanza, Lanús, Lomas de Zamora, Malvinas Argentinas, Merlo, Moreno, Morón, Quilmes, San Fernando, San Isidro, San Miguel, Tigre, Tres de Febrero, and Vicente López.
- e. The total excludes the city of Buenos Aires, which has a special jurisdiction, and 4 percent of the population which does not live in municipalities. They live instead in territories governed by municipal committees, governing boards, local commissions, or rural communities, among other entities.
- f. This sample covers 24 percent of the municipalities in the country, excluding the city of Buenos Aires, which has a special jurisdiction.
This chapter evaluates the state of municipal finance in Argentina and identifies the key challenges. It analyzes the fiscal situation of a sample of 277 municipalities across the country (as detailed in box 7.1), including information on revenues and expenditures from 1993 to 2013 based on López Accotto (2015). The principal indicators evaluated are (a) own-source revenues (taxes, royalties, fees, and contributions), (b) transfers from national and provincial jurisdictions, and (c) capital resources and expenditures. The chapter is organized in three sections. The first section provides an overview of municipal finances, including financial autonomy and municipal tax burden; the second and third sections then carry out an assessment of municipal revenues and expenditures, respectively, highlighting the key constraints that the current municipal finance system poses on municipalities’ ability to respond to their obligations toward their constituencies.

Municipal Finance Overview

While the participation of municipal governments in public expenditures has remained constant in the past 20 years at 9 percent (see table 7.2), in absolute terms municipal expenditures have increased over time, in part as a result of the observed increase in the functions of municipalities discussed earlier. However, the increase of municipal governments’ functions has not been matched by a similar increase in revenues. Municipal revenues’ share of total public revenues decreased considerably from 6 percent in 1993 to 4 percent in 2013 (see table 7.2). As figure 7.1 shows, the gap between total expenditures and own-source revenues at the municipal level doubled between 1993 and 2013.

As a result, municipal financial autonomy decreased from 66 percent to 46 percent between 1993 and 2013, and municipalities need a greater transfer of resources to cover increasing expenditures. Municipal dependence on transfers from federal and provincial jurisdictions has therefore increased notably, as a way to offset the imbalance between municipal revenues and expenditures. However, this situation is significantly heterogeneous across municipalities, hence, the importance of accounting for differences across regions and agglomeration sizes.

On average, municipalities collect 46 percent of the current revenues at their disposal. Municipal financial autonomy, however, varies significantly by region, as shown in figure 7.2. Municipalities located in the Cuyo, Northeast, and

### Table 7.2 Share of Revenues and Expenditures, by Level of Government, 1993 and 2013

<table>
<thead>
<tr>
<th>Level of government</th>
<th>Total revenues (percent)</th>
<th>Total expenditures (percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1993</td>
<td>2013</td>
</tr>
<tr>
<td>Federal</td>
<td>78</td>
<td>80</td>
</tr>
<tr>
<td>Provincial</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>Municipal</td>
<td>6</td>
<td>4</td>
</tr>
</tbody>
</table>

Source: General Sarmiento University and Government of Argentina 2015.
Figure 7.1 Own-Source Revenues and Total Expenditures at Municipal Level, 1993 and 2013

Source: López Accotto 2015.
Notes: Based on a sample of 277 municipalities plus the city of Buenos Aires. Sample coverage is detailed in table B7.1.1.

Figure 7.2 Financial Autonomy: Municipal Own-Source Revenues as a Share of Total Municipal Current Revenues, by Region, 2013

Source: López Accotto 2015.
Notes: Based on a sample of 277 municipalities plus the city of Buenos Aires. Sample coverage is detailed in table B7.1.1. Results for metropolitan Buenos Aires are presented separately for the city of Buenos Aires and peri-urban metropolitan Buenos Aires. The city of Buenos Aires is not included in the average; its jurisdictional status is not comparable with other municipalities because it has attributions of both a municipal and a provincial government.
Northwest regions have the lowest financial autonomy, at 26 percent, 31 percent, and 32 percent, respectively. A significant disparity exists between the financial autonomy of the city of Buenos Aires, which, given its special jurisdiction, has a very high level of financial autonomy at 91 percent, and peri-urban metropolitan Buenos Aires, whose financial autonomy is much lower (49 percent), although close to the average for the sample.

Municipal finance autonomy also varies significantly by agglomeration size, as shown in figure 7.3. The fact that large agglomerations have less financial autonomy than the average raises concerns, considering their greater infrastructure needs and spending requirements. As shown in figure 7.3, towns have the lowest financial autonomy (31 percent of their current revenues are own-source), showing a high level of dependence on resources from other jurisdictions.

Municipalities tend to have a balanced budget, since they cannot incur debt and therefore need to match revenues with expenditures. On average, they have an operating surplus of about 1 percent. The highest surplus is observed in municipalities in peri-urban metropolitan Buenos Aires (4 percent). Comparing financial results by agglomeration size, smaller municipalities, which have less financial autonomy, are better off financially and show a small surplus. Conversely, large agglomerations, which have more fiscal autonomy, show the highest deficits (5 percent), albeit small, except those in peri-urban metropolitan Buenos Aires. The results could be explained in part by the fact that, in some provinces, the interjurisdictional revenue-sharing transfer system from provincial to local

Figure 7.3 Financial Autonomy: Municipal Own-Source Revenues as a Share of Total Municipal Current Revenues, by Agglomeration Size, 2013

Source: López Accotto 2015.
Notes: Based on a sample of 277 municipalities plus the city of Buenos Aires. Sample coverage is detailed in table B7.1.1.
governments (subsequently discussed) is implicitly biased toward small agglomerations because of the adoption of allocation criteria which distribute resources equally, benefiting the smaller municipalities.

The municipal tax burden (or fiscal pressure), a measure of the contribution that citizens make to sustain local public services, decreased from 1993 to 2008, then increased significantly from 2008 to 2013, but from a low base. Over the period 1993–2013, the municipal tax burden slightly increased as a share of gross domestic product (GDP) from 1.2 percent in 1993 to 1.4 percent in 2013. The tax burden of all municipal jurisdictions decreased from 1.2 percent to 1.0 percent of GDP from 1993 to 2008, and then increased from 1.0 percent to 1.4 percent of GDP between 2008 and 2013. In spite of the recent increase, the municipal tax burden as a share of total fiscal pressure is decreasing, representing 5.3 percent of total (federal, provincial, and local) fiscal pressure in 1993, and fell in 2013 to 3.5 percent—this decrease in the share is due to the large increase in tax burden at the national level. To maintain the same share, the municipal tax burden should have increased by 50 percent between 2008 and 2013, equivalent to about 2 percent of GDP in 2013. Figure 7.4 compares the tax burden across tiers of governments.

In the absence of GDP data disaggregated at the municipal level, average municipal revenue collection per capita is analyzed as a proxy of the per capita municipal tax burden. Overall, the per capita municipal tax burden amounts, on average, to only Arg$971 per year (including all municipal taxes, fees, rights, benefits, and fees). Figure 7.4 compares the tax burden across tiers of governments.

**Figure 7.4 Tax Burden as a Share of GDP, by Government Level, 1993–2013**

![Figure 7.4 Tax Burden as a Share of GDP, by Government Level, 1993–2013](http://dx.doi.org/10.1596/978-1-4648-0840-1)

**Source:** Based on General Sarmiento University and Government of Argentina 2015.

**Note:** GDP = gross domestic product.
and contributions) for municipal services, equivalent to Arg$2.70 per day. In the Northeast, Cuyo, and Northwest regions, the per capita municipal tax burden is especially low, equivalent to about Arg$358 to Arg$572 per year. In contrast, the highest tax burden per capita is found in the municipalities of the Pampeana region (Arg$1,356 per year). The trend by region and agglomeration size is presented in figures 7.5 and 7.6. Figure 7.6 shows how a citizen in the

**Figure 7.5** Annual Municipal Revenue Collection per Capita, by Region, 2013

![Figure 7.5](image)

*Notes:* Based on a sample of 277 municipalities plus the city of Buenos Aires. Sample coverage is detailed in table B7.1.1. Results for metropolitan Buenos Aires are presented separately for the city of Buenos Aires and peri-urban metropolitan Buenos Aires. The city of Buenos Aires is not included in the average because its jurisdictional status is not comparable with other municipalities, having attributions of both a municipal government and a provincial government. Revenue collection includes fees, rights, and contributions. Taxes collected by municipalities are not included, but these represent only about 4 percent of total municipal revenues.

**Figure 7.6** Annual Municipal Revenue Collection per Capita, by Agglomeration Size, 2013

![Figure 7.6](image)

*Notes:* Based on a sample of 277 municipalities plus the city of Buenos Aires. Sample coverage is detailed in table B7.1.1. Revenues include fees, rights, and contributions. Taxes collected by municipalities are not included, but these represent only about 4 percent of total municipal revenues.
municipalities comprising the top five agglomerations pays nearly Arg$1,393 per year, significantly higher than the per capita amount paid in the other agglomerations—including metropolitan Buenos Aires, where the federal government has historically had a greater role and provides some of the services in peri-urban metropolitan Buenos Aires. For example, people living in Córdoba pay twice the national average (Arg$1,917 per capita per year).

**Municipal Revenues**

Transfers are the main source of municipal revenues, accounting for 48 percent of total revenues and 54 percent of current revenues. The reliance on transfers has increased over the past two decades as a result of the deepening of the vertical imbalance—municipal expenditures have increased in real terms more than own-source revenues (see figure 7.1). Own-source revenues are the second largest source of municipal revenues, accounting for 42 percent of total municipal revenues and 46 percent of current revenues. Own-source revenues include municipal fees, rights, contributions, taxes, royalties, and other revenue sources levied directly by the municipalities (see table 7.3). However, a significant heterogeneity exists in the level and composition of own-source revenues among municipalities, as discussed later in this section.

Capital transfers are an important source of revenues for capital expenditures, accounting overall for 10 percent of total municipal revenues. One example of capital transfer are the revenues from the Federal Solidarity Fund (FSF), which are earmarked for capital expenditures, accounting, on average, for 2 percent of total municipal revenues. Whereas transfers from the FSF are automatic—that is, formula based—the other sources of capital expenditures, which account, on average, for 8 percent of total revenues, are discretionary. These other sources are usually allocated to the financing of infrastructure projects agreed between the federal government and the municipalities directly (see box 7.2).

<table>
<thead>
<tr>
<th>Table 7.3 Municipal Revenues’ Composition, 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Source</strong></td>
</tr>
<tr>
<td><strong>Current revenues</strong></td>
</tr>
<tr>
<td>Municipal fees, rights, and contributions</td>
</tr>
<tr>
<td>Other own-source municipal sources (taxes, royalties, and others)</td>
</tr>
<tr>
<td>Transfers from federal and provincial governments</td>
</tr>
<tr>
<td><strong>Capital revenues</strong></td>
</tr>
<tr>
<td>Federal Solidarity Fund (FSF)</td>
</tr>
<tr>
<td>Other sources of revenues for capital expenditures</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

*Notes:* Based on a sample of 277 municipalities. The city of Buenos Aires is excluded.
Box 7.2 Transfers to Municipalities

Argentina has a federal system of government. It is characterized by a fiscal federalism that distributes resources from the federal government to the provinces and then from the provinces to the municipalities. Therefore, with a few exceptions, subsequently discussed, municipalities receive the bulk of transfers directly from the provincial government.

**Provincial transfers**

Funds that municipalities receive from the provincial government are usually distributed through a tax-sharing system or coparticipación in Spanish, similar to how national funds are distributed to the provinces. Sharing systems provide resources to municipalities through automatic transfers that use formula-based allocation criteria. Therefore, these transfers are a predictable source of funding for municipalities. Provincial transfers are unconditional and are generally used to finance current expenditures, such as salaries, goods, and services.

A critical component of any tax-sharing scheme, besides the primary and secondary distributions, is the determination of the tax-sharing amount. Generally, it includes what the province receives from the national tax-sharing system (excluding revenues from transfers that are not included in the tax-sharing system, such as the value added tax or income tax). Additionally, in the provincial tax-sharing amount, the province could include, but is not obliged to, the proceeds of provincial taxes or royalties (such as those coming from gambling establishments) and distribute them partially or completely among municipalities through parallel revenue-sharing systems.

**National transfers**

The revenues received by municipalities from the federal government by direct allocation (outside the aforementioned tax-sharing system) have begun to play an important role in local financing in recent years. The transfers include funds for financing major public works and for supporting social outreach programs administered by municipalities. It is important to distinguish two main types of direct allocation from the federal government to the municipalities:

- **Direct transfers to municipalities.** Earmarked allocations (that is, for an objective and defined purpose) are not automatic and are often the result of direct negotiations. Therefore, they do not always reach all Argentine municipalities. These funds are set to finance specific capital expenditures (such as public lighting, public roads, and construction of health facilities and social centers, among others).
- **National resources transferred from provinces to municipalities.** The main mechanism by which the federal government allocates resources to all municipalities automatically—through the provinces—is the Federal Solidarity Fund (FSF), whereby a share of the national collection of soybean export taxes is distributed among municipalities to be used for capital expenditures in infrastructure.

**Notes:**
a. Primary distribution refers to how much of the funds received by the province are distributed to municipalities. Secondary distribution refers to how those funds are shared among municipalities in the province.
Dependence on transfers varies significantly by region. Municipalities in the Cuyo and northern regions are the most dependent on transfers. Transfers account for 68 percent to 74 percent of current revenues respectively in those regions. The city of Buenos Aires is the least dependent on transfers, with about 91 percent of its current resources coming from own-source revenues. If analyzed by agglomeration size, the results indicate that the importance of transfers increases as agglomeration size decreases. This trend is also observed in other Latin American countries, probably due to the need to guarantee a minimum level of public service provision in smaller cities, which tend to have fewer financial resources (Garriga and others 2015). Own-source revenues therefore acquire more relevance in the larger municipalities, as observed in table 7.4.

While municipal fees, rights, and contributions account for a sizable share of municipal revenues (accounting for about 38 percent of municipal current revenues), the collection of taxes and royalties has a small impact on municipal revenues. On average, municipal taxes account for only about 2 percent of municipal current revenues (excluding the city of Buenos Aires), ranging from zero in the Cuyo region and peri-urban metropolitan Buenos Aires to 11 percent in the Patagonia region (see table 7.5). Royalties from the exploitation of natural resources are particularly important in the Patagonia region, where oil and gas production is a relevant activity. If analyzed by agglomeration size, municipal taxes have minimal importance on overall current revenues across all agglomeration size categories, with the exception of metropolitan Buenos Aires (where taxes are an important source of revenues for the city of Buenos Aires) (see table 7.4).

The rest of this section discusses in more detail the composition of municipal own-source revenues and the transfers to municipalities.

| Table 7.4 Municipal Current Revenues’ Composition, by Agglomeration Size, 2013 |
|---------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Category                        | Own-source revenues<sup>a</sup> | National and provincial transfers<sup>b</sup> | | | |
|                                 | Fees, rights, and contributions (percent) | Taxes levied by municipal governments (percent) | Royalties levied by municipal governments (percent) | Other own-source revenues (percent) | Total own-source revenues (percent) |
| Metropolitan Buenos Aires       | 18               | 56              | 0               | 3               | 77              | 23              |
| Top five                        | 48               | 2               | 0               | 6               | 56              | 44              |
| Large                           | 35               | 3               | 0               | 4               | 42              | 58              |
| Intermediate                    | 38               | 4               | 3               | 4               | 49              | 51              |
| Small                           | 33               | 2               | 0               | 6               | 41              | 59              |
| Towns                           | 25               | 1               | 1               | 4               | 31              | 69              |

Source: López Accotto 2015.
Notes: Based on a sample of 277 municipalities plus the city of Buenos Aires. Sample coverage is detailed in table B7.1.1.
<sup>a</sup> Some municipalities collect taxes on behalf of provinces and receive a percentage in return. This amount is considered in the estimation of own-source revenues.
<sup>b</sup> Tax-sharing system or other transfers.
Leveraging the Potential of Argentine Cities

Table 7.5 Municipal Current Revenues’ Composition, by Region, 2013

<table>
<thead>
<tr>
<th>Region</th>
<th>Own-source revenues^a</th>
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<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Fees, rights, and</td>
<td>Taxes</td>
<td>Royalties</td>
<td>Other own-</td>
<td>Total own-</td>
<td>National and</td>
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<tr>
<td></td>
<td>contributions</td>
<td>levied</td>
<td>levied by</td>
<td>own-source</td>
<td>own-source</td>
<td>provincial</td>
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<tr>
<td></td>
<td>(percent)</td>
<td>by municipal</td>
<td>governments (percent)</td>
<td>revenues (percent)</td>
<td>revenues (percent)</td>
<td>transfers (percent)</td>
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<tr>
<td>Peri-urban metropolitan</td>
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</tr>
<tr>
<td>Buenos Aires</td>
<td>44</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>49</td>
<td>51</td>
<td></td>
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<tr>
<td>Pampeana</td>
<td>41</td>
<td>1</td>
<td>0</td>
<td>5</td>
<td>47</td>
<td>53</td>
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<tr>
<td>Cuyo</td>
<td>21</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>26</td>
<td>74</td>
<td></td>
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<tr>
<td>Northwest</td>
<td>27</td>
<td>3</td>
<td>0</td>
<td>2</td>
<td>32</td>
<td>68</td>
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<tr>
<td>Northeast</td>
<td>21</td>
<td>7</td>
<td>0</td>
<td>3</td>
<td>31</td>
<td>69</td>
<td></td>
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<tr>
<td>Patagonia</td>
<td>22</td>
<td>11</td>
<td>10</td>
<td>5</td>
<td>48</td>
<td>52</td>
<td></td>
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<tr>
<td>Total municipalities</td>
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<tr>
<td>(excluding city of</td>
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<tr>
<td>Buenos Aires)</td>
<td>38</td>
<td>2</td>
<td>1</td>
<td>5</td>
<td>46</td>
<td>54</td>
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<td>City of Buenos Aires</td>
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<td>81</td>
<td>0</td>
<td>3</td>
<td>91</td>
<td>9</td>
<td></td>
</tr>
</tbody>
</table>

Source: López Accotto 2015.
Notes: Based on a sample of 277 municipalities plus the city of Buenos Aires. Sample coverage is detailed in table B7.1.1.
^a Some municipalities collect taxes on behalf of provinces and receive a percentage in return. This amount is considered in the estimation of own-source revenues.
^b Tax-sharing system or other transfers.

Own-Source Revenues

Revenues from fees, rights, and contributions are the main source of own-source revenues for municipalities. They are primarily composed of two main fees, the general services fee\(^6\) and the inspection fee for safety and health\(^7\) and account for 60 percent to 80 percent of own-source revenues. In practice, fees are not linked to the costs of services, but they are levied on the basis of property values or commercial revenues. For example, the fiscal value of properties (as estimated by the province) is used to set the general services fee, whereas the inspection fee for safety and health is set on the basis of commercial revenues. This arrangement does not allow for an efficient matrix of fees, leading municipalities to collect, on the one hand, an insufficient amount to cover provision of basic services—such as street lighting, street sweeping, and collection of solid waste—and, on the other hand, an amount that largely exceeds the cost of the service for the inspection fee for safety and health. The reliance on fees, which are delinked from the cost of service provision and have all the characteristics of taxes, has also led to a duplication of tax efforts and inefficiency in tax collection—for example, the general services fee has the same tax base as the property tax that is levied by the provinces (López Accotto 2015). As a levy associated with commercial and industrial activities, the inspection fee for safety and health may also affect the location decision of firms and thus the competitiveness of the local economy.

There are significant variations in the importance of fees across regions and city size categories. The general services fee is a more important source of
revenue in metropolitan Buenos Aires (accounting for 42 percent of municipal fees, rights, and contributions in peri-urban metropolitan Buenos Aires and 64 percent in the city of Buenos Aires) and in the municipalities of the Cuyo region (47 percent) and less important in the Northeast (20 percent) and Northwest (29 percent) regions. In contrast, the inspection fee for safety and health is more important in municipalities in the Northwest and Northeast regions (50 percent and 42 percent, respectively). It is also an important source of revenue for the top five agglomerations (53 percent). The importance of this fee varies significantly across the largest agglomerations, ranging from 29 percent in metropolitan Buenos Aires to 71 percent in San Miguel de Tucumán (see figure 7.9). For the city of Buenos Aires, the inspection fee for safety and health is less important because the city operates a provincial tax with similar characteristics (gross income tax). Figures 7.7 and 7.8 show the composition of municipal fees, rights, and contributions by region and agglomeration size.

Municipalities rely on a broad range of diverse and small fees to augment their revenues. Fees classified under the generic term other represent a significant portion of own-source revenues. Among those diverse sources of revenue are fines, fees for the use of land and municipal facilities, property income, sale of goods and services, and operating income. On average, these other revenue sources represent about 24 percent of total municipal fees, rights, and contributions, being closer to 35 percent in the Northeast and Patagonia regions, as well as in intermediate, small agglomerations, and towns (see figures 7.7 and 7.8). Municipalities

![Figure 7.7 Composition of Municipal Fees, Rights, and Contributions, by Region, 2013](image)

*Notes:* Based on a sample of 277 municipalities plus the city of Buenos Aires. Sample coverage is detailed in table B7.1.1. Results for metropolitan Buenos Aires are presented separately for the city of Buenos Aires and peri-urban metropolitan Buenos Aires. The city of Buenos Aires is not included in the average because its jurisdictional status is not comparable with other municipalities, having attributions of both a municipal government and a provincial government.
generally introduce these fees to compensate for their lack of power to raise taxes at the local level. As a result, they can have a distortionary effect by discouraging businesses from locating within the municipal limits. One example is the fee charged to cell towers. Multiplication of fees also generates inefficiencies, because they are costly to administer and thus increase collection costs significantly.
Taxes account for a marginal share of own-source revenues (see table 7.3). Fewer than half of the provinces have decentralized some kind of tax authority to their municipalities. Only 10 out of 23 provinces have transferred some tax authority to municipalities, defined as the power to (a) collect the tax and (b) decide coverage and tax rate. In the other provinces—despite the fact that in some instances taxes are collected by municipalities on behalf of the provinces—tax authority is not transferred to municipalities, which do not have the power to decide coverage and rate of the taxes. Of the 10 provinces which have transferred some tax authority to municipalities, only the Chubut province has decentralized the gross income tax and the rural property tax to municipalities, whereas all 10 provinces have decentralized the motor vehicle tax. Authority to collect urban property taxes is decentralized in seven provinces.

The Buenos Aires province has transferred tax collection functions to municipalities, but it has not decentralized tax authority. Municipalities in this province collect three taxes on behalf of the provincial government: (a) sales tax (for small taxpayers only), (b) motor vehicle tax (only for vehicles that are more than 10 years old), and (c) rural property tax. However, the power over the tax (who to tax and how much to raise) is retained by the provincial government. The municipalities of the Buenos Aires province transfer collected taxes to the provincial government, retaining for themselves only a minor percentage as commission for the collection services. These taxes are difficult and costly to administer and may therefore represent a burden to the municipalities, considering the limited revenues accrued to them. The city of Buenos Aires is a special case, as it concentrates the taxing powers of both the provincial level (taxes on gross income, property, motor vehicle, sales, and other) and the municipal level (fees, rights, and contributions). Table 7.6 shows the degree to which tax authority is transferred to municipalities in the 10 provinces that have decentralized some tax attributions.

In the absence of full decentralization of tax authority, the collection efficiency gains of decentralizing property taxes have not materialized. A recent study of the fiscal effect of decentralizing property taxes found no significant

<table>
<thead>
<tr>
<th>Province</th>
<th>Gross income tax</th>
<th>Urban property tax</th>
<th>Rural property tax</th>
<th>Motor vehicle tax</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chaco</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Chubut</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Córdoba</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Corrientes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Formosa</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Jujuy</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Neuquén</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Salta</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Santa Cruz</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Tierra del Fuego</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Source: Based on General Sarmiento University and Government of Argentina 2015.
Note: a. The property tax is not fully decentralized because valuation is often done by the province.
differences in collection efficiency between municipalities and provinces (López Accotto and others 2014). In part, the results can be explained by the fact that even in the provinces where the property tax is transferred to municipalities, the tax is not completely decentralized, as provinces often retain responsibilities for the valuation of properties. When the provincial governments do the valuation but do not collect revenues, they lack the incentive to update or reappraise the properties, resulting in important forgone revenues for municipalities. For example, in Corrientes, the province does property valuations, and the municipality retains all the revenues collected.

From a theoretical point of view, full decentralization of tax authority is desirable. Decentralizing full authority to update property values to municipalities should allow greater collection efficiency. However, without the technical capacity to appraise properties, decentralization of the property tax may not result in increased revenues for the municipalities. For example, in the Tierra del Fuego province, municipalities have the power to do the valuation; however, because the municipalities lack sufficient capacity, property values were updated only in 1991. Municipalities may also face challenges in updating property values because of (a) strong pressure from rural landowners (especially in areas with large estates) and (b) their limited technical capacity to regularly update assessed valuations and establish progressive tax rate structures for equity purposes.

**Transfers**

Financing subnational governments is accomplished through a complex and outdated revenue transfer scheme. Argentina has a tax-sharing system, coparticipación in Spanish, that distributes resources from the federal government to the provincial governments, and then from the provinces to the municipalities. The Federal Tax Sharing Law 23.548 of 1988 provides for the distribution of fiscal resources between the federal government and the provinces. Likewise, each province has its own system of transfers that distributes resources to the municipalities. In both cases, the transfer system is defined by three basic characteristics: (a) the amount to be shared; (b) the primary distribution, that is, the way in which the resources are shared between the federal government and the provinces, and between the provinces and municipalities; and (c) the secondary distribution, the way in which resources are distributed among the different provinces or municipalities, that is, horizontal distribution among jurisdictions at the same level.

The primary distribution from provinces to municipalities varies greatly across provinces. The Federal Tax Sharing Law 23.548 of 1988 does not mention how resources should be allocated from provinces to municipalities; it merely states that provinces must share some of the resources they receive from the federal government with their municipalities, without establishing criteria or percentages. Most provinces establish a percentage of each resource category (for example, federal tax-sharing transfers, royalties, gross income tax, or property tax) to be distributed to municipalities. Figure 7.10 shows the primary distribution weights for all provinces that have distribution codified by law. The Tierra del Fuego province distributes the largest amount (50 percent) to municipalities, followed by the Entre Ríos
and Santa Fe provinces (40 percent). On the other end of the spectrum are the Corrientes, Formosa, and Misiones provinces, which distribute only 12 percent.

Allocation formulas for the secondary distribution of provincial transfers to municipalities vary across provinces. Each province (except Jujuy, La Rioja, and San Juan) has its own tax distribution scheme codified in the provincial law. The Jujuy, La Rioja, and San Juan provinces allocate resources through specific annual laws or special agreements. Overall, allocation formulas are outdated and lack flexibility. In general, the allocation formulas do not take into account differences in local needs among municipalities nor include redistributive criteria. The most frequent criteria include equal distribution, population size, and collection of own-source revenues. Provinces usually give more weight to compensatory criteria (for example, collection of own-source revenues), providing more resources to municipalities with higher own sources, hence, with less need for financial assistance. Redistributive criteria, that is, allocation of more resources to poorer municipalities to guarantee a minimum service level to the most vulnerable population (for example, inverse of tax revenues or population with unmet basic needs), usually have lower weight in the distribution system. For instance, the Misiones and Tucumán provinces distribute resources exclusively on the basis of fixed coefficients, whereas the Catamarca province has a more complex system that uses six different criteria. The relative weight of the different criteria for the secondary distribution in each province is detailed in table 7.7.

Source: Based on General Sarmiento University and Government of Argentina 2015.
Notes: Jujuy, La Rioja, and San Juan are excluded. The share of provincial revenues distributed to municipalities is calculated as the mean of the distribution of nine provincial revenue categories: federal tax-sharing transfers (coparticipación in Spanish); royalties; gross income tax; urban property tax; rural property tax; motor vehicle tax; stamps; and others.
### Table 7.7 Secondary Distribution of Shareable Tax Collection (Percentage Weight of Each Criterion), by Province

<table>
<thead>
<tr>
<th></th>
<th>Buenos Aires</th>
<th>Catamarca</th>
<th>Chaco</th>
<th>Chubut</th>
<th>Córdoba</th>
<th>Corrientes</th>
<th>Entre Ríos</th>
<th>Formosa</th>
<th>La Pampa</th>
<th>Mendoza</th>
<th>Misiones</th>
<th>Neuquén</th>
<th>Río Negro</th>
<th>Salta</th>
<th>San Luis</th>
<th>Santa Cruz</th>
<th>Santa Fe</th>
<th>Santiago del Estero</th>
<th>Tierra del Fuego</th>
<th>Tucumán</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total population</strong></td>
<td>36</td>
<td>67</td>
<td>80</td>
<td>79</td>
<td>98</td>
<td>40</td>
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<tr>
<td><strong>Area</strong></td>
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<tr>
<td><strong>Inverse of total population</strong></td>
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<tr>
<td><strong>Population difference with the provincial capital city</strong></td>
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<tr>
<td><strong>Voters</strong></td>
<td>34</td>
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<tr>
<td><strong>Rural population</strong></td>
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<tr>
<td><strong>Distance to the provincial capital city</strong></td>
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<td><strong>2. Criteria based on revenues</strong></td>
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<td><strong>Collection of own-source revenues</strong></td>
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<td><strong>Capital expenditures</strong></td>
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<td><strong>Municipal employees</strong></td>
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<thead>
<tr>
<th>Province</th>
<th>Inverse of municipal salary cost per capita</th>
<th>Expenditure for health services</th>
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<tbody>
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<td>Buenos Aires</td>
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<td>Catamarca</td>
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<td>Córdoba</td>
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<td>Corrientes</td>
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<td>Entre Ríos</td>
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<td>Formosa</td>
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<td>La Pampa</td>
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<td>Santiago del Estero</td>
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<td>Tierra del Fuego</td>
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<td>Tucumán</td>
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**4. Distributive criteria**

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Weight</th>
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</thead>
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<td>Population with unmet basic needs</td>
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<tr>
<td>Inverse of tax revenues</td>
<td>13</td>
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</table>

**5. Other criteria**

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Weight</th>
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</thead>
<tbody>
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<td>Equal parts</td>
<td>18 15 20 21</td>
</tr>
<tr>
<td>Fixed coefficients</td>
<td>5</td>
</tr>
</tbody>
</table>


*Note:* Jujuy, La Rioja, and San Juan are excluded.
The FSF is an important financial source for capital investments in municipalities, amounting to 2 percent of total revenues (see table 7.3). The FSF distributes among all provinces 30 percent of the taxes collected on soybean exports. The provincial governments are mandated to allocate 70 percent of the FSF for capital public investment and to distribute the remaining 30 percent—through the tax-sharing system—to their municipalities, which must also allocate those resources to capital expenditures. These transfers are characterized by not being completely freely available (as they should be devoted to capital expenditures and cannot finance current expenses or financial services); however, municipalities can decide how to invest them as long as they are used for capital expenditures. As subsequently discussed, the soybean export tax is subject to important fluctuations, since the amount depends on both the total volume exported and the international price.

**Local Expenditures**

Although municipal spending in Argentina has been steadily increasing over time, municipal spending per capita remains low. Per capita annual municipal expenditures are the lowest in municipalities in the Northeast region (Arg$1,920 in 2013), Cuyo region (Arg$2,119), and peri-urban metropolitan Buenos Aires (Arg$2,200), whereas the highest spending is observed in the Patagonia region (Arg$3,898) (see figure 7.11). By agglomeration size, the highest per capita annual expenditure is recorded in towns (Arg$4,293), whereas the lowest is observed in large agglomerations (Arg$2,509) (see figure 7.12).

**Figure 7.11 Annual Per Capita Municipal Expenditures, by Region, 2013**

![Bar chart showing annual per capita municipal expenditures by region in Argentina in 2013. The Patagonia region has the highest expenditure, followed by towns, with the lowest in the Northeast and Cuyo regions.]


*Notes:* Based on a sample of 277 municipalities. Sample coverage is detailed in table B7.1.1. The city of Buenos Aires is not included; its jurisdictional status is not comparable with other municipalities because it has attributions of both a municipal and a provincial government, and therefore per capita annual expenditures are significantly higher (Arg$16,547).
The differences in municipal spending in metropolitan Buenos Aires are particularly noteworthy; municipal spending per capita is Arg$2,200 in peri-urban metropolitan Buenos Aires compared to Arg$ 16,547 in the city of Buenos Aires.

Municipal spending in Argentina is significantly below the level of comparator countries. Municipal spending per capita in Argentine municipalities is, on average, 22 percent lower than their Colombian counterparts and 37 percent lower than their Brazilian counterparts (see figure 7.13). The municipalities in the Córdoba agglomeration have the highest per capita spending among the 277 Argentine municipalities included in the sample. Córdoba also surpasses the average spending of Colombian cities and approaches the values of comparable Brazilian cities such as Recife.

Municipalities spend more than half of their current expenditures for personnel—an indication of budget rigidity. Salaries and wages of municipal personnel average 57 percent (see figure 7.14). The share has remained broadly constant over time. That high concentration of expenditures in salaries and wages leaves little room to maneuver in other important areas of spending. The lowest percentage of expenditures on personnel is in peri-urban metropolitan Buenos Aires at 49 percent. It is worth noting that municipalities in the northern regions, where the economic base is highly dependent on public employment
Figure 7.13  Annual Per Capita Municipal Expenditures, International Comparison

Source: For Argentina, López Accotto 2015; for Brazil, IPEA 2015; for Colombia, SIELOCAL 2013.
Note: López Accotto 2015 is based on a sample of 277 municipalities.

Figure 7.14  Personnel Expenditures as a Share of Municipal Current Expenditures, by Region, 2013

Source: López Accotto 2015.
Notes: Based on a sample of 277 municipalities plus the city of Buenos Aires. Sample coverage is detailed in table B7.1.1. Results for metropolitan Buenos Aires are presented separately for the city of Buenos Aires and peri-urban metropolitan Buenos Aires. The city of Buenos Aires is not included in the average because its jurisdictional status is not comparable with other municipalities, having attributions of both a local government and a provincial government.
(see chapter 4), have the highest levels of spending for personnel, at 66 percent (see figure 7.14).

Municipalities spend an important share of their budgets on core urban functions. On average, core urban functions accounted for about 55 percent of municipal expenditures in 2009. Core urban functions comprise general administrative expenses (including costs of executive, legislative, and fiscal management; human resources management; procurement; contracting; information technology; and so forth) and basic urban services (including solid waste collection, street lighting, cleaning and maintenance of streets, and public spaces).

Although core urban functions absorb the bulk of current municipal expenditures, there has been an increase in focus on local spending for social services. In 1980, Argentine municipalities spent 72 percent of their expenditures on core urban functions (38 percent for general administrative expenses and 34 percent for basic urban services), and about 14 percent on social services (including health and social assistance). By 2009, although the same functions still constituted almost 90 percent of municipal expenditures, the composition of local spending had changed significantly. On the one hand, core urban functions lost weight, accounting for a declining share of total current expenditures (from 72 percent to 55 percent). It is noteworthy that the allocation of expenditures for basic urban services declined from 34 percent to 24 percent. In contrast, the allocation of expenditure for social services increased from 14 percent to 31 percent over the same period (see figure 7.15). Within social

![Figure 7.15 Allocation of Municipal Expenditures, Selected Functions, 1980 and 2009](image_url)

**Source:** López Accotto 2015.

**Note:** Allocation of municipal expenditures does not add to 100 percent as only main functions are included in the graph.
services, social assistance programs are the main expenditure items, accounting for 22 percent of municipal expenditures in 2009. These trends suggest that core urban functions, in particular delivery of basic services, may receive less than an optimal amount of resources as a result of the increased focus on social expenditures.

Solid waste collection and street lighting are among the basic urban services within the jurisdiction of all local governments. It is therefore of interest to compare spending for these two functions across agglomerations. On average, solid waste collection and public lighting account for about 12 percent and 2 percent of total current municipal expenditures, respectively. In both cases, municipalities rely on the general services fee to cover the costs of basic services (although the fee is not directly linked to the cost of services and not always sufficient to cover the costs). Spending on solid waste collection services is particularly important in peri-urban metropolitan Buenos Aires, accounting for 14 percent of current expenditures compared with only 7 percent in municipalities in the Northeast region (see figure 7.16). In general, as shown in figure 7.17, solid waste collection is a more important expenditure in larger agglomerations. It is, however, noteworthy that the top five agglomerations spend a lower share of their current expenditures on solid waste collection than large and intermediate cities.

**Figure 7.16 Municipal Expenditures on Solid Waste Collection and Public Lighting as a Share of Municipal Current Expenditures, by Region, 2013**

![Chart showing municipal expenditures on solid waste collection and public lighting as a share of current expenditures by region, with bars indicating expenditures by Cuyo, Northeast, Northwest, Pampeana, Patagonia, and Peri-urban metropolitan Buenos Aires.](chart)


*Notes:* Based on a sample of 277 municipalities. Sample coverage is detailed in table B7.1.1. The city of Buenos Aires is not included; its jurisdictional status is not comparable with other municipalities because it has attributions of both a municipal and a provincial government.
Current expenditures account for the bulk of municipal expenditures, representing 84 percent of municipal expenditures, with capital expenditures accounting for the remaining 16 percent in 2013. Municipalities in the northern regions have the highest share of capital expenditures. In municipalities in the Northeast and Northwest regions, capital expenditures reach 25 percent and 20 percent of total expenditure, respectively. Of all the regions, municipalities in the Patagonia and Pampeana regions have the lowest percentages of capital expenditures over total expenditures, at 12 percent and 13 percent, respectively, as shown in figure 7.18. Analyzing expenditure patterns by agglomeration size reveals important variations. The top five agglomerations allocate only 9 percent of their spending to capital expenditures. The difference in the capital expenditure share between metropolitan Buenos Aires and the top five agglomerations is noteworthy. Capital expenditures range from 9 percent in the top five agglomerations to 19 percent in metropolitan Buenos Aires, as observed in figures 7.18 and 7.19.

Comparing capital expenditures by local governments is a complicated task since institutional arrangements, functions, and responsibilities can differ greatly across countries. With this caveat in mind, an international comparison with two other federal countries, Brazil and Mexico, shows a slightly smaller share of capital expenditures by local governments in Brazil compared with Argentina, but a much higher one in Mexico (see table 7.8).

Municipalities lack predictable sources for financing long-term improvements in municipal assets. In addition to transfers from the provinces
Figure 7.18  Capital Expenditures as a Share of Total Municipal Expenditures, by Region, 2013

Average (excluding city of Buenos Aires)

Source: López Accotto 2015.
Notes: Based on a sample of 277 municipalities plus the city of Buenos Aires. Sample coverage is detailed in table B7.1.1. Results for metropolitan Buenos Aires are presented separately for the city of Buenos Aires and peri-urban metropolitan areas. The city of Buenos Aires is not included in the average; its jurisdictional status is not comparable with other municipalities because it has attributions of both a municipal and a provincial government.

Figure 7.19  Capital Expenditures as a Share of Total Municipal Expenditures, by Agglomeration Size, 2013

Source: López Accotto 2015.
Notes: Based on a sample of 277 municipalities plus the city of Buenos Aires. Sample coverage is detailed in table B7.1.1.

Table 7.8 International Comparison of Municipal Capital Expenditures as a Share of Total Municipal Government Expenditures

<table>
<thead>
<tr>
<th>Country</th>
<th>Share (percent)</th>
<th>Brazil, 2007</th>
<th>City</th>
<th>Share (percent)</th>
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<tbody>
<tr>
<td>Brazil, 2007</td>
<td>11.4</td>
<td></td>
<td>São Paulo</td>
<td>14.7</td>
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<tr>
<td>Mexico, 2006</td>
<td>38.7</td>
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<td>Rio de Janeiro</td>
<td>9.8</td>
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<tr>
<td>Argentina, 2005</td>
<td>14.8</td>
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<td>Porto Alegre</td>
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Source: Eguino and others 2010.

Source: IBGE 2015.
(which are used mostly for current expenditures), municipalities receive ad hoc direct transfers from the federal government for funding public investments; however, the magnitude and timing of the funding are hard to predict since those transfers are the result of direct negotiations between the municipalities and the federal government and are not allocated using a formula. Except for the city of Buenos Aires, municipalities cannot borrow or issue bonds to cover the costs of multiyear investments. Land-based financing is not a common practice except in the largest agglomerations (see chapter 6). In the absence of other sources of funding, the FSF has become an important source for municipal capital expenditures, as discussed earlier (see table 7.3). Since the funds are not earmarked, municipalities have the flexibility to use the resources according to their needs. However, the resources distributed to provinces and municipalities tend to be volatile, because the FSF is funded by a tax on soy exports, which are highly sensitive to fluctuations in outputs and prices of key commodities.

On average, the FSF finances 12 percent of the municipal public investment, with significant regional variations. Because the FSF is managed at the federal level, resources can be targeted to areas where the gaps in infrastructure and economic development outcomes are largest. Municipalities in the Northwest and Cuyo regions are highly dependent on the FSF for financing capital expenditures: 29 percent and 24 percent of total capital expenditures in the two regions, respectively, are funded by the FSF, as shown in figure 7.20. Figure 7.21 shows that the share of capital expenditures funded by the FSF ranges from 14 percent in small and intermediate agglomerations to 21 percent in the top five agglomerations, excluding metropolitan Buenos Aires, where the incidence is

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**Figure 7.20 Federal Solidarity Fund as a Share of Municipal Capital Expenditures, by Region, 2013**

![Figure 7.20](image)

**Source:** López Accotto 2015.

**Notes:** Based on a sample of 277 municipalities plus the city of Buenos Aires. Sample coverage is detailed in table B7.1.1. Results for metropolitan Buenos Aires are presented separately for the city of Buenos Aires and peri-urban metropolitan areas. The city of Buenos Aires is not included in the average; its jurisdictional status is not comparable with other municipalities because it has attributes of both a local and a provincial government.
much smaller, representing 6 percent of capital expenditure in peri-urban metropolitan Buenos Aires and 3 percent for the city of Buenos Aires.

The lack of predictable sources of funding for municipal capital expenditures is an obstacle for multiyear investment planning, which is linked to the municipal budgeting process. The lack of long-term planning is a particular challenge for those municipalities with responsibility over capital-intensive services, such as water and sanitation, in addition to the core urban functions (solid waste collection, street lighting, and local roads). Furthermore, the high level of dependence on the FSF for capital expenditures in the top five agglomerations, combined with their small share of capital expenditures, is worrisome, given the volatility of the funds and the significant infrastructure needs of these agglomerations.

Notes

1. For example, the city of Buenos Aires does not have its own legal system, it is not divided into municipalities, and security is shared with the federal government.
2. Other local governments are registered in different categories or denominations, such as municipal committees, governing boards, local commissions, or rural communities, among others.
3. In the largest agglomerations, the provision of water and sanitation services is as follows: (a) in peri-urban metropolitan Buenos Aires, the services are provided by a national public utility, a provincial public utility, municipalities, or cooperatives; (b) in Córdoba and Mendoza, a concession at the provincial level; (c) Tucumán and La Plata, a provincial public utility; and (d) in Rosario, a public utility, where 51 percent is owned by the province, 39 percent by the municipality, and 10 percent by the utility workers.
4. Financial autonomy refers to the proportion of a municipality’s current resources that come from own-source revenues. They include fees and contributions, as well as taxes.

Source: López Accotto 2015.
Notes: Based on a sample of 277 municipalities plus the city of Buenos Aires. Sample coverage is detailed in table B7.1.1
and royalties that the municipality receives directly. They also include other resources, such as those from property income, operating income, sales of goods and services, and collection of fines and fees, among others. Methodologically, capital resources are not considered in measuring financial autonomy because of their often nonpermanent nature, and because they can deviate significantly in certain years.

5. Tax burden is defined as the collection of taxes, fees, rights, and contributions as a share of GDP.

6. Municipalities rely on the general services fee to cover costs of public lighting, street sweeping, cleaning and maintenance of public roads, as well as the collection of residential solid waste, among others.

7. The inspection fee for safety and health is charged by municipalities to cover the costs of inspection services that are intended to preserve the safety, health, and hygiene in commercial, industrial, and recreational activities or services that take place in local establishments or offices.

8. Rent of movable and immovable properties, interest on late payments, and local taxes on other financial assets.

9. For example, operating income from theaters, cinemas, and other sports, cultural, or recreational establishments, and even municipal public enterprises.

10. Data on municipal expenditures by purpose and function are available from the Ministry of Economy and Public Finance only for the 1980–2009 period. Consequently, recent data are not available and it is not possible to disaggregate municipal expenditures for specific functions by region and agglomeration size.

11. Municipalities would need approval from the provincial government to borrow, which has not occurred in recent years.

References


CHAPTER 8

Housing

Summary

This chapter looks at how Argentina’s housing challenges as well as sector policies and programs are affecting cities’ ability to tap agglomeration economies.1 Argentina, unlike other comparable countries in Latin America, has experienced an increase in the quantitative housing deficit, in spite of the significant resources allocated to increasing the housing supply through public-assisted housing programs. Access to adequate shelter is a challenge in cities, and affordability is a growing concern in the largest cities where wages have not kept pace with increasing housing prices. As a result of the contraction of mortgage lending after the financial crisis of 2001/02, major barriers to housing finance in Argentina have translated to only high-income populations having access to the formal housing market. Argentina’s low housing rental rate is also a constraint for a sustainable housing market.

The housing market also faces important supply-side constraints related to land use planning and availability of land. Serious bottlenecks exist in the supply of affordable serviced land in Argentine cities—that is, land that has access to utilities and services such as roads, piped water supply, and sewerage needed for development. Strict land use regulations such as minimum parcel size have further contributed to increased housing prices and to large numbers of people living in informal settlements. Argentina needs to address these supply-side constraints now so that they do not become binding constraints to housing development once the country achieves macroeconomic stability.

Although the Argentine government dedicates substantial public resources to housing, its challenge is the efficient use of those resources. Traditionally, the focus of public-assisted housing programs has been the delivery of housing units, rather than the provision of housing services—with limited attention being paid to the accessibility and functionality of the newly built housing developments. Most low-income housing is being developed in peri-urban areas of cities, resulting in low-density urban expansion. In addition, Argentina’s housing strategy of mainly
providing complete housing solutions has not resulted in adequate incentives for the private sector to participate in the provision of housing for low-income populations.

**Introduction**

Housing has a direct effect on the economies and welfare of Argentine cities. Adequate supply and good quality of housing have the potential to produce positive externalities such as more economical and efficient use of valuable urban land. Access to housing in and around central areas may increase economic productivity by enabling the concentration of people and jobs. By contrast, housing shortages, affordability issues, and limited mortgage lending may drive households—especially low-income households—to relocate to peri-urban areas that have lower prices, thus contributing to sprawl. Housing deficits in urban areas and the subsequent sprawl can significantly affect cities’ ability to take advantage of agglomeration economies, that is, the benefits that arise when firms and people locate near one another. At the same time, inadequate infrastructure, services, and connectivity can deepen the socioeconomic divide between the core and peri-urban areas by limiting access to quality urban services, schools, health care, and jobs for peri-urban residents.

This chapter discusses how housing challenges are affecting the ability of Argentine cities to take advantage of agglomeration economies. The chapter is organized into four sections. The first section provides an overview of the housing sector in Argentina and presents the institutional framework for the sector. The second section discusses constraints in the housing market, as well as the socioeconomic costs of the current housing deficits and lack of financing for housing. The third section provides an overview of a number of government programs that seek to address these challenges.

**Sector Overview**

The section provides an overview of the housing sector in Argentina. It first presents the main trends in the housing sector, with a focus on housing deficit, affordability, housing tenure, and informality. Trends in the quantitative and qualitative housing deficit over the period 2001–10 are analyzed by region and agglomeration size based on 2001 and 2010 population census data (INDEC 2001, 2010). The section then provides an overview of the institutional arrangements and main agencies involved in the housing sector.

**Main Trends in the Housing Sector**

The total housing deficit in Argentina has barely changed over the past decade. The deficit is estimated to affect about 3.5 million households—2 million of which are experiencing qualitative housing deficits—or approximately 21 percent of the population (see box 8.1 for a definition of housing deficits). Whereas the country saw an improvement in the qualitative deficit between
The quantitative deficit increased from 8 percent to 10 percent over the same period (INDEC 2001, 2010), unlike other comparable Latin American countries. The highest total deficit is observed in the northern regions (31 percent in the Northeast region and 30 percent in the Northwest region), and the lowest deficit is in the Pampeana and Patagonia regions at 15 percent and 16 percent, respectively (INDEC 2001, 2010). Nevertheless, Argentina’s housing deficit is significantly below the average in Latin American countries (Bouillon 2012). For example, the housing deficits in Bolivia, Nicaragua, and Peru were estimated to be more than 70 percent in 2009, whereas those in El Salvador, Guatemala, and Honduras were more than 50 percent (Bouillon 2012).

The quantitative deficit increased across all regions in Argentina between 2001 and 2010, with the exception of the Northeast region, where it has remained constant (INDEC 2001, 2010) (see figure 8.1). The highest increases were observed in the Cuyo region (from 7 percent to 10 percent) and metropolitan Buenos Aires (from 8 percent to 11 percent). The highest quantitative deficit in 2010 was observed in the Northwest region, at 13 percent, and the lowest was in the Pampeana region at 7 percent. The quantitative deficit has furthermore increased across cities of all sizes (see figure 8.2). The highest increases were observed in metropolitan Buenos Aires, the top five agglomerations (from

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**Box 8.1 Definition of Housing Deficits**

The interaction of supply and demand in the formal and informal housing markets in Argentina determines the level of access to quality housing. The housing deficit is understood as the gap between the need for housing and the supply. There are two types of housing deficits: a quantitative deficit and a qualitative deficit. Agglomeration with either one or both of these deficits are considered to be facing a housing shortage.

The **quantitative deficit** is equivalent to the number of housing units required to cover the current unmet demand for housing. The quantitative deficit includes (a) households living in housing units with inadequate living conditions, that is, units that are unrecoverable and must be replenished, and (b) co-habitation of households with more than one household per unit.

The **qualitative deficit** includes households living in housing units that require improvement in quality of materials, basic services, or space. The housing units considered under a qualitative deficit are those with recoverable problems. The qualitative deficit includes (a) units with critical overcrowding housing three or more people per room; and (b) recoverable housing units with problems such as low-quality materials or lack of services, that is, type B housing units according to the 2010 population census (INDEC 2010). Type B housing units are defined as having no water inside the unit, a toilet without water (lack of sanitation), or a floor made of dirt or loose materials.

**Sources:** Goytia and others 2015; INDEC 2010.
A number of top five and large cities saw particularly significant increases in their quantitative housing deficits between 2001 and 2010, including Santa Fe, Salta, and Rosario (with a deficit of 66 percent, 65 percent, and 63 percent, respectively).

Sources: Based on INDEC 2001, 2010.
Note: See box 8.1 for a definition of quantitative housing deficit.
The qualitative deficit decreased across all regions between 2001 and 2010 (see figure 8.3). Although the northern regions still have the highest qualitative deficits, they saw the largest reductions, from 29 percent to 20 percent in the Northeast region and from 24 percent to 17 percent in the Northwest region (INDEC 2001, 2010). Significant reductions were also observed in the Cuyo (from 11 percent to 7 percent), Patagonia, and Pampeana (both from 11 percent to 8 percent) regions. Furthermore, cities of all sizes experienced decreases in their qualitative deficit during this period (see figure 8.4). The most significant decrease was seen in large cities (from 17 percent to 11 percent) as well as in towns (from 19 percent to 13 percent). A number of large cities saw particularly significant decreases in their qualitative deficit, including Posadas, San Salvador de Jujuy, and San Juan (with declines of 43, 41, and 38 percent, respectively). Metropolitan Buenos Aires saw the smallest decrease in its qualitative deficit over the period (from 14 percent to 12 percent), and it now concentrates a larger share of the qualitative deficit in the country.

Between 2001 and 2010, 190,000 housing units were added to Argentina’s market annually (Goytia and others 2015). This new supply did not keep pace with the total increase in households, as 232,000 new households were formed annually during this same period. This gap translated into 42,000 households having to choose every year between either sharing housing with one or more other households or moving into alternative housing in informal settlements (Goytia and others 2015).

As expected, the incidence of qualitative and quantitative housing deficits is significantly higher in the bottom and second income quintiles of Argentina’s population (see figure 8.5). On the basis of a sample of 31 agglomerations...
Figure 8.4 Households with Qualitative Housing Deficit, by Agglomeration Size, 2001 and 2010

Sources: Based on Goytia and others 2015; INDEC 2001, 2010.
Notes: See box 8.1 for a definition of qualitative housing deficit.

Figure 8.5 Households with Housing Deficits, by Income Quintile, 2013

Source: Based on INDEC 2013.
Notes: Analysis is based on the EPH agglomerations; thus, comparisons across quintiles should be treated with caution because of the limited sample size. The first quintile is the bottom quintile and the fifth quintile is the top quintile. See box 8.1 for a definition of qualitative and quantitative deficits.
from the National Institute of Statistics and Census of Argentina’s (INDEC) Permanent Household Survey (Encuesta Permanente de Hogares, or EPH), about 38 percent of the households in the bottom quintile do not have access to adequate shelter, of which about 17 percent suffer from a quantitative housing deficit and an additional 21 percent suffer from a qualitative deficit. However, the wealthiest also face housing challenges. Overall, 10 percent of the households in the top quintile suffer from either quantitative or qualitative deficits. The fact that 7 percent of the households in the top quintile have a quantitative housing deficit is particularly worrisome (INDEC 2013).

Housing affordability is a growing concern in the largest agglomerations, where the increase in wages has not kept up with increases in housing prices. Comprehensive data on the distribution and dynamics of housing prices for Argentina’s cities are not available, making it difficult to assess levels of housing affordability. However, available evidence for the largest agglomerations indicates that Argentine housing prices are very high relative to household income and also high compared with other countries (Bouillon 2012). Unit prices of housing relative to household income also vary considerably across the main agglomerations, reflecting different demand and supply conditions (see figure 8.6). Wages in and around the city of Buenos Aires are higher than in other locations, but they have not increased in line with the cost of housing in the city. Whereas families in Rosario, Córdoba, and Mendoza require a savings of 6 to 7 years of their annual

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**Figure 8.6 Housing Prices Relative to Annual Household Income, Selected Municipalities, 2006–14**

Source: Based on Goytia and others 2015.

Note: A housing purchase price of more than five times the buyer’s annual income is either (a) beyond what the buyer can afford, or (b) an indication of a “hot” market in which housing is overpriced.
income to buy a 60-square-meter residence, equivalent housing in the city of Buenos Aires requires about 10 years of annual income (Goytia and others 2015). A housing purchase price of about five times the buyer’s annual income is generally considered a reasonable, affordable ratio; anything higher than that would be beyond what the buyer can afford.

Following decades of growth in homeownership rate since 1980, Argentina’s homeownership rates declined steadily between 2001 and 2012. The homeownership rate in 2012 was about 68 percent, down from 71 percent in 2001 (Goytia and others 2015). This level of homeownership is now comparable to that of many Latin American as well as Organisation for Economic Co-operation and Development (OECD) countries (see box 8.2). Although all income groups in Argentina saw a decline in ownership rates, the fall was more important for

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**Box 8.2 Homeownership Rates: International Comparators**

Argentina’s homeownership rate of about 68 percent is comparable to that of many other Latin American countries. Twelve countries in the region have lower rates of homeownership, with the lowest being that of Bolivia, at 50 percent, and seven countries have higher rates, with the highest being that of República Bolivariana de Venezuela, at 86 percent (IDB 2009). In comparison with countries outside of the region, Argentina has about the same rate as Denmark, the Netherlands, and Turkey. Metropolitan Buenos Aires saw a steep increase in homeownership rates between the 1950s and the 1970s, from 27 percent to 61 percent. The rate then increased at a much slower pace through the 1990s and 2000s, followed by a significant decrease of 10 percentage points since 2010 (see table B8.2.1). Many other cities in Latin America, including Guadalajara, Kingston, Mexico City, and Santiago, saw homeownership rates begin to decrease around 2010, after having similarly steady increases through the 2000s.

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**Table B8.2.1 Property Ownership Rates in Selected Cities, by Decade, 1950s–2010s**

<table>
<thead>
<tr>
<th>City</th>
<th>1950s</th>
<th>1970s</th>
<th>1990s</th>
<th>2000s</th>
<th>2010s</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mexico City</td>
<td>25</td>
<td>43</td>
<td>70</td>
<td>74</td>
<td>70</td>
</tr>
<tr>
<td>Guadalajara</td>
<td>29</td>
<td>43</td>
<td>68</td>
<td>68</td>
<td>64</td>
</tr>
<tr>
<td>Bogotá</td>
<td>43</td>
<td>42</td>
<td>54</td>
<td>46</td>
<td>42</td>
</tr>
<tr>
<td>Medellín</td>
<td>51</td>
<td>57</td>
<td>65</td>
<td>54</td>
<td>48</td>
</tr>
<tr>
<td>Cali</td>
<td>53</td>
<td>58</td>
<td>68</td>
<td>51</td>
<td>40</td>
</tr>
<tr>
<td>Santiago</td>
<td>26</td>
<td>57</td>
<td>71</td>
<td>73</td>
<td>63</td>
</tr>
<tr>
<td>Rio de Janerio*</td>
<td>38</td>
<td>54</td>
<td>63</td>
<td>70</td>
<td>74</td>
</tr>
<tr>
<td>São Paulo*</td>
<td>41</td>
<td>62</td>
<td>71</td>
<td>75</td>
<td>78</td>
</tr>
<tr>
<td>City of Buenos Aires*</td>
<td>27</td>
<td>61</td>
<td>62</td>
<td>67</td>
<td>57</td>
</tr>
<tr>
<td>Kingston</td>
<td>n.a.</td>
<td>n.a.</td>
<td>44</td>
<td>45</td>
<td>46</td>
</tr>
</tbody>
</table>

*Source:* Blanco and others 2014.

*Notes:* * = the central city and not the metropolitan area; n.a. = not applicable.
groups in the top and bottom quintiles, particularly between 2001 and 2005 (Goytia and others 2015).

The decline in Argentina’s homeownership rate between 2001 and 2010 was primarily the result of the financial crisis of 2001/02, after which mortgage lending for housing virtually disappeared in Argentina. The homeownership rate in metropolitan Buenos Aires, for instance, dropped significantly during this period from 67 percent to 57 percent (Blanco and others 2014), (see box 8.2). In parallel, Argentina’s rental rate increased from 15 percent to 18 percent in the 2001–10 period, and the occupancy rate (with or without permission) increased from 8 percent to 11 percent (Goytia and others 2015). Middle-income and upper-middle-income households constituted most of the increase in tenants, whereas the increase in occupants was mostly from lower-income groups. Despite these increases, rental rates remain very low in Argentina compared with other countries (see figure 8.10).

About 18 percent of Argentina’s total population currently resides in informal settlements—defined either as housing that lacks security of tenure or housing that has inadequate access to water and sanitation (Goytia and others 2015) (see box 8.3). The highest percentage of informal housing is found in the Northeast region (see figure 8.7). Agglomeration size does not explain variations in the

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**Box 8.3 Types of Informal Housing in Argentina**

Argentina has two categories of informal housing (Ver Cravino 2008). The first category includes villas or slums that have irregular layouts and that are generally on public land. Populations squat and establish temporary accommodations in abandoned structures, which then tend to become permanent. The second category consists of precarious settlements, where people occupy private lands that are subject to environmental and health risks, such as flooding. The main differences between these two types of informal settlements are shown in table B8.3.1.

**Table B8.3.1 Categories of Informal Settlements**

<table>
<thead>
<tr>
<th>Villas or slums</th>
<th>Precarious settlements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irregular occupation, generally on public land</td>
<td>Irregular occupation, generally on private land</td>
</tr>
<tr>
<td>Occupation of vacant urban land in good locations</td>
<td>Occupation of poor-quality land (often subject to flooding)</td>
</tr>
<tr>
<td>that are close to centers of production and commerce</td>
<td>with statutory restrictions (garbage dumps, wasteland, or floodplains)</td>
</tr>
<tr>
<td>No previous urban planning; spontaneous occupation</td>
<td>Urban plans applied, including cadastre data</td>
</tr>
<tr>
<td>with intricate pedestrian passageways</td>
<td>verification and planning of streets and public spaces</td>
</tr>
<tr>
<td>The sum of individual occupations</td>
<td>Collective organization of a group</td>
</tr>
<tr>
<td>High population density</td>
<td>Low population density</td>
</tr>
</tbody>
</table>

percentage of informal housing (Goytia and others 2015). Current levels of informality are broadly comparable across city size, ranging from 15 percent in intermediate cities to 18 percent in towns, large cities, and metropolitan Buenos Aires. The challenges of informal housing are, however, particularly severe in metropolitan Buenos Aires considering the size of the population. It is estimated that in 2006, metropolitan Buenos Aires had a total of 819 informal settlements (Goytia and others 2015). Of those, 23 were in the city of Buenos Aires, 473 were in the first ring of the metropolitan area—which comprises higher-density municipalities—whereas 323 were in the second ring, made up of less densely populated municipalities, some of which still have rural areas. Although they house a little more than 1 million people, such informal settlements are high density and account for only about 2.3 percent of the total territory of occupied land. These informal settlements have existed for more than 50 years, but most of their growth has occurred during the past 30 years (Goytia and others 2015).

Figure 8.7 Households Living in Informal Settlements, by Region, 2010

Source: Based on INDEC 2010.
Note: Households living in informal settlements include those with no security of tenure or those living in housing units with inadequate access to water and sanitation. Given that households tend to underreport their informal tenure status, lack of access to water and sanitation was included in the definition of informal settlements together with informal tenure.

Institutional Setting
One of the central characteristics of the institutional framework in Argentina’s housing sector is the advanced state of decentralization of housing policy to the provinces, with limited involvement of the municipalities. Law No. 24.464 of 1995 shifted responsibilities to formulate, regulate, implement, and oversee housing policy from the federal government to the provincial governments (represented by the Provincial Housing Institutes [Institutos de Vivienda Provinciales] and, in the city of Buenos Aires, by the City Housing Institute [Instituto de Vivienda de la Ciudad]) with the objective of improving access to adequate housing for low-income populations.
The decentralization of public responsibilities for housing led to a reorganization of the federal housing system (see box 8.4). However, since the introduction in 2012 of the national housing program Programa Crédito Argentino (PRO.CRE.AR) managed by the federal government, most of the housing funding for PRO.CRE.AR is channeled to the program by the federal government, bypassing local and provincial governments.

**Box 8.4 Argentina’s Housing System**

The decentralization reform enacted through Law No. 24.464 of 1995 led to a reorganization of Argentina’s federal housing system, with the objective of promoting access to adequate housing for low-income populations. The current system is formed by the (a) National Housing Fund (Fondo Nacional de la Vivienda, or FONAVI); (b) the provincial entities responsible for housing, i.e., the Provincial Housing Institutes (Institutos de Vivienda Provinciales), and in the city of Buenos Aires, the City Housing Institute (Instituto de Vivienda de la Ciudad); and (c) the National Housing Council (Consejo Nacional de Vivienda, or CONAVI).

FONAVI was created in 1972 and became the main channel to attend the housing needs of the low-income population. Over the next two decades, the programs funded through FONAVI focused mostly on the production of housing units and were highly centralized, resulting in poor performance in the use of resources (Zanetta 2007). To address this shortcoming, the decentralization reform introduced through Law No. 24.464 of 1995 established that FONAVI’s resources—that come from a share of the fuel tax—be distributed to provinces through the tax-sharing mechanism, applying the criteria defined in the law and updated every two years.

Each province and the city of Buenos Aires have a housing institute to address the housing needs of the low-income population—These entities use the funds received from FONAVI mainly at their own discretion within two broad expenditure parameters: no more than 20 percent is to be used for infrastructure, and at least 45 percent is to be used for mortgage loans for construction, acquisition, or improvement of housing units.

CONAVI, created through the Law No. 24.464 of 1995, is formed by representatives of provincial governments, the city of Buenos Aires, and the federal government. CONAVI has the following functions: (a) to oversee the overall federal housing system; (b) to advise federal, provincial, and local governments on housing issues; (c) to assess housing needs and define objectives of the system; (d) to coordinate implementation of housing programs; and (e) to determine budget allocations to FONAVI on the basis of indicators of efficiency in the allocation of funds and in the recovery of FONAVI’s loan arrears. CONAVI also defines the eligibility and selection criteria for households to receive assistance in accessing housing.

In 2015 the Secretariat of Housing and Habitat was established within the Ministry of the Interior, Public Works, and Housing as the federal entity in charge of national programs for enabling access to affordable and adequate housing, all as well as regularization and upgrading of informal settlements. The Secretariat is responsible for managing the Federal Programs, coordinating FONAVI’s activities, and representing the federal government in CONAVI.

In the absence of a comprehensive national housing policy, the federal government’s main role over the years has been the financing and construction of new houses, long after many governments around the world had shifted away from this approach. Over the years, the federal government has also implemented a variety of housing-assistance programs centered on the provision of housing services, rather than the delivery of housing units—title regularization, services to sites, home improvements, infrastructure upgrading, to mention a few examples—but always on a relatively small scale, consuming a very small share (7 percent to 8 percent at most) of the total housing budget.

Governments at the provincial level have similarly not developed comprehensive housing strategies, thus resulting in multiple programs that currently overlap and that, in many cases, do not allocate public resources efficiently. Provincial governments are better suited than are local governments to tackle housing challenges because of their broader spatial vision and the high degree of institutional fragmentation that characterizes metropolitan areas in Argentina. And yet, in many cases, provinces lack the capacity or the incentives to address housing challenges and to coordinate with local governments in the implementation of housing programs because of competing priorities.

Federal mechanisms for coordination of the housing sector are also limited and largely intended for technical cooperation rather than actual decision making. For instance, the National Housing Council (Consejo Nacional de Vivienda, or CONAVI) brings together the different government levels to coordinate housing, but it has no regulatory power to enforce decisions (see box 8.4).

Constraints in the Housing Market

The increasing quantitative housing deficit, issues of affordability, and the high level of housing informality are the primary challenges facing the housing market in Argentina today. A number of constraints, both demand-side and supply-side, are contributing to those challenges, as described in this section. Following the financial crisis of 2001/02, the most binding constraints have been on the demand side. However, the housing market also faces important supply-side constraints related to land use planning and availability of land.

The increasing importance of Argentina’s quantitative deficit is related to demand-side constraints caused by market failures in housing finance. A key factor driving the current housing deficit is the contraction of mortgage lending after the financial crisis of 2001/02. Although the 1990s saw a deepening of the mortgage market to just above 4 percent of gross domestic product (GDP), mortgage lending plummeted after 2002 (see figure 8.8). Macroeconomic uncertainty and high inflation rates have impeded banks’ ability to assess credit risk beyond a short horizon, and political uncertainties have made it difficult to attract dollars from international investors (World Bank 2015a). The current stock of residential mortgage loans represents less than 1 percent of GDP, limiting households’ access to resources for housing.
Figure 8.8 Housing Mortgage Stock, 1994–2015

Source: Based on Goytia and others 2015.

Note: GDP = gross domestic product.
Compared with other Latin American countries, Argentina, with its 1 percent stock of mortgage loans, has a significantly underdeveloped mortgage market. Mortgage loans represented 20 percent of GDP in Chile and 11 percent of GDP in Mexico in 2014. In contrast, public banks account for more than 80 percent of all mortgage transactions in Argentina, and nonbanking lenders are not present in the market (World Bank 2015a).

The housing finance offered by commercial banks is limited by the overall low performance of the credit market, a lack of long-term funding, and the uncertainty of mortgage contracts under macroeconomic volatility (judicial foreclosures were frozen after the financial crisis of 2001/02). Investment in housing is particularly constrained by the lack of long-term financing, with only 6 percent of bank loans in 2012 being over one year (World Bank 2015a). Deepening the credit market for housing is a challenge of national scope, equally affecting all agglomerations. Such demand-side factors that stem from the limited availability of housing finance are constraining development of Argentina’s formal housing market and forcing many households to develop their housing with personal savings (UN-Habitat 2011).

Several studies highlight the difficulties faced by Argentine households in accessing the credit market. Only 12 percent of all bank transactions in Argentina are related to housing finance, and only 2.3 percent of borrowers are mortgage borrowers (World Bank 2015a). The impossibility of adjusting mortgage capital—which would reduce interest rates—restricts access to finance for most of the population. Access to housing finance has declined in Argentina for almost all income segments (World Bank 2015a). Only those in the highest quintile of the population have access to mortgage loans, with lower- and middle-income classes excluded from the market because of high nominal interest rates that increase monthly installments (World Bank 2015a).

Because of such limited access to the mortgage market, housing finance in Argentina generally does not go through banks. Most real estate transactions today must be settled in cash and in U.S. dollars. Since much of the country’s population cannot pay in cash and lacks access to a mortgage, some developers now offer payment by installments, thus taking on the role of a bank.

The largest agglomerations face particular challenges from the lack of housing finance in terms of accessing mortgages, with national and international migration adding to existing deficits, thereby increasing pressure on housing prices and negatively affecting affordability (World Bank 2015a). For instance, since 2011, these hurdles to access financing have contributed to steadily decreasing the number of real estate transactions—an average decline of 10 percent per year—in the Buenos Aires province (World Bank 2015a).

The restricted access to mortgage finance and high inflation has not only limited the demand for new housing but also has affected housing supply. Developers have concentrated on the more lucrative high-end segment of the
housing market. The absence of low-risk financial assets in Argentina, plus the traditional perception that housing investment is safe, free from potential expropriations, and a hedge against inflation, have led to an increased demand for high-end properties as investments (Auguste and others 2011). That trend has contributed to further raising the price of housing relative to income in central locations of cities in the past decade. New construction that is intended for investment remains largely unoccupied, which is further limiting the supply of housing and pushing up prices.

Research has shown that in addition to demand-side constraints associated with the limited availability of mortgage finance, access to affordable serviced land is a binding supply-side constraint in Argentina’s urban housing market (Goytia and others 2015). Challenges for housing agencies and developers include acquiring serviced land or financing adequate infrastructure and services for housing projects in highly populated urban areas, particularly for low-income housing development (Goytia and others 2010).

Excessive regulation in some jurisdictions has further limited the supply of land. Argentina has one of the most stringent land use and urban development regulations in Latin America (Monkkonen and others 2013). As discussed in chapter 6, Goytia and others (2010) estimate the effects of land use regulation on the supply of housing and informal housing tenure. The study finds that strict regulations, high fees and approval costs for residential project registration processes, cumbersome bureaucratic procedures, and the long approval process have a negative effect on the supply of formal housing. Their study also finds that the regulatory frameworks for municipal land use constrict access to formal housing markets for low-income families by incorporating urban standards that are inappropriate to the social reality of low-income households. For example, regulation setting a minimum parcel size has proved an impediment to regularizing informal settlements. In the province of Buenos Aires, when Decree-Law No. 8912 of 1977 set the minimum for lot sizes at an area equivalent to 300 square meters, it had the effect of eliminating the low-income segment of the housing market, which had played a big part in providing low-income populations with access to housing.

Some efforts have recently been made to increase the housing supply in core urban areas through higher-density developments (including by allowing for multistory construction in central areas, such as in the case of Salta (see box 6.6 in chapter 6). However, provision of infrastructure and services is a challenge for higher-density development in Argentina, as in many Latin American countries that are trying to accommodate their growing urban populations. As illustrated in figure 8.9, Blanco and others (2014) find that the greatest infrastructure deficits in Argentina are among owned properties without a deed (at 21.9 percent); however, rental properties and owned properties with a deed have significantly less infrastructure deficits (at 5.4 percent and 12.6 percent, respectively).
Such land use restrictions, in conjunction with demand-side constraints, have contributed to the growth of informal settlements by discouraging developers from entering the lower-income segments of the housing market and thus limiting the supply of formal low-income housing. The examples of Los Pinos and Villa 31 highlight the challenges of regularizing informal housing in the presence of cumbersome regulations and, in the case of Villa 31, the complexity of intervening in a central location (see box 8.5). Conversely, those cities that succeeded in introducing innovation in land-based financing were able to increase housing supply by making land available for social or low-income housing (see box 6.7 in chapter 6).

The government plays the role of a housing developer in Argentina, with limited private sector–led interventions in the housing market. Whereas other Latin American countries, such as Colombia, have taken steps to promote private sector participation in urban renewal megaprojects (Smolka 2013), Argentina’s focus on increasing the country’s housing supply for low-income households has not been accompanied by an equal effort to promote private sector–led urban regeneration policies that allow for revitalization of inner-city cores with good infrastructure and access to services. However, some cities have started promoting partnerships to pool public and private resources for funding urban development and infrastructure. For instance, the famous riverfront project of Puerto
Box 8.5 Regularization Efforts in Central and Peri-Urban Metropolitan Buenos Aires: The Cases of Villa 31 and Los Pinos

Villa 31 is an informal settlement that developed in 1932 in the downtown area of the city of Buenos Aires. Villa 31 and another piece of land known as Villa 31 bis occupy a valuable strategic area in the city center, close to the train terminal Retiro (see photo B8.5.1). A number of forced eviction efforts by political powers to clear the occupied area were unsuccessful. According to the city of Buenos Aires censuses, the population of Villa 31 more than doubled between 2001 and 2009, having risen from 12,204 to 26,403. The settlement’s population growth was accompanied by a change in the growth pattern, creating vertical growth through the construction of multistory buildings. In the absence of proper sanitation or drinkable water services, the higher density led to serious overcrowding and environmental threats.

In 2009, an urbanization plan for the Villa 31 area was approved, setting more flexible planning standards to progressively provide property titles to area residents. The plan allowed area stakeholders to sidestep the strict regulations and long approval times that came at great costs to area residents and developers. The plan has not been implemented yet. The case of Villa 31 reflects the complexities of intervening in central locations, where high land values make decisions on housing solutions for low-income populations very difficult.

The case of the informal settlement Los Pinos highlights the potential of using community-based planning to increase access to affordable housing. An informal settlement surrounded by gated communities, Los Pinos, located in the peri-urban areas of the municipality of Escobar in the province of Buenos Aires, has a population that is 70 percent migrants.

Photo B8.5.1 Villa 31: An Informal Settlement in the Heart of the City of Buenos Aires

Source: © Ondina Rocca/World Bank. Further permission required for reuse.

box continues next page
Madero, in the city of Buenos Aires, as well as similar projects in Rosario and Córdoba, was designed with the rationale of attracting private investors to carry out projects in strategic areas; the resources mobilized through such projects are expected to contribute to finance the development of other, less attractive areas of the city.

In Argentina, public-assisted housing programs have mostly focused on reducing the housing deficit for low-income households, with limited attention being paid to the accessibility and functionality of the newly built housing developments. Newly built low-income housing units have largely consisted of individual single-story units (with an average density of 50–200 inhabitants per hectare) located in the peri-urban areas of cities. Promoting these unconnected, low-density housing developments on the outskirts of cities, where services are lacking, is contributing to the low-density expansion pattern characterizing agglomerations in Argentina, as illustrated by the case of Posadas (see map 8.1 and chapter 5). A few intermediate cities, such as La Rioja, have started promoting social housing projects aimed at creating higher-density areas (up to 200–300 inhabitants per hectare). However, such higher-density social housing projects are located outside of consolidated urban areas (see map 8.2), increasing leapfrog, or noncontiguous, urban development over open areas (Duarte 2010).

Despite homeownership decreasing in recent years, Argentina still has one of the lowest rental rates (15 percent) in Latin America (see figure 8.10). The rental market provides greater housing options to meet the differing needs of residents.
It also has a number of benefits over homeownership, including greater flexibility to move based on employment opportunities and greater opportunity to invest in assets other than housing, because households are not burdened with the financial risk of a single, undiversified investment (Blanco and others 2014). Despite the advantages of renting, the formal rental market in Argentina remains restricted across all income groups. Figure 8.11 shows that no clear relationship is found between renting and income in Argentina’s urban areas (Blanco and others 2014). The city of Buenos Aires has one of the lowest shares of rental market housing in Latin America (15 percent), compared with Bogotá (41 percent), Mexico City (20 percent), and Rio de Janeiro (19 percent). And the rental market in Argentina is significantly smaller than that of OECD cities such as Berlin (89 percent), Amsterdam (74 percent), and New York (55 percent) (World Bank 2015b).

Argentina’s lack of effective rental policies is constraining the development of formal rental markets. Only the city of Buenos Aires has introduced a program to provide incentives to promote rent and rental insurance is largely absent (Blanco and others 2014). Most of the Argentine rental market is informal as...
Figure 8.10 Housing Rental Rates in Latin America and the Caribbean, Selected Countries

Source: Blanco and others 2014.
Note: Data are for 2006, except for Antigua and Barbuda and Jamaica, whose figures are for 2001.
renters face onerous rental requirements. For example, the formal guarantee of a homeowner in the area is needed to rent housing. Real estate dealers impose such guarantor requirements in their rental agreements to ensure that tenants demonstrate their payment capacity by having property owners in the city back them. The guarantor signs a legal document agreeing to cover the amount owed by the tenant in case of failure to pay. Such high rental standards make it very difficult for most of the population, not only the poor, to access formal or quality rental housing. Even those able to afford units are often unable to rent because they do not know a homeowner willing to sign as their guarantor. For the highest-income segments, financial companies offer insurance that guarantees landlords compensation in case of nonpayment. However, much of the population has no choice but to rent in substandard, informal areas. An expanded rental market with lowered barriers to entry would thus benefit low-income households that may prefer to rent in a central area rather than to live in peri-urban informal housing to reduce commuting times, avoid costs associated with building their own homes, and have better access to urban services (Blanco and others 2014).

**Government’s Programs to Address Challenges in the Housing Market**

As a share of total national expenditures, federal government spending on housing and urban development decreased from 3.9 percent in 2006 to 0.9 percent in 2012 (Goytia and others 2015). This drop was followed by a recovery in the years, with expenditures exceeding 2.0 percent of total national expenditure after 2013.
(see figure 8.12). In 2014, government investment in housing and urban development represented 0.8 percent of GDP (Goytia and others 2015). Thus, the challenge the Argentine government faces is not so much increasing the housing budget, but rather using the available resources more efficiently and involving the private sector.

While Law No. 24.464 of 1995 decentralized housing policy to provinces, provincial expenditure on housing is limited. About 90 percent of provincial spending on housing is financed by the federal government through national programs (Goytia and others 2015). On average, 5.1 percent of provincial budgets are spent on housing and urban development, representing about Arg$21,780 million in 2014, which is equivalent to 0.5 percent of GDP (Goytia and others 2015). Nor is provincial expenditure on housing correlated with the extent of the housing challenges. Figure 8.13 illustrates the distribution of expenditure on housing by province, showing that the share spent by each province on housing and urban development is not correlated with the extent of its housing deficit. In particular, whereas the Buenos Aires province concentrates about half of the quantitative housing deficit in Argentina, its expenditure on housing and urban

Figure 8.12  Federal Government Expenditure in Housing and Urban Development, 2003–15

Source: Based on Goytia and others 2015.
Notes: National government expenditure on housing and urban development includes national expenditure for housing development and for enabling access to housing units, and expenditure for the provision of adequate urban infrastructure as defined by the 2013 Manual of Budgetary Classifications for the National Public Sector available at http://www.mecon.gov.ar/onp/html/manuales/clasificador13.pdf.
development represents only 6.2 percent of the total expenditure in this sector for all provinces combined (Goytia and others 2015).

Public-assisted housing programs in Argentina responded to the dual objectives of reducing the housing deficit and generating employment in the aftermath of the financial crisis of 2001/02. In part because of the need to meet these dual objectives, the focus of Argentina’s approach to public-assisted housing traditionally has been centered on the delivery of housing units, rather than the provision of housing services. More recently, public-assisted housing programs have also started to address demand-side constraints associated with the limited availability of mortgage finance.

The main federal housing programs in Argentina can be classified in the following three broad categories:

- The Federal Programs, which are executed by the federal government itself under agreements with the provinces or municipalities and focus on increasing the housing supply for low-income populations, with the federal
government taking care of the design, localization, and bidding for the housing developments.  

- The program administered and funded by the National Housing Fund (Fondo Nacional de la Vivienda, or FONAVI) and executed by the provinces that since 2003, has delivered about 200,000 housing units (Ministry of the Interior, Public Works, and Housing 2015).  

- PRO.CRE.AR, which is an ambitious national program promoted, managed, and funded by the federal government to increase access to housing finance (World Bank 2015a) (see box 8.6).

In spite of their important contribution to reducing the housing deficit, Argentina’s public-assisted housing programs have been unable to effectively address the housing needs of low-income families. The main challenges faced:

**Box 8.6  Facilitating Access to Housing Finance through PRO.CRE.AR**

The more recently established PRO.CRE.AR aims at addressing demand-side constraints by facilitating access to credit for housing construction. The program facilitates access to housing for low- and middle-income populations, mainly through lending for construction and acquisition of housing. The program, which started in June 2012, aims to provide 400,000 mortgage loans over four years, and it is open to 90 percent of households at subsidized rates. PRO.CRE.AR has a number of credit lines for: (a) construction, for families who have their own land; (b) construction and land, for families who do not own land; (c) extension and completion, for families who have a house and wish to extend it or complete the construction; (d) home improvements; and (e) new housing, for families who wish to buy a home through PRO.CRE.AR (World Bank 2015a).

PRO.CRE.AR extended loans valued at about Arg$45 billion for the expected construction of 200,000 homes in its first three years of operation from 2012–15. These loans have been mostly extended to households in the provinces of Buenos Aires (33.9 percent), Santa Fe (14.6 percent), and Córdoba (13 percent). However, these loans represent almost all of the newly originated housing loans in the country. Loans are channeled only through Banco Hipotecario, so other banks are crowded out of the housing finance sector.

Despite PRO.CRE.AR’s impressive results, that success raises questions of sustainability. First, the program is fully funded by the federal government—half paid directly by the annual budget, and half passed on through subsidized (15 percent yield) 20-year bonds acquired by the Sustainability Guarantee Fund (Fondo de Garantía de Sustentabilidad, or FGS). Thus, the program creates considerable fiscal pressures. Second, it is not leveraged on the existing financial system, because even Banco Hipotecario does not mobilize its own liabilities. Third, a significant part of the subsidies are socially regressive because they benefit middle-income households—a common challenge in most federal housing programs in Argentina, as discussed subsequently (World Bank 2015a). Finally, the program does not appear financially sustainable because rates and maturity are deeply below market.

*Note:* a. Fixed rates range from 2 percent to 14 percent, with an average of 9 percent, for maturities up to 30 years.
by the housing programs are (a) the lack of effective targeting of housing subsidies to low-income households in the absence of transparent allocation criteria; (b) the limited participation of the municipalities and lack of integration with local planning efforts, which has led to unconnected, low-density social housing developments on the outskirts of cities and promoted sprawl as described earlier (see maps 8.1 and 8.2); and (c) the lack of alternative private sector solutions for middle-income households, which have captured a significant share of the benefits of the public-assisted housing programs. Such challenges highlight the need for federal and provincial governments to improve not only the design and implementation of housing programs, but also the monitoring of the resources allocated to existing programs.

Housing subsidies in Argentina form a significant part of the government budget at both the federal level and the provincial level, but they are not effective in reaching the poor. For example, historically, 40 percent of the public-assisted housing in metropolitan Buenos Aires has benefited the richer 60 percent of the population (Goytia and others 2015). The design of most housing subsidies has a number of flaws that constrain their efficiency in addressing the housing deficit of low-income households. First, most housing subsidies are implicit rather than explicit; therefore, estimating and evaluating their efficiency are difficult. Most subsidies are also not transparent. Instead, for example, implicit subsidies may include free land transfers or the sale of land below its market value, an incomplete accounting of actual construction costs, sale of units at below cost, financing of housing at below-market interest rates, and high levels of default on loan repayments (Angel 2001). Second, most housing subsidies are regressive—that is, they are targeted to higher-income groups and largely ignore lower-income groups. Third, subsidies for individual recipients are usually very large, thus preventing a broad distribution of funds to large segments of the population. Finally, the great bulk of subsidies focus almost exclusively on supporting the construction of complete housing units rather than investing in partial or progressive housing solutions.

While the focus of public-assisted housing programs has primarily been the delivery of housing units, the federal government has also implemented over the years several public-assistance housing programs to address informality. Since the 1990s, the government’s response to the growth of informal settlements has focused mostly on regularization policies, such as providing basic services, improving housing conditions, providing new housing, and titling land. One of the most notable programs with a focus on informal settlements is the Neighborhood Improvement Program (Programa de Mejoramiento de Barrios, or PROMEBA), which is supported by the Inter-American Development Bank (see box 8.7). This national program, initiated in 1997, is now in its third phase. It aims to improve the quality of life of people living in informal settlements through upgrading initiatives for slums and land titling.

In spite of the significant results, implementing such regularization programs has been slow for numerous reasons. Whereas there are no good data on overall progress in granting titles, and although the process has been initiated in many
communities, very few titles were granted through the 1990s (Angel 2001) and since then (see box 8.7). The legalization program in Argentina suffers from shortages of qualified personnel and funds, lack of adequate coordination, legal complexities, and, in some locations, lack of affordability on the part of beneficiaries. Box 8.8 presents an analysis of the barriers encountered by an urban upgrading program in the municipality of Rosario.

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**Box 8.7 Regularizing Land Tenure in Informal Settlements: The Experience of PROMEBA**

Security of tenure in Argentine cities constitutes a major challenge, which the federal government is addressing through a program to issue titles for informal settlements, the Neighborhood Improvement Program (Programa de Mejoramiento de Barrios, or PROMEBA). PROMEBA is a long-standing national program established in 1997 with the objective of upgrading informal settlements through land regularization and other efforts. The program seeks to ensure secure land tenure for informal dwellers to protect them against forced evictions and violations of basic human rights. Twenty-one provinces across Argentina are currently implementing projects under PROMEBA. The program delivered 59,345 plots between 1998 and 2007 at a total cost of US$891 million, or an average cost per plot of US$15,000. However, of the almost 60,000 plots, only 8.5 percent had been titled by 2009. Plans for land subdivision of informal settlements have been approved under the program, in an effort to improve tenure through titling.

PROMEBA’s titling goal is to formalize the tenure rights of at least 60 percent of plots under the program. However, the titling process has encountered various challenges. Such challenges include legal conflicts for occupant families, clashes with police resulting from attempted evictions, and other conflicts that hinder titling in the short to medium term.

*Source: Almansi 2009.*

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**Box 8.8 Barriers to Implementing Land Regularization Initiatives: The Experience of Rosario Hábitat**

In 2001, the municipality of Rosario implemented the program Rosario Hábitat to regularize informal settlements and improve the quality of life of their inhabitants. The program combined urban development initiatives with legal action and measures to create economic opportunities in informal settlements. The first phase of the program aimed to benefit 6,600 families, with a budget of US$71.7 million, 60 percent of which was a loan from the Inter-American Development Bank and 40 percent of which came from the municipality. The program, which by 2008 had been implemented in 11 settlements, was able to transform informal settlements into formal neighborhoods through a number of actions including: (a) development of new urban plans of the areas, (b) provision of basic services and community facilities,
Box 8.8 Barriers to Implementing Land Regularization Initiatives: The Experiences of Rosario Hábitat (continued)

(c) upgrading of housing, (d) provision of new housing for relocated families, and (e) granting of property titles to all families.

However, Rosario faced some barriers to implementing land regularization measures. The difficulties included (a) legal barriers, such as unresolved inheritance proceedings and the impossibility of finding the owners; (b) fiscal problems, such as liabilities with respect to property taxes and water bills; (c) noncompliance with land use regulation, that is, not meeting the requirements for land subdivision; (d) complex administrative processes to acquire occupied land; and (e) lack of urban land to build new houses.

Source: Almansi 2009.

Between 1989 and 1999, the two governments of President Carlos Menem introduced laws and decrees that aimed to legitimize the peaceful and undisturbed occupation of lands and buildings, while criminalizing any further squatting. However, the many different situations that require legalization, the variety of owners of public lands, the numerous agencies involved in regularization, and the absence of a unified legal procedure for regularization made progress slow and cumbersome.

In recent years, a number of initiatives have been implemented to speed up the regularization of informal settlements. The government of President Cristina Fernández de Kirchner created the Habitat Secretariat in 2014, with a budget of Arg$2.1 million fully dedicated to regularizing informal settlements for a total of 539,629 households—around 2 million people. The Habitat Secretariat launched a very ambitious program, which initially targeted 100 informal settlements, to provide infrastructure and apply regulatory changes to planning standards to allow for regularization. In addition, the Federal Law for Housing Tenure Regularization was submitted in 2015 for Congress’s approval. The law aims to facilitate the legal procedures for municipalities to acquire land occupied by informal settlements and to transfer land titles to the occupants, and it proposes the creation of a federal council. However, the law has not yet been approved.

The city of Buenos Aires has recently taken important steps to alleviate its housing problem by introducing innovative demand-side housing policies with significant potential for scaling up. Despite being the area with the lowest housing deficit, the city of Buenos Aires has registered a significant increase in its population residing in informal settlements. Because the city receives very little resources from FONAVI or the Federal Programs, it is funding and implementing its own public housing programs. Its innovative demand-side housing policy incorporates subsidized credit for households earning up to three times the minimum salary and a social rental housing policy for young people and students. This program has significantly reduced the need for direct construction of social housing in the city.
The municipality of Córdoba has also taken important steps to address housing challenges by providing local cooperatives with land and technical assistance for housing construction. The recipients are benefitting from programs financed by the federal government and managed by the Provincial Housing Institute.

Notes

1. This report uses the terms agglomerations, urban areas, and cities interchangeably.
2. Occupancy with permission refers to legal tenants authorized by the owner to use the house but who do not pay rent, such as a doorman; occupancy without permission refers to illegal tenants who do not pay rent.
3. Tenure refers to the legal arrangements under which people have the right to occupy their accommodation.
4. For example, see Angel (2001); Auguste and others (2011); Cristini and others (2004); Cristini and others (2011); and World Bank (2006).
7. The Federal Programs include, for example, the housing improvement program Mejor Vivir, which has the goals of ensuring completion, expansion, and renovation of housing for households with challenging living situations, such as no bathrooms or inside running water, overcrowding, or poor-quality materials.
8. FONAVI has delivered a smaller number of housing units than the Federal Programs. A critical difference is that FONAVI involves automatic transfers from the federal government to the provinces, while the Federal Programs are executed at the federal level through negotiated agreements with the provinces and in some cases with municipalities.
9. Studies highlighting how Argentina’s housing programs benefit higher-income households include Auguste and others (2011), Cristini and others (1997), and World Bank (2006).
10. Such as in the case of Villa Palito in the municipality of La Matanza.

References


Urban Transport

Summary

This chapter looks at how urban transport responsibilities, policies, and services are affecting cities’ ability to tap agglomeration economies. Larger cities in Argentina tend to have a higher percentage of trips by public transport, and metropolitan Buenos Aires has a more consolidated public transport system than comparable metropolitan areas internationally. Yet, the use of private modes of transport has drastically increased in urban Argentina, and motorbikes are becoming an increasingly important mode of transportation. Urban transport plans of Argentine cities are generally not coordinated with the cities’ broader urban plans. And lack of mechanisms for horizontal coordination is inhibiting effective expansion and improvements of the public transport systems in metropolitan areas. As a result, investments in public transport have not kept up with the extension of urban areas and population growth, leaving some lower-density urban areas with low-frequency and inferior-quality services.

Public transport service levels in metropolitan Buenos Aires have been unable to meet the increased demand from changes in mobility patterns, leading to a decline in ridership. Argentina’s top five and large agglomerations are not providing quality transport services to peri-urban areas, with central cities having much better public transport systems. In intermediate and small agglomerations, public transport systems are less well developed, leaving much of the population dependent on private transport modes.

Such transportation challenges are significantly affecting the ability of Argentine cities to take advantage of agglomeration economies. Evidence from metropolitan Buenos Aires shows that these shortcomings directly affect the economy and welfare of the metropolitan area by limiting mobility and accessibility, contributing to segregation and social exclusion, and diminishing quality of life.
Introduction

Urban transport has a direct effect on the economy and welfare of Argentine cities. It has the potential of producing positive externalities such as more efficient use of road space and lower use of fossil fuels. Public transport maximizes passengers along travel corridors with the least amount of emissions per passenger-kilometer traveled. At the same time, the availability of good, reliable, and affordable bus and rail services determines accessibility and connectivity within a city (Cervero 2011). In contrast, ineffective urban transport has important negative externalities, particularly in sprawling cities, including longer travel times, congestion, and an increased number of accidents. Ineffective transport systems also pose environmental challenges and deepen the socioeconomic divide between the core and the periphery of metropolitan areas. In most Argentine cities, the socioeconomic costs associated with transportation are increasing. Investments in public transport have not kept up with the extension of urban areas and the growth in population, which has left some lower-density urban areas with low-frequency and lower-quality services and resulted in longer travel times.

This chapter discusses how transport challenges are affecting the ability of Argentine cities to take advantage of agglomeration economies. The chapter is organized in four sections. The first section starts by providing an overview of the sector, and the second section defines the institutions responsible for urban transport. The third section then discusses the transport challenges faced by Argentine cities, taking into account special transport challenges related to the size of agglomerations. Finally, the fourth section draws on existing empirical evidence to explore the socioeconomic costs of deficiencies in public transport in metropolitan Buenos Aires.

Sector Overview

Public transport is the most common mode of transport in Argentine cities. In a sample of 12 of Argentina’s largest cities (comprising 57 percent of Argentina’s total urban population), 43 percent of all trips are by public transport, 27 percent of trips are by private transport, and nonmotorized transport constitutes the remaining 30 percent. When only motorized trips are considered, on average, 62 percent of trips are by public transport. Analysis shows a positive correlation between city size and use of public transport (see also the comparison of livability across agglomerations in chapter 11). Larger cities in the sample, such as San Miguel de Tucumán, Mendoza, and Salta, tend to have a higher percentage of trips by public transport, at 58 percent, 59 percent, and 65 percent, respectively. Public transport constitutes a lower percentage of motorized trips in the sampled smaller cities, ranging from 29 percent in Paraná to 34 percent in Neuquén (see figure 9.1).

As with larger cities, denser cities also tend to have more public transport ridership. There is a positive correlation between population density and use of public transport. Denser cities in the sample, such as metropolitan Buenos Aires, Salta, and Mendoza, tend to have a higher percentage of trips by public transport,
at 69 percent, 65 percent, and 59 percent, respectively. Public transport constitutes a lower percentage of motorized trips in the less dense cities in the sample, ranging from 29 percent in Paraná to 37 percent in Santa Fe (see figure 9.2). Evidence also shows that the public transport systems are more efficient in denser cities, with higher ridership per capita (see figure 9.3). Although the small sample size is not sufficient to detect regional differences, it shows that the agglomeration of Neuquén in the Patagonia region—where public transport constitutes about 34 percent of motorized trips—has a less consolidated public transport network, while cities in Pampeana, Cuyo, and the northern regions (Rosario, Córdoba, Posadas, and Salta) have important shares of trips by public transport (accounting for more than half of motorized trips) (see figure 9.2).

Metropolitan Buenos Aires has an extensive public transport system that includes the metropolitan rail, the underground metro in the city of Buenos Aires, and public buses (see box 9.1). Public transport accounts for about 70 percent of all motorized trips in the metropolitan area. Metropolitan Buenos Aires’ wide network of different modes of transport stands out for its large metropolitan rail system and extended bus system. As illustrated in figure 9.4, this level of public transport use is higher than in a number of comparable metropolitan areas such as London (54 percent), São Paulo (51 percent), Istanbul (52 percent), and Bangkok (43 percent) and is close to the level in Paris (66 percent).4

Despite Argentina’s high public transport coverage, the use of private modes of transport has drastically increased in urban Argentina. There has been a very large increase in the number of cars, motorbikes, taxis, and forms of informal
transport in Argentine cities. The number of new motor vehicles registered in Argentina increased by 133 percent over the period 1997–2014. The increase in private transportation over the past two decades is in line with the regional trend in Latin America, and as shown in figure 9.5, that increase is associated with the rise of the middle class (Ferreira and others 2012). Figure 9.6 shows the strong correlation between the increased motorization rates in four Latin American countries, including Argentina, and the growth of the middle class. Part of the increase in private cars in Argentina may also be the result of incentives introduced as economic recovery measures to purchase private vehicles, including low-interest and long-term financing for cars and motorbikes. Furthermore, without planning or regulatory frameworks to orient growth in a spatially balanced fashion, the low-density sprawl characterizing urban growth in Argentina has created higher demand for mobility, especially private mobility.

Mirroring a similar trend in the Latin American region, the motorization rate has increased in Argentina (see figure 9.6). The average number of annual car registrations in Argentina more than doubled over the past eight years, with a record number of new cars registered in 2013. This growth resulted in a slight increase in the share of private cars with respect to the total fleet over the period 2006–14. Whereas private cars constituted 74 percent of the total fleet in 2006, they made up 76 percent of the fleet in 2014. A clear regional concentration of
Box 9.1 Public Transport in Metropolitan Buenos Aires

Public transport in metropolitan Buenos Aires comprises an extended network of different modes of transport. The metropolitan rail system, with eight lines that connect the city of Buenos Aires with the peri-urban areas, has about 830 kilometers of rail line and 272 stations. Compared with other Latin American cities, metropolitan Buenos Aires has a large metropolitan rail system but a less developed underground metro system in the city. The underground metro system, covering only the city of Buenos Aires, has six subway lines and a light train corridor of about 52 kilometers and 91 stations, with a number of important line extensions under construction, such as lines H and E. This network is complemented by bus services, with 342 lines operated by about 200 enterprises. The system is about 25,000 kilometers served by 15,000 buses. This public system also includes about 40,000 taxis, 6,000 on-demand vehicles, and 41,000 charter services.

Source: Corporación Andina de Fomento 2011.
Figure 9.4 Percentage of Trips by Public Transport, Selected Metropolitan Regions


Figure 9.5 Growth of the Middle Class, 1990s and 2000s

Source: Ferreira and others 2012.

Note: Years vary across countries as follows: Argentina 1994 and 2009; Brazil 1990 and 2009; Chile 1992 and 2009; Mexico 2000 and 2008.
Figure 9.6 Motorization Rates (Cars and SUVs), 1998–2009

Sources: Based on ADEFA 2015; Government of Brazil, DENATRAN 2015; Government of Chile, INE 2015; ETAN 2015.
Notes: SUV = sport utility vehicle. Motorization rate is defined as the number of cars per 1,000 inhabitants.

Figure 9.7 Population Distribution, 2010, and Fleet of Cars, 2014, by Region

Sources: Based on INDEC 2010; National Transport Data Observatory 2015a.
Note: Definition of region adopted for analysis differs from the official definition because data were available at the province level and could not be further disaggregated. Thus, the Buenos Aires region comprises metropolitan Buenos Aires and the rest of the Buenos Aires province that officially belongs to the Pampeana region.

Private cars can be observed, with more than half in the Buenos Aires region, which accounts for about 46 percent of the whole national population (see figure 9.7). The Pampeana region has 22 percent of the private cars in the country and 20 percent of the population, and the remaining regions all have about 5 to 7 percent of the country’s total car fleet.

Motorbikes are becoming an increasingly important mode of transportation. The increase in motorbikes has been more significant than that of cars, with a tenfold growth in motorbikes over the past eight years compared with the annual
average in the 1997–2008 period (see figure 9.8). Motorbike ownership and use increased for different reasons than car ownership did. The surge in motorbike use in Argentina can be understood as a coping mechanism, providing a lower quality of transport but often the only transport option for populations with poor access to public transport. Motorbikes are providing improved access to job opportunities for those who cannot afford a car and who live in areas without good public transport options. The low initial cost of motorbikes, as well as the availability of long-term financing, low maintenance and operating costs, shorter commuting times, convenient parking, and versatility for non-intensive courier and delivery work make them accessible and attractive for middle- and lower-income populations. Motorbikes are also quickly replacing bicycles, a previously important mode of transport in some intermediate and small cities. A recent surge in motorbike ridership in intermediate and small cities—whose growth is mirroring the sprawling, low-density urban pattern of large cities’ peri-urban areas—is particularly affecting mobility patterns.

Argentina has notable regional differences in automobile and motorbike ownership. Figure 9.9 shows the Patagonia region’s much higher car ownership rate compared with other regions, with 50 percent greater yearly vehicle registration than the average for Argentina. In contrast, the northern regions have much lower automobile registration, with higher registration of motorbikes. An average of 1.3 motorbikes per person are registered in the four northern provinces—Santiago del Estero, La Rioja, Tucumán, and Chaco—compared

![Figure 9.8 Number of Registered Motorbikes, by Region, 1997–2014](image)

**Sources:** Based on DNPRA 1997–2014. **Note:** Definition of region adopted for analysis differs from the official definition because data were available at the province level and could not be further disaggregated. Thus, the Buenos Aires region comprises metropolitan Buenos Aires and the rest of the Buenos Aires province that officially belongs to the Pampeana region.
with the national average of 0.25 motorbikes per person (Government of Argentina, Ministry of the Interior and Transport 2012d). The higher prevalence of motorbikes in the northern regions can be explained by lower average incomes and warmer weather, which make the motorbike a suitable mode of transport. As mentioned previously, motorbike use has significantly increased among middle- and lower-income populations, particularly in intermediate and small cities in the northern regions, such as Resistencia and Corrientes, as well as those in the Pampeana region, including Santa Fe and Paraná, which have a very high registration rate of motorbikes (see figure 9.9).

**Institutional Setting**

The complex institutional arrangements for governing urban public transport reflect the high level of institutional fragmentation of agglomerations. Multiple jurisdictions are involved in the provision of transport services in agglomerations whenever transport systems cross administrative boundaries. In most cases, municipalities are in charge of regulating public transport services when public transport is run within municipal limits. Exceptions are Mendoza, San Juan, and San Fernando del Valle de Catamarca, where the provinces have not delegated transport responsibilities to the municipalities. When a public transport system crosses municipal boundaries in the same province, responsibility goes to the provincial government; it goes to the federal government when the system crosses two or more provinces. As a result, various transport systems managed...
by different jurisdictions coexist in Argentina’s metropolitan areas. For example, the municipality of Córdoba (the central city of the agglomeration) is in charge of the urban transport system in the municipality, whereas the province is in charge of the system that connects Córdoba with other municipalities in the metropolitan area. The municipal and provincial systems often compete in the same corridors, creating inefficiencies that could be solved with some level of coordination. In other agglomerations, the federal government also plays a role.

It is in charge of transport services connecting agglomerations across provinces (for instance, transport services connecting the agglomerations of Resistencia and Corrientes, located in the Chaco and Corrientes provinces, respectively) as well as transport services between the city of Buenos Aires and peri-urban metropolitan Buenos Aires. The challenges of institutional fragmentation in the transport sector are particularly complex in metropolitan Buenos Aires, where the federal government also has responsibility for a significant part of the urban transport system (see box 9.2).

**Box 9.2 Institutional Fragmentation of Responsibility in the Transport Sector: The Case of Metropolitan Buenos Aires**

Metropolitan Buenos Aires is the best example of multiple jurisdictions being involved with urban transport issues. Because the city of Buenos Aires has a special jurisdiction, transport services that cross city boundaries are under the national jurisdiction. In this context, about 135 bus lines are under the national jurisdiction, 121 under the provincial jurisdiction, and 86 under the municipal jurisdiction (Government of Argentina, Ministry of the Interior and Transport 2008a). In addition, the metropolitan rail system is administered by the federal government, whereas the underground metro system has been administered by the city of Buenos Aires since 2012. Since most responsibilities are under the federal jurisdiction, the federal government has a set of agencies with specific tasks. The recently established Ministry of Transport (replacing the Ministry of the Interior and Transport) is responsible for developing and implementing policies, setting tariffs, distributing subsidies, and performing public works, whereas a federal agency, the National Commission for Transport Regulation (Comisión Nacional de Regulación del Transporte, or CNRT), and a local agency from the city of Buenos Aires (Ente de la Ciudad) are in charge of monitoring private operators. Competencies of the provincial government are more limited, with a provincial transport office in charge of route permits, tariffs, and the monitoring of provincial bus lines and provincial road infrastructure.

Municipal governments in metropolitan Buenos Aires maintain responsibility for their local systems. Therefore, modal integration is marginal and the whole network is physically disconnected, failing to take full advantage of the various infrastructures in place, especially the rail and underground metro networks. Competition between private actors from different modes of transport and lack of coordinated policies among the different jurisdictions have resulted in the superimposing of responsibilities, tariff disparities in the different jurisdictions, and increases in costs, which together have caused the quality of the public transport system to deteriorate.

Furthermore, no single model applies across Argentina’s agglomerations for the provision of urban transport. In some cities, urban public transport (primarily bus) is provided by the private sector, which holds a concession over one route or a number of routes. In other cities, the public sector is in charge of the provision of services, and in some cities, such as Rosario, private and public companies provide the services.

Transport is an increasing priority for the government of Argentina, as reflected in the large and growing share of the federal government’s spending in the sector. It spends almost 2 percent of gross domestic product (GDP) on transport, and the percentage has been increasing. Figure 9.10 shows a significant increase in terms of total expenditure for transport as a percentage of GDP, from 1.4 percent in 2008 to almost 2.0 percent in 2014. To respond to the growing transportation challenges in the largest agglomerations, the federal government created an Urban Transport Project for Metropolitan Areas (Proyecto de Transporte Urbano para Áreas Metropolitanas, or PTUMA) in 2010 with support from the World Bank. Urban transport became an even higher priority in the government of Argentina’s agenda in 2012 after a deadly rail accident in the city of Buenos Aires. After the accident, the government created a Ministry of the Interior and Transport and an Argentine Institute for Transport that is developing a Strategic Federal Plan for Transport at the
national level, with the objective of articulating a set of new policies and incentives to guide transport investments and operation. The federal government has also initiated an investment plan for improving rail infrastructure, particularly in metropolitan Buenos Aires.

Historically, public expenditure for transport infrastructure at the national level has focused on road infrastructure. Federal government expenditures on roads represent a significant share of GDP and of total federal government expenditures in the sector (see figure 9.11). The focus on road investments has contributed to the use of motor vehicles and further promoted sprawling urban patterns, creating challenges for the provision of appropriate urban public transport services in new areas, particularly peri-urban areas of cities (see chapter 5). For instance, while only four highways connected the city of Buenos Aires with the rest of the region in 1960, all corridors had highways by the 1990s, drastically augmenting the use of motor vehicles (Huici 2015; Oniszczuk 2010). Over the past five years, however, there has been a shift in federal expenditure from roads to rail and public transport. While federal spending on rehabilitation and expansion of road infrastructure has continued to increase in absolute terms, the share of overall spending on roads has decreased from 46 percent to 27 percent over the period 2008–14 (see figure 9.11). The reduction in the share of expenditures on roads is explained in part by the growing spending on rail infrastructure and by the increasing level of subsidies received by the urban bus transport sector.

Figure 9.11 Federal Government Expenditures in Transport, by Sector, 2008–14

Source: Based on Otero 2015.
Rail infrastructure has seen a substantial increase in government spending. Federal expenditures on rail transport increased from 20 percent to 32 percent of total spending in the transport sector from 2008 to 2014, as seen in figure 9.11. The increase represents growing efforts to rehabilitate rail infrastructure following the 2012 accident, in which a Sarmiento line train crashed while arriving at Once Station (one of the three most important train stations in the metropolitan area). The crash killed 52 people and injured more than 700 people. Since then, the Ministry of Interior and Transport has been planning projects to restore and improve the system. Plans for new infrastructure include freight tracks, but especially infrastructure for the metropolitan passenger network in metropolitan Buenos Aires, such as new rail stations, viaducts, and underpasses.

Other cities have also recently taken steps to improve rail infrastructure. For example, Mendoza implemented a 12.5-kilometer light train corridor in 2012 that connects the municipality of Mendoza and the peri-urban municipalities in the metropolitan area, and it is now renovating about 37 kilometers of rail infrastructure to extend the system. Some cities, such as Resistencia, already have urban rail systems, whereas others, such as Neuquén, are currently planning to introduce them in unused rail corridors.

A national transport subsidy scheme to compensate public transport operators was put in place after the financial crisis of 2001/02 to prevent fares from rising after the devaluation of the peso and to alleviate the effects of inflation on low-income populations. Bus operators receive price compensations and diesel fuel at bargain prices. Price compensations are allocated across jurisdictions according to jurisdictions’ share of passengers, and they are then distributed among bus operators according to a formula that gives 50 percent weight to revenues, 25 percent to the number of passengers, and 25 percent to kilometers operated (World Bank 2015). Rail operators also receive subsidies for their operations based on certain obligations (cleanliness, number of services, schedules, and safety) and price compensations. Argentina’s transport subsidy scheme has increased significantly since its introduction. In the 2008–14 period, transport sector subsidies went from 0.6 percent to 1.3 percent of GDP (see figure 9.10). The largest growth has been recorded during the past few years, as operating costs have increased sharply and fares have been kept artificially low.

The national transport subsidies have not addressed affordability issues and may have the unintended effect of discouraging investments in public transport. Despite transport subsidies having played a critical role in protecting households from inflation, subsidies have had little impact in addressing affordability issues because they are not directly targeted toward low-income groups. People in the bottom quintile still spend a significant amount of their budget on public transport (8.5 percent, on average), with great variation from 15.5 percent in Ushuaia and Río Grande to 2.8 percent in the city of Buenos Aires and 5.2 percent in Formosa. Because Argentina’s transport subsidies are supply-side subsidies that compensate bus operators on the basis of the number of passengers carried and kilometers traveled, the current subsidy policy has discouraged operators from
expanding their routes to less dense, low-income peri-urban areas; such a change would lead to a reduction in passengers and subsidies received. Thus, under the existing framework, subsidies provide disincentives to improve the system, such as rationalizing routes, improving quality, or providing better services in peri-urban areas. Furthermore, the fiscal burden associated with operating subsidies has reduced the resources available for much-needed investments in public transport infrastructure, reducing the overall efficiency of the network.

Metropolitan Buenos Aires, where a third of the country’s population lives, is the region that has benefited most from public transport subsidies. Fares for modes that are under national jurisdiction have been kept artificially low in metropolitan Buenos Aires because the federal government assigned greater subsidies to the region (see figure 9.12). As illustrated in figure 9.13, the federal government transfers more than double the average national per-person subsidies to metropolitan Buenos Aires. Provincial and municipal governments do not have the financial capabilities to complement the national subsidy transfers, so less subsidized systems result in higher fares in other cities. For instance, in 2015 a regular bus ticket costs Arg$3 in metropolitan Buenos Aires, while the cost is Arg$4.95 in Corrientes and Arg$7.15 in Córdoba. The subsidy system thus has had little effect on improving the affordability of public transport.

**Challenges in Urban Transport**

Municipalities tend to respond to demands for transport in a reactionary fashion, and planning processes rarely precede the growth of public transport networks. Argentine cities lack tools for long-term transport planning, and in most cases they take action after the demand for transport has been created, rather than planning for future urban growth. For example, as a result of urban expansion, increased demands for mobility from new peri-urban areas often spur municipalities to negotiate concession contracts with operators to extend services.
This reactionary approach to transport expansion efforts has resulted in piecemeal initiatives that are not part of a coherent strategy to improve connectivity and coverage in the largest metropolitan areas. This pattern has been seen in cities throughout Argentina, including in the agglomeration of Salta, where the expansion of bus services was in response to the population growth in Salta and neighboring municipalities, such as Cerrillos, Rosario de Lerma, and La Caldera (Nuevo Diario 2014). And in San Salvador de Jujuy, new concessions were granted to serve areas that previously had no coverage, but it was done without a coherent strategy and plan to increase coverage (Jujuy al Dia 2015). Such a largely unplanned approach to developing Argentina’s public transport system has reduced municipalities’ capacity to provide balanced and efficient public transport systems in terms of connectivity and coverage. The lack of systematic planning for transportation systems has contributed to the rapid expansion of built-up areas and accompanying low-density sprawl.

Municipalities generally have different offices in charge of urban transport, urban planning, and public works, leading to coordination challenges. Most municipalities in Argentina have an office in charge of urban transport. Its main duties include controlling traffic, issuing drivers’ licenses, authorizing and regulating bus routes and operators, setting tariffs, defining local public transport policies, providing licenses for taxis and other on-demand services, and negotiating with sectoral actors (public transport users and operators, unions, taxi drivers, and so on).
A municipality’s office in charge of public works has the responsibility of providing basic infrastructure, including roads and streets, but the office has no responsibilities with regard to public transport issues, which leads to problems of coordination between departments within the municipal government. Furthermore, transport departments tend to have a very limited scope of intervention and are therefore not aligned with broader housing or land use planning policies, which are under the responsibility of the office in charge of urban planning. Municipal transport offices usually lack authority and resources to design comprehensive policies that include a vision beyond their particular sector (Anapolsky and others 2012). As a result, local transport plans, which exist in a very limited number of cities, are most often disengaged from a strategic vision and consequently remain uncoordinated with the city’s broader urban plans.

Most municipalities face major financing constraints, which prevent them from planning and developing urban transport systems. The municipal offices in charge of public transport rarely have the capacity or budget to redefine existing public transport networks or pay for capital transport investments. With a few exceptions, such as the city of Buenos Aires’ underground metro extensions (see box 9.3), municipalities do not take advantage of instruments that capture land values when planning public transport projects. National subsidies have thus come to play a vital role in the capabilities of intermediate and small cities to run public transport systems. At least 11 intermediate and small cities in Argentina developed some type of public transport system after the federal scheme of supporting public transport through subsidies was implemented, illustrating the need for funding even for low-scale public transport operations. Funding constraints have resulted in poor-quality infrastructure or designs that lack key elements to support the proper operation of public transport, such as shelters or paved roads. Furthermore, despite recent efforts by the Secretary of Transport in the Ministry

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**Box 9.3 Land Value Capture Instruments for Metro Expansion in the City of Buenos Aires**

In 1987, the city of Buenos Aires sanctioned the use of land value capture as an instrument for financing public transport infrastructure through Law No. 23,514 of 1987, which created the Permanent Fund for the Expansion of the Metro Network. The fund is financed by various sources, including a contribution paid by the property owners living within the area of influence (400 meters) of the new stations to be constructed. Individual contributions are calculated by dividing the total cost of the section or line among all the properties located in the zone of influence, taking into consideration the distance from the new metro station. The contribution is paid as a temporary increment of the general services fee after the station is inaugurated, for a maximum period of five years. The specific contribution cannot exceed 15 percent of the assessed value of the property.

of the Interior and Transport (currently the Ministry of Transport) to collect data on travel behavior in selected cities, the lack of good quality transport data in cities creates difficulties for planning better transport systems and for redefining existing routes.

Informal transport systems are growing in importance. After the financial crisis of 2001/02, many public transport services deteriorated and reduced their operations. Coupled with a higher demand for transport in the peri-urban areas of cities, this shortage of services resulted in the emergence of informal systems to meet demand. In many cases, such systems are informal shared-taxi systems that tend to be unregulated, of lower quality, and in competition with existing formal systems, thereby compromising demand for formal modes. After 2005, some cities, including San Miguel de Tucumán and Salta, initiated special programs to regulate these informal services. Similarly, metropolitan Buenos Aires introduced a charter system of minivans connecting daily commuters from peri-urban areas to the city center. Although these informal systems satisfy some basic mobility needs, they do not satisfy the demands of all groups, because they mostly cover high-demand home-to-work corridors. They do not provide the most cost-efficient and effective way to solve mobility needs in metropolitan areas. The experiences of informal systems illustrate how the lack of institutional tools to coordinate actions and policies among jurisdictions diminishes opportunities for collaborative planning for better urban transport systems.

The increase in private motor vehicles and the lack of enforcement of traffic rules have created a set of negative externalities that diminish the quality of life in many cities. Increased opportunities to purchase motorbikes have had a considerable effect on traffic behavior, negatively affecting road safety. Lack of enforcement of traffic rules has made motorbikes a new source of traffic accidents and fatalities in urban areas. Figure 9.14 shows that although road accidents involving cars have declined, motorbike accidents have increased in Argentina (Government of Argentina, Ministry of the Interior and Transport 2010). This trend is particularly affecting metropolitan Buenos Aires and other larger cities, as well as cities in the Pampeana and northern regions that have experienced particularly high growth in motorbikes. Even cities in Argentina that have relatively good public transport and infrastructure for nonmotorized transport are increasingly experiencing road accidents, making evident the need for policies to address traffic management issues. The resulting increase in road safety issues poses a real concern for the sustainability and competitiveness of cities, creating economic costs, and reducing the chances to attract new economic development opportunities, such as the relocation of new firms and the attraction of high-skilled labor.

Motorbikes have also contributed to increasing traffic congestion and have put pressure on road infrastructure, thus creating new challenges for transportation planning. Increased use of private motor vehicles is also negatively affecting the sustainability of the public transport system, with decreasing ridership making it even more difficult to provide good-quality public transport services. Although metropolitan Buenos Aires does not have as much congestion as many other

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large cities worldwide, without systematic improvements to the public transport system, the rapid increases in motorization across Argentina will inevitably lead to higher levels of congestion and road accidents.

Coordination failures among jurisdictions are inhibiting effective expansion of and improvements to the public transport systems as well as the effective provision of services. Most municipalities are not coordinating efforts, with little planning to integrate urban transport systems throughout metropolitan areas or with higher tiers of governments. The national and provincial levels generally lack institutional mechanisms that incentivize sustainable interurban transport policies across jurisdictions and among municipalities. Despite a few cases where efforts are led at the provincial level, actions taken have mainly been local initiatives led by the central municipality within a metropolitan area; these local initiatives have seldom extended to the entire metropolitan area.

There are some exceptions to this trend, however. New initiatives promoting horizontal cooperation are emerging, and a few cities have succeeded in coordinating transport projects across jurisdictions. In 2015, the northern corridor of Metrobus, a dedicated bus network, was inaugurated in metropolitan Buenos Aires. This bus system links the city of Buenos Aires to the northern municipality of Vicente López, in an effort to foster the use of public transport in that corridor. Posadas developed a new transport system in 2007, which was the first integrated one in Argentina and ran through two contiguous municipalities. Mendoza introduced a tram system in 2012 aimed at developing a sustainable public transport system.
system for the metropolitan area. It spanned three municipalities, including Capital, Godoy Cruz, and Maipu. Finally, the municipality of Rosario created a mobility agency in 2004 that is now taking steps to coordinate activities throughout the whole metropolitan area in collaboration with the Metropolitan Coordination Body (Ente de Coordinación Metropolitana, or ECOM) created in 2010. Box 9.4 presents a number of metropolitan initiatives that have recently been introduced to coordinate urban transport based on different institutional models.

Metropolitan Buenos Aires faces special challenges for coordination and planning urban transport, given its size and level of institutional fragmentation within the metropolitan area (see box 9.2). The case of Puerto Madero

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**Box 9.4 Metropolitan Coordination Initiatives in Argentina’s Transport Sector**

A number of metropolitan initiatives to develop new institutional mechanisms for metropolitan coordination in public transport have recently been emerging. Some of the initiatives have been led by the provinces; in other instances, the most populous and central municipality within the metropolitan area led the initiatives.

*Buenos Aires Metropolitan Transport Agency.* In 2014, the Ministry of the Interior and Transport (currently the Ministry of Transport) approved the creation of the Buenos Aires Metropolitan Transport Agency. The agency is constituted as an interjurisdictional body to coordinate and plan transport policies and infrastructure. Although this agency is still in the process of becoming operative, it represents an important step toward the integration of metropolitan Buenos Aires. It will be directed by three members designated by the federal, provincial, and city governments, and resolutions will be unanimous. The board of directors will be assisted by a six-member executive committee (two per jurisdiction) that will also be in charge of administrative and technical issues. Funds for the agency will be provided by each of the member parties (Government of Argentina 2012).

*Province-led initiatives.* A few provinces, such as Mendoza or Salta, do not delegate urban transport responsibilities to municipal governments, and urban transport is the responsibility of the provincial government. In the case of Salta in 2005, with serious deterioration of the municipal and provincial transport services after the financial crisis of 2001/02, the provincial government passed a law to establish a metropolitan area for Salta and also established the Metropolitan Transport Authority that was in charge of regulating transport for the whole metropolitan area. In Mendoza, the Provincial Ministry of Transport is in charge of the regulation and concession of urban transport for the six municipalities in the metropolitan area.

*Municipal-led initiatives.* Other ways to institutionalize cooperation is through agreements involving the different jurisdictions and private operators of public transport services. In 2005, the municipality of Posadas led the creation of a metropolitan coordination committee, establishing the Misiones Integrated Metropolitan Transport System to manage the urban transport system in the metropolitan area of Posadas. The committee was constituted through formal agreements between the provincial government and the three municipal governments.
exemplifies these challenges. During the 1990s, a major redevelopment of the port area took place. Though it has become a vibrant area in the city over the past 20 years, it is still not served by any public transport system (see box 9.5). In 2014, the Ministry of the Interior and Transport (currently the Ministry of Transport) approved the creation of the Buenos Aires Metropolitan Transport Agency. Developed through an agreement between the federal, provincial, and city of Buenos Aires governments, the transport agency will seek to address the special challenges of metropolitan coordination in the transport sector in metropolitan Buenos Aires (see box 9.4). It will plan and coordinate transport operations and infrastructure, as well as foster the transfer of knowledge and capabilities from the federal government to municipal bodies (Government of Argentina 2012).

Public transport service levels in metropolitan Buenos Aires have been unable to meet the increased demands. Metropolitan Buenos Aires developed as a central area that expanded along rail corridors, consolidating new secondary urban centers around rail stations. A study by Orduna and others (1996) showed that 85 percent of bus lines in metropolitan Buenos Aires cover radial corridors structured by the rail system, which resulted in an urban public transport system of monocentric corridors with different modes and services competing for the same demand. Low investments in the 2000s, combined with a change in the urban modes, contributed to a slow deterioration of the quality of the system’s infrastructure. As metropolitan Buenos Aires has become increasingly polycentric and has been expanding at the periphery, public transport has failed to catch up with the increased demand resulting from the change in mobility patterns associated with peri-urbanization and urban expansion. As a result, public transport service levels in metropolitan Buenos Aires have declined in recent years, as shown in figure 9.15.

Lagging, and in some cases lacking, investment is exerting tremendous pressure on metropolitan Buenos Aires’ public transport system, in particular the suburban railway. As a result, the rail passenger system suffered an important

**Box 9.4 Metropolitan Coordination Initiatives in Argentina’s Transport Sector (continued)**

comprising the agglomeration of Posadas, along with the private operators. The committee is in charge of reorganizing the public transport system and investing in new infrastructure for the metropolitan area, such as exclusive lanes and transfer stations. This project was the first bus rapid transit–type system implemented in Argentina, as discussed later in this section. In 2010, the municipalities that are part of the agglomeration of Rosario area created a metropolitan coordination agency as a voluntary association of municipalities under the leadership of the municipality of Rosario. Since then, the participating municipalities have been able to coordinate and promote metropolitan policies, including urban transport.

Box 9.5 The Complication of Planning Public Transport in Multiple Jurisdictions: The Case of Puerto Madero

Redevelopment of Puerto Madero, the port area of the city of Buenos Aires, has not involved an integrated approach. Instead, redevelopment is occurring in the context of diffuse institutional arrangements between multiple public entities. The port area is under the combined jurisdiction of the city of Buenos Aires, where it is located; the ports authority, which is regulated by the city; and the Puerto Madero Corporation, an intergovernmental body created to develop the master plan for the area (see photo B.9.5.1). Lack of coordination among these three actors has resulted in the continued absence of public transport in the area. For example, while the federal government attempted to implement a tram system to serve the port area, the lack of proper planning procedures—along with the lack of consultation with the city government—limited the range of solutions. Restricted to tourist attractions, the tram system had no real effect and was closed after fewer than five years of operation. In 2012, disputes occurred over the control of the metro system in the city of Buenos Aires after the federal government transferred the service to the city government, without the city’s prior acceptance or appropriate funds to operate it. After months of dispute, workers went on strike for 10 days, with major effects on the mobility of the entire metropolitan area.

Photo B.9.5.1 Puerto Madero in the City of Buenos Aires

decline in trips between 1996 and 2014 despite population growth (CNRT 2015). On average, investments in metropolitan Buenos Aires’ rail network reached about US$50 million annually between 2003 and 2010, representing one-tenth of the expenses required to cover the depreciation of assets (Otero 2015). This decline in ridership might also be, in part, explained by decay in the level of service. Although the system reached 99 percent compliance of its schedule (trains run as percentage of trains scheduled) in 1999, compliance had dropped to 85 percent by 2013. Only 2 percent of all services suffered from delays in 1998, but that number had risen to 26 percent of all rail services in 2013 (see figure 9.16). Cancellations have also grown significantly, having increased from 3 percent in 2009 to 11 percent and 15 percent in 2012 and 2013, respectively (CNRT 2015).

The quality of the bus system in metropolitan Buenos Aires has also declined, with few efforts to expand bus services. Metropolitan Buenos Aires’ bus routes have not been modified in years, despite significant changes in densities and mobility patterns. The bus system in metropolitan Buenos Aires is characterized by stagnant demand, with the same number of users in 2014 as in 2006, when the population (and number of trips) was significantly lower (CNRT 2015). Regarding the quality of bus services, user satisfaction fell from 86.4 percent to 74.0 percent, and every indicator regarding the behavior of bus

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**Figure 9.15 Urban Transport Passengers versus Private Car Trips in Metropolitan Buenos Aires, 1999–2013**

![Graph showing urban transport passengers and private car trips](Graph.png)

**Sources:** Based on CNRT Statistics Database 2015; National Transport Data Observatory 2015b.

**Notes:** Passengers are estimated based on number of tickets sold; private car trips are estimated based on paid tolls. Urban bus passengers include only passengers of buses regulated by the federal government; municipal and provincial bus tickets are not included. Urban rail passengers include only passengers with paid tickets; the number of unpaid passengers in the metropolitan rail system is very high.
drivers followed this same trend, reflecting an overall deterioration in the quality of service (CNRT 2014).

This inability of public modes of transport to grow or even maintain ridership levels despite growing populations and demand for transport is one of the factors contributing to the rapid increases in private modes of transport. In an effort to provide sustainable mobility options to its inhabitants and address the growing challenges of intracity mobility, the city of Buenos Aires has taken steps to promote nonmotorized transport. In 2009, the city of Buenos Aires initiated a system of segregated bikeways; today the city has 158 kilometers of these segregated bikeways, with plans to cover 182 kilometers in 2016. It also created a free bike-sharing system with 43 stations and about 950 bikes. As a result, the city of Buenos Aires was awarded the 2014 Sustainable Transport Award and was ranked on the Copenhagenize Index as the 14th most bike-friendly city on the planet in 2015. Although the initiative provides an important step forward in sustainable transport planning, it can yield the desired results only if it is integrated into the metropolitan area’s mobility programs.

Argentina’s top five and large agglomerations are not providing adequate public transport services to peri-urban areas, while central cities have much better public transport systems. Since most of the public transport systems were developed when the agglomerations were much smaller, they tend to be outdated, remaining largely monocentric in most top five and large agglomerations. Bus lines operate almost exclusively in central areas and compete in high-demand

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**Figure 9.16** Delays in the Metropolitan Buenos Aires Urban Rail System, 1993–2014

Source: Based on CNRT Statistics Database 2015.
corridors. However, the current urban expansion patterns driven by extension are increasing demand for transportation, with private motor vehicles increasing their modal share. Hence, population growth and urban expansion are not always accompanied by an expansion and reorganization in public transport networks. As a result, populations in peri-urban areas lack good access to public transport and experience increasingly longer travel times and higher costs, particularly the poor, who lack access to private modes of transport.

In most expanding cities, such as Rosario or Córdoba, the public transport network was not developed with a metropolitan perspective. Though coverage is extensive, it is concentrated on main corridors to the central area, with a superimposition of routes that, in some cases, cross different jurisdictions (municipal or provincial). In the agglomeration of San Miguel de Tucumán, though about 50 percent of trips have a short duration of less than 20 minutes, private modes of transport represent about 42 percent of all motorized trips in the city. The high share of private transport is due to low public transport connectivity and integration, with a high coverage on main routes and lack of service in less-profitable areas, especially outside the municipality of San Miguel de Tucumán. Not only do cities need to restructure and expand their networks, but they also need to encourage mixed-use and denser development along transport corridors to reduce the length and quantity of motorized trips. Box 9.6 describes some of the steps the top five and large agglomerations have taken to modernize their transport systems.

Urban logistics is a growing challenge for urban efficiency and sustainability. Given the importance of the distribution of goods and products, the efficiency of cities depends in part on how well organized and structured the urban freight networks are. Poorly organized and structured urban delivery systems affect the competitiveness of an agglomeration by increasing vehicular congestion, pollution, and the final costs of the products and goods. Freight transport is increasingly important for regional competitiveness; at the same time, freight traffic is a growing challenge for urban sustainability, because it can conflict with other modes of transport and urban functions. Although urban freight vehicles

Box 9.6  Modernizing and Integrating Public Transport Systems in the Top Five and Large Agglomerations

In spite of the challenges of planning, coordinating, and financing transport initiatives, a number of municipalities in the top five and large agglomerations have taken steps to modernize their public transport systems. Municipalities like Córdoba and Rosario have initiated actions to redesign their bus routes, organize feeder lines to better coordinate mobility with adjacent municipalities in their metropolitan area, and discourage the use of private transport. These municipalities have also developed policy initiatives to promote sustainability by promoting nonmotorized transport, such as by developing bike lanes and bike-share systems.

box continues next page
Since the creation of a mobility agency in 2004, Rosario has introduced an Integrated Urban Mobility Plan. Efforts have been made to involve the community in the design of the plan, with the objectives of promoting the use of mass transit systems, prioritizing nonmotorized mobility in the central area, and restricting the use of private modes of transport. Guided by the Integrated Urban Mobility Plan, the city reordered the bus network and frequencies and optimized corridors by giving priority to the public transport system. It also created a user information system, which includes a toll-free telephone number, an SMS (short message service) system, and an app to create itineraries and get information on bus frequencies, as well as smart screens and self-service terminals. Rosario also started a bike-share system in 2015 and built 120 kilometers of segregated bike lanes, thus adding to the existing 50 kilometers of lanes in 2010. The municipality of Rosario, with special agreements with other municipalities in the metropolitan area, announced the creation of four new bus lines in 2015 that expand into the metropolitan area to enhance the connectivity with the peri-urban areas.

In 2014, Córdoba also developed the Strategic and Integral Mobility Plan for the city. The plan redefined the entire transportation network by developing new segregated high-demand corridors and a feeder system. Córdoba inaugurated a corridor of dedicated bus lanes later that year called “Solobus,” which included the installation of smart shelters with information on frequencies and arriving buses. Although the municipality of Córdoba is now trying to expand its activities and coordinate them with the whole metropolitan area, its mobility plan has focused on the transport system within this municipality, without a view toward greater integration of interurban transport networks with other municipalities in the metropolitan area.

Several national initiatives also have been launched to support the largest cities modernize their public transport networks. The Urban Transport Project for Metropolitan Areas (Proyecto de Transporte Urbano para Áreas Metropolitanas, or PTUMA), a federal government project with funding from the World Bank, is financing studies and works in the largest cities, including Rosario, Córdoba, Santa Fe, and Corrientes, to improve their urban public transport systems. And both Mendoza and San Miguel de Tucumán are working under the Inter-American Bank–funded Development of the Interior Metropolitan Areas Program (Desarrollo de Áreas Metropolitanas del Interior, or DAMI) project, which seeks to strengthen the governance of metropolitan areas, develop provincial and municipal capacity to address urban challenges, and implement pilot projects focused on solving issues that require coordinated action by more than two jurisdictions.

Sources: Government of the Municipality of Córdoba 2012; Government of the Municipality of Rosario, Mobility Agency 2011.
congestion imposes, making urban freight distribution prone to inefficiencies. In central areas of large cities, where available storage space is limited, businesses distribute smaller volumes on a recurrent schedule of demand, with a flow of deliveries that needs to be maintained. At the same time, the high consumption of final goods in central areas raises a reverse logistics challenge, such as the collection of waste and recycling. Urban logistics also creates many disturbances related to health and safety (accidents), and is a source of competition for scarcely available urban land (Rodrigue 1998).

Implementing effective policies for urban logistics is complex because freight needs differ among economic sectors and across urban areas. At the same time, urban freight is part of a much larger supply chain that expands beyond the borders of the urban area into regional, national, and global economies (Blanco 2014). The city of Buenos Aires recently started implementing policies to improve urban logistics. Law No. 4348 of 2012 determines the creation of new spaces within the city to reorganize urban freight. In such zones reserved for loading and unloading, trucks up to 8 meters long are allowed only at specific times and for a maximum parking time of 30 minutes. At the same time, the city is building a new logistics center in the south of the city to receive heavy trucks and then redistribute the products in smaller vehicles to reduce the number of trucks circulating in the city. Other cities, such as Rosario, have implemented similar policies to make urban freight transportation more efficient.

In intermediate and small agglomerations, public transport systems are not well developed, leaving much of the population dependent on private modes of transport or with limited access to public transport. Some intermediate and small cities that had fewer than 100,000 residents in 1970, such as Neuquén, have experienced significant population growth over the past few decades. Their growth has not been driven by an expansion of transport corridors; instead, most of these cities have grown in dispersed, low-density forms. As such, they tend to be characterized by very low levels of public transport ridership and heavy dependence on private modes of transportation (see photo 9.1). Assuming that the urban form of cities with populations over 60,000 would make a public transport system necessary, a recent study by Villotti and others (2015) investigated whether Argentine cities with populations between 20,000 and 60,000 had public transport systems; of 52 cities with populations in this range, only 17 were found to have any public transport, accounting for 34 percent of the population covered in the sample.

Many Argentine intermediate and small cities have public transport systems that cannot be sustained, in part because of the cities’ sprawling growth patterns toward peri-urban areas, higher motorization rates, and higher operating costs of the public transport systems in the past decades. For example, Junín (in the province of Buenos Aires), with almost 90,000 inhabitants, lost public transport services after 1996, as described in box 9.7; San Pedro (in the province of Jujuy) has no public transport despite a population of almost 60,000; La Rioja (in the province of La Rioja) had no public transport system between
1998 and 2002, when it had a population of 140,000; and the cities of Casilda (in the province of Santa Fe) and Nueve de Julio (in the province of Buenos Aires)—with populations of around 35,000—have remained without any public transport. Public transport systems in intermediate and small cities have varying levels of user satisfaction. Whereas only 30 percent of people in Paraná (a city in the province of Entre Ríos with a population of about 250,000) think that their public transport is of good or very good quality, international cities of similar size, such as Barranquilla in Colombia, Cuenca in Ecuador, Florianopolis in Brazil, and Pereira in Colombia, have much higher satisfaction levels at 54 percent, 56 percent, 56 percent, and 72 percent, respectively.15

Some exceptions in these transportation patterns in intermediate and small cities can be seen, however. Intermediate cities like Posadas provide an example of forward-looking transport planning. Besides being the first city to redesign its bus system—developing high-demand corridors with dedicated bus lanes and a feeder system in the periphery—Posadas was the first city to prepare an
Box 9.7 Dependence on Private Transport and Worsening Road Safety: The Case of Junín

Northwest of the province of Buenos Aires is Junín, a small city of almost 100,000 inhabitants that lacks a public transport system. The city had public transport until 1996, when the operation was disbanded because of its financial unsustainability. Although a number of attempts have been made to reintroduce public transport, all have failed, leading to exponential growth in the rate of motorbike ownership. Low rates of helmet use, as well as the commonplace use of motorbikes for family transport—carrying up to four members at a time—have contributed to deteriorating road safety in Junín, which now has double the national average for traffic accidents. And Junín has an average of one motorbike rider fatality per month, which is 15 times higher than the per capita average for the city of Buenos Aires.

Source: Villotti and others 2015.

Impact of Transport Policies on Agglomeration Economies: The Case of Metropolitan Buenos Aires

Limited public transport options in metropolitan Buenos Aires affect productivity of the metropolitan area by lowering employment accessibility for households living in peri-urban areas (see chapter 5 on urban expansion patterns). Analysis by (Peralta Quiróś and others 2015) has shown that people living in peri-urban metropolitan Buenos Aires without access to cars have less access to employment (see map 9.1). Urban expansion into the periphery has segregated many low-income populations—who often cannot afford private
**Map 9.1 Employment Accessibility for Metropolitan Buenos Aires**

a. Public transport

b. Automobile

Source: Peralta Quirós and others 2015.

Note: These graphs analyze the percentage of jobs that would be accessible, within 60 minutes, either by transit or private car from each residence, allowing for a comparison of accessibility across metropolitan Buenos Aires.
modes of transport—in informal settlements, with increases in distances, transport time, and costs limiting their employment opportunities as jobs remain concentrated in the city center. A 2004 study by Prud’homme and others found that higher transport speed in a city is positively correlated with the size of the labor market. In 2004, the relative effective size of the labor market (defined as the number of jobs accessible in 45 minutes as a percentage of the total number of jobs in the area) in metropolitan Buenos Aires was very small for public transportation and rather large for car transportation (23 percent and 87 percent of jobs are accessible in 45 minutes through public transportation and car transportation, respectively). In addition to the time involved in using public transport, commuting costs—especially for longer journeys from distant peri-urban areas to the city center—were found to constitute too large a share of the salary of low-income workers to make it worthwhile to consider certain jobs (Prud’homme and others 2004). The study suggested that an increase in average public transport speed of 20 percent would produce a 17 percent increase in the effective size of the labor market in metropolitan Buenos Aires.

The poor are disproportionately affected by the low quality and access to public transport networks (World Bank 2015). Poorer populations are less mobile, and the limited access to public transport further impedes these already restricted levels of mobility in the periphery, reinforcing the segregation suffered by low-income people. In metropolitan Buenos Aires, the poor are found to rely heavily on public transport, with almost 40 percent of the trips by people in the bottom quintile made by bus. Another 36 percent of the lowest-income population’s trips are on foot, highlighting their limited mobility. And looking only at public transport, almost 85 percent of all trips made by the poor are by bus. In comparison, the population in the higher-income quintiles has more options for travel, with 40 percent of their trips being by bus and with considerably higher use of the underground metro system—4.5 percent, compared with 1.2 percent for the poor. Data also show that about one-third of people in the bottom quintile make only one or two round trips per week, and that those trips are significantly longer than trips by people from other quintiles (Government of Argentina, Ministry of the Interior and Transport 2009). Whereas only 18.6 percent of all trips by people in the top quintile exceed 60 minutes, this number jumps to 24.6 percent for those in the bottom quintile (Peralta Quirós and others 2015) (see box 9.8). The limited public transport coverage, poor-quality service, and high transportation costs combined with the limited mobility of poorer populations are therefore important constraints contributing to segregation and social exclusion in peri-urban metropolitan Buenos Aires.
Notes

1. Cities included in the sample are metropolitan Buenos Aires, Córdoba, Corrientes, Mendoza, Neuquén, Paraná, Posadas, Resistencia, Rosario, Salta, Santa Fe, and San Miguel de Tucumán.


3. The analysis of livability in chapter 11 shows that the most populous agglomerations have a better performance in the public transport component of the livability index.


5. This study uses the terms agglomerations, urban areas, and cities interchangeably. See box 1.1 in chapter 1 for an overview of Argentina’s geography and urban space.

6. At the national level, responsibility over transport policy and works was traditionally split between several ministries. In December 2015, most transport functions were consolidated for the first time under a newly created Ministry of Transport, such as rail and public transport policy (including subsidy allocation), ports and waterway, and road infrastructure, including the rehabilitation, maintenance, and expansion of the federal road network.

7. Federal expenditure figures cover current and capital expenditures in all transport sectors, including national roads, airports, ports, and urban transport.
8. PTUMA aims to enhance Argentina’s capacity for transportation planning and management in the largest cities through technical assistance and project financing. PTUMA has financed urban mobility surveys and transport studies in about 13 cities; infrastructure projects such as bikeways in Córdoba and Rosario; and exclusive lanes for buses in Rosario, Santa Fe, and Corrientes.

9. The ministry has since been split, with transportation falling under the Ministry of Transport.

10. The urban expansion patterns analysis in chapter 5 shows how population density in Argentina’s urban areas declined over time, with an increase in the sprawl index from 1.4 in 1991–2000 to 2.3 in 2001–10. See box 5.1 in chapter 5 for the definition of sprawl index.

11. Land value capture instruments include all public policy instruments and initiatives aiming to capture the increase in the value of land created by change in land use regulation or public infrastructure investments.

12. For example, Aguilares in San Miguel de Tucumán, Chajari in Entre Ríos, Merlo in San Luis, and Villa la Angostura in Neuquén (Villotti and others 2015).

13. Available data are based on the number of paid tickets. After the large rail accident of 2012, the number of paid tickets plummeted. Frequency of trains was reduced and fare evasion controls were relaxed.

14. The Copenhagenize Index is a comprehensive inventory and ranking of bicycle-friendly cities conducted by the Copenhagenize Design Co. For more information, see http://copenhagenize.eu/index/about.html.

15. Lower satisfaction in Paraná could be related to longer average trip time, with private vehicle trips being 15 minutes, on average, compared with an average trip by public transport taking twice the amount of time. In contrast, average travel time using public transport in Pereira, Colombia, is 20 minutes, compared with 25 minutes using private transport.

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CHAPTER 10

Local Economic Development

Summary

This chapter looks at the challenges Argentine cities face in improving their economic performance. To illustrate these challenges, the chapter presents a number of recent initiatives for promoting regional and local economic development in Argentina.

At the national level, multiple initiatives are being implemented with the involvement of several ministries, such as the recently established Ministry of Production (replacing the Ministry of Industry) and the Ministry of Science, Technology, and Innovation. However, these initiatives are not necessarily integrated or in line with Argentina’s national urban vision—as established in the Strategic Territorial Plan (Plan Estratégico Territorial, PET)—to move toward more regionally balanced economic development.

At the local level, the city of Buenos Aires stands out because of its bold steps to improve its competitiveness. An example is its policy to promote economic development districts; however, the city needs to further capitalize on its human capital to strengthen its global competitiveness. Its policy is now shifting toward the promotion of innovation to move up the value chain. Municipalities in peri-urban metropolitan Buenos Aires face the challenge of transforming their economy toward higher value-added products and services; the challenge is exacerbated by the absence of a mechanism that would coordinate the core and periphery as part of an integrated economic development strategy. Nevertheless, some promising small-scale initiatives are emerging, such as the partnership between the municipality of General San Martín and a local university.

The top five agglomerations need appropriate local economic development policies and strategies to expand their global reach and reduce the competitiveness gap with metropolitan Buenos Aires. Large cities have to promote economic diversification and boost the growth of emerging clusters—as, for example, Mar del Plata has done. Finally, intermediate and small cities, where municipal governments have limited capacity to influence local economic development, can greatly benefit from establishing strong partnerships with the private sector, as Rafaela has done. Cities in the northern regions are benefiting from
national interventions to reduce logistics costs and support the growth of emerging clusters; yet, municipalities in the northern regions have limited capacity to take advantage of these programs. Agglomerations in the Patagonia region, such as Comodoro Rivadavia, can benefit from boosting human capital and innovation to diversify their economies and reduce their dependence on extractive industries.

Introduction

In recent years, the macroeconomic situation in Argentina has affected the competitiveness of regional and local economies by limiting the profitability of companies and the generation of employment in tradable sectors. In this context, the limited, or lacking, capacity of municipal governments—which generally concentrate their efforts in the provision of basic urban services—constrains their ability to take an active role in local economic development initiatives. Although the macroeconomic situation and the institutional framework are a constraint for local economic development, Argentine cities have several instruments available to improve local economic competitiveness. There are cases of municipal governments in Argentina that, together with the private sector and other stakeholders, have carried out successful local economic development initiatives.

A local economic development strategy is defined as “a structured attempt at planning and organizing interventions at a city or city region level with the purpose of improving competitiveness outcomes” (Sivaev 2015). In general, these actions are led by municipalities in coordination with the private sector and local actors. Different instruments are available for promoting local economic development, and the choice of the tool is generally conditioned on the size of urban areas and the degree of collaboration between the public and the private sectors.

This chapter focuses on spatially targeted local economic development instruments, such as support to strategic clusters and industrial parks, and examines the spatial impact of local economic development policies in improving regional and local economic performance. The chapter has three main sections. The first section presents the main initiatives promoted by national institutions to support economic development at the regional and local levels. The second section presents the challenges that cities face to promote local economic development. The third section exemplifies these challenges and identifies lessons learned by presenting a number of case studies.

National Initiatives for Regional and Local Economic Development

Argentina’s national urban vision, as articulated in the PET, is to move toward more regionally balanced economic development (Government of Argentina, Ministry of Federal Planning, Public Investment, and Services 2011). The PET was developed as a national vision and strategy to reduce the existing regional
gaps and promote the equitable development of all regions. The PET provides a framework to: (a) identify the necessary investments in infrastructure and improvements in capacity that are needed to reduce the gap in development outcomes between regions; and (b) promote economic development in lagging areas that need to increase productivity and strengthen their connection with local and international markets. However, the PET has advanced relatively little toward the achievement of its objectives, because implementation of the investment plans is at the discretion of the provinces, and no regulatory tools or financial instruments have been provided to the provinces or municipalities for implementing the plans.

Table 10.1 presents an overview of selected national programs that have helped advance regional and local economic development over the past decade. Some of the instruments that such national institutions use to promote regional and local economic development include nonreimbursable grants, tax benefits, technical assistance, loans with interest rate bonuses, and financial assistance aimed at small and medium enterprises (SMEs) and economic development districts. For example, the main initiatives promoted by the Ministry of Production include incentives for the establishment of industrial parks.

### Table 10.1 Selected National Programs for the Promotion of Regional and Local Economic Development, 2015

<table>
<thead>
<tr>
<th>Responsible entities*</th>
<th>Program</th>
<th>Objective</th>
<th>Budget 2015 (US$ million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ministry of Economy and Public Finance</td>
<td>Improvement of small and medium enterprises’ (SMEs’) Competitiveness for the Sustainability of Regional Economies (Mejora de la Competitividad de las PyMEs para el Sostenimiento de las Economías Regionales)</td>
<td>Increase productivity of agriculture and agroprocessing (beeskeeping, fruit, vegetable, olive oil) and textile/cotton production, through financing of investment projects in the provinces outside of the Pampeana region.</td>
<td>14.95</td>
</tr>
<tr>
<td></td>
<td>Norte Grande Competitiveness Program (Programa de Competitividad del Norte Grande) (see case study F)</td>
<td>Increase competitiveness in strategic industrial clusters of the Norte Grande region.</td>
<td>1.76</td>
</tr>
<tr>
<td>Ministry of Science, Technology, and Innovation</td>
<td>Promotion and Fostering of Technological Innovation (Promoción y Fomento de la Innovación Tecnológica)</td>
<td>Finance projects to improve private sector productivity through technological innovation.</td>
<td>21.05</td>
</tr>
<tr>
<td>Ministry of Industry (currently Ministry of Production)</td>
<td>Local Production Systems Program (Programa de Sistemas Productivos Locales, SPL)</td>
<td>Provide technical and economic assistance to groups of SMEs or cooperatives to develop and implement projects that benefit their members and their corresponding communities.</td>
<td>2.74</td>
</tr>
<tr>
<td></td>
<td>Network of Economic Development Agencies Program (Programa de Red de Agencias de Desarrollo Productivo)</td>
<td>Strengthen links between SMEs and organizations promoting local and regional industries.</td>
<td>1.50</td>
</tr>
</tbody>
</table>

*Table continues next page
## Table 10.1  Selected National Programs for the Promotion of Regional and Local Economic Development, 2015 (continued)

<table>
<thead>
<tr>
<th>Responsible entities&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Program</th>
<th>Objective</th>
<th>Budget 2015 (US$ million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Program for the Development of Industrial Parks (Programa Nacional para el Desarrollo de Parques Industriales Públicos)</td>
<td>Finance infrastructure projects for industrial parks, and foster the establishment of SMEs in those locations.</td>
<td>2.63</td>
<td></td>
</tr>
<tr>
<td>National Institute for Industrial Technology</td>
<td>Improvement of Regional Economies and Local Development Project (Proyecto de Mejora de las Economías Regionales y Desarrollo Local)</td>
<td>Promote the use of technology in microenterprises and SMEs located in the interior regions.</td>
<td>0.68</td>
</tr>
<tr>
<td>Ministry of Social Development</td>
<td>Hands to Work Projects (Proyectos Manos a la Obra)</td>
<td>Provide grants for the purchase of supplies and equipment to strengthen economic activities carried out by associative groups, cooperatives, associations of producers, and aboriginal communities.</td>
<td>24.67</td>
</tr>
<tr>
<td>Ministries of Education; Economy and Public Finance; Social Development; and Employment and Social Security</td>
<td>More and Better Work Plan (Plan Más y Mejor Trabajo)</td>
<td>Promote job placement of unemployed in quality jobs.</td>
<td>131.20</td>
</tr>
<tr>
<td>Ministry of Agriculture, Livestock, and Fisheries</td>
<td>Program for the Economic Inclusion of Small Producers in Value Chains in the Northern Regions of Argentina (Programa de Inserción Económica de los Pequeños Productores en las Cadenas de Valor del Norte Argentino)</td>
<td>Promote development of dynamic and emerging value chains whose primary production centers are in the northern regions.</td>
<td>1.78</td>
</tr>
<tr>
<td>Provincial Agricultural Service Program (Programa de Servicios Agrícolas Provinciales, PROSAP)</td>
<td>Develop regional economies by promoting increased productivity in the agroprocessing sector with emphasis on small and medium producers, rural entrepreneurs, and enterprise owners.</td>
<td>40.64</td>
<td></td>
</tr>
<tr>
<td>National Institute for Agricultural Technology</td>
<td>Federal Program for Sustainable Local Development (Programa Federal de Apoyo al Desarrollo Local Sustentable, PROFEDER)</td>
<td>Promote technological and organizational innovation among rural population, developing capacities and strengthening competitiveness, and generating social equity and environmental sustainability, to support territorial development.</td>
<td>17.37</td>
</tr>
</tbody>
</table>

Source: Bruera 2015.

Notes:
- Responsible entities’ names correspond to the official names as of November 2015.
- The Norte Grande region is formed by the Catamarca, Jujuy, Salta, Santiago del Estero, and Tucumán provinces in the Northwest region and the Chaco, Corrientes, Formosa, and Misiones provinces in the Northeast region.
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• http://dx.doi.org/10.1596/978-1-4648-0840-1

(described later in this section) as well as initiatives to support clusters and business networks including competitiveness of SMEs. See box 10.1 for a review of selected initiatives promoted by the Ministry of Production to support the growth of SMEs in industrial clusters. The Ministry of Science, Technology, and Innovation has developed a national innovation plan, Argentina Innovadora 2020, which aims to develop the necessary skills to promote innovation and economic growth with a focus on technology-intensive sectors, and support the development of an entrepreneurial culture to generate goods and services with higher added value (Government of Argentina, Ministry of Science, Technology, and Innovation 2012). However, these national programs do not have an integrated approach, nor are they necessarily in line with the national urban vision established in the PET; this is because national institutions usually pursue regional and local economic development without coordinating projects among other national agencies or provincial and local levels.

The rest of the section reviews three main national initiatives for regional and local economic development: (a) incentives for the establishment of

Box 10.1  Ministry of Production—Selected Initiatives to Promote Competitiveness of SMEs

The Ministry of Production has implemented the following initiatives in recent years to support the growth of SMEs in industrial clusters as part of its programs to promote local and regional economic development.

Local Production Systems Program (Programa de Sistemas Productivos Locales, SPL). The SPL promotes growth of SMEs in sectors with potential to have regional economic development impact. It provides technical and financial assistance to groups of SMEs and cooperatives to implement, develop, and strengthen collaborative projects.6 Launched in 2006, the program had assisted in the creation of 111 associative groups of SMEs by the first half of 2009, and supported a total of 585 companies employing 4,870 workers. It provided a cumulative total of US$8.25 million to the enterprises, mainly in the fields of information and communication technologies, metalworking, agroprocessing, wood, and furniture in the Buenos Aires, Neuquén, Mendoza, and Santa Fe provinces. By 2015, the Ministry planned for a budget of US$26 million, with the aim of strengthening an additional 26 groups and supporting an additional 33 companies.

Positive aspects of the program include its impact on the economies of lagging regions and its ability to reach very small companies—formed in many cases by low-income individuals—in various sectors. However, the program is limited by its low budget and the difficulties of forming new associative groups because of the complexity of the process. In general, companies that are not used to working associatively require more capacity-building activities. Such training is often provided by the Secretariat of Small and Medium Enterprises and Regional Development, chambers of commerce, or provincial and local governments, and the results often depend on the local context and the firms’ initial predisposition to collaborate with others.

box continues next page
Box 10.1 Ministry of Production—Selected Initiatives to Promote Competitiveness of SMEs (continued)

Network of Economic Development Agencies (Red de Agencias de Desarrollo Productivo). The network is a platform established by the Ministry of Production to provide technical and financial support to SMEs and facilitate links between SMEs and local stakeholders. It is formed by more than 70 agencies, which include public organizations at provincial and municipal levels and private sector organizations (business associations and local businesses), as well as universities and other education institutions. The objective of the agencies is to contribute to the sustainable economic development of the regions by strengthening business networks, providing technical and financial support, and promoting cooperation between SMEs and local and regional development institutions. This network helps to coordinate economic development at national, provincial, and local levels. However, the effectiveness of the network is limited by not having sufficient budget and a clear system of incentives to support the operation of the different agencies. This limitation results in a marked heterogeneity in capacity among members of the network because of agencies' different backgrounds and skills. As a result, the less dynamic agencies have limited influence, and they usually limit their services to provision of information to SMEs about regional and national programs.

Source: Bruera 2015.

Notes: a. The program provides nonrefundable grants of up to US$900,000 for investment projects of new associative groups; up to US$1.35 million for activities to strengthen existing groups; and up to US$2.4 million for the establishment of research centers and laboratories and for promotion of innovation in industrial parks and industrial areas.
b. An example is the Economic Development Agency of the municipality of Córdoba, formed by 40 local institutions, including the Government of the Municipality of Córdoba and the Chamber of Commerce of Córdoba. It aims to foster the economic and social development of the agglomeration of Córdoba by promoting entrepreneurship, innovation, and management capacity; proposing policies; and connecting public and private stakeholders.
c. The benefits for companies include: (a) financial assistance, including loans and nonreimbursable grants for improvement in corporate management; (b) nonfinancial assistance, including training; (c) links with other firms; (c) identification of business opportunities and investments at the national level; (d) assistance in the establishment of strategic alliances; and (e) access to technology transfer channels.

Industrial parks nationwide; (b) national programs to support the economic competitiveness of the northern regions in Argentina; and (c) incentives for the economic development of the Patagonia region.

(a) Incentives for the establishment of industrial parks nationwide

Argentina has a well-established national policy to support the growth of industrial parks. The objective of the policy, which is currently implemented by the Ministry of Production, is not only to provide incentives for the growth of strategic industrial clusters, but also to contribute to the broader goal of local economic development (Government of Argentina, Ministry of Industry 2010). The Ministry of Production through the National Program for the Development of Industrial Parks, provides nonreimbursable grants to public industrial parks for funding infrastructure projects inside the park, and offers subsidized credits through the National Bank of Argentina for the establishment of SMEs within the parks.
The number of industrial parks has increased rapidly over the past decade; the number of parks that are currently registered by Argentina’s National Registry of Industrial Parks (Registro Nacional de Parques Industriales, RENPI) went from 82 in 2003 to 315. Those parks include about 7,700 firms of very different sectors (such as food processing, metallurgy, biotechnology, and electronics) and employ more than 240,000 workers (Government of Argentina, Ministry of Industry 2015). The national industrial park policy does not have a specific geographic focus. The distribution of the parks is broadly in line with population distribution. Half are located in metropolitan Buenos Aires and the Pampeana region (see figure 10.1).

Most industrial parks do not specialize in a certain sector and therefore are not taking advantage of the opportunities that clustering provides to exploit agglomeration economies. For example, the Pilar Industrial Park (PIP), located in the Buenos Aires province, is the largest park in the country, with 205 firms employing 15,000 workers distributed in more than 12 different sectors (for example, plastics, food processing, pharmaceuticals, logistics, textiles, and automobiles) (Parque Industrial Pilar 2015). Therefore, there is a missed opportunity to fully exploit the benefits that specialization can provide to enhance productivity. Another challenge that some industrial parks present is their effect on residential areas. Although industrial areas were created far away from the city’s center, as urban areas have expanded, some parks are now surrounded by residential areas (as is the cases of the Lanús and La Cantábrica Industrial Parks).

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**Figure 10.1 Distribution of Industrial Parks, by Region, 2015**

- Metropolitan Buenos Aires, 31.7
- Pampeana, 21.7
- Cuyo, 9.0
- Northeast, 16.1
- Northwest, 6.6
- Patagonia, 14.8


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located in metropolitan Buenos Aires), resulting in increased congestion and environmental problems for the local residents.

(b) National programs to support the competitiveness of the northern regions in Argentina

Northern regions in Argentina, referred to as the Norte Grande region, contribute only 12.6 percent to Argentina’s GDP and 7 percent of exports and have the largest concentration of poor households in the country. Logistical constraints are an impediment to the growth of a vibrant business network in the northern regions (World Bank 2006a). Logistics costs in the Northeast region are the highest in Argentina and are almost 50 percent higher than those of the Pampeana region (World Bank 2006a, 2006b). Firms in northern regions pay higher transportation costs because of the long distance to the ports and main consumer markets as well as their limited transportation alternatives. Even though the regions have some rail services and waterway potential, because of the lack of logistical coordination, unreliability, and high costs, trucks are often the only alternative (World Bank 2015a). In this context, only large enterprises and a few value-added products can face the high costs of transporting goods.

National interventions to support the economic development of the Norte Grande region have primarily focused on connectivity and logistics improvements to foster spatial integration. The Norte Grande Road Infrastructure Program, implemented by the Ministry of Federal Planning, Public Investment, and Services, seeks to reduce transport costs in selected corridors in the northern regions by connecting production centers with local and external markets and enhancing road quality. The objective of the program is to contribute to economic development, integration, and competitiveness of the Norte Grande by focusing on the rehabilitation, upgrading, and reconstruction of provincial roads in order to reduce transport costs and improve access to markets.

In addition, challenges in the region involve promoting the production of tradable goods and entrepreneurship, which will help overcome the fragility of labor markets and create quality jobs. Efforts to date have been carried out by the Ministry of Economy and Public Finance and provincial governments under the Norte Grande Competitiveness Program, which seeks to contribute to the achievement of sustainable economic development through the promotion of increased competitiveness of selected clusters in the region (see case study F). Going forward, stronger involvement and coordination with municipal governments in the implementation of the regional program could help achieve a greater impact at the local level while improving the overall economic development prospects of the region.

(c) Incentives for the economic development of the Patagonia region

The economic development of the Patagonia region has been promoted by the federal government through different incentive schemes, some of which are still in force, primarily aimed at encouraging migration to Patagonia. At the end of the
1950s, tax exemptions were granted for imports and fuels to encourage the settlement of people in the region. National Law No. 19.640 of 1972 established a special tax and customs regime for the Tierra del Fuego province, which exempts the territory from most national taxes. Thanks to the law, an industrial hub was slowly formed in the province. This regime was extended in 2007 until 2023.

National Law No. 23.018 of 1983 established a series of refunds for exports of products from the Patagonia region through a number of ports in the region. The reimbursements were eliminated in August 1996 and again restored in November 2015. The reimbursement aims to benefit fishery products, mining, and agricultural products (mainly wool and sheep meat), to compensate for the disadvantages those industries face because of the long distance to consumer markets around the country. In addition, a law was passed in 2009 to promote the production of electronics in the province by increasing taxes on new electronic products manufactured outside the province.

Challenges and Initiatives for Local Economic Development

Despite the macroeconomic conditions and the institutional framework that limit the role of municipal governments, evidence shows that in Argentina municipal governments with sufficient capabilities have successfully carried out local economic development initiatives. Levers to promote local economic development differ depending on the scope and capacity of a city to exert them. Argentine cities use a variety of local economic development instruments, ranging from industrial parks to more complex tools such as urban regeneration. In recent years, the instrument most commonly used by municipalities in Argentina has been the development of industrial parks, driven by direct support and incentives from the federal and provincial governments, as described earlier. In the case of large agglomerations, more complex initiatives have been undertaken, such as promoting partnerships between industries and higher education institutions (e.g., Technology Park of Litoral Centro in Santa Fe), city branding and marketing (e.g., Córdoba), tax and financial incentives for firm relocation (e.g., Rosario), or urban regeneration (e.g., Parque Patricios Technology District in the city of Buenos Aires). Table 10.2 presents an overview of instruments available to cities to promote local economic development, including international and local examples of such instruments.

In recent years, municipal governments have increased their functions and now play an increasing role in areas such as local economic development in addition to health, education, security, environment, and culture (see chapter 7). Taking on new responsibilities requires municipalities to professionalize their technical teams. However, with few exceptions, municipalities in Argentina still have limited capacity to carry out local economic development policies because of their institutional, technical, and financial dependence on the federal and provincial governments. Territorial planning based on a comprehensive vision for promoting economic growth is still rare in most municipalities. The rest of this section presents the economic challenges faced by Argentine cities...
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Table 10.2 Selected Instruments for Local Economic Development

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Definition</th>
<th>International examples</th>
<th>Argentine examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>City branding and marketing</td>
<td>Improving the local business investment climate by developing and effectively implementing a marketing and promotional strategy to encourage investments in the city</td>
<td>Bilbao, Spain, as a cultural city; Curitiba, Brazil, as a sustainable city</td>
<td>Córdoba: strengthening its image as a city of knowledge in the Southern Common Market (Mercado Común del Sur, Mercosur) and as an attractive place for the establishment of high-technology enterprises</td>
</tr>
<tr>
<td>Cluster-based economic development</td>
<td>Encouraging and supporting interfirm collaboration and targeted interventions in strategic industrial sectors. The sectors targeted are those that offer the most potential for local economic development. Possible initiatives include developing economic development agencies, supporting joint research, developing cluster-related marketing efforts, and developing demand-led skills and training programs</td>
<td>Life sciences cluster in Boston, United States</td>
<td>Santa Fe: development of agricultural cluster in Las Parejas</td>
</tr>
<tr>
<td>Urban regeneration</td>
<td>Using regeneration strategies to address specific site or small-area local economic development issues. The aim is to address specific area-based challenges such as an abandoned factory site, a declining shopping area, or a slum, or to target an area with economic growth potential</td>
<td>22@Barcelona Project in Spain</td>
<td>City of Buenos Aires: establishment of Parque Patricios Technology District (see case study A)</td>
</tr>
<tr>
<td>Partnerships with universities; skills and education</td>
<td>Promoting partnerships with universities and the private sector to promote innovation, target skills upgrading and education programs to the needs of the private sector, encourage knowledge transfer, and develop knowledge centers</td>
<td>Software Technology Parks of India; Recife Technological Park (Porto Digital) in Brazil</td>
<td>Santa Fe: coordination between industrial and scientific institutions to promote technology-based enterprises in the Litoral Centro Technology Park</td>
</tr>
<tr>
<td>Relocation incentives to firms, tax rebates</td>
<td>Offering tax exemptions as an incentive for enterprises to move to a certain location</td>
<td>New York Industrial Business Zones in the United States</td>
<td>City of Buenos Aires: tax exemptions for ICT firms to relocate to Parque Patricios Technology District (see case study A)</td>
</tr>
<tr>
<td>Industrial parks/ Special Economic Zones</td>
<td>Developing dedicated areas for the establishment of industries and industrial services</td>
<td>Industrial park (Ciudad Industrial) in Morelia, Mexico</td>
<td>Buenos Aires province: establishment of industrial parks such as the industrial park of Almirante Brown</td>
</tr>
</tbody>
</table>

Source: Bruera 2015.

according to their population size, including specific regional challenges faced by cities in the northern and Patagonia regions, and some of the initiatives adopted to overcome them.

The main economic challenge for the city of Buenos Aires is to move toward higher value-added manufacturing and services to improve its international competitiveness. The city of Buenos Aires has taken important steps in
that direction. The city has the most sophisticated local economic development policies in Argentina, as is expected, given its special jurisdictional status and financial resources.

In 2008, the city started establishing economic development districts, with the dual objectives of supporting the growth of high value-added clusters by capitalizing on its human capital and promoting the socioeconomic regeneration of distressed neighborhoods. The first district, established in 2008, was the Technology District, which aims to promote the information and communication technologies (ICT) industry and position the city as the ICT capital of Latin America. The Technology District also aims to promote the development of the neighborhood of Parque Patricios. The park is well established and has now reached a total of 200 resident firms employing more than 11,000 people (see case study A). Since then, the city has established three other economic development districts. The city government enacted Law 3.876 of 2011 for the promotion of the audiovisual industry in the neighborhood of Palermo, now home of the Audiovisual District. The Arts District, in the neighborhoods of La Boca, San Telmo, and Barracas, was established in 2012 to promote art as an economic activity and attract private investment in the tourism sector. Another district, the Design District, was established in 2014 in the neighborhood of Barracas to improve the city’s international competitiveness in the design sector.

To move up the value chain, the city of Buenos Aires’ Ministry of Economic Development is gradually shifting its focus toward the promotion of human capital and innovation. Unlike the more traditional urban revitalization efforts of economic development districts, innovation policies aim at promoting economic sectors with higher added value that can improve the city’s competitiveness. Innovation policies focus on creating a dynamic environment where firms and people can take advantage of proximity and knowledge spillovers. The objective of innovation policies is to promote the development of new products, technologies, and solutions by encouraging the collaboration among different sectors and specialties (e.g., ICT, biotechnology, and renewable energy sources).

A series of policies to promote innovation are being developed in the city of Buenos Aires, including targeted initiatives in economic development districts. For instance, the city of Buenos Aires has established two incubators to promote innovation: IncuBA, for design start-ups, and Baitec, for technology start-ups. The city government is also promoting the creation of an innovation park in the neighborhood of Nuñez, including an educational and scientific campus of public and private organizations and institutions promoting innovation—such as laboratories, research institutes, and universities, along with collaborative workspaces, and meeting spaces. The objective is to integrate the 45,000 students and 2,400 researchers and teachers from the nearby University of Buenos Aires with those of private institutions in the area. The challenge for the government is to secure the land to build the park in a prime location of the city.

The city also needs to produce or attract more trained engineers to support innovation and growth in the economic development districts. The Ministry of
Education has put in place a Strategic Plan for Training of Engineers 2012–16 (Plan Estratégico de Formación de Ingenieros) to increase the number of engineers in order to meet the growing demand for skilled labor in technology and knowledge-based sectors. However, in Argentina, the ratio of engineering graduates—one for every 5,000 inhabitants—is significantly below the level in developed countries such as Germany, where the ratio is one for every 2,000 (Government of Argentina, Ministry of Education and Sports 2012).

Peri-urban metropolitan Buenos Aires faces special and distinctive challenges. Once a manufacturing powerhouse, peri-urban metropolitan Buenos Aires has experienced a decline in manufacturing employment and an industrial reorganization within its perimeter, with relocation of manufacturing firms from municipalities adjacent to the city of Buenos Aires to the north of the metropolitan area. Today, it lacks employment growth drivers in all tradable sectors except textiles (see chapter 4).

One of the main barriers for the economic development of peri-urban metropolitan Buenos Aires is the absence of metropolitan coordination. Municipalities in peri-urban metropolitan Buenos Aires are ill-equipped to address the challenges of revitalizing their local economies in the absence of a mechanism for coordinating the core and periphery (see chapter 6). While the metropolitan area has some interjurisdictional organizations dealing with sectoral policies such as public transport (see box 9.2 in chapter 9) and environmental conservation (see box 6.5 in chapter 6), the absence of a mechanism for metropolitan management for the promotion of local economic development represents an institutional constraint as reflected in the poor results to build intermunicipal agreements in this area. Compared with the experiences of other metropolitan regions—such as the São Pablo ABC region in Brazil where a coordinating entity was established for promoting metropolitan coordination to overcome the local effects of the economic crisis of the 1980s (World Bank 2015b)—these barriers placed metropolitan Buenos Aires at a disadvantage.

Yet, even in the absence of an integrated economic development strategy for metropolitan Buenos Aires, small-scale initiatives are emerging to promote the economic regeneration of distressed neighborhoods. Promising local initiatives include partnerships with local universities to promote the growth of sectors that are based on more advanced technologies. For instance, the initiative of the municipality of General San Martín could be replicated in other municipalities in peri-urban metropolitan Buenos Aires. Historically, the municipality, which is adjacent to the city of Buenos Aires, was the second-largest industrial area in the country. However, its current industrial base is formed by low-technology industries such as metalworking, manufacturing of rubber and plastic products, and agroprocessing. The municipality has partnered with the National University of San Martín (Universidad Nacional de San Martín, UNSAM) to promote initiatives such as the San Martín SME exposition (Exposición PyME San Martín) and the establishment of the General San Martín Technology District (still under development) in Villa Lynch. The role of the University is pivotal not only to generate knowledge and learning, but also to promote major investments for the
urban regeneration of the area. Case study B presents the initiative in detail. Other public universities carrying out research and development (R&D) activities and real estate investments in metropolitan Buenos Aires are the National University of Tres de Febrero, the National University of La Matanza, the National University of Quilmes, the National University of General Sarmiento, and the National University of Lanus.

The top five agglomerations need appropriate policies and strategies to expand their global reach and reduce the competitiveness gap with metropolitan Buenos Aires. There are a number of emerging sectors in the top five agglomerations, whose potential could be leveraged to diversify their economic base, generate employment in tradable sectors, and improve export competitiveness (see chapter 4). Governments also need to help overcome the barriers that private sector firms experience, such as the rigid regulation, high tax rates, or inadequately educated workforce (see box 10.2).

Rosario is one of the top five agglomerations that has taken steps to address these challenges and to diversify its economy. Rosario’s Metropolitan Strategic Plan of 2008–18 recognizes the city as a regional center for agroprocessing production, industries with high value-added, and quality services (Government of the Municipality of Rosario, Province of Santa Fe, 2008). The municipality of Rosario has taken important steps to improve coordination at the metropolitan level for the implementation of the plan (see chapter 6). Based on its vision,

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**Box 10.2 The Business Climate in Argentina**

Major obstacles experienced by the private sector in Argentina include rigid labor regulations, an inadequately educated workforce, corruption, deficiencies in the legal system, limited access to finance, and high tax rates, based on the results of an enterprise survey carried out in 2010 for metropolitan Buenos Aires, three of the top five agglomerations (Córdoba, Mendoza, and Rosario), and Resistencia, a large city in the Northeast region. However, these obstacles are not common to all surveyed cities. For example, labor regulations are not seen as much of a constraint in Rosario compared with the rest of the cities; however, more firms in this city identify a lack of an educated workforce as a major constraint. Firms identifying corruption as a major constraint are more prevalent in Rosario; yet, firms in this city report that they trust the legal system more. In Argentina, investments and working capital financed by banks are less frequent compared with the rest of Latin America, especially in Resistencia, where a higher percentage of firms identify access to finance as a major constraint. Finally, regulations, as well as the tax burden in Argentina, are identified as major obstacles to private firms. Although the five cities differ considerably in the number of days it takes to obtain an operating license, it takes firms about 70–79 days to obtain an import license in every city (with the exception of firms in Mendoza, where it takes 107 days). The percentage of firms identifying tax rates as a major constraint is also high in all surveyed cities (ranging from 52 percent in Córdoba to 69 percent in Resistencia).

*Source:* Based on World Bank 2010.
a series of initiatives have been implemented to boost employment and productivity and promote economic diversification. Case study C presents in more detail the interventions promoted by Rosario.

Large agglomerations face the challenge of promoting the diversification of their economic base. Large cities rely extensively on resource-based manufacturing to drive employment growth, and are therefore vulnerable to changes in global demand and prices. While new employment growth drivers are emerging (see chapter 4), appropriate policies are needed to sustain their growth and advance the diversification of the economic base of large cities. To support this structural transformation from low to high value-added products and services, some municipal governments have created dedicated units for local economic development or innovation. Together with the private sector, they carry out policies to expand production, employment, and exports.

The city of Mar del Plata is a good example of the economic trajectory of large urban areas of Argentina. One of the major urban centers of the country, Mar del Plata faces the challenge of moving from the traditional tourism sector and low-tech manufacturing to higher value-added sectors. A structural economic transformation of this kind requires planning based on a long-term vision. To this end, the municipal government, together with the private sector, is implementing policies to promote economic development based on a renewed vision of Mar del Plata as an emerging sustainable city, as defined in the city’s Strategic Plan of 2013–23 (Government of the Municipality of Mar del Plata, Province of Buenos Aires 2013). Strategic and territorial planning has been critical to support the achievement of the vision. For instance, the city made available adequate land and infrastructure to support emerging knowledge-based and ICT sectors. See case study D for a description of the experience of Mar del Plata.

Intermediate and small cities have limited levers to influence local economic development. With important employment growth drivers in resource-based sectors, intermediate and small cities have strong, untapped economic potential, which they have failed to fully exploit in an unfavorable macroeconomic environment. Furthermore, their limited mandate and financial resources have often prevented these cities from taking a lead role in local economic development. In less-populated areas it is unusual for municipal governments to have specific units to promote local economic development, and where they do exist, they often have limited human and financial resources for the implementation of local economic development policies. Among other barriers, municipal governments may have a limited understanding about such units’ roles in promoting the local economy and insufficient resources and skills to go beyond the traditional functions that municipalities perform. Nevertheless, experience shows that intermediate and small cities that are able to develop a strong partnership with the private sector based on equal footing can thrive even in adverse macroeconomic situations. Rafaela is a case in point (see case study E). The success of Rafaela exemplifies the power of dynamic and forward-looking partnerships between
the municipal government and the business community. It also demonstrates the importance of having a flexible approach to promoting partnership and building capabilities, in both the private and public sectors.

The northern regions face deep-rooted structural challenges to economic growth, including high logistics costs, limited private sector development and access to credit, low value added in the production chain, and low export diversification (IDB 2014). These challenges are compounded by urban infrastructure deficits and inadequate access to service delivery at the agglomeration level. As discussed earlier, federal interventions have focused on addressing regional infrastructure bottlenecks, in particular connectivity and logistics improvement, and on supporting private sector development through the Norte Grande Competitiveness Program (see case study F for a description of the program). This program is complemented by province-level initiatives to support entrepreneurship and SME development (for example, the initiative Centro de Emprendedores Regionales). However, local governments in the northern regions lack the capacity to coordinate and enhance the impacts of federal and provincial programs. They are unable to take full advantage of these programs because of inadequate capacity, limited resources, and bottlenecks in service provision. There is currently no integrated program that comprehensively addresses the urban development needs of agglomerations in the northern regions.

In the Patagonia region, resource-rich agglomerations are highly vulnerable to fluctuations in global demand and prices; the challenge for these agglomerations is to diversify their local economies. Given their high wages in resource-based sectors, agglomerations in the Patagonia region cannot compete internationally in labor-intensive industries that are not connected to natural resources. International examples suggest that resource-rich regions like Patagonia can diversify their economies by leveraging their resource advantages to harness knowledge and institutions that generate innovation. Investing in knowledge and innovation demands a concerted strategy in partnership with the private sector to boost knowledge-intensive sectors. In addition, the development of SMEs and the strengthening of alternative value chains require significant resources and regulation to prevent benefits from being exclusively captured by large firms (see box 10.3).

In the Patagonia region, promising municipal-level policy initiatives are emerging to promote the economic diversification of agglomerations. One city that has based its growth on extractive industries and that has recently taken steps to diversify its economy is Comodoro Rivadavia (in the Chubut province), the largest agglomeration in the Patagonia region. In this city, the initiatives to diversify the economic base are led by the municipal government in coordination with the private sector and local universities. Comodoro Rivadavia’s experience shows that economic diversification in resource-rich cities requires a number of medium-term actions coordinated among the public and private sectors (see case study G presenting the case of Comodoro Rivadavia in detail).
Although access to natural resources is a key dimension of economic success, evidence suggests that resource-rich cities, like countries, can be subject to a “resource curse” if the success of one sector eliminates economic diversity. Empirical evidence shows that cities with a historical abundance of nearby mineral and coal mines tend to develop industrial structures with systematically larger establishments and less entrepreneurship. This evidence suggests that large, resource-intensive activities can crowd out the entrepreneurial activity, which generates long-term growth. Lack of entrepreneurship will, in turn, impede diversification of the local economy, increasing its vulnerability to international commodity price shocks.

Cities in the American Rust Belt, such as Buffalo, Cleveland, Detroit, and Pittsburgh, that flourished a century ago because of access to natural resources are now less prosperous. In 1961, economist Benjamin Chinitz found that cities that were highly dependent on extractive industries, as Pittsburgh was at the time, tended to evolve as one-industry towns, with high specialization in industries, which benefited from significant economies of scale, such as the steel industry. However, Chinitz argued that the big steel firms led to a dearth of entrepreneurial human capital across several generations. By crowding out more entrepreneurial activities, resource-based industries made it more difficult for these cities to reinvent their economies when they slowed down (Chinitz 1961).

More recently, Glaeser and others (2015) tested this hypothesis by examining the growth trajectories of metropolitan areas across the United States with large concentrations of extractive industries (measured as proximity to mines) at the turn of the 20th century. They found that these cities still have larger firms and fewer start-up companies today, across all their industries, and that their economic prospects are correspondingly bleaker than those in cities with fewer natural resources.

Gollin and others (forthcoming) also found that resource-led urbanization can lead to relatively slow productivity growth because resource-rich cities have less employment in tradable sectors. Based on a cross-section of 85 countries over the period 2000–10, their study found that natural resources are strong drivers of urbanization, but cities in resource-exporting countries tend to be “consumption cities,” with a larger fraction of workers in nontradable services such as commerce and transportation or government services. Cities in countries that do not export significant natural resources, on the other hand, are more likely to be “production cities,” with more workers in industrial sectors such as manufacturing or in tradable services like finance.

Natural resources can also deter city growth by lowering levels of education. For example, Glaeser (2009) argued that Edinburgh was more prosperous than Glasgow, in part, because it was less successful as an industrial town and therefore attracted fewer less-skilled workers. Other evidence suggests that resource-rich states in the United States have done poorly, partially because of less investment in education.

International evidence also suggests that natural resources can be beneficial to growth when they are complemented by human capital. Cities such as Houston and Calgary show that natural resource wealth can be used to build a robust, diversified, and skilled workforce.
This section presents seven case studies to illustrate approaches and solutions adopted to promote local and regional economic development and to address the economic challenges outlined in the previous section.5 Case study A presents the experience of the city of Buenos Aires in establishing the Technology District; case study B describes the partnership between the municipality of General San Martín and UNSAM to revitalize the local economy in peri-urban metropolitan Buenos Aires; case study C outlines Rosario’s efforts to develop and implement a metropolitan strategy to promote local economic development; case study D discusses the renewed focus on long-term planning that laid the foundation for the economic transformation of Mar del Plata; case study E outlines the successful experience of Rafaela in building a long-term, flexible partnership with the private sector; case study F outlines the recent initiatives to improve the competitiveness of emerging clusters in the Norte Grande region; and finally, case study G describes the efforts of Comodoro Rivadavia to diversify its economic base by leveraging its natural resources.

Case Study A. The City of Buenos Aires’ Economic Development Districts: The Case of the Technology District

Through its policy for establishing economic development districts, the city of Buenos Aires aims to achieve the dual objective of regenerating distressed areas through public and private investments and real estate development, and promoting the growth of strategic sectors, such as ICT, the audiovisual industry, arts, design, and tourism.6 These sectors were selected by the city based on their potential to promote the generation of high value-added jobs and exports. Within this framework, the city’s main initiatives include the establishment of four economic development districts: the Parque Patricios Technology District, the Audiovisual District, the Arts District, and the Design District.6 This case study focuses on the Parque Patricios Technology District.
The Technology District is located in Parque Patricios in the southern part of the city of Buenos Aires, which is a former industrial area with abandoned factories and warehouses. Established by Law No. 2.971 of 2008, the district is a center for the promotion and development of ICT, innovation, and knowledge. Aside from the private sector, participating entities include education institutions, such as the Buenos Aires Technology Institute, the University of Salvador, and CAECE University (Centro de Altos Estudios en Ciencias Exactas), as well as nongovernmental organizations that aim to promote socially inclusive economic development and urban regeneration.

The benefits for firms located in the district are tax and fee exemptions or deferrals, subsidies, preferential credit lines, and training programs. The training program focuses on human resources development, such as a bilingual literacy and technology pilot plan in public schools located in the Technology District, as well as programs involving the participating universities.

Private companies, mainly SMEs, cited three main motivations for establishing themselves in the Technology District: (a) knowledge spillovers, (b) proximity to clients and suppliers, and (c) the advantage of surrounding infrastructure and amenities. A smaller number of these firms expressed that their willingness to relocate was motivated mainly by financial benefits, including lower land prices; tax exemptions also represented an important factor for firms, although they were not sufficient for a significant number of firms (Goytia and others 2009).

In view of the importance of infrastructure and amenities in attracting firms, the instruments contained in the law of 2008 were insufficient for the growth of the district. Therefore, the city of Buenos Aires decided to invest in improving public areas, safety, and transportation. Thanks to those investments, companies located in the district can now benefit from better accessibility, amenities and infrastructure, among other advantages.

According to estimates by the city of Buenos Aires, by 2015, the Technology District had received public-private investments in the amount of US$270 million and had 200 resident firms employing more than 11,000 people (Government of the City of Buenos Aires 2015). About 95 percent of the resident companies established in the district or in the process of establishing residence are locally owned companies, 82 percent are SMEs, and more than 50 percent are involved in software production. The city government headquarters moved to the area in 2016, and three universities oriented toward technology as well as the Metropolitan Center for Technology plan to establish residence there.

One of the challenges of the Technology District is the possible relocation of firms from other city neighborhoods rather than the creation of new firms—close to 30 percent of the firms that are currently establishing residence in the Technology District come from other neighborhoods of the city, and of those, 50 percent plan to close operations in their former locations. A second challenge is the increasing cost of residential and commercial land (Cristini and others 2012). Moreover, despite the predominance of software development firms, business process outsourcing companies represent a higher share in terms of square
meters and employees. These firms are less inclined to undertake innovation, and their products and services usually cater to the local market.

Two main lessons can be learned from this case study. First, the main incentives for firms to relocate to an economic development district are the externalities associated with clustering of firms as well as public amenities and infrastructure, rather than financial incentives. Second, a successful government policy establishing districts requires the active participation of the private sector and knowledge institutions, including universities, in defining priorities and managing the initiatives.

Case Study B. General San Martín: Partnership with a Local University to Promote Improvement of Productivity and Urban Regeneration

The municipality of General San Martín, adjacent to the city of Buenos Aires, has followed a traditional economic trajectory based on import substitution in line with the country’s industrial development of the 20th century (Fernández Güell 2006). Historically, the economy of the municipality has been based on traditional sectors with medium-level skilled workers and low innovation, with products that are sold in regional markets. These sectors lack the human resources required to promote R&D and innovation. Facing the challenges of competing in a global economy, the municipal government sought to move toward higher value-added products and services. To this end, the municipality developed a strategic plan to strengthen the productive, environmental, institutional, cultural, educational, and social assets of the city (Government of the Municipality of General San Martín 2010).

The partnership between the municipality and UNSAM has been critical for the implementation of the strategic plan. UNSAM is providing the skills and research that industries need in order to generate knowledge that will result in the growth of higher value-added products and services. Considering industries’ needs, UNSAM has developed courses in areas such as electronic engineering with emphasis on biomedical instrument use, mechatronics engineering, nanotechnology, and biotechnology. Similarly, UNSAM has developed courses in cross-cutting specializations (such as industrial quality) applicable to most industries within the municipality and surrounding areas. UNSAM’s Secretariat for Innovation and Technology Transfer is carrying out activities aimed at linking academic departments with public and private institutions to facilitate and promote the application of scientific research in the area of science and technology to local industries.

The link between university and industry is strengthened by the active role played by other knowledge institutions in the area. UNSAM and the municipality of General San Martín have formed the Constituyentes Technology Hub together with strategic national partners, including the National Atomic Energy Commission, the National Institute of Industrial Technology, the National Geological and Mining Service, the Defense Institute of Scientific and Technical Research, and the National Institute for Agricultural Technology. Together, these institutions promote new SMEs that provide technology to traditional industries.
Some of the technological developments with industrial applications include sensors for detecting pesticides; nanotechnology memories for application in nuclear power plants, oil wells, satellites, and other hostile environments with extreme temperatures; systems for treating polluted water with clays at nanoscale; and the application of nanotechnology to everyday products such as tires and windows to improve their performance. Improving technology transfer mechanisms will be essential to scaling up the production and commercialization of such developments, which are still in incipient or experimental stages.

To promote new SMEs, the municipality has started the San Martin SME exposition an annual exhibition that brings together local, national, and international exhibitors working in the areas of technology, innovation, and knowledge. It also promotes exchanges between UNSAM and businesses and introduces companies and organizations to potential customers and users.

UNSAM has also had an impact on the urban regeneration of the area. A decade ago, the current Migueletes campus—the main headquarters of UNSAM—was an abandoned lot by the railroad tracks. Today, 12 buildings house a hundred undergraduate and graduate education programs. The campus now has an area of 8.5 hectares, with buildings covering 52,000 square meters, while the planned built area is 220,000 square meters. The new buildings include a nanotechnology laboratory for incubating businesses that handle nanoscale substances.

Future challenges include the need to broaden and deepen positive externalities and the indirect effects of UNSAM’s actions in its territory. Although the Migueletes campus has proved to be an important initiative for urban regeneration, improvements in neighboring areas have yet to be fully achieved. Similarly, given that a large number of technical training programs have only recently opened, the availability of graduate students with strong technical profiles who are ready to enter the labor market remains low.

Lessons learned in this case study include the following: (a) efforts aimed at transforming the territory into a knowledge hub can be led by a local university, but they need to be supported by other local actors; (b) investments in real estate development and urban regeneration do not necessarily imply a spillover effect on surrounding neighborhoods unless those investments are accompanied by coordinated actions by local public and private sectors; and (c) links between universities and private sector firms are essential to create a strong innovation ecosystem as well as to address social challenges and promote urban regeneration of an area.

**Case Study C. Integrated Metropolitan Strategy to Promote Competitiveness: The Case of Rosario**

Rosario’s economy generates Argentina’s second-largest gross domestic product (GDP). The main manufacturing sector is agroprocessing. Rosario is one of the main soybean- and oilseed-processing centers in the world. In addition, a large number of manufacturing sectors contribute to the city’s economic base. Rosario and its metropolitan area produce 10 percent of the cars, 30 percent of domestic refrigerators, 40 percent of the food industry equipment, and 45
percent of the bodywork for medium- and long-distance buses manufactured in Argentina (Government of Argentina, Ministry of Industry 2015). Several transnational enterprises’ main offices are also located in Rosario.

Services offered by the city include logistics, financial, ICT, and technology services. Logistics services are mainly port activities: Rosario ships 70 percent of the agroprocessing exports of the country. Financial services include Rosario’s futures exchange market, which concentrates the majority of Argentina’s term money exchange operations, and is the largest in the country in terms of traded volume of futures contracts and options on wheat, corn, and soybeans. ICT services are expanding, with multinational enterprises and a number of SMEs developing software in the city, and there is an emerging biological science sector. Rosario’s Technology Hub (Polo Tecnológico Rosario) was created in 2005 and includes more than 70 enterprises, which receive provincial and municipal support, and two local universities. It specializes in the R&D areas of biotechnology and ICT, making it one of the largest technology hubs in Latin America.

Over the last decades, Rosario experienced significant growth in both residential and commercial real estate, in part as a result of the strong export performance of commodities. In spite of its growth, the city faced a number of challenges, including social exclusion and unemployment, lack of leadership to promote local economic development, little coordination among institutions, and limited cooperation with the private sector. These challenges prompted the city to initiate a strategic planning process with the participation of local stakeholders to define strategies to guide the city’s sustainable growth. The strategic planning process had two main phases.

The first phase included the development of Rosario’s Strategic Plan (Government of the Municipality of Rosario, Province of Santa Fe 1998) that was implemented from 1998 until 2008. The plan envisioned transforming Rosario into a city with quality employment opportunities for all its citizens and a point of reference within the Southern Common Market (Mercado Común del Sur, Mercosur). The city was reorganized into six municipal district centers as part of an effort to promote operational, administrative, and political decentralization. In 2003, the initiative received the United Nations Development Programme award for Exemplary Experience on Local Governance in the Latin American region, and it is nationally and internationally recognized as a best-practice case in terms of decentralization and citizen participation.

The second phase began in 2004 with the development of the Metropolitan Strategic Plan of 2008–18 (Government of the Municipality of Rosario, Province of Santa Fe 2008) encompassing the entire agglomeration. The metropolitan vision stated in the Metropolitan Strategic Plan is to consolidate the position of the agglomeration as a regional center for agroprocessing, and diversify the economy toward higher value-added industries and services to address the challenge of global competition. The plan included territorial planning guidelines and a common agenda of issues to be addressed over a period of 10 years to achieve the vision. The metropolitan plan promotes access to ICT; adoption and development of alternative energy sources; development of knowledge-based sectors
such as biotechnology; improved urban mobility and regional connectivity; as well as coordination between public planning and private investments as a tool to achieve social inclusion and sustainable urban development.

In line with the plan, the city has implemented a series of initiatives for generating employment; these activities include promoting SMEs, strengthening the competitiveness of Rosario’s futures exchange market fostering tourism, and promoting the city as a fair and convention center. For the implementation of these initiatives, a dedicated agency, the Metropolitan Coordination Body (Ente de Coordinación Metropolitana, ECOM), was established in 2010 under the leadership of the municipality of Rosario. ECOM, formed by 22 of the metropolitan region’s 23 municipalities, serves as a voluntary body to help plan, coordinate, and manage common initiatives, thanks to the financial contribution and human resources provided by its members (see chapter 6).

Challenges that Rosario still faces include the need to reduce dependence of its economic performance on national economic trends and the need to address unemployment for the poorest segments of the population.

The main lesson learned from this case study is that effective territorial planning at the metropolitan scale, as well as mechanisms for metropolitan coordination in the implementation of the plan, can help increase competitiveness and promote the growth of higher value products and services.

Case Study D. Mar del Plata: Action Informed by a Long-Term Vision

Until the beginning of the 21st century, Mar del Plata, the main fishing port and tourist center of Argentina (see photo 10.1), had an economy based on its natural resources. The city had no clear development strategy, and its growth was highly dependent on national economic trends. Thus, the city’s economic base focused mainly on goods and services that required low levels of innovation, or product differentiation, and that were usually geared toward internal markets. By the late 1990s, Mar del Plata’s economic base had been negatively affected by the loss of trade competitiveness caused by growing competition from imported goods. Moreover, the depletion of fishing resources generated uncertainties among investors (Gennero de Rearte and others 2002).

Following the financial crisis of 2001/02, the municipal government of Mar del Plata took steps to boost the city’s economy by redefining its long-term vision as a sustainable and inclusive city, as reflected in the city’s Strategic Plan of 2013–23 (Government of the Municipality of Mar del Plata, Province of Buenos Aires 2013). The plan proposes to achieve this vision by, among other strategies, strengthening innovation and knowledge-based sectors to promote local economic development. Some of the local initiatives being developed under the municipality’s leadership and in partnership with the private sector included expanding the General Savio Industrial Park; supporting the creation of service and technology development companies in the shipping, garment, and ICT sectors; and opening enterprise incubators in the local university, among others.

The renewed emphasis on long-term strategic planning laid the foundation for the mobilization of resources and the implementation of federal programs,
such as the Technical Assistance for Employment Stimulation in Argentina (Apoyo para la Reactivación del Empleo en Argentina, AREA) (Gennero de Rearte and others 2008). The AREA program, which was part of the Technical Cooperation Program of the International Labour Organization, aimed to address the effects of the financial crisis of 2001/02 by providing overall technical assistance to the Ministry of Labor, Employment, and Social Security in support of its employment policies in seven different provinces and agglomerations, including Mar del Plata.

These efforts led to more dynamic economic and employment growth in Mar del Plata. Currently, Mar del Plata presents a more diversified economic structure, as new economic activities have consolidated over the past 10 years. The industrial sector has become, for the first time in the city’s history, the sector with the greatest participation in the GDP of the agglomeration. Main industrial sectors include traditional agroprocessing and textiles as well as new clusters such as the manufacturing of metallurgical, pharmaceutical, and chemical products; machinery; and shipbuilding. In addition, the peri-urban areas of Mar del Plata have become the second-largest fruit producer in the country. These new economic activities have transformed Mar del Plata into a dynamic city that does not depend solely on the seasonal ups and downs of tourism.

Photo 10.1 Mar del Plata: Diversifying beyond Traditional Fishing and Tourism

Source: istockphoto.com/Magalí Izaguirre. ©Magali Izaguirre. Further permission required for reuse.
To further support the diversification of the local economy, the municipality of Mar del Plata has encouraged innovation in creative and technology industries through the provision of five hectares of land and infrastructure for the development of the Technology and Creative Industry Park (Parque Informático y de Industrias Creativas). The park hosts the Center for Enterprise Incubation and Development and the Art and Digital Skills School, both managed by the Secretariat for Technology Development and Municipal Management Improvement within the municipal government. The park currently has more than 90 companies and 400 entrepreneurs, generating 3,500 jobs and exporting products to more than 12 countries (Government of the Municipality of Mar del Plata, Province of Buenos Aires 2015).

Among the benefits that firms in the park receive are those contained in Law No. 25.922 of 2004 for the promotion of the software industry, including tax credits, income tax rebates (in exchange for a percentage of profit to be invested in R&D activities), and exemptions from import duties and some municipal taxes. Exemptions also extend to educational institutions that provide academic training in the ICT sector. This initiative has encouraged the development of knowledge-based sectors that have contributed to economic growth and job creation as well as economic diversification.

Some of the challenges that Mar del Plata will face in the future include the consolidation of its positioning as an emerging sustainable city. Initiatives promoted by the municipal government to address this challenge include the construction of a wind park and a sustainable rural development program. Mar del Plata is also addressing the modernization of urban transport through the construction of a new beltway, a multipurpose port, and the regeneration of its existing port area.

A number of lessons learned emerge from this case study: (a) that a long-term city vision can become a very effective mechanism to catalyze joint public and private sector actions to promote local economic development; and (b) that economic diversification in large cities, as well as the consolidation of traditional activities, needs to be accompanied by strategic and territorial planning.

Case Study E. Rafaela: The Benefits of a Long-Term, Flexible Partnership with the Private Sector

Recent economic performance in Rafaela, an intermediate city in the Santa Fe province, is characterized by high growth rates, low unemployment, and high quality of life. The economic success of Rafaela is in large part attributed to the city’s demonstrated ability to adapt to macroeconomic changes and partner with stakeholders. Beginning in the 1990s, the municipal government, through the Secretariat for Economic Planning, took action to promote SMEs, improve the offer of education programs, and foster innovation. At the same time, it modernized its municipal administration and strengthened cooperation between stakeholders with an interest in local development. The Regional Development Foundation was also created to provide capacity building to strategic industrial sectors (Ferraro and others 2000).
Government efforts led to a strong collaboration between public and private sectors to design, implement, and coordinate local industrial policies (Bianchi and others 2008). The municipality and the local actors understood that public–private cooperation was critical to promote the growth of local firms, improve human resources and skills, and incentivize innovation. The municipal government was able to capitalize on the fact that the city already had a strong and organized private sector, which is not always the case in cities of the size of Rafaela.

A number of public-private initiatives have helped increase the city’s competitiveness. The municipality and the Chamber of Commerce of Rafaela have jointly taken steps to promote international competitiveness of the local economy through fairs and commercial visits, reverse missions, training for first-time export enterprises, education exchange programs, partnership agreements with sister cities, and participation in international cooperation programs, among others. Rafaela Exporta is especially worth mentioning because it promotes a culture of exporting among SMEs, thus increasing the number of exporting companies, and supporting market diversification. The program includes training in international trade and commerce and provides technical assistance on topics related to exports and quality control (Costamagna and others 2011). The city also has a local customs office charged with export and import operations, while the regional center of the National Institute of Industrial Technology provides integrated support and technical assistance to milk-processing industries, contributing to improving productivity of cheese and powdered milk production and exports.

In its efforts to open new markets and align production activities to international demand, Rafaela has established economic links with other regions around the world, such as the Basque Country in Spain, for the transfer of technology for milk-processing plants, and it is working to strengthen commercial relationships with Mercosur through the Chamber of Commerce in Brazil. In addition, the city is part of Mercociudades—a network of Mercosur cities for sharing experiences and best practices—and works with the Japan International Cooperation Agency for the implementation of a training and technical assistance program in foreign trade and international marketing for SMEs.

Through these actions, Rafaela has increased the number of export destinations for its products, with 44 SMEs selling their products in 86 countries. The city has achieved levels of specialization higher than those of cities of similar size—auto parts and agroprocessing represent 96 percent of the US$477 million in exports in 2014. According to the Chamber of Commerce of Rafaela, the average value of exports carried out by enterprises based in Rafaela in 2014 was US$5,534 per ton, above the national average of US$486 per ton (Bruera 2015).

Future challenges faced by Rafaela relate to the availability of specialized workers, including the need to strengthen mid-level technical training, to ensure adequate housing supply for workers, and to further improve infrastructure for the industrial sector. Lessons emerging from this case study are that (a) it is important to first ensure that dynamic, forward-looking partnerships between
stakeholders are in place to successfully implement local economic development initiatives; and (b) a flexible approach and concerted actions are necessary to sustain a high level of productivity and improve living standards in highly specialized intermediate cities.

**Case Study F. Norte Grande: Promoting the Growth of Emerging Clusters**

Since 2009, the economic challenges of the Norte Grande region have been exacerbated by the slowdown in private employment growth. Provinces in the Norte Grande concentrate their exports in a reduced number of primary products with low value added, such as citrus, tobacco, yerba mate, wood, sugar, rice, and copper. SMEs’ exports are extremely low, less than 3 percent, and mostly cater to nearby markets. Comparing this region with the rest of the country, the Norte Grande shows a low level of business density—855 people per SME compared with 360 at the national level and 250 in the Pampeana region.²

The federal government is addressing this challenge by supporting the economic growth of emerging strategic clusters in the northern regions in a bid to reduce territorial disparities with the rest of the country. At the national level, the Norte Grande Competitiveness Program, developed by the Secretariat for Economic Coordination and Competitiveness Improvement within the Ministry of Economy and Public Finance, aims to contribute to the sustainable economic development of the northern regions by increasing the competitiveness of selected clusters with economic growth potential. The program provides nonreimbursable grants for targeted investments to support the growth of priority industrial clusters identified as part of competitiveness plans. Up to three clusters are selected in each province in the Norte Grande region, in agreement with the provincial government, to support local and provincial economic development. Typically, firms in clusters are linked with governmental institutions as well as academic and scientific institutions that provide training, education, information, research, and specialized technical support.

Aside from the provision of nonreimbursable grants and support for the formulation of competitiveness plans, the program seeks to (a) coordinate with national and provincial programs that support strategic clusters; (b) train local promoters (technicians and professionals) in the development of projects to be presented for funding under various support programs; and (c) carry out institutional strengthening of private sector organizations of the selected clusters.

Some of the challenges the program faces include: (a) the limited availability of professionals with proper training to lead the process of developing the competitiveness plans; (b) the low performance of recipient institutions as borrowers or as managers of the resources allocated by the program; (c) the high heterogeneity of firms within clusters; (d) clusters crossing provincial boundaries; and (e) coordination challenges between provincial and municipal governments. Overall, the main difficulty is that public interventions are at an insufficient scale to resolve the structural weaknesses of the regional economy. The maximum amount of funding available (per project or per company) is inadequate to...
finance the type of public infrastructure and services needed by these emerging clusters. Furthermore, the program does not address the weak capacity of municipal governments to take full advantage of public interventions. This case study highlights that the economic development of agglomerations in lagging areas requires an integrated approach at all levels of government to increase productivity and achieve enterprise growth in tradable sectors.

**Case Study G. Comodoro Rivadavia: Knowledge as a Strategy for Economic Diversification**

The economy of Comodoro Rivadavia, located in the hydrocarbon-producing area of the San Jorge Gulf in the Chubut province of the Patagonia region, is highly dependent on extractive industries, and thus highly vulnerable to commodity price fluctuations and employment crises. Because it is one of the most densely populated cities in the Patagonia region, reductions in employment in extractive industries increase social exclusion as a result of low reinsertion possibilities of the labor force in other sectors of the economy. Although the growth of oil production in the Patagonia region between 2003 and 2011 has led to a reduction in unemployment, the accompanying demographic growth brought along some urban challenges, such as increasing traffic congestion, proliferation of informal settlements, and higher crime and violence. High participation of the hydrocarbons sector in the overall regional product, as well as demographic growth, has had an important effect on the cost of basic goods and housing. During recent years, the northern section of the city has experienced significant growth of commercial and industrial activities, leading to a scarcity of land and an increase in its price. The southern section, where the majority of the population lives, includes residential neighborhoods as well as industrial areas and informal settlements (Díaz 2011).

Comodoro Rivadavia has taken steps to diversify its economic structure toward higher value-added, knowledge-based sectors. The municipality, through the entity Comodoro Conocimiento, is currently developing research programs aimed at adding value to marine resources (such as algae and mussel seeds) in cooperation with the Oceanography Observatory. Similarly, the National University of Patagonia San Juan Bosco (Universidad Nacional de la Patagonia San Juan Bosco, UNPSJB) focuses its efforts on the development of renewable alternative energy sources. Recently, through a project jointly implemented with the private sector, the Bioscience Laboratory started to produce algae-based energy derivatives for the generation of biofuel. The federal government is also promoting, in conjunction with the local metal-mechanic sector, the design of new products for the automobile and wind energy industries, which have great potential for growth in the region. Interaction among entities such as the municipality of Comodoro Rivadavia, Comodoro Conocimiento, and UNPSJB, as well as the active participation of the private sector, has been instrumental in achieving objectives such as the establishment of a local patent office and financing lines for entrepreneurs and SMEs.
The challenge for Comodoro Rivadavia is to sustain present efforts to diversify the economy. Efforts to strengthen alternative value chains are still weak because of the lower profitability associated with these activities compared with those of the oil sector. And the city faces difficulties in building the skilled human resources required to promote new economic opportunities. Young populations tend to drop out of school if they can receive high salaries from activities in the hydrocarbon sector. As a result, the city has not been able to fully integrate its marine resources into its economic base.

Notes

1. Clusters are spatial concentrations of companies and institutions in a particular field or industry in the same geographic area. This proximity enables the cluster members to have closer relationships, better information, access to suppliers, and other advantages in terms of productivity and innovation that are difficult to exploit remotely.


3. The Norte Grande region is formed by the Catamarca, Jujuy, Salta, Santiago del Estero, and Tucumán provinces in the Northwest region and the Chaco, Corrientes, Formosa, and Misiones provinces in the Northeast region.

4. The projects include the Norte Grande Road Infrastructure Project (International Bank for Reconstruction and Development, IBRD 7991, US$400 million), the Norte Grande Road Infrastructure Program I (Inter-American Development Bank, IDB 1851, US$1,200 million), the Norte Grande Road Infrastructure Program II (IDB 2698, US$300 million), and the Norte Grande Road Infrastructure Program III (IDB 3050, US$300 million).

5. The information presented in the case studies is based on Bruera 2015.

6. For additional information about strategic sectors promoted by the city of Buenos Aires, see http://www.buenosaires.gob.ar/distritos/industrias-estrategicas.

7. For additional information on the city of Buenos Aires’ policy on economic development districts, see http://www.buenosaires.gob.ar/cooperaciontecnica/innovadora-creativa-y-moderna/polos-y-distritos.


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Desarrollo e Innovación, and Government of the Municipality of Rafaela, Rafaela, Santa Fe.


CHAPTER 11

Measuring Prosperity and Livability: Spatial Patterns of Cities’ Performance

Summary

This chapter presents two complementary metrics of city performance—prosperity and livability. The analysis finds that the most prosperous agglomerations are also the most livable, indicating that the most prosperous cities, that is, those with the strongest capacity and resources to take advantage of the benefits of agglomeration economies, can also most effectively control the negative externalities of agglomeration economies. The city of Buenos Aires has the best performance in generating prosperity, but peri-urban metropolitan Buenos Aires lags significantly behind. Agglomerations in the Patagonia region exhibit strong performance, whereas agglomerations in the Northeast region have the worst track record across all three components of prosperity—productivity, employment, and no-poverty. Variations in prosperity outcomes within regions suggest that not only the region but also the local context are playing an important role in determining cities’ prosperity. The most populous agglomerations have a higher share of working professionals, indicating that they may have more skilled workers and higher human capital. The city of Buenos Aires is not only the most prosperous but also the most livable city; and quality-of-life disparities between the city and peri-urban metropolitan Buenos Aires are even more pronounced than disparities in prosperity between the two areas. The analysis finds that the most populous agglomerations have better public transport, but they also face important livability challenges: they are at a disadvantage in the delivery of sanitation services, have worse housing conditions, and are more vulnerable to the risk of flooding.

Introduction

A city’s performance in generating prosperity and livability for its inhabitants is the result of the interaction of forces of agglomeration. The interplay of agglomeration forces—agglomeration economies and diseconomies—determines
city-level outcomes in terms of prosperity and livability. These outcomes may not always go hand in hand: the most prosperous cities may not necessarily be the most livable. For instance, an increase in prosperity could be associated with a decline in quality of life if a city is unable to manage the diseconomies of agglomeration, such as congestion, environmental degradation, and social unrest. Measuring prosperity and livability can therefore help shed light on a city’s ability to leverage economies of agglomeration and contain its costs.

This chapter presents the results of two complementary metrics to measure cities’ performance in generating prosperity and livability—the prosperity and livability indexes. The metrics are intended as analytical tools to assess the relative performance of agglomerations and identify underperforming components of prosperity or livability for which policy action is required. For the purpose of the study, the analysis is carried out using publicly available data as a way to exemplify how these metrics could be used to deepen our understanding of city performance, and to build the empirical evidence required to inform policy making. The analysis is based on a sample of agglomerations from the Permanent Household Survey (Encuesta Permanente de Hogares, or EPH) of the National Institute of Statistics and Censuses (INDEC). The results of the analysis could be further enhanced by collecting additional indicators at the agglomeration level to complement existing publicly available statistical sources. The methodological approach for the analysis is summarized in box 11.1 and presented in more detail in appendix C.

Box 11.1 Measuring Prosperity and Livability—Methodological Approach

The prosperity and livability indexes are multidimensional metrics for measuring economic performance and quality of life, respectively, at the agglomeration level. They are analytical tools that make the best use of limited available data to provide performance metrics for comparison across a sample of agglomerations in Argentina. Each index comprises several dimensions, or components, and each component comprises several indicators. Prosperity measures three different but interrelated dimensions of city performance: productivity, employment, and low level of poverty (this last component named “no-poverty” in the prosperity analysis). Livability comprises complementary dimensions of quality of life, covering public services, housing, public transport, health, education, social inclusion, and resilience.

The sample for the analysis is based on the agglomerations surveyed in the Permanent Household Survey (Encuesta Permanente de Hogares, or EPH) of the National Institute of Statistics and Censuses (INDEC), referred to hereafter as the “EPH agglomerations” (see box 1.1 in chapter 1 for an overview of Argentina’s urban system). The sample includes about 70 percent of the population of Argentine cities by geographic region and city size.
Agglomerations with the strongest performance in generating prosperity are also the most livable: the analysis finds a strong positive, and statistically significant, correlation between an agglomeration’s ability to generate prosperity and its quality of living (see figure 11.1). The results indicate that agglomerations with the strongest capacity and resources to take advantage of the benefits of agglomeration economies are also the most effective in controlling the negative externalities resulting from agglomeration economies. The results also show that spatial outcomes in both prosperity and livability differ significantly between the city of Buenos Aires and peri-urban metropolitan Buenos Aires. And the results corroborate the findings that there are significant regional variations in the cities’ capacity to take advantage of the positive forces of agglomeration and manage their costs. Agglomerations in the Pampeana and Patagonia regions have higher performance than the average in both prosperity and livability indexes. Among the 11 agglomerations performing above average in both prosperity and livability, 5 are located in the Pampeana region and 4 in the Patagonia region. From the 11 agglomerations performing below the average in both indexes, 7 are located in northern regions. Agglomerations in the Northeast region fall short of expectations in both prosperity and livability, given their size.

The chapter presents an analysis of prosperity and livability for the EPH agglomerations; it assesses performance trends for the prosperity and livability indexes and their components, and identifies areas where further research is warranted. The chapter comprises two sections: the first section presents the components of the prosperity index and assesses performance trends by region and agglomeration size; the second section carries out a similar assessment for the livability index.
Measuring Prosperity

The prosperity index is a multidimensional measure of the economic performance of agglomerations. Measures of productivity and economic growth do not provide a comprehensive picture of a city’s success in generating prosperity; prosperity also depends on efforts to reduce poverty and a city’s capacity to generate productive jobs. This section introduces a metric of city performance: the prosperity index. The index captures multiple dimensions in a city’s success in...
generating prosperity for its inhabitants. More precisely, it measures success in achieving high productivity, strong economic dynamism, and low level of poverty. The prosperity index thus comprises three components: (a) productivity, (b) employment, and (c) no-poverty. To overcome data limitations, nighttime light emissions were used to estimate the productivity component of the productivity index alongside wage data. More specifically, nighttime light emissions were used to estimate economic density, defined as gross domestic product (GDP) per area, and growth in economic density in agglomerations (see appendix B for a description of the methodology for estimating GDP based on nighttime light emissions). Table 11.1 summarizes the indicators that constitute each component; appendix C presents the methodology and detailed information on the construction of the index.

Comparing the prosperity index across agglomerations shows a marked variation in prosperity outcomes. The city of Buenos Aires is the agglomeration with the best performance in generating prosperity, followed by Río Gallegos and Comodoro Rivadavia, both of them located in the Patagonia region. The agglomeration with the worst performance in generating prosperity is Resistencia, preceded by Posadas and Concordia, all of which are located in the Northeast region. The ranking of agglomerations based on their performance in generating prosperity is shown in figure 11.2. There is a large gap in prosperity between the city of Buenos Aires and peri-urban metropolitan Buenos Aires, which lags significantly behind and is ranked as 15th (after four of the top five agglomerations), indicating important differences in spatial outcomes within metropolitan Buenos Aires and raising concerns about the overall competitiveness of the metropolitan area. Box 11.2 presents an international comparison of economic dynamism of metropolitan Buenos Aires using the Brookings Global Metro Monitor 2014 ranking.

Table 11.1 Prosperity Index: Components and Indicators

<table>
<thead>
<tr>
<th>Components</th>
<th>Indicators</th>
<th>a. Productivity</th>
<th>b. Employment</th>
<th>c. No-poverty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic density(a) (estimated GDP per square kilometer), 2010</td>
<td>Percentage of annual employment growth, 2006–10</td>
<td>Gini coefficient, 2010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Growth(a) (growth of estimated GDP), 1996–2010</td>
<td>Percentage of informal workers, 2010</td>
<td>Percentage of population below the moderate poverty line (US$4/day), 2010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average hourly wages (Arg$), 2014</td>
<td>Percentage of working professionals, 2010</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sources: Based on INDEC 2010c, 2014, Government of Argentina, Ministry of Economy and Public Finance 2015, NOAA.\(^b\)

Notes: See box 4.1 for an overview of nighttime light data and appendix B for a description of the methodology for estimating GDP based on nighttime light emissions. See appendix C for a full description of the methodology and data sources used for the estimation of the prosperity index.

\(a\) GDP is estimated using regression analysis with nighttime light emissions per square kilometer.

\(b\) The nighttime lights data used for the estimation of GDP are the Global Radiance Calibrated Nighttime Lights product provided by the National Oceanic and Atmospheric Administration’s (NOAA) National Centers for Environmental Information Earth Observation Group. The latest version of this product is available for download from http://ngdc.noaa.gov/eog/dmsp/download_radicl.html.
Figure 11.2 Prosperity Index Ranking, EPH Agglomerations

| City of Buenos Aires | 100 |
| City of Rosario | 80 |
| City of Río Cuarto | 70 |
| City of Neuquén | 60 |
| City of Córdoba | 50 |
| City of La Plata | 40 |
| City of Bahía Blanca | 30 |
| City of Comodoro Rivadavia | 20 |
| City of Santa Rosa | 10 |
| City of Rawson | 0 |
| City of Río Gallegos | 10 |
| City of La Rioja | 20 |
| City of Mendoza | 30 |
| City of Paraná | 40 |
| City of San Luis | 50 |
| City of Salta | 60 |
| City of San Nicolás de los Arroyos | 70 |
| City of Catamarca | 80 |
| City of San Miguel de Tucumán | 90 |
| City of Santa Fe | 100 |
| City of San Salvador de Jujuy | 0 |
| City of Concordia | 10 |
| City of San Juan | 20 |
| City of Formosa | 30 |
| City of Santiago del Estero | 40 |
| City of Corrientes | 50 |
| City of Resistencia | 60 |
| Metropolitan Buenos Aires | 70 |
| Peri-urban metropolitan Buenos Aires | 80 |

Sources: Based on INDEC 2010c, 2014; NOAA.¹
Notes: EPH = Permanent Household Survey (Encuesta Permanente de Hogares). Prosperity index: 100 = best, 0 = worst. The vertical line represents the average. All areas constituting metropolitan Buenos Aires are in blue. The sample is based on 29 of the 31 EPH agglomerations. The prosperity index could not be computed for Ushuaia and Mar del Plata. See box 11.1 and table 11.1 for the definition of the prosperity index. Catamarca refers to San Fernando del Valle de Catamarca.

¹ The nighttime lights data used for the estimation of GDP are the Global Radiance Calibrated Nighttime Lights product provided by the National Oceanic and Atmospheric Administration’s (NOAA) National Centers for Environmental Information Earth Observation Group. The latest version of this product is available for download from http://ngdc.noaa.gov/eog/dmsp/download_radcal.html.
Box 11.2 An International Comparison of Economic Growth Patterns in Metropolitan Areas with Brookings Global Metro Monitor

Metropolitan Buenos Aires is one of the slowest-growing economies in the world according to Brookings Global Metro Monitor 2014. The index compares economic growth patterns in the world’s 300 largest metropolitan economies in terms of the annualized growth rate of real GDP per capita and the annualized growth rate of employment. Metropolitan Buenos Aires ranked as one of the slowest-growing economies in the world (286) in 2013–14. Compared with its 2012–13 ranking, the metropolitan area went down 116 positions. This slowdown in the economy is also recorded in two of the direct comparator cities—Bangkok (300) and São Paulo (284). However, metropolitan Buenos Aires is far behind Istanbul (3) as well as the best-practice comparator cities—London (26), Seoul (105), and Paris (260).

Note: See box 4.4 on the methodology for the selection of direct and best-practice comparator cities.

which indicates that the agglomeration is lagging significantly in economic performance compared with the world’s 300 largest metropolitan economies.

City size only marginally explains variation in city performance in generating prosperity. Performance appears to be more or less independent of agglomeration size, which accounts for only a small fraction of variation in prosperity outcomes. There is, however, a stronger correlation between population density and city performance in generating prosperity, indicating that population density of a city is a good predictor of prosperity (see figure 11.3). In addition, when performance in generating prosperity is compared across city size categories, important differences emerge. Large agglomerations (with populations between 300,000 and 700,000) have the worst performance among all city size categories, while metropolitan Buenos Aires and the top five agglomerations exhibit the strongest performance in generating prosperity (see figure 11.4). The fact that large agglomerations have, on average, a lower prosperity index than small and intermediate agglomerations may indicate that these agglomerations are facing structural bottlenecks in specific components of prosperity. In particular, the findings indicate that large agglomerations are performing poorly in the no-poverty component of the prosperity index, as discussed below. It is also notable that 6 of the 10 large agglomerations in the sample are in the northern regions, including the worst performers in the prosperity index (Corrientes, Posadas, and Resistencia), suggesting that the region, more than the city size category, explains the lower than average performance of large cities in generating prosperity.

The region of an agglomeration has a much stronger association with prosperity outcomes than the size of agglomerations. There are important regional variations in prosperity outcomes (see figure 11.5). The best performance is registered in metropolitan Buenos Aires (however, with significant differences within the
Leveraging the Potential of Argentine Cities

Figure 11.3  Prosperity Index versus Population Density, EPH Agglomerations, by Region

Sources: Based on INDEC 2010c, 2014; NOAAa 2010.
Notes: EPH = Permanent Household Survey (Encuesta Permanente de Hogares); km² = square kilometers. Prosperity index: 100 = best, 0 = worst. The sample is based on 29 of the 31 EPH agglomerations. The prosperity index could not be computed for Ushuaia and Mar del Plata. See box 11.1 and table 11.1 for the definition of the prosperity index.
a. The nighttime lights data used for the estimation of GDP are the Global Radiance Calibrated Nighttime Lights product provided by the National Oceanic and Atmospheric Administration’s (NOAA) National Centers for Environmental Information Earth Observation Group. The latest version of this product is available for download from http://ngdc.noaa.gov/eog/dmsp/download_radcal.html.

metropolitan area) and agglomerations in the Patagonia region. Agglomerations in the Northeast region are lagging behind, with the worst track record in generating prosperity across all three components—productivity, employment, and no-poverty. However, they have better performance in the employment component relative to the other components of the prosperity index, most likely as a result of the significant recent growth in public employment (see chapter 4). Agglomerations in the Pampeana region have relatively weaker performance in the productivity component and much stronger performance in the no-poverty and employment components. The weak performance in the productivity component deserves further investigation considering the economic importance of the Pampeana region as the center of agroprocessing for Argentina. Figure 11.6 shows how regions compare in the three prosperity components.
Figure 11.4  Prosperity Index, EPH Agglomerations, by Agglomeration Size

Metropolitan Buenos Aires
Top five
Large
Small and intermediate

Average prosperity index
0 20 40 60 80

Sources: Based on INDEC 2010c, 2014; NOAA.a
Notes: EPH = Permanent Household Survey (Encuesta Permanente de Hogares). Prosperity index: 100 = best, 0 = worst. The sample includes 29 of the 31 EPH agglomerations, excluding Ushuaia and Mar del Plata. The analysis is based on the following city size categories: metropolitan Buenos Aires, top five agglomerations (700,000–1.5 million), large agglomerations (300,000–700,000), small and intermediate agglomerations (50,000–300,000). The sample includes 9 large agglomerations and 14 small and intermediate agglomerations. See box 11.1 and table 11.1 for the definition of the prosperity index.

a. The nighttime lights data used for the estimation of GDP are the Global Radiance Calibrated Nighttime Lights product provided by the National Oceanic and Atmospheric Administration’s (NOAA) National Centers for Environmental Information Earth Observation Group. The latest version of this product is available for download from http://ngdc.noaa.gov/eog/dmsp/download_radcal.html.

Figure 11.5  Prosperity Index, EPH Agglomerations, by Region

Metropolitan Buenos Aires
Patagonia
Pampeana
Cuyo
Northwest
Northeast

Average prosperity index
0 20 40 60 80

Sources: Based on INDEC 2010c, 2014; NOAA.a
Notes: EPH = Permanent Household Survey (Encuesta Permanente de Hogares). Prosperity index: 100 = best, 0 = worst. The sample includes 29 of the 31 EPH agglomerations, excluding Ushuaia and Mar del Plata; the regional averages should be treated with caution since the sample is not representative at the regional level. See box 11.1 and table 11.1 for the definition of the prosperity index.

a. The nighttime lights data used for the estimation of GDP are the Global Radiance Calibrated Nighttime Lights product provided by the National Oceanic and Atmospheric Administration’s (NOAA) National Centers for Environmental Information Earth Observation Group. The latest version of this product is available for download from http://ngdc.noaa.gov/eog/dmsp/download_radcal.html.
There are important intraregional differences in the prosperity ranking, even among agglomerations in the Patagonia region, which is one of the best-performing regions. As shown in figure 11.3, most of Patagonia’s agglomerations strongly outperform expectations based on population size alone, whereas most agglomerations in the Northwest region and all agglomerations in the Northeast region perform below expectations. Yet, intraregional variations in performance are significant, suggesting that the local context is playing an important role in determining the performance of agglomerations in generating prosperity. For instance, in the Patagonia region, there is a significant gap in performance between Río Gallegos, the best performer, and Viedma, the worst performer, whose overall productivity ranking is comparable to San Salvador de Jujuy in the Northwest region (see figure 11.7, p. 330).
panels b and e). Agglomerations in the Pampeana region also exhibit significant variation in performance, with Bahía Blanca and Santa Rosa having the strongest performance among agglomerations in the region and Concordia having the worst performance in the region (see figure 11.7, panel c). The rest of the section examines results and trends by region and agglomeration size for the different prosperity components, namely, (a) productivity, (b) employment, and (c) no-poverty.

Figure 11.7 Comparing the Prosperity Index and Its Components, EPH Agglomerations, by Region

a. Metropolitan Buenos Aires

b. Patagonia

c. Pampeana

d. Cuyo
Metropolitan Buenos Aires is the agglomeration with the highest ranking in the productivity component of the prosperity index, followed by agglomerations in the Patagonia region. In metropolitan Buenos Aires, the difference in performance between the city of Buenos Aires, with the highest ranking, and peri-urban metropolitan Buenos Aires, with a significantly lower ranking (11th), is notable. There is no statistically significant correlation between agglomerations’ population size and performance in the productivity component. The lack of correlation is explained by differences in correlation between agglomeration size and the three indicators that make up the productivity component—namely, economic density, growth, and average hourly wage (see table 11.1). On the one hand, larger cities have higher economic density (that is, GDP per area, proxied by nighttime light emissions per square kilometer [km²]), as shown in figure 4.12 in chapter 4. The effect of population size of agglomerations on hourly wage is also positive and statistically significant when controlling for firms and city-specific characteristics (see table 4.1, regression i in chapter 4). On the other hand, smaller agglomerations show more sustained economic growth as estimated by growth in nighttime light emissions (see figure 4.16 in chapter 4).

Employment Component
Although no statistically significant correlation is found between the employment component and the size of agglomerations, performance in the
employment component shows a clear regional pattern. As in the case of the productivity component, the city of Buenos Aires has the highest ranking in the employment component, followed by agglomerations in the Patagonia region. The difference in performance is notable between the city of Buenos Aires, the best performer, and peri-urban metropolitan Buenos Aires, which is ranked 27th. Agglomerations in the northern regions have the strongest pro-poor employment growth (see figure 4.9 in chapter 4) and those in the Northeast region perform relatively better in the employment component than other components of the productivity index (see figure 11.7, panel f). Yet, agglomerations in the Northeast region have the lowest ranking in the employment component due to the region having fewer working professionals and more informality than average. The most populous agglomerations have a higher share of working professionals, indicating that they may have higher-skilled human resources (see figure 11.8). Given the importance of human capital in leveraging the benefits of agglomeration economies, the results warrant further investigation.

Sources: Based on INDEC 2010c.
Notes: EPH = Permanent Household Survey (Encuesta Permanente de Hogares). The sample includes 29 of the 31 EPH agglomerations, excluding Ushuaia and Mar del Plata. See table 11.1 for the definition of the indicators of the employment component of the prosperity index.
**No-Poverty Component**

No significant relationship is seen between the no-poverty component and agglomeration size, indicating that city size does not explain poverty outcomes (see figure 11.9). The analysis also finds no statistically significant correlation between the two indicators of the poverty component and agglomeration size.\(^4\) However, the results indicate that a number of large agglomerations (with populations of 300,000–700,000) perform poorly in the no-poverty component (see figure 11.9). Given the important role of large agglomerations in the Argentine economy, the results deserve further investigation based on more accurate data at the agglomeration level. Furthermore, the analysis indicates a significant regional pattern, with agglomerations in the Northeast region having the worst performance in the no-poverty component. Notably, however, the no-poverty component provides only a static snapshot of poverty outcomes and does not measure agglomerations’ performance in reducing poverty. The study

![Figure 11.9 No-Poverty Component and Population Size, EPH Agglomerations, by Region](image-url)

**Source:** Based on INDEC 2010c.

**Notes:** EPH = Permanent Household Survey (Encuesta Permanente de Hogares). No-poverty component score: 100 = best, 0 = worst. Blue labels denote large agglomerations. The sample includes 29 of the 31 EPH agglomerations, excluding Ushuaia and Mar del Plata. See table 11.1 for the definition of the no-poverty component of the prosperity index.
also found that the poorest agglomerations managed to achieve the most significant reduction in poverty (see figures 4.5 and 4.6 and chapter 4 for a discussion of poverty reduction drivers).

**Measuring Livability**

This section introduces a second measure of city performance: the livability index, a multidimensional measure of quality of life in a city. The index captures multiple components of a city’s livability along the following dimensions: public services, housing, public transport, health, education, social inclusion, and resilience. Table 11.2 summarizes the components of the livability index and indicators that constitute each component. Appendix C presents the methodology and detailed information on the construction of the index.

The city of Buenos Aires is the most livable city, followed by Mar del Plata and Bahía Blanca, both in the Pameana region (see figure 11.10). The agglomerations with the worst performance in livability are Corrientes, located in the

<table>
<thead>
<tr>
<th>Table 11.2 Livability Index: Components and Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Components</strong></td>
</tr>
<tr>
<td>a. Public services</td>
</tr>
<tr>
<td><strong>Indicators</strong></td>
</tr>
<tr>
<td>Percentage of households with access to, piped water</td>
</tr>
<tr>
<td>supply, 2010</td>
</tr>
<tr>
<td>Percentage of households with access to sewerage</td>
</tr>
<tr>
<td>network, 2010</td>
</tr>
<tr>
<td>Percentage of households with regular solid waste</td>
</tr>
<tr>
<td>collection, 2010</td>
</tr>
<tr>
<td>Percentage of households with public lighting on their</td>
</tr>
<tr>
<td>block, 2010</td>
</tr>
<tr>
<td>Percentage of households with pavement on their</td>
</tr>
<tr>
<td>block, 2010</td>
</tr>
<tr>
<td>b. Housing</td>
</tr>
<tr>
<td><strong>Indicators</strong></td>
</tr>
<tr>
<td>Percentage of households living in informal housing,</td>
</tr>
<tr>
<td>2010</td>
</tr>
<tr>
<td>Percentage of households with quantitative housing</td>
</tr>
<tr>
<td>deficit, 2010</td>
</tr>
<tr>
<td>Percentage of households with qualitative housing</td>
</tr>
<tr>
<td>deficit, 2010</td>
</tr>
<tr>
<td>c. Public transport</td>
</tr>
<tr>
<td><strong>Indicators</strong></td>
</tr>
<tr>
<td>Number of passengers who take public transport</td>
</tr>
<tr>
<td>(per 10,000 inhabitants), 2013</td>
</tr>
<tr>
<td>Percentage of household expenditure in public</td>
</tr>
<tr>
<td>transport (lowest quintile of income), 2010</td>
</tr>
<tr>
<td>Percentage of population with health coverage,</td>
</tr>
<tr>
<td>2010</td>
</tr>
<tr>
<td>Maternal mortality (per 100,000 live births), 2010</td>
</tr>
<tr>
<td>Infant mortality (per 1,000 live births), 2010</td>
</tr>
<tr>
<td>Occurrence of diseases related to the urban</td>
</tr>
<tr>
<td>environment: cases of bronchiolitis, influenza,</td>
</tr>
<tr>
<td>pneumonia, CO₂ poisoning (per 100,000 inhabitants),</td>
</tr>
<tr>
<td>2010</td>
</tr>
<tr>
<td>d. Health</td>
</tr>
<tr>
<td><strong>Indicators</strong></td>
</tr>
<tr>
<td>Percentage of population with health coverage,</td>
</tr>
<tr>
<td>2010</td>
</tr>
<tr>
<td>Maternal mortality (per 100,000 live births), 2010</td>
</tr>
<tr>
<td>Infant mortality (per 1,000 live births), 2010</td>
</tr>
<tr>
<td>Occurrence of diseases related to the urban</td>
</tr>
<tr>
<td>environment: cases of bronchiolitis, influenza,</td>
</tr>
<tr>
<td>pneumonia, CO₂ poisoning (per 100,000 inhabitants),</td>
</tr>
<tr>
<td>2010</td>
</tr>
<tr>
<td>e. Education</td>
</tr>
<tr>
<td><strong>Indicators</strong></td>
</tr>
<tr>
<td>Percentage of the population in the 16–17 age range</td>
</tr>
<tr>
<td>enrolled in secondary education, 2010</td>
</tr>
<tr>
<td>Percentage of youth (15–24 years) unemployed, 2010</td>
</tr>
<tr>
<td>Percentage of population living near a garbage dump,</td>
</tr>
<tr>
<td>2010</td>
</tr>
<tr>
<td>Percentage of population living in flood-prone zones,</td>
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<tr>
<td>2010</td>
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<tr>
<td>f. Social inclusion</td>
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<tr>
<td><strong>Indicators</strong></td>
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<tr>
<td>Percentage of the population in the 16–17 age range</td>
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<td>enrolled in secondary education, 2010</td>
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<td>Percentage of youth (15–24 years) unemployed, 2010</td>
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<td>Percentage of population living near a garbage dump,</td>
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<td>2010</td>
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<tr>
<td>Percentage of population living in flood-prone zones,</td>
</tr>
<tr>
<td>2010</td>
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<tr>
<td>g. Resilience</td>
</tr>
<tr>
<td><strong>Indicators</strong></td>
</tr>
<tr>
<td>Percentage of the population in the 16–17 age range</td>
</tr>
<tr>
<td>enrolled in secondary education, 2010</td>
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<td>Percentage of youth (15–24 years) unemployed, 2010</td>
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<td>Percentage of population living near a garbage dump,</td>
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<td>2010</td>
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<tr>
<td>Percentage of population living in flood-prone zones,</td>
</tr>
<tr>
<td>2010</td>
</tr>
</tbody>
</table>

**Sources:** Based on INDEC 2010a, 2010b, 2010c; Government of Argentina, Ministry of the Interior and Transport 2013; Ministry of Health 2010a, 2010b.

**Notes:** CO₂ = carbon dioxide. See appendix C for a full description of the methodology and data sources used for the estimation of the livability index.
Figure 11.10 Livability Index Ranking, EPH Agglomerations


Notes: EPH = Permanent Household Survey (Encuesta Permanente de Hogares). 100 = best, 0 = worst. The vertical line represents the average. All areas of Metropolitan Buenos Aires are in dark blue. The sample includes the 31 EPH agglomerations. See box 11.1 and table 11.2 for the definition of the livability index. Catamarca refers to San Fernando del Valle de Catamarca.
Northeast region; Posadas, also in the Northeast region; and Concordia in the Pampeana region (see figure 11.10). Resistencia, the agglomeration with the worst performance in prosperity, has better performance in livability, unlike Corrientes, which is among the worst performers in both livability and prosperity.

It is notable that the gap in livability between the city of Buenos Aires and peri-urban metropolitan Buenos Aires, which is ranked 26th, is more pronounced than the gap in prosperity between the two areas (peri-urban metropolitan Buenos Aires is ranked 15th in the prosperity index, as shown in figure 11.2). The results indicate that the social disparities within the metropolitan area may be more pronounced than economic disparities. Box 11.3

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**Box 11.3 Liveability Index: An International Comparison with the Economist Intelligence Unit Liveability Ranking**

The Economist Intelligence Unit (EIU) Liveability Index ranks cities according to their performance in five broad areas: stability, health care, culture and environment, education, and infrastructure. The EIU ranking finds that metropolitan Buenos Aires is more livable than direct comparator cities but lags behind best-practice comparator cities. In 2015, metropolitan Buenos Aires ranked 62 of the 140 cities surveyed, ahead of Istanbul (113), Bangkok (102), and São Paulo (92), but behind Seoul (58), London (53), and Paris (29). Metropolitan Buenos Aires outperforms the direct comparator cities in all five categories (see figure B11.3.1, panel a). The city shows rankings at the levels of the best-practice comparator cities (Paris, Seoul, and London) for health care and education, while it ranks behind in stability, culture and environment, and infrastructure (see figure B11.3.1, panel b).

**Figure B11.3.1 Benchmarking Metropolitan Buenos Aires, EIU Liveability Index Categories, 2015**

<table>
<thead>
<tr>
<th>Category</th>
<th>Stability</th>
<th>Infrastructure</th>
<th>Education</th>
<th>Health care</th>
<th>Culture and environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct comparator</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>City</td>
<td>100</td>
<td>80</td>
<td>60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>São Paulo</td>
<td>100</td>
<td>80</td>
<td>60</td>
<td></td>
<td></td>
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<tr>
<td>Bangkok</td>
<td>100</td>
<td>80</td>
<td>60</td>
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<tr>
<td>Istanbul</td>
<td>100</td>
<td>80</td>
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</tr>
<tr>
<td>Metropolitan</td>
<td>80</td>
<td>60</td>
<td>40</td>
<td></td>
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<tr>
<td>Best-practice</td>
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<td></td>
</tr>
<tr>
<td>City</td>
<td>100</td>
<td>80</td>
<td>60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paris</td>
<td>100</td>
<td>80</td>
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<tr>
<td>Seoul</td>
<td>100</td>
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<tr>
<td>Metropolitan</td>
<td>80</td>
<td>60</td>
<td>40</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Based on EIU 2015.
Notes: EIU = Economist Intelligence Unit. 100 = best, 0 = worst.

box continues next page
The EIU Liveability Index included in its 2012 edition a ranking adjusted for spatial characteristics. These characteristics included seven indicators (sprawl, green space, natural assets, cultural assets, connectivity, isolation, and pollution). In terms of sprawl, natural assets, and connectivity, metropolitan Buenos Aires ranked below the average for both direct and best-practice comparator cities. In terms of green space, cultural assets, and pollution, it ranked better than the average for direct comparator cities, but worse than the average for best-practice comparator cities (figure B11.3.2).

Sources:
Based on EIU 2012, 2015.

Notes:
a. Each factor in a city is rated as acceptable, tolerable, uncomfortable, undesirable, or intolerable. For qualitative indicators, a rating is awarded based on the judgment of in-house analysts and in-city contributors. For quantitative indicators, a rating is calculated based on the relative performance of a number of external data points. The five areas include the following indicators: (a) stability: prevalence of petty crime and violent crime, and threat of terror, military, and civil conflict; (b) health care: availability and quality of private and public health care, availability of over-the-counter drugs, and general health care indicators; (c) culture and environment: humidity/temperature, discomfort of climate to travelers, corruption, social or religious restrictions, censorship, sporting and cultural availability, food and drink, and consumer goods and services; (d) education: availability and quality of private education, and public education; and (e) infrastructure: quality of road network, public transport, international links, energy provision, water provision, telecommunications, and availability of good-quality housing. The methodology for the 2015 EIU Liveability index ranking is available at www.eiu.com.
b. Direct comparator cities are São Paulo, Bangkok, and Istanbul; and best-practice comparator cities are Paris, London, and Seoul (see box 4.4 in chapter 4 for the selection methodology).
presents an international comparison of metropolitan Buenos Aires’ livability based on the Economist Intelligence Unit Livability Index, which includes several additional dimensions of livability than the livability index presented in this study. It shows that the city is, overall, more livable than direct comparator cities but lags behind in several areas, including stability, infrastructure, culture and environment, sprawl, connectivity, and natural assets compared to best-practice comparator cities.

While no statistically significant correlation exists between livability and the size of the agglomerations (see figure 11.11), comparing performance of agglomerations across city size categories, however, reveals some differences. Metropolitan Buenos Aires and the top five agglomerations exhibit the best performance in livability, while large agglomerations (with 300,000–700,000 inhabitants) show the worst performance (see figure 11.12). Thus, large agglomerations have the weakest performance not only in generating prosperity

Figure 11.11  Livability Index versus Agglomeration Size, EPH Agglomerations, by Region

Notes: EPH = Permanent Household Survey (Encuesta Permanente de Hogares). Livability index: 100 = best, 0 = worst. The sample includes the 31 EPH agglomerations. See box 11.1 and table 11.2 for the definition of the livability index. Catamarca refers to San Fernando del Valle de Catamarca.
but also in delivering quality of life to their inhabitants. However, disparities among city size categories are significantly less pronounced in the case of livability than in the case of prosperity (see figure 11.4). The lower than average performance of large agglomerations is in part explained by the greater proportion of large agglomerations located in the northern regions.

Agglomerations in the Northeast region have the lowest livability ranking, while agglomerations in the Patagonia region and metropolitan Buenos Aires have the highest (see figure 11.13). However, the regional differences in cities’ quality of life are more contained than in the case of prosperity, which exhibited more pronounced regional disparities (as shown in figure 11.7). A closer look at regional performance across components reveals that variations in livability across regions are mostly driven by large regional differences in the public transport and health components (see figure 11.14). Agglomerations in the Northeast regions are performing significantly below average in both public transport and health components (see figure 11.15, panels e and f). There is also significant intraregional variation across the different components of livability. For instance, Corrientes is underperforming other agglomerations in the Northeast region to a significant degree, in particular with regard to resilience and health outcomes (see figure 11.15, panel f). As is the case for prosperity, agglomerations in the Pampas region show important disparities in livability, with Bahía Blanca and Mar del Plata among the most livable, and Concordia among the least livable (see figure 11.15, panel c). The rest of the section
Figure 11.13 Livability Index, EPH Agglomerations, by Region

Notes: EPH = Permanent Household Survey (Encuesta Permanente de Hogares). Livability index: 100 = best, 0 = worst. The sample includes the 31 EPH agglomerations; the regional averages should be treated with caution since the sample is not representative at the regional level. See table 11.2 for the definition of the livability index.

Figure 11.14 Livability Index and Its Components, EPH Agglomerations, by Region

Notes: EPH = Permanent Household Survey (Encuesta Permanente de Hogares). Livability index: 100 = best, 0 = worst. The sample includes the 31 EPH agglomerations; the regional averages should be treated with caution since the sample is not representative at the regional level. See table 11.2 for the definition of the components of the livability index.
Figure 11.15  Comparing the Livability Index and Its Components, EPH Agglomerations, by Region

a. Metropolitan Buenos Aires

Livability index

Public services

Housing

Public transport

Health

Education

Resilience

Social inclusion

City of Buenos Aires

Peri-urban metropolitan Buenos Aires

b. Patagonia

Livability index

Public services

Housing

Public transport

Health

Education

Resilience

Social inclusion

Rio Gallegos

Rawson

Comodoro Rivadavia

Viedma

Neuquén

c. Pampeana

Livability index

Public services

Housing

Public transport

Health

Education

Resilience

Social inclusion

Bahía Blanca

Santa Rosa

San Nicolás de los Arroyos

Rosario

Mar del Plata

Río Cuarto

Córdoba

Concordia

La Plata

 Paraná

Santa Fe

d. Cuyo

Livability index

Public services

Housing

Public transport

Health

Education

Resilience

Social inclusion

Mendoza

San Luis

San Juan

e. Northwest

Livability index

Public services

Housing

Public transport

Health

Education

Resilience

Social inclusion

Tucumán

Salta

San Salvador de Jujuy

San Fernando del Valle de Catamarca

Santiago del Estero

La Rioja

f. Northeast

Livability index

Public services

Housing

Public transport

Health

Education

Resilience

Social inclusion

Formosa

Corrientes

Posadas

Resistencia


Notes: EPH = Permanent Household Survey (Encuesta Permanente de Hogares). Livability index: 100 = best, 0 = worst. The sample includes the 31 EPH agglomerations. See table 11.2 for the definition of the components of the livability index.

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examines results and trends by region and agglomeration size for the different livability components, namely, public services, housing, public transport, health, education, social inclusion, and resilience.

Public Services Component
The most populous agglomerations are at a disadvantage in the delivery of public services. There is a negative and statistically significant correlation between a city’s performance in providing public services to its inhabitants and the size of the agglomeration (see figure 11.16). The correlation, however, hides significant regional variation in the relationship between size and performance in the delivery of specific services. Overall, agglomerations in the

![Figure 11.16 Public Services Component and Population Size, EPH Agglomerations, by Region](image-url)

*Source:* Based on INDEC 2010a.

*Notes:* EPH = Permanent Household Survey (Encuesta Permanente de Hogares). Public services component score: 100 = best, 0 = worst. The sample includes the 31 EPH agglomerations. See table 11.2 for the definition of the public services component of the livability index.
Patagonia region have the best performance in the delivery of public services, followed by agglomerations in the Cuyo region. In metropolitan Buenos Aires, the difference in spatial outcomes is notable, with the city of Buenos Aires being the best performer and peri-urban metropolitan Buenos Aires being at the bottom of the ranking and exhibiting the same performance as Resistencia (see figure 11.16).

Larger agglomerations have a disadvantage in the provision of water and sanitation services. Figure 11.17 shows that the most populous agglomerations are performing poorly in the provision of sanitation services. Those results suggest that the largest agglomerations are unable to effectively manage the rising costs of sprawl and infrastructure and services in peri-urban areas (see chapters 5, 6, and 9). The poor performance of peri-urban metropolitan Buenos Aires is particularly striking, where coverage of the piped water supply in 2010 was only 70 percent and of the sewerage network was only about 40 percent (see figures 6.1 and 6.2 in chapter 6). However, economies of scale are seen in the provision of

Figure 11.17 Households with Access to Sewerage Network and Population Size, EPH Agglomerations

Source: Based on INDEC 2010a.
Notes: EPH = Permanent Household Survey (Encuesta Permanente de Hogares). The sample includes the 31 EPH agglomerations. See table 11.2 for the definition of the indicators of the public services component of the livability index.
road paving (see figure 11.18), with the most populous agglomerations having a stronger performance in the provision of this service. No statistically significant correlation is seen between agglomeration size and street lighting and solid waste collection. However, important variations in performance are seen across agglomerations, even in the provision of a basic service such as street lighting, with Posadas and Formosa, both in the Northeast region, performing significantly below average.

**Housing Component**

The most populous agglomerations have slightly worse housing conditions, as shown by a marginally negative correlation between housing conditions and the size of agglomerations (see figure 11.19). Larger agglomerations have a higher share of their population living in informal housing. There is, however, no statistically significant relationship between the size of agglomerations and qualitative and quantitative housing deficits, as also shown in figures 8.2 and 8.4 in
chapter 8. Agglomerations in the Patagonia region have the best housing conditions, followed by those in the Pampeana region. However, fast-growing agglomerations such as Ushuaia in the Patagonia region are performing below expectations based on size. Agglomerations in the northern regions consistently perform below expectations, with Formosa in the Northeast region being the agglomeration with the worst performance in the housing component of the livability index (see figure 11.19). Agglomerations in the northern regions have the highest qualitative deficits and the highest share of their populations living in informal housing (see figure 11.20 as well as figures 8.3 and 8.7 in chapter 8) while agglomerations in the Northwest region have the highest quantitative deficit (see figure 11.21 and figure 8.1 in chapter 8).
Figure 11.20 Households with Qualitative Housing Deficit and Population Size, EPH Agglomerations

Source: Based on INDEC 2010c.
Notes: EPH = Permanent Household Survey (Encuesta Permanente de Hogares). The sample includes the 31 EPH agglomerations. This figure shows the percentage of households living in housing units with a qualitative deficit. The qualitative deficit includes (a) units with critical overcrowding, housing three or more people per room; and (b) recoverable housing units with problems such as low-quality materials or lack of services, that is, type B housing units according to the 2010 population census (INDEC 2010). Type B housing units are defined as having no water inside the unit, a toilet without water (lack of sanitation), and/or a floor made of dust or loose materials. See table 11.2 for the indicators of the housing component of the livability index. Catamarca refers to San Fernando del Valle de Catamarca.

Figure 11.21 Households with Quantitative Housing Deficit, by Population Size, EPH Agglomerations

Source: Based on INDEC 2010c.
Notes: EPH = Permanent Household Survey (Encuesta Permanente de Hogares). The sample includes the 31 EPH agglomerations. This figure shows the percentage of households living in housing units with a quantitative deficit. The quantitative deficit includes (a) households living in housing units with inadequate living conditions, that is, units that are unrecoverable and must be replenished and (b) co-habitation of households with more than one household per unit. See table 11.2 for the indicators of the housing component of the livability index. Catamarca refers to San Fernando del Valle de Catamarca.
Public Transport Component

The most populous agglomerations have better performance in the public transport component, as shown by the positive and statistically significant correlation between the public transport component of livability and the size of agglomerations (see figure 11.22). The better performance of the most populous agglomerations is mostly explained by the fact that larger agglomerations have more consolidated public transport services (see chapter 9).

There are regional differences in the sampled agglomerations’ performance in the public transport component. The city of Buenos Aires has the best performance, followed by agglomerations in the Northwest region. Agglomerations in the Pampeana and northern regions have above-average performance in the public transport component. In contrast, the sampled agglomerations in the Patagonia region—with more automobile-centric development patterns and lower public transport coverage, as discussed in chapter 9—have below-average performance.

Figure 11.22 Public Transport Component and Population Size, EPH Agglomerations, by Region

Notes: EPH = Permanent Household Survey (Encuesta Permanente de Hogares). Public transport component score: 100 = best, 0 = worst. The sample includes the 31 EPH agglomerations. See table 11.2 for the definition of the public transport component of the livability index.
performance in the public transport component. Given the limited data available to compare performance in the provision of public transport across agglomerations, collection of public transport data at the agglomeration level could significantly enhance the quality of the public transport component of the livability index and the ability to detect regional differences in performance.

**Health Component**

Most populous agglomerations do not have an advantage in the provision of health services. Agglomerations in the Patagonia region show the best performance in the health component, followed by agglomerations in the Cuyo region. Agglomerations in the northern regions show the lowest ranking in the health component of the livability index. The lack of a correlation between the health component and the size of agglomerations is further confirmed by the lack of a statistically significant relationship between health coverage, maternal and infant mortality, and cities’ population size. It is notable, however, that larger agglomerations show less prevalence of influenza. This pattern is mostly driven by regional differences, given the high prevalence of influenza in agglomerations in the Northeast region, in particular in Posadas, which is located on the border with Paraguay (see figure 11.23). Additional data at

![Figure 11.23 Diseases Related to the Urban Environment: Cases of Influenza and Population Size, EPH Agglomerations](image-url)

**Sources:** Based on INDEC 2010a; Government of Argentina, Ministry of Health 2010b.

**Notes:** EPH = Permanent Household Survey (Encuesta Permanente de Hogares). Sample includes the 31 EPH agglomerations. See table 11.2 for the definition of the indicators of the health component of the livability index.
agglomeration level would be required to explain the variations in performance and the drivers of health outcomes across agglomerations.

**Education Component**

Performance in education is not related to agglomeration size, with only a slightly positive but not statistically significant correlation. The education component measures the percentage of population in the 16- to 17-year-old age range enrolled in secondary education. The fact that the larger agglomerations do not have an advantage in secondary education is worrisome, considering not only the importance of education for quality of life but also the strategic role of human capital in leveraging the economic benefits of agglomerations. For instance, Rosario and Córdoba perform significantly below expectations in the education component, given their size. Given the importance of education for quality of life and the limited data available to compare performance across agglomerations, collection of education-related data at the agglomeration level is recommended in order to include further indicators in the education component of the index.

**Social Inclusion Component**

Access to a large labor market is not sufficient to address the challenge of youth unemployment, as shown by the lack of correlation between the social inclusion component, which measures the percentage of unemployed youth, and the size of agglomerations. Among agglomerations with high youth unemployment are also those with thriving labor markets, such as Ushuaia. Important regional differences in performance are seen in the Northwest region between Salta, where youth unemployment is a critical challenge, and San Salvador de Jujuy and San Miguel de Tucumán, which are among the agglomerations with less youth unemployment. The analysis of social inclusion is complemented with statistics on crime based on Observatorio de la Deuda Social (2012). These statistics are available for 12 agglomerations for the years 2012–14, and could not, therefore, be included in the component because of lack of availability for the whole sample. The results show high prevalence of robbery in the largest agglomerations, with incidence varying significantly from 75 percent in Salta in the Northwest region to only 22 percent in San Juan in the Cuyo region. Given the limited availability of comparable city-level data on social inclusion, collection of further indicators at the agglomeration level is recommended to shed light on social inclusion dynamics across agglomerations.

**Resilience Component**

The most populous agglomerations are more vulnerable to natural disasters. A strong negative and statistically significant correlation is seen between resilience and the size of agglomerations (see figure 11.24). The association is mostly driven by the high vulnerability to floods in the largest agglomerations (see photo 11.1). The most populous agglomerations have a higher percentage of population living...
Figure 11.24 Resilience Component and Population Size, EPH Agglomerations

Source: Based on INDEC 2010c.
Notes: EPH = Permanent Household Survey (Encuesta Permanente de Hogares). Resilience component score: 100 = best, 0 = worst. The sample includes the 31 EPH agglomerations. See table 11.2 for the definition of the resilience component of the livability index.

Photo 11.1 Flooding in Córdoba

Source: Andres Ruffo/EyeEm/Getty Images. Further permission required for reuse.
in flood-prone zones (see figure 11.25). The agglomerations with the highest vulnerability to flooding are peri-urban metropolitan Buenos Aires, La Plata, Salta, and Corrientes.

Notes

1. For the 31 agglomerations surveyed in the EPH, see appendix A.
2. There is a low but significant positive correlation between cities’ population size and the prosperity index; the correlation between population density and the prosperity index is positive and stronger than the correlation with population size.
3. Notably, there is no correlation between the size of the agglomerations and the share of informal workers or annual employment growth.
4. The no-poverty component comprises two indicators: inequality in the income distribution, and the share of the population living below the poverty line (US$4/day).
5. There is instead no significant correlation between size of agglomerations and people living near a garbage dump.
References


CHAPTER 12

Moving Forward: A Framework for Action

Summary
This chapter outlines a framework for action to leverage the potential of Argentine cities. Given the importance of cities for economic growth, urban development is an agenda of national importance for Argentina. Argentina faces the challenges of (a) transitioning to more balanced regional development, (b) moving from local to global cities, and (c) moving from urban sprawl to articulated densities. Addressing such challenges calls for an institutional environment that enables all cities to thrive. Argentina needs the leadership of the federal government; the capacity of empowered, financially sound municipalities; and the coordinating power of provinces to address those challenges. In the existing legal framework, there is scope for creating such an enabling institutional environment. Systemwide urban policy reforms are also needed to leverage the full potential of Argentine cities. This chapter identifies the following five priority policy areas that, in conjunction with the three areas of institutional changes outlined above, can unlock the potential of Argentine cities: (a) promote sustainable and efficient spatial development; (b) position municipalities as competent and accountable service providers; (c) encourage sustainable and efficient housing development; (d) promote efficient, sustainable, and equitable urban transport; and (e) power the long-term economic growth of Argentine cities. This chapter articulates for each priority policy area a number of goals, policy directions, and short-term actions.

Introduction
Argentina is a country of cities, and its path to economic prosperity is through efficient, sustainable, and economically thriving cities. One of the most urbanized countries in the world, Argentina was already a predominantly urban country in the 1930s. About 90 percent of Argentines now live in cities, which continue to grow above the national average. Cities are not only a spatial concentration of people;
they concentrate ideas, talent, and knowledge. The sharing of inputs, better labor matching, and knowledge spillovers are the main forces behind the geographical concentration of industries and economic activity in urban environments. Well-functioning cities are able to attract the skills and innovation required to generate high-productivity jobs. However, agglomeration economies can also generate higher costs—from congestion and environmental degradation, to inefficiencies in land and housing markets or deficits in connectivity—all of which limit the economic benefits of agglomeration forces. Agglomeration forces thus need to be managed so that prosperity does not come at the expense of livability.

The macroeconomic story dominates the debate in Argentina, and stabilizing the macroeconomic environment is undoubtedly critical for cities to thrive. This study argues, however, that Argentina needs more than macroeconomic stability for economic growth. Argentine cities are part of the solution, and they have the potential to become a magnet for economic growth by tapping into their assets. The challenges that Argentine cities face, therefore, need to be addressed now so that they will not become a binding constraint once macroeconomic imbalances are corrected.

The study highlights three main challenges that Argentine cities need to address to leverage their potential. Argentina’s current patterns of urban development are characterized by (a) high primacy and unbalanced regional development; (b) a limited global economic footprint of urban economies, with employment concentrated in nontradable and resource-intensive sectors; and (c) unplanned low-density urban expansion. Argentina thus faces the following challenges of transitioning toward a more balanced regional development, from local to global cities, and from urban sprawl to articulated densities to take full advantage of the benefits of agglomeration economies:

- **Toward a more balanced regional development.** Argentina has a system of geographically diverse cities, and it needs to harness the economic potential of the whole system of cities. The country needs a globally competitive metropolitan Buenos Aires to make the transition to a high-income country, given the primacy of the metropolitan area that accounts for more than half of national gross domestic product (GDP). But Argentina also needs to bridge the economic gap between metropolitan Buenos Aires and the top five agglomerations to create vibrant secondary growth poles. In addition, a more balanced pattern of regional development is needed to bridge the prosperity and livability gaps between the cities in the northern regions and those in the rest of the country and to manage the recent growth in the Patagonia region.

  Achieving this balance requires removing the bottlenecks that prevent cities in the north from catching up while promoting the sustainable growth of cities in the south. The recent employment growth in the northern regions, primarily driven by the public sector, has helped reduce poverty. Yet, agglomerations in the Northeast region continue to lag and to rank lowest in
Moving Forward: A Framework for Action

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- **Prosperity and Livability.** The explosive growth of resource-rich agglomerations in the Patagonia region—driven by the growth in extractive industries—needs to be sustainably managed to meet growing needs for urban services and housing, to protect the environment, and to reduce economic vulnerabilities (see chapters 4 and 10).

- **From local to global cities.** Urban economies in Argentina have not been able to create the jobs required to move up the value-added ladder and become globally competitive. Argentine cities need to diversify their manufacturing to reduce vulnerability to fluctuations in global demand for commodities. They also need to transition from low value-added nontradable services, which are less likely to benefit from agglomeration economies, to higher value-added tradable services, such as information and communications technology (ICT), banking and finance, and other knowledge-based services.

  Accelerating the transition from a local to a global economy is a high priority for peri-urban metropolitan Buenos Aires and the large urban economies that lack diversification. Those economies concentrate most of their jobs in nontradable employment and low value-added services (with the notable exception of the city of Buenos Aires, which is leading in innovation). Textiles is the only tradable sector driving employment growth in peri-urban Metropolitan Buenos Aires. In the northern regions, agglomerations are caught in a low-productivity trap, with agroprocessing the only employment growth driver in tradable sectors. And resource-rich cities face the challenge of diversifying their economies because their jobs are highly concentrated in extractive industries (see chapters 4 and 10).

- **From urban sprawl to articulated densities.** Argentine cities face a difficult challenge arising from unplanned urban expansion: low-density sprawl that is poorly connected to urban cores. Managing this challenge is made even tougher by the mismatch between political administrative boundaries and built-up areas of agglomerations. The study finds that sprawl (a) inhibits the exploitation of agglomeration economies, thus imposing productivity and welfare losses, and (b) undermines livability, leading to costly services, inefficient use of land, and reduced connectivity between the core and peri-urban areas of cities (see chapters 5, 6, and 9). Cities need to transition from the current low-density, sprawling expansion pattern to the creation of articulated spatial structures to reduce the negative externalities associated with agglomeration economies.

The root cause of Argentina’s urban challenges is institutional. Institutional fragmentation of responsibilities for urban development and lack of institutional mechanisms for metropolitan coordination are common challenges for urban development. But in Argentina, these challenges are particularly severe and exacerbated by the financial weakness of municipalities. Addressing such challenges calls for an institutional environment that enables all cities to thrive.
In the existing legal framework there is scope for creating such an enabling institutional environment. The study identifies three interrelated areas for institutional change:

- **Strengthening the leadership of the federal government.** The leadership of the federal government is central to leveraging the benefits of agglomeration economies. The urban agenda is a national agenda, given its importance for national economic growth. There is, therefore, a strong economic rationale for strengthening the leadership of the federal government in guiding urban development within the existing legal framework.

- **Empowering municipalities.** Municipalities are financially weak and need to be strengthened. Although Argentina is highly urbanized, municipal governments play only a small role in urban development. In the context of Argentina, strengthening municipalities means shifting power, responsibilities, and resources from provincial governments to municipal governments.

- **Enhancing the coordinating role of provinces.** Argentina has strong provinces, which play a critical role in urban development. Yet, they have often failed in coordinating actions across municipalities and among tiers of governments. The political, economic, and financial strengths of the provinces can be harnessed to enhance both vertical coordination (among tiers of governments) and horizontal coordination (between municipalities).

Systemwide urban policy reforms are needed to leverage the full potential of Argentine cities. Challenges in land use planning are primarily associated with inadequate sectoral integration of planning efforts, lack of mechanisms for horizontal coordination, and outdated planning instruments. These shortcomings have contributed to low-density sprawl and unequal provision of services between the core and peri-urban areas of cities, thus affecting the efficiency of urban development (see chapter 6). And municipal finance constraints severely affect the ability of municipal governments to fulfill their obligations. Municipal financial autonomy has decreased sharply, increasing municipalities’ dependence on provincial transfers, which are distributed based on complex and outdated allocation formula. Municipalities also lack significant own-source revenues and predictable sources of funding for capital expenditure, and they have limited spending flexibility (see chapter 7). Argentina has experienced a rise in its quantitative housing deficit and growth in informal settlements and housing affordability issues, in spite of the significant resources allocated to increasing the housing supply. While barriers to housing finance are a binding constraint, Argentina also faces supply-side constraints that limit access to land for housing development (see chapter 8). And investments in public transport have not kept up with the extension of urban areas and the growth in population, significantly affecting agglomeration economies by limiting mobility and accessibility, contributing to segregation and social exclusion, and diminishing quality of life (see chapter 9).
This chapter outlines a framework for action. It identifies five priority policy areas that, in conjunction with the three areas of institutional changes outlined above, can unlock the potential of Argentine cities. The study proposes an integrated approach to policy reforms based on the following five priorities:

- **Promote sustainable and efficient spatial development**—by (a) developing strategic and integrated territorial plans that are in line with the national vision; (b) creating institutional changes and incentives for agglomeration-wide urban management; and (c) encouraging efficient and sustainable land use planning.

- **Position municipalities as competent and accountable service providers**—by (a) strengthening municipal capacity for mobilizing revenues to reduce dependency on transfers; (b) rationalizing the intergovernmental fiscal transfer system; and (c) strengthening the financing framework for municipal service delivery and infrastructure.

- **Encourage sustainable and efficient housing development**—by (a) developing a comprehensive national housing policy to help coordinate efforts across different government levels; (b) developing housing programs and solutions that are efficient, equitable, sustainable, and transparent; (c) strengthening the housing finance market; and (d) improving the articulation of housing, urban, and land policies, with a focus on increasing access to urban land.

- **Promote efficient, sustainable, and equitable urban transport**—by (a) developing a national policy for efficient, sustainable, and equitable urban transport; (b) improving efficiency of the urban transport system in metropolitan Buenos Aires; (c) modernizing urban transport systems in the top five and large agglomerations; and (d) improving sustainability of public transport in intermediate and small cities.

- **Power the long-term economic growth of Argentine cities**—by (a) strengthening the global economic competitiveness of the city of Buenos Aires; (b) increasing the competitiveness of peri-urban metropolitan Buenos Aires; (c) promoting economic diversification in large and resource-rich agglomerations; (d) improving economic efficiency in intermediate and small cities; and (e) promoting an enabling environment for sustainable economic growth in agglomerations in the northern regions.

The rest of the chapter articulates for each priority policy area a number of goals, policy directions, and short-term actions. The policy matrix in table 12.1 summarizes the way forward. This study covers selected public policies as a way to illustrate how urban policies affect urban prosperity and livability and can ultimately contribute to the country’s economic growth. The study covers traditional urban policy areas with a clear spatial outcome (territorial planning, municipal finance, housing, and urban transport), as well as urban development
policies for local economic development, as an example of second-generation urban development policies that go beyond the traditional urban agenda. However, the study does not cover other equally important public policies to correct market and coordination failures, including skill formation, innovation, as well as health policies, environmental policies, and social safety nets (see chapter 1 for a description of the methodology and analytical framework adopted in the study). In addition, better data are needed at the agglomeration level to strengthen the analysis of livability and prosperity presented in chapter 11. Such information would allow the formulation of policies on the basis of stronger empirical evidence. Additional research is therefore needed to enhance the understanding of economists, researchers, policy makers, and urban practitioners about how cities can contribute to Argentina’s economic growth.

**Priority 1: Promote Sustainable and Efficient Spatial Development**

Argentina needs the leadership of the federal government to promote sustainable and efficient territorial development, considering the significant spatial disparities within the country. Agglomerations face challenges (such as deficient access to basic services, low accessibility, pollution, and sprawl) that need to be addressed at the metropolitan level, and thus require some form of horizontal coordination between municipalities. Sprawl, combined with poor accessibility and segregated development, entails significant costs in terms of provision of infrastructure and foregone agglomeration economies. Policy actions are needed to (a) develop strategic and integrated territorial plans that are in line with the national vision, (b) create institutional changes and incentives for agglomeration-wide urban management, and (c) encourage efficient and sustainable land use planning. Achieving these goals requires the following policy directions and short-term actions.

**Goal 1.a: Develop Strategic and Integrated Territorial Plans That Are in Line with the National Vision**

*Strengthen the leadership of the federal government to promote equitable and sustainable territorial development.* Given the significant territorial disparities characterizing Argentina and the strategic importance of cities for national growth, the leadership of the federal government needs to be strengthened in planning for territorial development. Whereas provinces are the best-equipped tier of government for supporting agglomerations with the preparation and implementation of plans, the federal government has a key role to play in (a) setting strategic directions and ensuring national goals are mainstreamed in territorial development plans at both provincial and municipal levels; (b) ensuring harmonization of plans among tiers of governments and prioritizing regional investments on a national scale to enhance territorial competitiveness; and (c) establishing mechanisms and incentives for ensuring that national priorities are reflected in sub-national plans. More specifically, the role of the federal government will be critical for unlocking the economic potential of the northern
regions by rehabilitating, integrating and improving the road, rail, and airfreight networks connecting the main urban nodes in the northern regions to export markets—in line with the Norte Grande Road Infrastructure Program (see chapter 10). Investing in connectivity and logistics improvements to overcome distance to markets will continue to be a strategic priority for promoting regional development and economic integration of agglomerations in the northern regions.

Prepare integrated metropolitan spatial plans in line with national and regional plans. Sustainable urban development is constrained by the absence or weakness of territorial planning instruments that embody a strategic vision and that can serve to guide sector investments at the metropolitan scale (in areas such as local economic development, transportation, land use, and housing). All large agglomerations need a strategic, integrated territorial development plan in line with national and provincial plans. To ensure integrated territorial planning, the spatial plans need to encompass all municipalities forming the metropolitan area, including adjacent rural areas when they are under the jurisdiction of the province. Economic considerations need to be mainstreamed into the preparation of metropolitan plans by assessing the strategic economic growth drivers of the metropolitan region and cities and closely involving the private sector in planning. Metropolitan plans should also pay special attention to the increased incidence of disasters associated with changing climatic conditions, such as floods. Mainstreaming environmental considerations in spatial planning will be critical to sustainably manage the explosive growth of agglomerations in the Patagonia region. Horizontal coordination among municipalities is critical for effective territorial development. Vertical coordination with upper tiers of government and a concerted participation of all service providers in the planning process are going to be equally important for effective implementation of the metropolitan plans, given the sectoral institutional fragmentation for service provision. In light of the institutional complexity of territorial planning in Argentina, an integrated planning process for metropolitan areas needs to be formally institutionalized by upper tiers of governments, and appropriate mechanisms need to be established to monitor implementation of the plans.

**Goal 1.b: Create Institutional Changes and Incentives for Agglomeration-Wide Urban Management**

Establish metropolitan observatories, and create an open repository of metropolitan geospatial data and information. Inadequate metropolitan leadership and coordination has resulted in a lack of robust data and statistics to inform policy making at the metropolitan scale. Whereas the challenge of interjurisdictional coordination exists in most cities around the world, it is exacerbated in Argentina by the weakness of municipalities and by the strength of the provinces. The severity of the coordination challenges and the data limitations at the metropolitan scale call for the establishment of competent metropolitan observatories as technical units staffed with a small team of professionals to prepare areawide studies and analysis, while leaving decision making to political bodies. The metropolitan
observatories could facilitate the creation of an open source data-sharing platform that can enable open access to information (for example, open street maps and web-based databases). The development and management of an open repository of metropolitan geospatial data and information would be an integral part of the functions of the metropolitan observatories to empower decision makers with better information and knowledge, and provide them with the tools to improve the planning process at the metropolitan scale. The metropolitan observatories could be partially funded by the federal and provincial governments, and they could be overseen by committees that include not only representatives of governments but also of the private sector and civil society.

Promote intermunicipal sectoral cooperation for the provision of services. Expecting all municipalities of an agglomeration to coordinate across sectors would not be realistic, given the complexity of the institutional challenges and the weaknesses of the local authorities. A gradual, ad hoc approach based on the establishment of specialized sector entities for the provision of services in a given area is the most pragmatic solution to improve horizontal coordination in Argentine cities, building on a number of initiatives that have recently emerged (see chapter 6). Urban transport, water supply, sanitation, and solid waste collection and disposal are among the sectors where horizontal coordination is needed for efficient service provision at the metropolitan level. On a voluntary basis, participating municipalities would create an entity (in the form of an association, a consortium, a syndicate, or otherwise) for the provision of a given urban service, such as public transport. The board of this entity may consist of representatives of participating municipalities, with or without representatives of the federal and provincial governments. The entity would decide whether the service is to be provided directly or contracted out to private enterprises. The entity would be entrusted with responsibility for regulating service provision and, in some cases, for financing it based on a negotiated allocation of costs among participating municipalities. In a metropolitan area, there could be several such specialized entities serving different geographic areas, as the optimal area for urban transportation is usually not the same as the optimal area for waste collection and disposal.

Provide technical support and incentives to encourage horizontal coordination between municipalities. The federal and the provincial governments have a role to play in providing incentives to encourage voluntary cooperation between municipalities. Upper-level governments can incentivize and facilitate the development of agglomeration-wide entities by establishing an appropriate legal framework and providing technical assistance to municipalities. The Federal Council for Planning (Consejo Federal de Planificación, or COFEPLAN) could play an important role in the development of an incentive framework and a technical assistance program for metropolitan coordination. Appropriate incentive-based financing mechanisms could, for instance, be introduced to enhance metropolitan planning and management. Options include (a) designing top-up “metropolitan grants” targeted to municipalities joining inter-municipal entities or to the entities themselves; (b) creating incentives to promote local planning efforts that are consistent with metropolitan plans;
and (c) earmarking funds for the implementation of specific metropolitan initiatives, including the creation of special taxes that could only be levied by intermunicipal entities. An example of the latter can be found in France in the area of transportation. French municipalities constituting a metropolitan area are invited to create a transport authority to provide public transportation at the metropolitan level. These authorities are entitled to levy a special tax, the proceeds of which are used to finance public transportation (Prud’homme and others 2004). Participation in the transport authority is not compulsory, but those municipalities that choose not to participate cannot benefit from the transport services provided by the authority.

**Goal 1.c: Encourage Efficient and Sustainable Land Use Planning**

*Promote sustainable urban growth and increases in density.* Evidence indicates that the pattern of low-density sprawl accompanied by inadequate public transportation that characterizes Argentine cities prevents them from fully exploiting the benefits of agglomeration economies and thus deters productivity (see chapter 5). Agglomerations urgently need an integrated strategy to promote sustainable, cost-effective urban growth and increases in density at the fringe, on the basis of coordinated interventions in land development, infrastructure and service provision, transportation, housing development, and environmental protection. In the fragmented and complex institutional setting in which Argentine cities operate, planning for urban expansion requires mechanisms for cooperation at the metropolitan level between the federal government, provinces, municipal governments, and the private sector. To succeed, urban expansion needs to be embedded in a coherent growth strategy that combines higher density and sustainable land and housing development in peri-urban areas with the revitalization and regeneration of distressed neighborhoods in the city cores. Zoning regulation can, for instance, be introduced to encourage higher-density infill development in conjunction with the provision of adequate infrastructure to accommodate urban expansion. Steering new developments away from hazard-prone areas is also essential, given the vulnerability of Argentine cities. In expanding urban centers, special regulations should therefore be introduced and enforced to encourage land use that protects and enhances the surrounding environment and reduces vulnerability to disasters.

*Reform the regulatory and incentive framework to unlock the supply of land.* Provinces and municipalities need to make full use of modern fiscal tools for the efficient development of urban land, which is a major bottleneck for the creation of sustainable urban growth and low-income housing. Subdivision requirements enforced by provinces or municipalities need to be revised to unlock the supply of land, in particular in core urban areas. For instance, cities could consider allowing smaller lots and incremental provision of infrastructure. Other countries have stimulated formal, progressive subdivision for low-income households to replace informal settlements. Furthermore, large amounts of vacant and underutilized land lie within cities, in general, and metropolitan
Buenos Aires, in particular. Accessing this vacant land offers one of the most effective tools for affordable housing development. Among actions that can be taken to encourage the development of vacant land are (a) inventorying the largest vacant or underused subdivisions and parcels; (b) establishing their ownership, if unclear; (c) creating incentives for vacant land development, both by incentivizing landowners and by applying existing legal and fiscal tools (such as a tax on vacant land); and (d) brokering parcels—if necessary—between existing landowners and developers of affordable housing who are interested in using them.

Introduce modern financing tools for territorial development. The cost of upgrading primary infrastructure networks is a major constraint to increasing density, in particular, in large, consolidated Argentine cities where the capacity for expanding the infrastructure network is limited. Municipalities need to tap modern financing tools to cover the incremental costs of upgrading or extending infrastructure, given the limited tax base of municipalities and the high dependence on central transfers (which both provide rigidity in the municipal budget). The fact that a few forward-looking municipalities, such as Trenque Lauquen, have succeeded in introducing innovative financing tools (see box 6.7 in chapter 6) for urban development proves that these tools can be instrumental for sustainable land use and urban development in Argentine cities, even in the current constrained institutional environment.

Argentine cities can learn from the experience of several cities around the world that have introduced land-based financing tools for urban development (see box 12.1). In addition, well-designed local taxes on properties can stimulate compact development and provide sustainable financing sources for local expenditures. The property tax is the predominant local fiscal revenue source, and it is the most important tool for most Organisation for Economic Co-operation and Development (OECD) countries to recoup the increases in land value due to development. When land values increase after development or infrastructure construction, the property tax also increases. In Argentina, most municipalities do not have authority to administer property taxes and are therefore deprived of this important tool for capturing land value increases (see chapter 7).

Box 12.1 Land-Based Financing Instruments for Urban Development

In order to finance infrastructure, local governments can apply an array of instruments, including betterment taxes, tax increment financing, impact fees, development charges, land conversion fees, and related instruments. All these instruments have in common that they use current or future increases of the land value to finance infrastructure in an area. A betterment tax captures part of the land value gain attributable to public infrastructure investment by imposing a one-time tax on beneficiaries. Tax increment financing, mostly used in the United States, uses
Priority 1: Short-Term Actions

- Establish metropolitan observatories tasked with responsibility for preparing metropolitan spatial plans, starting with metropolitan Buenos Aires and the top five agglomerations
- Provide national-level guidelines and incentives to encourage municipalities to coordinate provision of services at the metropolitan level
- Develop a national-level capacity-building program to support municipalities in carrying out integrated land use planning

Priority 2: Position Municipalities as Competent and Accountable Service Providers

Argentina’s economic competitiveness is contingent on the capacity of municipalities to deliver high-quality services to their constituencies. However, municipal governments are financially weak and not empowered to carry out their functions as service providers. The low share of municipal governments’ capital expenditure, in particular in the top five cities where infrastructure needs are the highest, is particularly concerning (see chapter 7). Municipalities’ revenue-raising powers need to be increased to reduce their dependency on transfers. Municipal fiscal policy must also achieve greater efficiency and effectiveness in the collection of municipal revenues, accompanied by provincial reforms that endow municipalities with more fiscal capacities. In addition, municipalities need predictable sources of funding for provision of basic services and financing of infrastructure.

Addressing these challenges requires a gradual approach centered on the following policy goals: (a) strengthening municipal capacity for mobilizing revenues
to reduce dependency on transfers; (b) rationalizing the intergovernmental fiscal transfer system; and (c) strengthening the financial framework for municipal service delivery and infrastructure. It is worth noting that any policy that aims at empowering municipalities in carrying out their functions needs to be part of an overall strategy for strengthening the financial capacity of subnational governments, including provincial governments.\textsuperscript{2} The rest of the section presents policy directions and short-term actions to achieve these goals.

**Goal 2.a: Strengthen Municipal Capacity for Mobilizing Revenues to Reduce Dependency on Transfers**

Decentralize property taxes and other appropriate taxes for local collection, starting in the largest agglomerations. Strengthening local governments’ capacities to mobilize own-source resources—while possibly reducing other taxes, given Argentina’s already high tax burden—will help provide greater stability to subnational governments’ sources of revenue. To increase municipal resources, appropriate taxes for local collection need to be gradually decentralized to municipal governments, starting with the largest agglomerations, where the revenue potential is the highest, given the size of the tax base. Property tax is generally considered an appropriate tax for the local level, as it presents local governments with incentives to provide adequate public goods that maximize property values and to attract labor and capital to their jurisdictions.\textsuperscript{4}

Municipal governments in Argentina need to be provided the authority to administer property taxes. Only seven provinces have decentralized authority to collect and set the tax rates of local governments, although most have not decentralized the power to update the property valuation (see chapter 7). Municipalities can also be provided with the authority to levy the motor vehicle tax. Motor vehicle taxes are a very common local tax in many countries. The justification for decentralizing such taxes includes localized environmental impacts, as motorized vehicles create environmental, traffic, and noise burdens, primarily within the municipal boundaries. The administrative burden to levy and collect such a tax is also limited, because it is connected with transactions such as vehicle licensing and ownership transfer. Other taxes appropriate for local collection could be identified and gradually transferred to municipal governments to boost own-source revenues, provided that they do not lead to tax competition across municipalities or duplication of taxation levied by other jurisdictions. To avoid duplication of taxation in the case of the motor vehicle tax, municipal governments would need to adopt the central registry for valuation of motor vehicles, coordinated by the national collection authority (Federal Administration of Public Revenue), as is done by municipalities that already have this tax decentralized.

*Rationalize the sources of municipal revenues by gradually phasing out fees.* Argentina’s municipal revenue collection system is obsolete and not adequate to meet the financing needs of modern cities. Modern municipalities cannot be limited to a collection system based on the concept of traditional fees, considering that this instrument has been, in practice, completely distorted in most
municipalities, especially in those with larger populations. The main economic rationale for levying fees is to promote efficient use of public resources through the pricing mechanism, not necessarily to raise revenues. However, in Argentina, fees are used as the primary revenue collection mechanism in lieu of taxes.

Municipal governments collect a very large number of fees, contributions, and rights of different kinds whose weight in the total collection is minimal and whose fiscal cost barely compensates, in some cases, for its collection. These fees are not linked to the cost of service provision, and therefore they have all the characteristics of taxes. The multiplication of fees has created inefficiencies in the tax administration system. For example, the provincial property tax and the general services fee have in practice the same tax base; there is therefore a duplication of efforts, since both tiers of government carry out their own assessment. Furthermore, some of these fees (such as the inspection fee for safety and health) have a distortionary effect, as the tax is passed through the cost of the products, and consumers end up paying for it (see chapter 7). A process of rationalization should take place to reduce and simplify the number of instruments for municipal revenue collection.

Improve the efficiency of property tax collection. The decentralization of the property tax should be accompanied by the power to appraise property values together with the ability to set rates and payment terms. If these powers are not transferred together with the authority to collect the tax, decentralization is unlikely to lead to an increase in efficiency and in the amount of municipal own-source revenues. Currently, even municipalities that collect property taxes and can set rates do not have the power to appraise land value. Furthermore, decentralization of taxation powers to municipal governments would require developing the organizational and technical capacity to manage this tax efficiently, especially for the development and updating of cadastres in the municipal governments (see box 12.2 for an example of the impact of updating property values on taxation). Municipalities also need to leverage modern technologies to improve the efficiency of collection, such as facilitating payment mechanisms as well as improving customer services to taxpayers and providing more and better information about payment terms. Finally, a coordination mechanism between municipalities is needed in order to capture information about properties belonging to the same individual for the purposes of applying higher rates to the total value of all properties, regardless of the municipality in which properties are located.

Goal 2.b: Rationalize the Intergovernmental Fiscal Transfer System

Review the rules for more effective allocation and distribution of fiscal transfers to municipal governments. The allocation formula of provincial unconditional transfers to municipalities has become unpredictable, and it is not always aligned with development needs of municipal governments; for instance, it does not compensate municipalities with a weak tax base or large development needs. Provincial transfers that are distributed to municipalities without clear development objectives may also discourage local revenue-raising efforts. Potential strategies for
better addressing local needs through fiscal transfers would be the development of a needs-based allocation formula for provincial transfers to municipalities. There is also the need to carefully balance unconditional with conditional transfers, by considering, for instance, the introduction of performance-based transfers linking resources to specific achievements in high-priority policy areas as a tool for incentivizing and rewarding municipal performance.

Consider introducing a system of direct transfers from the federal government to the municipalities for specific programs or policies aligned with national priorities. Under the current system, there are considerable disparities in municipal governments’ resources, due to variation in the amount of federal transfers to provinces.

Box 12.2 The Impact of Updating the Cadastre on Property Taxes: The Case of Bogotá

In Colombia, Bogotá has been considered a pioneer in land valuation. Between 2008 and 2010, the city successfully updated its cadastral database, revaluing the 2.1 million urban properties in the city. This updating process led to a 30 percent increase in property tax revenue and US$171 million of additional revenue in fiscal years 2009 and 2010 (Ruiz and others 2010). Sánchez (2010) summarizes the key elements behind the successful update of cadastral values as follows: (a) improved management of human resources, (b) introduction of information technologies, (c) mitigation of the project’s effect on the property tax, (d) engagement of stakeholders and civil servants, (e) openness to review the project’s results, and (f) improved assessment techniques to enhance the cadastral database.

Improvements to the assessment techniques included incorporating the use of spatial information collected using GIS into the econometric techniques used for the estimation of property values. Distance to key sites and amenities were used as important determinants in the estimation of property values. Given that no market information was available for the city, initial price data were collected using a team of expert appraisers that applied a combination of market, cost, and income valuation approaches to arrive at the best possible appraisal value. Further, close interaction between assessors and the econometric modeling team helped ensure that sensible values were obtained for all areas of the city. Today, these data are made available for research purposes under confidentiality agreements. The information collected is also shared among government institutions to enhance the quality of the planning process across different agencies and sectors.

Because there was a considerable lag in the cadastral values, a significant increase in the base for property taxes was expected after the updating of property values was completed. To maintain the progressiveness of property taxes and minimize resistance from property owners, Bogotá put forward new legislation to introduce a ceiling in the increase in property tax. Under the assumption that property values are strongly correlated to ability to pay, the ceiling on the increase in property tax was set to augment proportionally to the logarithm of the property value (differentiated ceilings were also set for residential and nonresidential uses). These ceilings also gave property owners additional certainty on the tax increase.

Sources: Ruiz and others 2010; Sánchez 2010.
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and differences in the allocation formula of provincial transfers to municipalities. In addition, federal transfers to municipalities for public investments, which are allocated on an ad hoc basis, are hard to predict and contribute to further regional disparities in municipal resources. These disparities are not justified by differences in the characteristics of the municipal governments and may prevent the federal government from achieving its national development goals. To address these challenges, the federal government can consider developing a system of direct transfers to municipal governments for specific programs and policies aligned with national priorities based on transparent and predictable criteria. A federal transfer system to municipalities would allow the federal government to play a more active role in achieving development goals over the entire country, and provide much-needed supplementary resources to municipalities. Argentina can learn from the experience of federal systems, such as those in Brazil and Mexico, where fiscal transfers from the central government to municipalities exist, and adapt them to the Argentine federal system.

Goal 2.c: Strengthen the Financing Framework for Municipal Service Delivery and Infrastructure

Codify functions of municipalities, and gradually increase responsibilities as municipal financial capacity increases. The functions of municipalities are limited and not clearly defined. Under the pressure of their electorate, and in some cases with the support of provinces, many municipalities are, however, extending their functions beyond traditional functions, such as street lighting, street cleaning, and solid waste collection. They are increasingly involved in health, social welfare, and education. As a result, municipalities have received new unfunded mandates without the resources to carry them out (see chapter 7). If municipalities are to be empowered as service providers, they must be provided adequate resources to fulfill their given functions. The institutional division of responsibilities in the provision of public services needs to be codified to eliminate unfunded mandates and ensure that municipalities have the resources to carry out their obligations. Because the institutional mandate of municipalities is more limited in Argentina than in many other countries (in many countries, for instance, provision of piped water supply is the responsibility of municipalities), there is scope for gradually increasing responsibilities of municipalities in line with their institutional and financial capacity to provide these services.

Mainstream user-pay principles to cover the costs of basic services such as solid waste collection. Municipalities need to charge for provision of basic services such as solid waste collection—one of the highest operating expenditures of municipal governments—in line with the cost of service provision. Enforcement of payment and cost recovery for collection of solid waste are low, and municipalities cannot track revenues from solid waste management (see chapter 7). This situation will require adopting a functional classification of expenditures in the municipal budget to improve the programming of activities and budget management. A functional classification of municipal expenditures would provide more information and transparency for the formulation of municipal
policies and enable municipalities to assess cost recovery for local services. Municipalities could then identify services for which operating costs could be recovered directly through user charges rather than through general taxation. A menu of cost-based fees would need to be developed by taking into account affordability considerations and willingness to pay for services. The affordability of user charges is critical, because with the introduction of cost-pricing mechanisms, cost-based fees become significant items in household budgets.

Develop a coherent and transparent national institutional framework for municipal infrastructure investment financing. Municipal governments are limited in their ability to mobilize local resources for infrastructure investments. Since provincial transfers are generally used to cover operating expenditures, municipal governments are highly dependent on other sources of revenues, such as the Federal Solidarity Fund (FSF) and discretionary grants negotiated directly with the federal government. The channeling of capital funds from federal to local governments does not form part of a coherent strategy and tends to be unpredictable, thus discouraging long-term planning. For instance, the FSF relies on revenues from soybean exports, which are volatile because they are subject to fluctuations in world commodity prices (see chapter 7). Discretionary ad hoc grants also do not give municipal governments adequate incentives to carry out long-term planning, improve their efficiency, and maintain their assets.

A new municipal finance strategy needs to be developed to streamline and harmonize mechanisms for capital financing and to move toward an integrated performance-based financing system. The objective of this strategy would be to ensure that all urban areas have the resources to provide basic services to their constituencies, while strengthening and rewarding local capacity to mobilize own-source revenues. The federal and provincial governments can, for example, consider providing grants to strategic municipal urban infrastructure projects with high economic returns when those projects are not financially viable without financial support from higher levels (international examples include the European Regional Development Fund or the Cohesion Fund implemented by the European Union). Or governments could consider creating a competitive pool of funds to which subnational governments could apply to finance specific projects. An example is the Fund for the Promotion of Regional and Local Public Investment (Fondo de Promoción a la Inversión Pública Regional y Local, or FONIPREL) in Peru, in which regional and local governments can compete for funding to co-finance public investments in basic infrastructure targeted at reducing poverty and service delivery gaps.

Prepare long-term investment plans that are linked with spatial plans for the sustainable financing of urban infrastructure, starting in metropolitan areas. Infrastructure investments require long-term planning and funding. However, municipal governments are discouraged from carrying out forward-looking investment planning in the absence of long-term sources of finance or a coherent framework for infrastructure finance. As financing instruments for infrastructure and service delivery are reformed, agglomerations need to prepare multiyear investment plans linked with land use planning. Municipal investment planning needs to be
integrated into operations and maintenance plans to ensure that adequate resources are set aside for maintenance of the assets. The federal government has a role to play in promoting the harmonization of investment planning and programming across multiple tiers of government, as well as facilitating horizontal coordination as discussed earlier in goal 1.b. The federal government could also consider providing incentives for the preparation of metropolitan investment plans by making the transfer of capital funds to municipal governments contingent on the preparation of such plans at the metropolitan level.

Priority 2: Short-Term Actions

- Decentralize property taxes, starting in metropolitan Buenos Aires and the top five agglomerations
- Develop a national strategy and reform plan for municipal infrastructure financing
- Introduce cost-based fees for solid waste management

Priority 3: Encourage Sustainable and Efficient Housing Development

Although current macroeconomic conditions constrain the development of a strong housing market, Argentina needs to take action now to lay the foundation for better and more affordable housing options when macroeconomic conditions improve. Aside from the contraction of mortgage lending, a number of challenges in the housing sector need to be addressed to resolve the rise in the quantitative housing deficit, growth in informal settlements and housing affordability issues. Some of the major challenges include the absence of a comprehensive housing policy that defines the sector’s strategy and coordinates government efforts; limited housing solutions for low-income households, which are often crowded out of public-assisted programs; limited urban land available for housing development; and lack of incentives for private sector participation in the low-income segment of the housing market (see chapter 8). Argentina needs to pursue the following institutional and policy goals to address those challenges:

(a) develop a comprehensive national housing policy to help coordinate efforts across different government levels; (b) develop housing programs and solutions that are efficient, equitable, sustainable, and transparent; (c) strengthen the housing finance market; and (d) improve the coordination of housing, urban, and land policies, with a focus on increasing access to urban land. The rest of the section presents policy directions and short-term actions to achieve these goals.

Goal 3.a: Develop a Comprehensive National Housing Policy to Help Coordinate Efforts across Different Government Levels

Develop a comprehensive national housing policy that is backed by adequate regulatory and budgetary instruments. Housing typically accounts for 60 percent to 70 percent of the land use in cities, and the way that housing is planned and built...
has permanent implications on the urban form, quality of life, local finance, and economic performance of cities. With the housing deficit in Argentina affecting about 21 percent of the population (see chapter 8), housing policies will play a key role in determining cities’ long-term performance and sustainability. It is therefore critical for the federal government to develop a comprehensive housing policy that addresses, in an integrated manner, housing finance, housing subsidies, residential infrastructure, the regulatory regime governing the housing sector, and institutional reforms. The national housing policy would need to be coordinated with provincial and municipal levels and backed by adequate regulatory and budgetary instruments to ensure its proper implementation.

*Refocus government’s role from housing provider to enabler, and promote private sector participation while targeting public programs to low-income populations.* As macroeconomic conditions improve and demand-side bottlenecks are eased, supply-side constraints will become more pressing. The national housing policy should define a clear sector strategy and instruments to increase market participants’ confidence and reliability. Government intervention in the housing sector must gradually shift away from a focus on direct delivery of housing by the public sector to an enabling role centered on monitoring, guiding, supervising, supporting, and managing the housing sector as a whole. The magnitude of Argentina’s housing challenge calls for increased private sector participation in delivering housing solutions for middle- and higher-income segments, while the government should target lower-income households traditionally not served by the private sector.

*Reform the institutional framework to better articulate housing policy at the different government levels.* The legal and institutional structure for government intervention in the housing sector needs to be reassessed to effectively address the challenges in the housing market. Coordination mechanisms need to be strengthened for the national, provincial, and municipal governments to act together to plan, coordinate, implement, monitor, and redirect national housing policy. Local governments are closest to the demand, thus necessitating a larger role in the implementation of social housing programs to ensure integration of social housing development, that is, provision of affordable and adequate housing for low-income populations, in their spatial plans. At the same time, provincial governments have a broader perspective on housing needs, especially when it comes to agglomerations formed by several municipalities. If adequately strengthened, Provincial Housing Institutes can play an important role in implementing and coordinating social housing programs.

**Goal 3.b: Develop Housing Programs and Solutions That Are Efficient, Equitable, Sustainable, and Transparent**

*Align public-assisted housing programs with national housing priorities and objectives.* The existing housing programs are not fully articulated and do not adequately address the growing housing needs of the urban population. Some of the challenges of the current programs include (a) poor coordination between programs and among responsible agencies, particularly the lack of integration with local planning efforts that has led to unconnected, low-density housing
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devlopments on the outskirts of cities and has promoted sprawl; (b) the lack of effective targeting of housing subsidies to low-income households in the absence of transparent allocation criteria; and (c) the lack of alternative private sector solutions for middle-income households, which have captured a significant share of the benefits of the housing programs. A better articulation between government programs, aligning them with national housing priorities, would improve their efficiency and eliminate any competition among them. In addition, all government-supported housing programs could be subject to systematic auditing by independent and impartial agencies to ensure compliance with national housing priorities and objectives.

Move from implicit to explicit housing subsidies, and define clear targeting mechanisms in public-assisted programs to ensure access to housing for low-income populations. A significant share of the government programs’ subsidies are currently benefiting middle-income households, crowding out low-income populations. Most programs involve implicit subsidies that are difficult to quantify and also hard to target to those in need (see chapter 8). Moving to explicit subsidies, such as up-front capital subsidies, will not only help quantify the resources invested, but also evaluate their impact and increase the programs’ transparency and efficiency. In addition, clear eligibility criteria can be defined to ensure that government-funded programs are benefiting those who need them the most and thus reducing the affordability gap. For example, Colombia has a variety of programs to subsidize housing for which eligibility criteria are based on the level of income, vulnerability, and saving (Government of Colombia, Ministry of Housing, Cities, and Territories 2014).

Develop alternative housing models for low-income households, including promoting incremental housing solutions and regularizing informal settlements. Affordability is a major challenge for low-income populations, especially those that have informal income. Therefore, expanding housing options to improve the current conditions of low-income households can help reduce the housing deficit. Incremental housing solutions are a combination of various interventions that support families who could improve their houses. Examples include basic improvements (for example, nonstructural work, such as adding bathrooms or pouring concrete floors); large improvements (for example, changing the roof or adding a second floor); land titling programs; and connection to piped water supply, sewerage networks, or electricity services. The government could expand the current efforts to improve municipal infrastructure and initiate a national program of urban upgrading, including security of tenure, neighborhood infrastructure improvements, and access to basic services and amenities. Program implementation would be undertaken by municipalities and would focus on settlements inhabited by low-income families. To support these efforts, the laws and decrees governing regularization of tenure must be streamlined, regularization efforts at all levels of government need to be better coordinated, and resources for regularization must be significantly increased.

Facilitate access to formal rental markets for all income groups. Renting is a cost-efficient alternative to homeownership; thus, promoting rental markets can help
address the housing deficit. However, the formal rental market is very limited in Argentina, and the supply does not meet the demand for low-income households. Most of the rental market is informal. Constraints such as legal insecurity and transaction costs limit the supply, while onerous rental guarantee requirements prevent most of the households from accessing the formal market (see chapter 8). The government has to implement institutional reforms in the housing rental market to address these constraints and make the formal rental market more dynamic and accessible to all income groups. Some of these reforms include improving the repossession process to reduce its timeline and creating a system of rental guarantees. In addition, incentives to rent vacant homes could be introduced.

Put in place an information system to monitor progress and to evaluate the impact of housing policies and programs. Organizing data collection in the housing sector will be critical to ensuring the efficiency of interventions. To that end, a technical unit could be created to organize data collection in the housing sector and to feed CONAVI with regular and consistent data to monitor the sector and support policy making. Detailed sector information can help define appropriate subsidies, understand how the market is behaving, and evaluate the effects of housing policies.

Provide incentives for private developers to increase the speed and volume of housing development. Access to housing is not only a challenge for low-income households; available empirical evidence also shows a housing deficit in higher quintiles, which could be profitable clients for private developers. An opportunity exists for increasing the speed and volume of housing supplied by private developers through the implementation of a number of incentives, such as tax rebates, cross-subsidization (through promotion of mixed development), commitment to provide bulk infrastructure, and changes in regulations—for example, zoning regulations could be modified to allow for building at greater densities, to change height restrictions, and to allow for smaller minimum lot sizes. In addition, housing departments in municipal governments need to simplify the approval processes for building permits and reduce the time required for approvals.

**Goal 3.c: Strengthen the Housing Finance Market**

Develop a set of transitional instruments, such as some form of credit and savings indexation, to address the lack of housing finance. These mechanisms, such as indexation, are necessary to promote housing finance in the presence of volatile macroeconomic conditions, but they lose their efficiency if the macroeconomic context does not improve after a while. Therefore, they should be designed as transitional mechanisms, with assorted safeguards to protect borrowers and lenders in case of any further macroeconomic deterioration. The selection of the anchor to implement the indexation is an important step. There are several options: (a) the construction index, which is already used in contracts to update the price of the construction inputs and could be used on the asset side; (b) the wage appreciation index, determined in negotiation between the unions and the government, which is perceived as being relatively reliable and transparent, and
it tracks the income capacities of borrowers, though not the cost of banks’ funding; and (c) the consumer price index, reformed in 2013 with technical assistance from the International Monetary Fund, which has not yet proven its reliability. An alternative is a swap between fixed and floating rates for mortgage loans, in which the central bank would take the fixed interest rate risk. However, this mechanism can be applied only when a deliberate policy is in place to reduce inflation. Although the swap helps to reduce credit risks, it does not tackle the main credit affordability problem of a conventional loan priced under high rates.\(^{8}\)

Box 12.3 presents the experience of Mexico and Colombia in using indexation as a transitional tool to address the lack of housing finance.

Allow other banks to participate in the PRO.CRE.AR program. Funding for the national housing program Programa Crédito Argentino (PRO.CRE.AR), through the Sustainability Guarantee Fund (Fondo de Garantía de Sustentabilidad, or FGS), is expected to reach a limit. Therefore, the continuity of the program depends on leveraging other sources of financing. Allowing other banks to participate, under certain preestablished conditions, would foster market competition, leading to better pricing for borrowers and more efficient use of public funds as more institutions develop sustainable mortgage operations. It could also leverage private commercial funding to enhance the overall resources of the program.

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**Box 12.3 Indexation Experiences as a Transitory Tool in Mexico and Colombia**

The World Bank assisted Mexico and Colombia in developing market risk mitigation schemes for long-term housing loans as a transitory tool until the macroeconomic context improved and the financial markets provided adequate hedging instruments. In Mexico, the tool was the “UDI swap\(^{a}\)” immunizing mortgage lenders against the mismatches between two different indexation mechanisms (minimum wage on the asset side, consumer price inflation on the funding side). In Colombia, it was a hedging facility run by the central bank, the Fondo de Reserva para la Estabilización de la Cartera Hipotecaria, that enabled lenders to buy a cap on floating interest rates and thus hedge the mismatches between liabilities based on those rates and inflation-indexed loans. The mechanism was little used but for a good reason: the fall of inflation and the decline in interest rate volatility. Its mere existence, however, provided a backup that encouraged financial institutions to lend.

In both cases, the governments provided a form of macroeconomic catastrophe–hedging mechanism, should the selected indexes follow an unanticipated worsening trend. This form of state intervention was indispensable to restore trust and reengage private lenders and investors.

*Notes:* a. A “UDI swap” is an interest rate swap where one of the legs is based on a fixed rate set by reference to the UDI index. The UDI (or the Unidades de Inversion) is the Mexican inflation unit. Published daily, the inflation unit is based on the price changes in the Mexican economy published by the central bank. This fixed rate is exchanged for a second leg, which can be either fixed or floating.
Develop nontraditional financing models for affordable housing. In many cases, low-income families are not able to save for a down payment or are not eligible for a mortgage because of the informal nature of their income. There are alternative models to provide housing for this population, for example, a residential leasing contract with a savings scheme—a traditional leasing contract that includes a savings component under each monthly payment. It helps provide housing financing for those who cannot save for a down payment or who do not qualify for credit. Throughout the life of the lease, the accumulated savings generate a yield and provide the beneficiary with funds to exercise a purchase option.

Goal 3.d: Improve the Articulation of Housing, Urban, and Land Policies, with a Focus on Increasing Access to Urban Land
Coordinate housing and urban policies to promote sustainable urban growth. International experience suggests that public-assisted housing programs focused solely on financing housing construction or finance can help resolve the quantitative housing deficit. However, these programs require a broader focus of intervention on habitat improvement and accessibility, in line with citywide spatial development strategies to avoid negative effects on urban development and agglomeration economies. Those negative effects include (a) sprawl and segregated development, (b) high costs of service provision, (c) poor connectivity between residential areas and economic activities, and (d) lack of social and economic integration of low-income populations. Furthermore, in identifying suitable land for social housing, programs must take into consideration the overall cost of providing housing services, including infrastructure and accessibility. Incentives could be provided to ensure that selected areas for social housing are accessible to public transport, not only the road network. Actively involving local governments in low-income housing programs will be critical to ensuring coordination with urban policies and regulations. Box 12.4 presents lessons learned from Mexico on how housing policies can be coordinated with urban policies to directly address the challenges of urban sprawl.

Facilitate access to land for sustainable housing development. One of the main constraints for the supply of housing is the limited availability of urban land. Even under favorable macroeconomic conditions, land is going to be a limiting factor to reduce the housing deficit. Local governments need appropriate planning tools and resources for developing affordable serviced land for urban development while taking into consideration accessibility and functionality through appropriate zoning and land use regulations. Municipal, provincial, and federal regulations that affect the housing market need to be reviewed with a view to reforming them to ensure efficient, equitable, and sustainable housing development. For instance, governments can proactively encourage the development of affordable housing as part of large-scale urban development projects or urban renewal projects, through the application of innovative instruments such as inclusionary zoning. Inclusionary zoning refers to a program, regulation, or law that requires or provides incentives to private developers to incorporate affordable or social housing as a part of market-driven developments, either by incorporating
the affordable housing into the same development, building it elsewhere, or contributing money or land for the production of social or affordable housing in lieu of construction (World Bank 2015c). As discussed earlier in goal 1.c, land subdivision regulations at the municipal and provincial levels also need to be reformed to enable development of affordable, sustainable housing solutions.

**Box 12.4 Coordinating Urban and Housing Policies: The Case of Mexico**

In response to the rapid low-density expansion of Mexican cities, the national government initiated urban and housing reforms to promote inclusive, sustainable, and compact growth. During the period 1980–2010, Mexico’s cities had experienced rapid expansion of built-up areas. This expansion was largely driven by government programs to address the housing deficit through low-cost, low-density housing developments in the periphery. To address the resulting urban sprawl, the government has established a number of institutions—such as the Ministry of Agrarian, Territorial, and Urban Development—and programs to improve institutional coordination between urban and housing policies, consolidate existing urban areas and limit spatial expansion of cities, and achieve a sustainable urban spatial pattern while ensuring housing affordability. Programs have included the National Development Plan 2013–18 and the National Program for Urban Development and Housing 2013–18.

In parallel, the government has started implementing location-specific subsidies and housing credits to discourage peri-urban expansion, promote increased densification of inner cities, and create developable urban land reserves that are equipped with infrastructure to accommodate growth in the outskirts. The objective of these initiatives is to reward the construction of dwellings in “good” locations of a dwelling (measured in terms of its accessibility to areas with higher employment) by giving a higher subsidy to housing development closer to the center; in parallel, there are disincentives to construct housing in remote locations by giving a lower subsidy or no subsidy if the selected area for development lacks infrastructure networks. For that purpose, the government determined three types of locations for the allocation of subsidies: (a) areas with high economic density (measured in terms of employment density), which are entitled to the highest subsidy; (b) consolidated urban areas that have lower employment density but have existing infrastructure networks that receive smaller subsidies than high-density areas; and (c) areas corresponding to low-density growth zones, which are entitled to the lowest subsidy.


**Priority 3 Short-Term Actions**

- Develop a national housing strategy and implementation plan
- Establish a regulatory framework to encourage development of a formal rental market
- Introduce inclusive land use regulations to facilitate development of affordable housing with adequate accessibility and services
Priority 4: Promote Efficient, Sustainable, and Equitable Urban Transport

Integrated transport planning poses complex challenges in the current institutional framework of Argentina, given the fragmentation of responsibilities, the mismatch between administrative and functional boundaries of metropolitan areas, and the weakness of municipalities. The challenges of urban transport also vary to a significant extent across regions and cities—metropolitan Buenos Aires faces special challenges of intra-urban connectivity, given the size of the metropolitan area. Priority interventions must focus on achieving the following goals: (a) developing a national policy for efficient, sustainable, and equitable urban transport; (b) improving efficiency of the urban transport system in metropolitan Buenos Aires; (c) modernizing urban transport systems in the top five and large agglomerations; and (d) improving the sustainability of public transport in intermediate and small cities. The following policy directions and short-term actions are needed to achieve these goals.

Goal 4.a: Develop a National Policy for Efficient, Sustainable, and Equitable Urban Transport

Develop a national strategy on urban transport and sustainable mobility by providing proper incentives for planning, managing, and investing in urban transport. Managing the broader economic, social, and environmental effects of urban transport on the country's society and economy calls for a national strategy to develop policies, incentives, and guidance that would help cities improve their public transport systems. This strategy will require efforts to reconcile urban growth with land use, housing, and transportation planning to reduce the very high costs of mobility in low-density peri-urban areas and to decrease negative externalities, such as congestion and road accidents.

The federal government does not regulate or intervene in urban transport, and it is up to the provinces and municipalities to decide how urban transport is to be managed. Provincial governments can define and regulate standards for urban transport in their municipalities. In this institutional context, Argentina would benefit from defining a comprehensive national urban mobility policy for provinces and municipalities, and from establishing a national urban agency to enable the transfer of knowledge and provide financial support to subnational entities. As a primary objective, Argentina’s federal government needs to coordinate actions to integrate mobility policies with other urban development strategies, while strengthening the institutional, regulatory, and managerial capacity of subnational transport departments.

Under the umbrella of a national strategy on urban transport and sustainable mobility, the federal government could provide municipal governments with technical support for (a) preparing mobility plans, with a focus on integrating transport and land use planning, matching accessibility with social needs, and encouraging nonmotorized transport; (b) collecting data to inform transport planning; (c) strengthening the sector’s capacities, with initiatives such as creating...
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...a professional degree in transportation and other knowledge exchange initiatives; and (d) developing financially sound transport projects.

The technical support could be complemented by federal aid programs with proper incentives to promote sustainable urban transport. The programs could provide project financing or subsidies, together with institutional strengthening and capacity building for provincial and municipal governments. The national strategy could also focus on transport issues that have important externalities, such as providing support for the monitoring and regulation of vehicle emissions as part of air quality management. Argentina can learn from the experiences of countries such as Brazil and the United States and adapt them to local realities (see box 12.5).

Mainstream the use of technology for improving planning and efficiency of public transport. Mobile phone technology, smart card payment, and GPS technology provide valuable real-time information that could greatly enhance the efficiency of urban public transport systems. Some cities in Argentina already have initiatives that provide technological tools to improve the information of the transport system, but they are still the exception. Quality data at the city level are very scarce in Argentina, but they are necessary for cities that urgently require better planning for their transport systems. The federal government is best placed to provide a strategy for urban transport and sustainable mobility that promotes and mainstreams the use of data and technology. It will be important to produce and collect high-quality data for urban transport planning for large and intermediate cities, and to produce nationwide statistics for the sector and make them available to the general public.

Box 12.5 Federal Programs to Support Urban Transport: The Cases of Brazil and the United States

Many countries have established financing instruments, programs, or regulatory frameworks at the national level to promote sustainable mobility in cities. Brazil’s National Policy on Urban Mobility, for instance, required all cities with populations over 20,000 to develop transport master plans linked to their urban development plan. The Brazilian Ministry of Cities then provides funding (up to 95 percent of total costs) for mass transit projects, including bus rapid transit, light rail transit, and subways in large cities. In addition, the Brazilian Development Bank provides loans to local governments for improving and maintaining their bus fleets.

Federal aid programs in the United States provide states with financing for eligible transport projects, contingent on certain requirements set by the federal government. The Federal Aid Highway Act of 1962, for instance, requires that transportation projects in urban areas with populations of 50,000 or more be developed through a specific urban transportation planning process. The act was borne out of two decades of experimentation and development of urban transportation planning and regulation. Together with financial incentives of 90 percent federal funding for interstate highway projects, the act helped improve urban transportation throughout the United States.

Sources: Díaz and others 2012; Weiner 1999.
Applying technology to the transport sector is also essential for managing, tracking, and monitoring traffic in real time. It allows the possibility of generating reliable information on a real-time basis; improving understanding of, and responses to, accidents and technical problems to enhance the resilience of transport systems; and developing improved traffic management tools to better integrate transport initiatives and systems. Incorporating technology into urban mobility schemes also makes public transport more attractive for commuters. The adoption of iBus (Travel for London 2009) in London’s urban bus system upgraded the level of service to users by improving service reliability at the same time as it provides accurate real-time passenger information, mitigates the impact of unanticipated disruptions, and allows for better control of regular headways (that is, the minimum possible distance or time between vehicles in a public transport system, without a reduction in the speed of vehicles). The application of accurate data for urban transport within a large urban area allows authorities to increase the efficiency of the bus fleets (through better management and monitoring, lower fuel consumption, and lower maintenance costs), to better plan routes of operators, and to understand passenger behavior and modal alternatives.

Redefine the existing federal subsidy policy for public transport to improve targeting to the most vulnerable groups. Currently, federal subsidies for public transport are not targeting poor households. In addition, they provide disincentives to municipal governments or public operators to improve public transport systems (see chapter 9). The government needs to redesign the subsidy program to improve targeting to the most vulnerable groups without distorting the market. Lately, many countries are implementing targeted, non-earmarked cash transfers for transport systems that are the least discretionary and better target the poor. Colombia, for example, is targeting public transport subsidies to the most vulnerable with cash transfer–type programs. Using the poverty targeting systems of conditional cash transfer programs, the national government uses electronic payment systems to direct benefits to eligible populations (Mehndiratta and others 2014).

Argentina already has a well-maintained database with potential beneficiaries for social programs and has some recent experience with targeted subsidies with the 2015 implementation of Programa Hogar, a targeted direct cash transfer for gas cylinders that benefits 2.5 million families. Argentina’s electronic payment system (Sistema Único de Boleto Electrónico, or SUBE) was envisioned as part of a reform to transition from the current supply-side to demand-side subsidies. Through social programs of the National Administration of Social Security (Administración Nacional de Seguridad Social, or ANSES), the Ministry of the Interior and Transport (now the Ministry of Transport) issued regulations to identify certain social groups as recipients for demand-side subsidies through the SUBE smart card. Argentina’s federal government should continue in this direction in the reform of the current subsidy scheme.
There is also an economic justification to subsidize workers’ public transport commute to address negative externalities such as congestion and pollution. A number of countries, including Brazil and France, have implemented schemes to subsidize public transportation for workers. Vale-Transporte in Brazil, for instance, is a subsidy program that caps commuting expenses for workers in the formal economy at 6 percent of their wages, with employers paying for the rest as a tax-deductible expense. Although this program benefits only formal workers, it can offer relevant lessons for Argentina (Mehndiratta and others 2014). In addition, a new subsidy scheme should aim at reducing the high dependence that operators currently have on direct subsidies—which give them no incentive to control their operating costs—to provide better incentives to improve the efficiency and quality of services.

**Lay out the principles for institutionalizing and encouraging metropolitan coordination in the transport sector.** Metropolitan coordination is essential to improving urban mobility and accessibility in agglomerations where responsibilities for the transport system involve more than one jurisdiction. Given the high degree of institutional fragmentation, a sectoral solution is the best option to address the challenges of metropolitan coordination in transport. Only a limited number of metropolitan areas have institutionalized mechanisms for horizontal coordination in the transport sector, such as has been done in Posadas, with the Integrated Metropolitan Transport System, and Salta, with the Metropolitan Transport Authority (see box 9.4 in chapter 9). In addressing metropolitan coordination issues and defining the role of the provincial and municipal governments, Argentina can learn from international experience. In 1997, the government of the Spanish region of Catalonia, together with a group of municipalities, signed an agreement to create a metropolitan transport coordination agency. An administrative council with 20 members is in charge of developing metropolitan policies, with the main objectives of planning investments, administering public transport services, developing financing and service agreements with the public administration and operators, and defining tariffs (Oniszczuk 2010).

**Goal 4.b: Improve Efficiency of the Urban Transport System in Metropolitan Buenos Aires**

*Expand and improve metropolitan Buenos Aires’ public transport network to hold the diseconomies of urbanization in check.* The performance of an agglomeration the size of metropolitan Buenos Aires largely depends on the quality of its public transport system. Cities with deficient public transport and inadequate infrastructure for walking promote great inequalities, excluding people without private modes of transport from access to services and amenities. Although the metropolitan area has an extended public transport network that comprises different modes of transport, the system is outdated and requires substantial investments. Since 2012, the metropolitan rail system has experienced significant improvements, which need to be sustained (see chapter 9).
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Given that the rail system in metropolitan Buenos Aires is a high-capacity mass transit system, it has great potential to improve urban mobility from peri-urban areas to the city core; the system should be strengthened by planning for new stations or extensions. Better infrastructure, railway barriers technology, and underpasses can increase speed and allow for better frequencies, reducing travel times. Similarly, the underground metro system in the city of Buenos Aires area is an essential part of the mass transit system; works that are already in process should be finished, such as the H and E line extensions, and new extensions should be planned for the future. Finally, the city should continue with the development of other corridors of mass transit systems (such as Metrobus, a bus rapid transit-type system introduced in 2011 with dedicated bus lines and improved bus stops), where rail does not exist, and this type of infrastructure should be extended to the whole metropolitan area. To achieve this, the federal, provincial, and city governments must make political commitments and financing agreements to enhance public transport in metropolitan Buenos Aires through the recently created Metropolitan Transport Agency.

Promote integrated and efficient management of the urban transport system in metropolitan Buenos Aires. Metropolitan Buenos Aires has a very complex public transport system, with different modes of transport and many different routes and lines for each mode. Public transport that is not integrated does not serve well the needs of the users, reducing accessibility and ridership. Therefore, it is essential to better integrate the different modes of transport and services to improve the efficiency of the whole system. In this regard, tariff integration is an important priority; otherwise, riders have to buy more than one ticket for a single trip. The integration of tariffs for metropolitan Buenos Aires will be an important step in making the metropolitan area more inclusive for the poor living in peri-urban areas, who often need to take more than one mode of transport as part of their daily trips.

Furthermore, timetables and connections between modes and services can be harmonized, with better information provided to users. Finally, infrastructure could allow better integration among modes of transport, such as transfer stations or infrastructure to facilitate walking between modes and reducing waiting times. Argentina’s electronic payment system, SUBE, makes tariff integration possible and is an essential precondition for integration to work. The SUBE smart card service has eliminated the need to collect, count, and transport cash payments for each trip, and with users’ transactional information, it provides better information to plan the system and monitor operators. Metropolitan Buenos Aires can learn from the experience of São Paulo on transport integration (see box 12.6). As discussed later in goal 4.c, policies to integrate and make urban transport more efficient for the metropolitan area should also consider urban freight policies.

Empower the Buenos Aires Metropolitan Transport Agency with the resources required to coordinate actions and investments throughout the metropolitan area. Urban transport policies in the metropolitan area need to be better coordinated. It is essential that the agency be empowered with the resources and capacity
required to implement integrated policies oriented toward improving accessibility and efficiency of the whole system. This agency needs to be entrusted with the responsibility to develop plans and prioritize infrastructure projects for the whole metropolitan area. The agency should not only serve as a consultative body through which authorities from the different jurisdictions discuss main policy issues, but should also have human and financial resources to perform long-term planning for the entire agglomeration. Transit federations in Germany are good examples of interjurisdictional coordination in the transport sector. These institutions include the state and municipalities of a functional metropolitan area and are responsible for planning and managing the public transport system, setting tariffs, administering subsidies, planning parking, and participating in land use decisions; transit federations are also able to veto proposed development seen as conflicting with the public transport system (Bird and others 2005). Box 12.7 presents another example of metropolitan coordination in the transport sector in the Washington, DC, metropolitan area.

**Goal 4.c: Modernize Urban Transport Systems in the Top Five and Large Agglomerations**

*Develop new mass transit corridors as part of integrated urban growth strategies.* Following the examples of several top five and large cities that are planning improvements to their public transport systems, such as Córdoba and Rosario,
Box 12.7 Metropolitan Coordination in the Transport Sector: The Washington Metropolitan Area Transit Authority

The Washington Metropolitan Area Transit Authority (WMATA) is an example of different jurisdictions in a metropolitan area working together to develop a metropolitan transport system. WMATA has not only developed an extensive transport network but has also proactively integrated public transport with urban development, using proper mechanisms for land value capture to encourage real estate projects along transport corridors in the Washington, DC, metropolitan area.

WMATA was created by an interstate compact (an agreement between two or more states) in 1967 to plan, develop, build, finance, and operate an integrated regional transportation system in the national capital area. WMATA began building its rail system in 1969, acquired four regional bus systems in 1973, and began operating the first phase of Metrorail in 1976. Today, Metrorail serves 91 stations and has 117 miles of track. Metrobus serves the nation’s capital 24 hours a day, seven days a week, with 1,500 buses. Metrorail and Metrobus serve a population of approximately 4 million in a 1,500-square-mile jurisdiction. WMATA began MetroAccess, its paratransit service for people who are unable to use rail or buses, in 1994. It provides about 2.3 million trips per year. Whereas fares and advertising revenues pay part of the costs of operating Metrorail, Metrobus, and MetroAccess services, WMATA receives contributions from the District of Columbia, the state of Maryland, and the following jurisdictions in the state of Virginia: Arlington, Alexandria, Fairfax City, Fairfax County, and Falls Church.

WMATA’s board of directors determines the agency’s policy and provides oversight for the funding, operation, and expansion of transit facilities within the transit zone. The board of directors is composed of eight voting and eight alternate directors. Maryland, the District of Columbia, Virginia, and the federal government appoint two voting and two alternate directors each.

WMATA focuses on promoting smart development around transit facilities, implementing capacity and service improvements to both Metrorail and Metrobus, and implementing transit expansion projects that are best aligned with its vision and goals. In addition to improving mobility in the region, WMATA has supported the development of the real estate market, generated tax revenues, and has significantly contributed to the region’s economic vitality. WMATA owns or controls substantial real estate in support of its transit operations and manages its real estate assets through several programs, which aim to promote ridership and enhance quality of life of the communities that it serves. WMATA encourages transit-oriented development and provides opportunities for real estate partnerships through its joint development program. Dozens of successful projects have been built on WMATA properties throughout the region, and it continues to encourage development by periodically offering properties for sale or joint development.

Nevertheless, WMATA has faced serious challenges lately in maintaining the system after a series of safety issues and station shutdowns. WMATA has not been able to ensure safe operation of the Metrorail system, including falling short in the performance of daily inspections and preventative maintenance. And the Tri-State Oversight Committee—the partnership between state-level agencies in Maryland, Virginia, and the District of Columbia to jointly oversee safety and security of the Washington, DC, Metrorail system—has proved ineffective in performing necessary safety oversight.

Source: WMATA and IDB 2010.
these cities need to take steps to improve their public transport systems with initiatives that rationalize their public transport networks. Such initiatives include making bus routes more efficient with less overlap in central areas; developing new mass transit corridors, including bus rapid transit–type infrastructure; or taking advantage of existing rail infrastructure or unused rail corridors. Reorganizing the bus network and developing new mass transit corridors would allow for decongestion of the central areas, while improving accessibility in the whole metropolitan areas, reducing travel time, and improving efficiency of public transport. To ensure sustainable urban growth, these efforts to improve public transport need to consider nonmotorized transport alternatives—as well as provision of safe and comfortable streets and public spaces—and be part of an integrated urban growth strategy. Since investment is needed, in particular for making streets more appropriate for public transport, provinces and municipalities need to adopt new financing schemes for upgrading public transport systems, such as land value capture instruments described earlier in goal 1.c. The federal government could also establish a federal aid program for upgrading public transport to finance all or part of the improvements in the public transport systems in top five and large cities.

Consider implementing transit-oriented urban development strategies to increase the density of peri-urban areas. The development of mass transit corridors needs to be closely coordinated with urban planning to increase density and attract activities along these corridors. The top five and large cities can consider implementing transit-oriented development strategies in mass transit corridors. The recently implemented light rail corridor in Mendoza (metrotranvía) is an example with great potential that could be replicated elsewhere. Cities can also consider promoting transit-oriented development projects to attract private sector investments and social housing projects along transit corridors. To do that, agglomerations would need to ensure integration of transport and urban development planning within their jurisdictions. Metropolitan coordination is also needed to implement transit-oriented urban development projects that promote high density and mixed-use activities along metropolitan transportation corridors.

Provinces also have a role in supporting municipalities in a metropolitan area to implement transit-oriented development projects by playing a coordinating role in integrating land use planning, housing, and transportation. The cities of Copenhagen and Curitiba are examples of the importance of integrating transport in urban growth strategies (see box 12.8). Transit-oriented development projects should also pay particular attention to improving the quality of streets and public spaces to ensure positive effects on livability and social inclusion. Good-quality public spaces and streets allow all citizens to fulfill their mobility needs, including people without access to cars or motorbikes as well as children, the elderly, and handicapped, and provide a better sense of inclusiveness, security, and comfort.

Implement travel demand management to discourage the use of private motor vehicles in city centers and to promote nonmotorized transport options. The largest agglomerations may consider implementing interventions, such as parking
restrictions and fees; restraint measures; congestion pricing; and better allocation of space for public transport, walking, and biking to reduce the impact of cars. Parking policies in particular are good ways to deter the use of cars in city centers. Parking can be charged to provide a new source of income for the city (that can be allocated to improve public transport), or parking space can be reduced to discourage the use of cars and promote other modes of transport. Dedicated lanes for buses or bikeways and pedestrian streets are great ways to encourage the use of public transport and nonmotorized modes of transportation. Between 2007 and 2010, the Spanish city of Seville built an 80-kilometer network of

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### Box 12.8 Transit-Oriented Development Strategies: The Cases of Copenhagen and Curitiba

The city of Copenhagen, with a population of about 2 million in the metropolitan area, is well known for its sustainable transport system. Its mobility strategy is based on the requirement that new developments be within 600 meters of a rail station, as well as on regulations related to size and location of small businesses to promote mixed-use development close to rail stations. The result of this policy is that 57 percent of housing and 61 percent of jobs are less than 1 kilometer from the public transport network.

Copenhagen’s urban strategy was initiated in 1947 with the Finger Plan, which provided a strategy for the development of the metropolitan area along five transit corridors (fingers) of commuter rail lines connecting peri-urban areas with the city center. The plan included development areas along the corridors, together with areas where development was not allowed. The plan also included disincentives for the use of cars, with restrictive parking policies. As a result, only 26 percent of the trips are done by private transport, while 32 percent are by public transport. Transit-oriented development strategies promoting mixed-use, dense, and compact development also encourage walking and biking as a mode of transportation, which account for 42 percent of the total trips in the city. The Danish government has played an active role in promoting such policies by financing rail systems, partially financing projects through land value capture, and by offering public land for private development in transit-oriented development zones.

Curitiba in Brazil, with about 3.2 million people in the metropolitan area, is well known for developing mass transit corridors with mixed-use development, including affordable housing projects along the corridors. In 1966, the Institute for Research and Urban Planning of Curitiba published the Master Plan for the city with the objective of decentralizing jobs and activities out of the city center. To achieve this objective, the city planned for five transport corridors with high concentrations of housing, commerce, and services. The city implemented a bus rapid transit system with dedicated bus lanes and introduced measures to reduce the use of cars by restricting the use of road space for private vehicles (Bird and others 2005). The city also acquired land along the corridors to reserve space for affordable housing. The city facilitated construction of housing for more than 17,000 families, offering subsidies for low-income populations and thus enabling them to have good access to public transport and jobs.

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separated two-way bicycle lanes; the share of trips in the city by bicycle increased from nearly zero to 7 percent during that time. In Taipei, few women cycled before its YouBike share scheme started in 2009; today, women constitute half of the city’s cyclists (Economist 2015).

Other policies for travel demand management include better traffic and speed controls; traffic calming measures; and schemes that limit the use of vehicles on specific days according to plate numbers, as those implemented for both congestion and environmental reasons in Athens, Bogotá, Lagos, Manila, Mexico City, and Seoul (Gwilliam 2002). Nowadays, toll technology improves the efficiency of congestion pricing by allowing to charge vehicles that enter certain restricted zones. This technology is implemented to apply congestion charges in certain areas or roads in several cities, such as in Santiago, Melbourne, and Singapore (Gwilliam 2002).

Develop urban freight transportation policies to make city logistics more efficient, thus reducing adverse effects on traffic and congestion. The efficient delivery of goods and products represents a complex challenge with important externalities for most large cities. Urban freight policies need to be put in place to make cities more competitive, while reducing congestion and pollution. Measures to mitigate costs of freight logistics include rationalizing deliveries, developing adequate distribution facilities, adapting freight vehicles to existing road conditions, and using modern technology and intelligent transport systems to optimize routes and deliveries. Barcelona implemented a flexible road infrastructure program as part of a long-term plan to improve urban mobility and logistics. The city transformed 5.5 kilometers of traditional roadway into multiple-use lanes controlled by variable message signs, allowing the same infrastructure to be used by public transport, freight loading and unloading, and private vehicle parking. During peak hours, buses and taxis use these lanes exclusively, and in between peak hours, the lanes are used for short-term parking of cars and freight vehicles (maximum 30 minutes). At night and on weekends, the lanes are used for parking. Paris is another city that has taken steps to improve logistics. Paris shifted distribution from road to rail, using a rail connection to move the products in bulk from the distribution center to an urban rail terminal; then products are distributed in shorter delivery routes using natural gas–powered vehicles, reducing traffic congestion and emissions (World Bank and the Netherlands Ministry of Foreign Affairs 2014).

**Goal 4.d: Improve Sustainability of Public Transport in Intermediate and Small Cities**

Start planning for expansion of urban transport networks. Many intermediate and small cities in Argentina have a very limited public transport network or no public transport system at all (see chapter 9). Given that these cities are expanding and growing in population, it is particularly urgent that they start planning now for public transport, taking into account future urban growth scenarios. In the absence of public transport, the current car-centric urban expansion patterns of intermediate and small cities (in particular, those in the Patagonia region) will...
soon become unsustainable, leading to increased use of private transport and increasing accessibility problems for the most vulnerable groups who have limited access to private modes of transport. Intermediate and small cities can learn from the experience of several larger cities with consolidated urban transport systems and from the long history of investing in urban transport in Argentina in the first half of the 20th century. Argentine intermediate and small cities can also learn from international best practices for urban transportation planning. For instance, the Brazilian city of Curitiba’s plan for urban transport was initiated in 1960, when the city was still small with fewer than 500,000 people; yet, it proposed a long-term plan for reducing traffic in the central area and developing a more operational and accessible public transport system based on the predicted growth of the city. Curitiba’s plan thus provides a good example for intermediate and small cities that are growing quickly.

Provide infrastructure and incentives for increasing the use of nonmotorized transport. Nonmotorized transport infrastructure and policies are critical for the sustainable development of intermediate and small cities, because nonmotorized modes offer a sustainable alternative to motorized modes for short commutes and allow easy access to public modes of transport. Nonmotorized transport alternatives also provide cost-effective and environmentally friendly alternatives that could reduce the use of motor vehicles, which have significant negative externalities, and thus significantly improve the quality of life in fast-growing intermediate and small cities. Planning for sustainable mobility includes designing streets that are comfortable and safe for everyone by providing adequate attention to sidewalks; exclusive lanes for public transport; bikeways and other infrastructure such as lighting; and bus stops and shelters. Planning for nonmotorized transport also includes information and media campaigns to educate and ensure the safety of pedestrians, as well as to highlight the importance of all modes of transport. Additionally, building on the experience of the city of Buenos Aires and other agglomerations, such as Rosario, intermediate and small cities can promote cycling as an alternative mode of transportation, improving transit alternatives and producing significant positive effects on health, the environment, and quality of life. Many intermediate and small Argentine cities are suitable for cycling, given their good climate and relatively small footprint that allow for short commutes.

**Priority 4 Short-Term Actions**

- Establish a national transport agency with the mandate to develop a national strategy and program for urban transport and sustainable mobility
- Pilot new demand-side federal subsidy schemes for public transport
- Ensure that the Buenos Aires Metropolitan Transport Agency is operational and has the human and financial resources to fulfill its mandate
Priority 5: Power the Long-Term Economic Growth of Argentine Cities

Powering the long-term growth of Argentine cities will require a multipronged and diversified strategy to unlock their economic potential. The objectives, activities, and implementation mechanisms will depend on the local context and the capacity of municipal governments and other relevant actors in the city, among other factors. Therefore, the strategic directions are grouped by city size category, taking into consideration regional challenges. Looking ahead, actions in the following policy areas to achieve the following goals will be critical to power the long-term economic growth of Argentine cities: (a) strengthening the global economic competitiveness of the city of Buenos Aires; (b) increasing the competitiveness of peri-urban metropolitan Buenos Aires; (c) promoting economic diversification in large and resource-rich cities; (d) improving economic efficiency in intermediate and small cities; and (e) promoting an enabling environment for sustainable economic growth in agglomerations in the northern regions. The rest of the section presents policy directions and short-term actions to achieve these goals.

Goal 5.a: Strengthen the Global Economic Competitiveness of the City of Buenos Aires

Capitalize on higher education institutions to boost human capital and innovation.

The city of Buenos Aires needs to boost its knowledge-based economy by investing in human capital and innovation to move up the value chain and improve its international competitiveness. To promote the knowledge economy, the city can either rely on existing education institutions or attract the human capital that its businesses need. The priority for the city is the production and retention of more trained engineers to support innovation and growth of businesses in the economic development districts (see chapter 10). The city has the resources to pursue both strategies. Argentina is well ranked when it comes to higher education. According to the World Economic Forum’s Global Competitiveness Index 2014–15 (Schwab 2014), Argentina is ranked 45 out of 144 countries for its level of human capital. The city can capitalize on a number of higher education institutions, with 30 universities and colleges within its boundaries. The city of Buenos Aires can also actively encourage in-migration of highly educated workers; it is best placed to pursue this strategy since its vibrant art and cultural scene is a magnet for international, highly educated, and mobile workers. The city of Buenos Aires can learn from the experience of global cities like Barcelona, which has pursued area-based regeneration strategies to attract skilled workers as part of a broader citywide program to develop the knowledge economy (see box 12.9).

Place innovation at the center of economic development district policies. The city of Buenos Aires has created four economic development districts dedicated to technology, audiovisual, arts, and design (see chapter 10). If the economic development districts are to meet their potential, the city needs to encourage more innovation and promote their links with regional and global markets to expand the districts’ customer base, which is currently mostly a national one. If businesses
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Within the districts are going to succeed, their customer base must be larger than the opportunities within the country’s borders. The priority is to attract international clients. The technology businesses within the district primarily serve back-office functions for private and government clients within Argentina.

Building on the success of its most consolidated economic development districts (in particular, the Technology District), the city is ready to develop second-generation district policies that refocus public interventions from facilitating the development of clusters to promoting innovation in consolidated clusters. Proposed actions include (a) developing entrepreneurship programs targeting primarily entrepreneurs in sectors aligned with the economic development districts to complement existing city-wide entrepreneurship programs and maximize the economic impact of the districts; (b) strengthening the existing efforts to support technology start-ups with potential for international expansion; and (c) promoting an enabling environment to attract private accelerators and incubators. Currently, the government of the city of Buenos Aires has two incubators: IncuBA, for design start-ups, and Baitec, for technology start-ups. Both are in the city’s Design District. The city of Buenos Aires can learn from the experiences of cities that are implementing innovation district policies in the United States and Europe (see box 12.10).

Develop formal partnerships with business and local communities to maximize the socioeconomic benefits of economic development districts. The city of Buenos

Box 12.9 A Strategy for Developing the Knowledge Economy: the 22@Barcelona Project

At the beginning of the 21st century, Barcelona started a program to develop a new economy based on knowledge, with human capital and knowledge management as the main assets. To do this, it created large research parks, especially in the field of biomedicine and biotechnology, and provided help to technology companies to expand into new fields such as aerospace and nanotechnology. Area-based regeneration projects were also launched to attract human capital to the city. Specifically, the 22@Barcelona project was developed to transform the former brownfield of Poblenou into a high-quality environment for working and living, with a focus on promoting technology and innovation activities and fostering the coexistence of spaces dedicated to production, training, and research with high-quality residential and green areas.

The 22@Barcelona project promotes a clear vision for growth based on the development model of the compact city, including innovation, mobility, housing, and revitalized public spaces. Between 2000 and 2010, about 1,500 companies settled in the area, of which about 75 percent developed technology and knowledge-intensive activities. Until then, the initiative had created more than 44,600 new jobs, half of which were skilled jobs catering to workers with university degrees. About 24 percent of the companies in the project area export goods and services, and among small and medium enterprises (SMEs) this reaches 38 percent. 22@Barcelona has agreements with several universities to facilitate exchanges with the private sector to retain talent.

Source: 22@Barcelona 2015.
Box 12.10 Lessons Learned from the Growth of Innovation Districts in the United States and Europe

Innovation districts are driven by a combination of economic, physical, and networking assets that boost ecosystems through higher levels of connectivity and collaboration, idea generation, and sharing. The growth and transformation of these districts have been gaining speed in many cities across the United States and Europe, and have become an increasingly important object of research. One year after the release of its report, “The Rise of Innovation Districts: A New Geography of Innovation in America,” the Brookings Institution shared the following lessons on the evolution of innovation districts in the United States and Europe:

- Although some districts are successfully building on their assets to create innovative ecosystems, others lack the enabling conditions needed to spur this kind of environment. As such, the initial assets of an innovation district must be quantitatively and qualitatively measured to determine whether they are sufficient to generate the necessary connectivity, diversity, and ideas for innovation to flourish.
- The core economic assets of innovation districts are not fixed; in fact, many innovation districts are being created or enhanced by the relocation of major anchor facilities. Many innovative companies and institutions have relocated to new areas to generate greater innovation and remain competitive. Most of these places have opted for urban settings, particularly highly transited places.
- Almost all innovation districts have significant work ahead to understand the rising value of place in innovation ecosystems and to leverage their physical assets to create dense and dynamic communities. Innovation districts need to capitalize on their physical assets (buildings, open spaces, streets, and other infrastructure) to create vibrant spaces that facilitate human interaction to boost greater innovation outputs.
- The rapid growth and impact of intermediaries, such as accelerators and incubators, show real promise in helping innovation districts grow and become stewards of their networking assets and in stimulating new innovation opportunities. Accelerators and incubators are catalyzing innovation by encouraging people and firms to interact and collaborate.
- The rise of innovation districts takes place in a national and urban political environment that demands inclusive growth and equitable outcomes. Since many established and emerging innovation districts are located close to distressed neighborhoods, there is a great opportunity to generate inclusiveness. In addition to creating job opportunities for residents, innovation districts can also benefit nearby communities by allocating tax revenues to neighborhood services and regeneration activities.

Source: Katz and others 2015.

Aires established the economic development districts, among other reasons, to address blight, unemployment, and poverty in economically disadvantaged areas by facilitating the clustering of firms and attracting new investments, jobs, and redevelopment. Once the economic development districts are consolidated, the business community must take a larger leadership role to ensure their sustained, long-term success. This phase would require a new formal partnership between
the city and the business community, with dedicated staff and programming to address the districts’ ongoing needs. This kind of initiative would require that the city give up some control to develop a partnership on equal footing with the private sector. Furthermore, a partnership with local communities is required to involve them in the redevelopment process, to ensure that they benefit directly from the economic opportunities generated by the districts, and to mitigate the possibility of gentrification associated with redevelopment.

**Goal 5.b: Increase the Competitiveness of Peri-Urban Metropolitan Buenos Aires**

*Develop a metropolitan area–wide economic development strategy and investment plan.* Metropolitan Buenos Aires needs to increase the competitiveness of its peri-urban areas to take full advantage of agglomeration economies. The study finds major economic disparities between the city core and peri-urban areas, which have only one employment growth driver in a tradable sector (textiles) and lag significantly behind the city of Buenos Aires in access to services (see chapters 4, 6, and 11). Metropolitan Buenos Aires needs a coherent economic development strategy to overcome the challenges of economic and social polarization affecting the metropolitan area. The implementation of an economic development strategy would require institutional mechanisms for coordinating action between the city core and peri-urban areas. The study argues for sector- and context-specific pragmatic solutions for strengthening horizontal coordination within the metropolitan area (see goal 1.b). Metropolitan Buenos Aires can learn from successful governance models used by metropolitan regions around the world to pursue metropolitan area–wide economic development strategies, such as the approach adopted by the Montreal metropolitan region to develop a cluster development strategy (see box 12.11). Given the strategic importance of the metropolitan area for national economic growth, there is a strong rationale for gaining participation of the federal government, sharing funding responsibilities among tiers of governments, and reducing disparities between the city of Buenos Aires and peri-urban municipalities to promote local economic development initiatives benefiting the whole metropolitan area.

*Promote economically driven regeneration of peri-urban areas.* Closing the infrastructure gap with the city of Buenos Aires and improving accessibility are essential to enhancing the economic competitiveness of peri-urban metropolitan Buenos Aires. At the same time, targeted interventions are needed to create employment subcenters that can revitalize and boost employment in distressed neighborhoods and to foster close links with the private sector. An integrated approach to urban regeneration is required to increase prosperity and livability in peri-urban areas, while building close ties with local populations to minimize gentrification. Municipalities in peri-urban areas can learn from the economic development district policies of the city of Buenos Aires and adapt them to address their specific challenges, including accessibility, and significantly lower access to services, which can deter firms’ growth. Another possible approach is that applied in France, where an innovative initiative was adopted.
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To promote economic activity in distressed neighborhoods through the establishment of urban “free zones” (see box 12.12).

**Build durable academy-industry links as part of ecosystem development.** The experience of the municipality of General San Martin in peri-urban metropolitan Buenos Aires indicates that proximity to a research university is important, but it is not enough to form a cluster of innovative industries. Universities are most effective at supporting the local economy when they are part of a larger ecosystem of innovation, one that includes a large market for specialized labor and intermediate services. Once a cluster is established, municipal governments have an important role to play in building durable academy-industry links. The city of Buenos Aires has taken steps in this direction by developing a partnership with three universities, including the prestigious Buenos Aires Technology Institute, to collectively build a new campus in the heart of the technology district (see chapter 10). This approach can be replicated and scaled up in peri-urban metropolitan Buenos Aires. The instance of Helsinki—one of the most innovative cities in Europe—offers an interesting example of policies that encourage knowledge spillovers from universities to businesses (see box 12.13).

**Goal 5.c: Promote Economic Diversification in Large and Resource-Rich Agglomerations**

Develop export-oriented competitiveness strategies to promote economic diversification with a global reach in the top five and large agglomerations. To reduce important disparities in economic performance across agglomerations, the top

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**Box 12.11 Developing a Metropolitan Cluster Development Strategy: Lessons from the Montreal Metropolitan Region**

The Montreal metropolitan region provides a good illustration of how to develop a metropolitan economic strategy. Montreal identified 15 strategic clusters through a bottom-up planning approach that ensured participation by all communities within the metropolitan area. These clusters, which were identified based on their degree of development and linkages, accounted for over three-quarters of the region’s jobs and had potential for generating high value-added products and services. Montreal’s metropolitan cluster development strategy aimed to develop a hub of innovation around these selected clusters, including through the (a) establishment of a secretariat for each cluster to assess progress of activities against strategic goals; (b) development of a system to facilitate sharing of information across cluster partners; and (c) creation of a fund with financing from all levels of government and the private sector to further stimulate cluster development. Through the development of action plans for each cluster as well as a regional innovation strategy, which were carried out in parallel, Montreal’s cluster development strategy illustrates how adoption of a metropolitan area–wide perspective can foster collaboration between smaller municipalities and the primary city as well as reduce duplication among institutions.

Source: OECD 2006.
Box 12.12 Revitalization of Distressed Neighborhoods in France

France has addressed the challenge of regenerating its urban distressed areas through a set of innovative and business-oriented policies. For example, the urban “free zones” (zones franches urbaines, or ZFUs), part of the 1996 Urban Revival Pact, adopted an economic approach to address the needs of distressed neighborhoods. From their inception, the central objective of the ZFUs has been to promote economic activity in such areas. Incentives have been provided to attract businesses to disadvantaged neighborhoods, including through tax reductions and social contributions for businesses that hire at least 20 percent of their personnel from the neighborhood or surrounding poor areas. The ZFUs witnessed greater employment generation and investments thanks to the introduction of these policies. Given their initial success, the government decided to give 44 free zones a five-year extension of these benefits and to provide others as well, such as tax exemptions to businesses with fewer than 50 employees and one-third of their jobs going to people living in disadvantaged neighborhoods in the larger urban area.


Box 12.13 Helsinki’s Innovation Capacity

Finland is one of the most innovative countries in the world, as measured by the number of international patent applications per resident. Thanks to investments in research universities, especially in new sciences and engineering, a growing percentage of Finnish students are graduating with technical degrees, thus helping to boost innovation. Helsinki, the Finnish capital and the largest metropolitan area in the country, has contributed significantly to the country’s strides in education, innovation, and trade. Human capital and a culture of knowledge and innovation—1 of the 10 traits of globally fluent metropolitan areas as defined by the Brookings Institution (Clark and others 2013)—is the centerpiece of the city’s innovative success.

Generating 33 percent of Finland’s patents and producing 35 percent of its GDP, Helsinki is ranked as one of the world’s most innovative metropolitan areas in the world. A company that stands out for its role in the country’s economy is Nokia, headquartered in Helsinki’s suburb of Espoo. Despite financial losses due to its delayed entry into the smartphone market, the company continues to innovate. Fundamental to this continuous innovation is Helsinki’s Aalto University. Nokia has partnered with Microsoft and invested millions of dollars in developing an “AppCampus” at the university to promote entrepreneurship in the software industry. The program offered grant money and a four-week training course for talented developers. In addition to building industry-academy links to support Nokia’s innovation efforts, Helsinki itself is transforming into a start-up hub, hosting a variety of technology companies and supporting all kinds of entrepreneurial activities.

Source: Rothwell 2013.
five and large cities need to close the competitiveness gap with metropolitan Buenos Aires. Increasing the competitiveness of top five and large cities requires that their tradable products and services have an international reach. The top five agglomerations have a number of emerging clusters as well as employment growth drivers in manufacturing sectors (see chapter 4), and an export-oriented strategy would be an important instrument to leverage the economic potential of the emerging clusters to diversify the local economy. Empirical evidence shows that all metropolitan areas, regardless of size and location, can and must engage globally. For instance, Wichita, Kansas, a metropolitan area of just over 600,000 in the United States, concentrates 32 times as much aerospace manufacturing employment as the rest of the country. Aircraft and parts built in Wichita are sold all over the world by Bombardier, Cessna, Hawker Beechcraft, and Airbus, and nearly 60 percent of Wichita’s exports derive from its aerospace cluster.

To improve their international competitiveness, top five and large agglomerations need export-oriented competitiveness strategies to identify and exploit economic diversification opportunities while developing export plans for their tradables (see box 12.14). An important step is to form a regional growth coalition comprising both municipal and provincial levels of government as well as chambers of commerce and civic society to drive the process. Depending on the institutional arrangements and the level of fragmentation characterizing the metropolitan area, governance models would need to be developed to bring government agencies and stakeholders together. Although the specific actions that will emerge from the strategy will inevitably be city specific, international experience indicates that the following activities can help metropolitan areas connect to global markets: (a) building a global identity (as in Barcelona); (b) investing in innovation-oriented research; (c) revamping old infrastructure assets, with a particular focus on ICT; (d) carrying out an economic regeneration strategy of the inner city; and (e) mainstreaming environmental considerations in the investment plan to ensure sustainability of the growth trajectory (see also chapter 10).

Promote strategically located industrial parks to encourage economic diversification, and spearhead urban reforms in the largest agglomerations. Supporting the development of strategically located industrial parks is an additional tool available to municipal governments to promote economic diversification. International experience indicates that for industrial park policies to be successful, they need to be fully integrated into the economic strategy of a city, as the case study of Mar del Plata shows (see case study D in chapter 10). A strategically located industrial park can also provide important demonstration effects of the economic potential of a city by partially insulating firms from the regulatory costs of doing business in the largest agglomerations in Argentina.

Invest in human resources for innovation-driven economic diversification of resource-rich cities. Innovation is the best strategy for economic diversification. Cities in Argentina need second-generation urban policies that promote human capital to foster innovation. Resource-rich cities in the Patagonia region have an imperative to innovate to reduce their dependency on extractive industries.
Box 12.14 Metropolitan Export Plans—Examples from the United States

Only 1 percent of all firms in the United States sell a product or service in foreign markets, leaving a wide window of opportunity for states and metropolitan areas to design strategies for greater economic growth and job creation through exports. Despite very few export-oriented businesses, the number of metropolitan areas engaging with the global economy is on the rise. Today, the 100 largest metropolitan areas in the country generate almost 65 percent of all exports and 75 percent of all exports of services. Cities and metropolitan areas are boosting productivity and growing local industries by helping firms sell their goods and services in the international market. Many of them are making such global entry possible through metropolitan export plans—that is, action-oriented plans in which metropolitan areas develop targeted strategies and programs that help expand their exports rapidly and become more globally fluent. An important feature of the metropolitan export plan is that it builds on a region’s assets and capacities and focuses on expanding industry specializations to accelerate innovation. Designing and implementing an export plan at the metropolitan level facilitates immersion in the international marketplace because metropolitan areas best know their companies and industries as well as their potential and readiness to export.

To boost their exports in an increasingly interconnected world economy and changing global dynamics, metropolitan areas need to achieve global fluency. However, achieving global fluency is a gradual and challenging process that requires planning and policies that help the transition. A metropolitan export plan can help cities attain global fluency by developing a strategy to promote the following 10 traits of a globally fluent metropolitan area as identified by the Brookings Institution: (a) leadership with a worldview; (b) legacy of global orientation; (c) specialization with global reach; (d) adaptability to global dynamics; (e) culture of knowledge and innovation; (f) opportunities and appeal to the world; (g) international connectivity; (h) ability to secure investments for strategic priorities; (i) government as globally enabled; and (j) compelling global identity.

As part of the Global Cities Initiative, a joint project of the Brookings Institution and JPMorgan Chase, the city of Portland, Oregon, developed its Greater Portland Export Plan. The plan was envisioned by regional leaders as a strategy to grow the area’s economy by focusing on industry clusters, innovation, and international trade. Although Portland ranked 12th for export sales (US$21.3 billion in 2010) and 3rd for export growth rate (2003–10) out of the 100 largest metropolitan areas in the United States, its exports had room for improvement. The plan sought to create jobs in exporting industries, promote global fluency and a strong export culture, increase the number of exporting firms, and consolidate its position as one of the top 10 exporting metropolitan areas in the United States. Portland’s branding and marketing initiative, “We Build Green Cities,” was one strategy to achieve these objectives. Portland planned to market regional companies and products in innovative and green sectors that offered global solutions for sustainability.

Sources: McDearma and others 2012; Clark and others 2013.
Empirical evidence indicates that horizontal interventions to promote private sector growth in resource-rich cities are often the most successful (see, for example, box 10.3 in chapter 10). Building on the initiative of Comodoro Rivadavia (see case study G in chapter 10), resource-rich agglomerations in the Patagonia region need to take steps to boost human capital by building close links between universities and the business sectors. For instance, they could support the transition of universities to innovation-oriented research that is aligned with the needs of the business sector. This approach also requires nurturing academy-industry links by providing incentives for collaborative efforts; for instance, governments can fund the establishment of “competence centers” that bring academia and industry together to work on areas of mutual interest. Following the example of resource-rich countries like Colombia, provincial and municipal governments could also earmark a share of royalties to an innovation fund to promote the diversification of local economies.

**Goal 5.d: Improve Economic Efficiency in Intermediate and Small Cities**

Develop public-private partnerships as a platform for designing and coordinating local economic development initiatives. Intermediate and small cities tend to have a more specialized economic base in resource-based manufacturing sectors, such as agroprocessing, and have a lot to gain by doing better at what they are already doing. Achieving efficiency gains in production requires a long-term partnership with the private sector. This partnership in turn calls for a long-term vision of political actors beyond the short-term constraints of the political cycle. The success of Rafaela, an intermediate city in the province of Santa Fe, exemplifies how a dynamic and forward-looking partnership between the local government and the business community can, at least in part, offset the limitations of the macroeconomic environment (see case study E in chapter 10). Intermediate and small cities that plan to follow in the footsteps of Rafaela should consider adapting the institutional process to the local circumstances, while recognizing that a vibrant and organized private sector is often a precondition for success.

Build municipal capacity to implement local economic development initiatives. In many cases, local governments lack the capacity to develop and implement local economic development initiatives. Successful local economic development strategies require strong mayoral leadership and a strategic vision, and they need to be supported by in-depth analytics and detailed implementation plans. Local economic development strategies also need to be integrated in ongoing planning and economic development programs to be effective. Intermediate and small cities may not have the technical and financial resources to carry out local economic development strategies. For instance, most municipalities do not have technical staff dedicated to local economic development, nor do they have the adequate knowledge. A capacity-building program on local economic development would need to be designed—with the support of the federal or provincial governments—based on a needs assessment of the municipalities and continuous support would need to be provided through the implementation phase.
Goal 5.e: Promote an Enabling Environment for Sustainable Economic Growth in Agglomerations in the Northern Regions

Develop integrated regional competitiveness strategies to improve prosperity and livability of agglomerations in the north in partnership with the private sector. Public interventions to reduce territorial disparities between the northern regions and the rest of the country have focused on improving connectivity and regional infrastructure as well as enabling private sector development through cluster support and entrepreneurship programs (see chapter 10). Yet, they neglect a critical factor for economic growth: promoting sustainable urban development. Connectivity improvements and “big push” industrial policies to support specific clusters are unlikely to succeed in the absence of adequate access to social and basic urban services. Agglomerations in the northern regions need integrated economic strategies for improving prosperity and livability that identify investments and policy reforms with the highest economic returns. It is recommended that the functional boundaries, rather than the administrative boundaries, of the agglomerations be taken into consideration in the formulation of the strategies. Given the important externalities, involvement of all three tiers of government—federal, provincial, and municipal—will be required in the preparation of the strategies.

Build municipal capacity to enhance the effectiveness of public programs. The effectiveness of public programs in addressing territorial disparities is constrained by the fragmentation of the initiatives and the inadequate local capacity to integrate and take advantage of these programs; coordination and local capacity necessary to enhance the effectiveness of each individual intervention are limited. Current efforts to build capacity have mostly focused on providing technical assistance to the private sector through entrepreneurship and SME support (for example, in Salta) in order to encourage creation of private sector jobs. It is equally important to build public sector capacity at the municipal level to carry out local economic development strategies and develop partnerships with the private sector. The capacity constraints are intensified by the fact that economic competitiveness is highly cross-cutting, and subnational programs in a federal country such as Argentina require additional efforts to coordinate across three levels of government. Therefore, public programs must be complemented by a technical assistance program to empower municipal governments to take ownership of the programs. Ensuring the direct participation of municipal governments in the programs’ conception and implementation is equally important to ensure that the programs are fully aligned with local priorities.

Priority 5 Short-Term Actions

- Develop an economic development strategy and investment plan for metropolitan Buenos Aires under the coordination of the federal government
- Prepare export competitiveness strategies for the top five agglomerations
- Develop national-level technical assistance programs to support municipal governments with development and implementation of local economic development initiatives
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</table>
| • Strengthen the leadership of the federal government to promote equitable and sustainable territorial development  
• Prepare integrated metropolitan spatial plans in line with national and regional plans | • Decentralize property taxes and other appropriate taxes for local collection, starting in the largest agglomerations  
• Rationalize the sources of municipal revenues by gradually phasing out fees  
• Improve the efficiency of property tax collection |
| **Goal 1.b** Create institutional changes and incentives for agglomeration-wide urban management | **Goal 2.b** Rationalize the intergovernmental fiscal transfer system |
| **Policy directions** | **Policy directions** |
| • Establish metropolitan observatories, and create an open repository of metropolitan geospatial data and information  
• Promote intermunicipal sectoral cooperation for the provision of services  
• Provide technical support and incentives to encourage horizontal coordination between municipalities | • Review the rules for more effective allocation and distribution of fiscal transfers to municipal governments  
• Consider introducing a system of direct transfers from the federal government to the municipalities for specific programs or policies aligned with national priorities |
| **Goal 1.c** Encourage efficient and sustainable land use planning | **Goal 2.c** Strengthen the financing framework for municipal service delivery and infrastructure |
| **Policy directions** | **Policy directions** |
| • Promote sustainable urban growth and increases in densities  
| Reform the regulatory and incentive framework to unlock the supply of land  
• Introduce modern financing tools for territorial development | • Codify functions of municipalities, and gradually increase responsibilities as municipal financial capacity increases  
• Mainstream user-pay principles to cover the costs of basic services such as solid waste collection  
• Develop a coherent and transparent national institutional framework for municipal infrastructure investment financing  
• Prepare long-term investment plans that are linked with spatial plans for the sustainable financing of urban infrastructure, starting in metropolitan areas |
Table 12.1 Policy Matrix: Priorities, Goals, and Policy Directions (continued)

**Priority 3: Encourage sustainable and efficient housing development**

| Goal 3.a | Develop a comprehensive national housing policy to help coordinate efforts across different government levels | Goal 3.b | Develop housing programs and solutions that are efficient, equitable, sustainable, and transparent | Goal 3.c | Strengthen the housing finance market | Goal 3.d | Improve the articulation of housing, urban, and land policies, with a focus on increasing access to urban land |
|-----------------------------|----------------------------------------------------------------------------------|-----------------------------|-------------------------------------------------|-----------------------------|-------------------------------------------------|-----------------------------|
| **Policy directions**       | • Develop a comprehensive national housing policy that is backed by adequate regulatory and budgetary instruments | • Align public-assisted housing programs with national housing priorities and objectives | • Develop a set of transitional instruments, such as some form of credit and savings indexation, to address the lack of housing finance | • Coordinate housing and urban policies to promote sustainable urban growth | • Facilitate access to land for sustainable housing development |
|                             | • Refocus government’s role from housing provider to enabler, and promote private sector participation while targeting public programs to low-income populations | • Move from implicit to explicit housing subsidies, and define clear targeting mechanisms in public-assisted programs to ensure access to housing for low-income populations | • Allow other banks to participate in Programa Crédito Argentino (PRO.CRE.AR) | | |
|                             | • Reform the institutional framework to better articulate housing policy at the different government levels | • Develop alternative housing models for low-income households, including promoting incremental housing solutions and regularizing informal settlements | • Develop nontraditional financing models for affordable housing | | |

**Policy directions**

• Facilitate access to formal rental markets for all income groups

• Put in place an information system to monitor progress and to evaluate the impact of housing policies and programs

• Provide incentives for private developers to increase the speed and volume of housing development

*table continues next page*
Table 12.1 Policy Matrix: Priorities, Goals, and Policy Directions (continued)

<table>
<thead>
<tr>
<th>Priority 4: Promote efficient, sustainable, and equitable urban transport</th>
<th>Policy directions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal 4.a Develop a national policy for efficient, sustainable, and equitable urban transport</td>
<td>• Develop a national strategy on urban transport and sustainable mobility by providing proper incentives for planning, managing, and investing in urban transport</td>
</tr>
<tr>
<td>Goal 4.b Improve efficiency of the urban transport system in metropolitan Buenos Aires</td>
<td>• Mainstream the use of technology for improving planning and efficiency of public transport</td>
</tr>
<tr>
<td></td>
<td>• Redefine the existing federal subsidy policy for public transport to improve targeting to the most vulnerable groups</td>
</tr>
<tr>
<td></td>
<td>• Lay out the principles for institutionalizing and encouraging metropolitan coordination in the transport sector</td>
</tr>
<tr>
<td>Goal 4.c Modernize urban transport systems in the top five and large agglomerations</td>
<td>• Empower the Buenos Aires Metropolitan Transport Agency with the resources required to coordinate actions and investments throughout the metropolitan area</td>
</tr>
<tr>
<td>Goal 4.d Improve sustainability of public transport in intermediate and small cities</td>
<td>• Develop new mass transit corridors as part of integrated urban growth strategies</td>
</tr>
<tr>
<td></td>
<td>• Consider implementing transit-oriented urban development strategies to increase the density of peri-urban areas</td>
</tr>
<tr>
<td></td>
<td>• Implement travel demand management to discourage the use of private motor vehicles in city centers and to promote nonmotorized transport options</td>
</tr>
<tr>
<td></td>
<td>• Develop urban freight transportation policies to make city logistics more efficient, thus reducing adverse effects on traffic and congestion</td>
</tr>
</tbody>
</table>

*table continues next page*
Table 12.1 Policy Matrix: Priorities, Goals, and Policy Directions (continued)

**Priority 5: Power the long-term economic growth of Argentine cities**

<table>
<thead>
<tr>
<th>Goal 5.a Strengthen the global economic competitiveness of the city of Buenos Aires</th>
<th>Goal 5.b Increase the competitiveness of peri-urban metropolitan Buenos Aires</th>
<th>Goal 5.c Promote economic diversification in large and resource-rich agglomerations</th>
<th>Goal 5.d Improve economic efficiency in intermediate and small cities</th>
<th>Goal 5.e Promote an enabling environment for sustainable economic growth in agglomerations in the northern regions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Policy directions</strong></td>
<td><strong>Policy directions</strong></td>
<td><strong>Policy directions</strong></td>
<td><strong>Policy directions</strong></td>
<td><strong>Policy directions</strong></td>
</tr>
<tr>
<td>• Capitalize on higher education institutions to boost human capital and innovation</td>
<td>• Develop a metropolitan area-wide economic development strategy and investment plan</td>
<td>• Develop export-oriented competitiveness strategies to promote economic diversification with a global reach in the top five and large agglomerations</td>
<td>• Develop public–private partnerships as a platform for designing and coordinating local economic development initiatives</td>
<td>• Develop integrated regional competitiveness strategies to improve prosperity and livability of agglomerations in the north in partnership with the private sector</td>
</tr>
<tr>
<td>• Place innovation at the center of economic development district policies</td>
<td>• Promote economically driven regeneration of peri-urban areas</td>
<td>• Promote strategically located industrial parks to encourage economic diversification, and spearhead urban reforms in the largest agglomerations</td>
<td>• Build municipal capacity to enhance the effectiveness of public programs</td>
<td></td>
</tr>
<tr>
<td>• Develop formal partnerships with business and local communities to maximize the socioeconomic benefits of economic development districts</td>
<td>• Build durable academy-industry links as part of ecosystem development</td>
<td>• Invest in human resources for innovation-driven economic diversification of resource-rich cities</td>
<td>• Build municipal capacity to implement local economic development initiatives</td>
<td></td>
</tr>
</tbody>
</table>

(continued)
Notes

1. See box 1.1 in chapter 1 for the definition of city size categories.


3. For a policy discussion on fiscal decentralization and expenditure and revenue management of provincial governments in Argentina, see World Bank (2012a, 2012b, and 2012c).

4. Moreover, given that real property is immovable, property taxes allow municipal governments to set their own tax policies and rates without generating tax competition or relocation effects, as may happen with the income tax or the value added tax. More important, property tax is considered an equitable tax (because owners of more valuable properties pay increased property taxes), particularly when the tax base is regularly updated.


7. Indexation is a technique to adjust income payments by means of a price index, in order to maintain the purchasing power of the public after inflation.

8. Strategic directions related to housing finance are based on World Bank (2015a).

9. A new rail station was recently built on the University of Buenos Aires campus along the Belgrano Norte line, and others are being planned. An extension of the Belgrano Sur line from Buenos Station to the Constitution Station is also under study.

10. In Argentina, one in every 5,000 inhabitants is an engineering graduate (Government of Argentina, Ministry of Education and Sports 2012). Although the number has increased since 2003, when there was one engineer for every 6,500 inhabitants, it is still far from the level in developed countries such as Germany, where the ratio is one in every 2,000 inhabitants. The Ministry of Education put in place the Strategic Plan for the Training of Engineers 2012–16 (Plan Estratégico de Formación de Ingenieros) to increase the number of engineers.

11. The ranking is based on secondary and tertiary enrollment rates, as well as the quality of education as evaluated by business leaders. The extent of staff training is also taken into consideration because of the importance of vocational and continuous on-the-job training.

12. Both incubators and accelerators help new and start-up businesses grow. The most distinct difference between the two is the time frame. Accelerators are early-stage investors that help accelerate the trajectory and path of the business by providing small capital and mentorship, often for a short duration of time. Incubators target start-up companies that may be earlier in the process and provide an array of services and mentorship for a longer period of time.

References


## Appendix A

### Argentina’s Regions, Provinces, and EPH Agglomerations

<table>
<thead>
<tr>
<th>Region</th>
<th>Province/area</th>
<th>EPH agglomeration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metropolitan</td>
<td>City of Buenos Aires; peri-urban metropolitan</td>
<td>Metropolitan Buenos Aires</td>
</tr>
<tr>
<td>Buenos Aires</td>
<td>Buenos Aires (departments [partidos] from 32 municipalities in the Buenos Aires Province)</td>
<td></td>
</tr>
<tr>
<td>Pampeana</td>
<td>Buenos Aires (excluding peri-urban metropolitan</td>
<td>Bahía Blanca</td>
</tr>
<tr>
<td></td>
<td>Buenos Aires)</td>
<td>La Plata</td>
</tr>
<tr>
<td></td>
<td>Córdoba</td>
<td>Mar del Plata</td>
</tr>
<tr>
<td></td>
<td>Entre Ríos</td>
<td>Río Cuarto</td>
</tr>
<tr>
<td></td>
<td>La Pampa</td>
<td>Concordia</td>
</tr>
<tr>
<td></td>
<td>Santa Fe</td>
<td>Paraná</td>
</tr>
<tr>
<td></td>
<td>Santa Fe</td>
<td>Santa Rosa</td>
</tr>
<tr>
<td></td>
<td>San Nicolás de los Arroyos</td>
<td>Rosario</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Santa Fe</td>
</tr>
<tr>
<td>Northwest</td>
<td>Catamarca</td>
<td>San Nicolás de los Arroyos</td>
</tr>
<tr>
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<td>San Fernando del Valle de Catamarca</td>
<td></td>
</tr>
<tr>
<td></td>
<td>San Salvador de Jujuy</td>
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<td>La Rioja</td>
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<td>Salta</td>
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<td>Tucumán</td>
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<tr>
<td>Northeast</td>
<td>Chaco</td>
<td>Resistencia</td>
</tr>
<tr>
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<td>Corrientes</td>
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</tr>
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<td>Formosa</td>
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<td>Misiones</td>
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<td>Cuyo</td>
<td>Mendoza</td>
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<td>San Juan</td>
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<tr>
<td></td>
<td>San Luis</td>
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*Table continues next page*
Table A.1 Argentina's Regions, Provinces, and EPH Agglomerations (continued)

<table>
<thead>
<tr>
<th>Region</th>
<th>Province/area</th>
<th>EPH agglomeration</th>
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<tbody>
<tr>
<td>Patagonia</td>
<td>Chubut</td>
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</tr>
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<td>Neuquén</td>
<td>Rawson</td>
</tr>
<tr>
<td></td>
<td>Río Negro</td>
<td>Neuquén</td>
</tr>
<tr>
<td></td>
<td>Santa Cruz</td>
<td>Viedma</td>
</tr>
<tr>
<td></td>
<td>Tierra del Fuego</td>
<td>Río Gallegos</td>
</tr>
<tr>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Source: INDEC 2010.

Notes: EPH = Permanent Household Survey (Encuesta Permanente de Hogares). An agglomeration is a territory whose built-up area incorporates a city core (usually a municipality) and the suburban areas adjacent to the municipal boundaries. Agglomerations are named by their core municipality.

Table A.2 Population of Argentina’s EPH Agglomerations, by Agglomeration Size, 2010

<table>
<thead>
<tr>
<th>Agglomeration category (population thresholds)</th>
<th>EPH agglomeration</th>
<th>Population, 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metropolitan Buenos Aires</td>
<td>Metropolitan Buenos Aires</td>
<td>13,588,171</td>
</tr>
<tr>
<td>Top five agglomerations (700,000–1.5 million)</td>
<td>Córdoba</td>
<td>1,454,645</td>
</tr>
<tr>
<td></td>
<td>Rosario</td>
<td>1,236,089</td>
</tr>
<tr>
<td></td>
<td>Mendoza</td>
<td>937,154</td>
</tr>
<tr>
<td></td>
<td>San Miguel de Tucumán</td>
<td>794,327</td>
</tr>
<tr>
<td></td>
<td>La Plata</td>
<td>787,294</td>
</tr>
<tr>
<td>Large agglomerations (300,000–700,000)</td>
<td>Mar del Plata</td>
<td>593,337</td>
</tr>
<tr>
<td></td>
<td>Salta</td>
<td>551,056</td>
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<td>Resistencia</td>
<td>385,726</td>
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<td>Santiago del Estero</td>
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<td></td>
<td>Corrientes</td>
<td>346,334</td>
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<td></td>
<td>Neuquén</td>
<td>341,301</td>
</tr>
<tr>
<td></td>
<td>Posadas</td>
<td>319,469</td>
</tr>
<tr>
<td></td>
<td>San Salvador de Jujuy</td>
<td>310,106</td>
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<td>Intermediate agglomerations (100,000–300,000)</td>
<td>Bahía Blanca</td>
<td>291,327</td>
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<td></td>
<td>Paraná</td>
<td>264,076</td>
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<td>Formosa</td>
<td>222,226</td>
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<td>182,414</td>
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<td>La Rioja</td>
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<td>Comodoro Rivadavia</td>
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<td>Río Cuarto</td>
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<td>114,486</td>
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<tr>
<td>Small agglomerations (50,000–100,000)</td>
<td>Rawson</td>
<td>97,915</td>
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</table>

Table continues next page
### Table A.2 Population of Argentina’s EPH Agglomerations, by Agglomeration Size, 2010 (continued)

<table>
<thead>
<tr>
<th>Agglomeration category (population thresholds)</th>
<th>EPH agglomeration</th>
<th>Population, 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rio Gallegos</td>
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<td>Ushuaia</td>
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<td>56,593</td>
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</tbody>
</table>

*Source:* INDEC 2010.

*Notes:* EPH = Permanent Household Survey. An agglomeration is a territory whose built-up area incorporates a city core (usually a municipality) and the suburban areas adjacent to the municipal boundaries. Agglomerations are named by their core municipality.

### Table A.3 EPH Agglomerations—Localities

<table>
<thead>
<tr>
<th>Agglomeration</th>
<th>Localities, 2014 EPH</th>
<th>Localities, 2010 Population Census</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metropolitan</td>
<td>Almirante Brown, Avellaneda, Berazategui, Escobar, Esteban Echeverria, Ezeiza, Florencio</td>
<td>Almirante Brown, Avellaneda, Berazategui, Escobar, Esteban Echeverria, Ezeiza, Florencio</td>
</tr>
<tr>
<td>Buenos Aires</td>
<td>Varela, General Rodriguez, General San Martin, Hurlingham, Ituzaingoó, José C. Paz, La Matanza, Lanús, Lomas de Zamora, Ruta Sol, Malvinas Argentinas, Marcos Paz, Maximo Paz – Barrio Belgrano, Merlo, Moreno, Morón, Pilar, Presidente Perón, Quilmes, San Fernando, San Isidro, San Miguel, San Vicente, Tigre, Tres de Febrero, Vicente López</td>
<td>Varela, General Rodriguez, General San Martin, Hurlingham, Ituzaingoó, José C. Paz, La Matanza, Lanús, Lomas de Zamora, Ruta Sol, Malvinas Argentinas, Marcos Paz, Maximo Paz, Merlo, Moreno, Morón, Pilar, Presidente Perón, Quilmes, San Fernando, San Isidro, San Miguel, San Vicente, Tigre, Tres de Febrero, Vicente López</td>
</tr>
<tr>
<td>La Plata</td>
<td>Berisso, Ensenada, La Plata Same as EPH</td>
<td>Same as EPH</td>
</tr>
<tr>
<td>Mendoza</td>
<td>Mendoza, Godoy Cruz, Guaymallén, Las Heras, Luján de Cuyo, Maipú, Capdeville Papagayos</td>
<td>Mendoza, Godoy Cruz, Guaymallén, Las Heras, Luján de Cuyo, Maipú</td>
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<tr>
<td>Rosario</td>
<td>Funes, Granadero Baigorria, Pérez, Rosario, Soldini, Villa Gobernador Gálvez, Capitán Bermúdez, Fray Luis Beltrán, Puerto General San Martín, Roldán, San Lorenzo</td>
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</tr>
<tr>
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<td>Posadas</td>
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<td>Resistencia</td>
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*Table continues on next page*
<table>
<thead>
<tr>
<th>Agglomeration</th>
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<th>Localities, 2010 Population Censusa</th>
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</thead>
<tbody>
<tr>
<td>Salta</td>
<td>Salta, La Ciénaga y Barrio San Rafael, Cerrillos, Villa Los Álamos, Barrio El Congreso, Barrio Las Tunas-Los Pinares, Los Olmos, Vaqueros</td>
<td>Salta, La Ciénaga y Barrio San Rafael, Cerrillos, Villa Los Álamos – El Congreso – Las Tunas – Los Pinares – Los Olmos, Vaqueros</td>
</tr>
<tr>
<td>San Juan</td>
<td>San Juan, Chimbas, Alto De Sierra, Villa Barbosa – Villa Nacusi, Rawson, Rivadavia, El Rincón – Villa Gral. San Martín, Santa Lucía, Villa General San Martín – Campo Afuera</td>
<td>San Juan, Chimbas, Alto de Sierra, Villa Barbosa – Villa Nacusi, Rawson, Rivadavia</td>
</tr>
<tr>
<td>San Salvador de Jujuy</td>
<td>San Salvador de Jujuy, Yala, Palpalá</td>
<td>Same as EPH</td>
</tr>
<tr>
<td>Santa Fe</td>
<td>Arroyo Leyes, Recreo, San José del Rincón, Santa Fe, Santo Tomé, Sauce Viejo</td>
<td>Same as EPH</td>
</tr>
<tr>
<td>Mar del Plata</td>
<td>Mar del Plata, Batán</td>
<td>Mar del Plata</td>
</tr>
<tr>
<td>Neuquén</td>
<td>Neuquén, Plottier</td>
<td>Neuquén, Plottier, Cipolletti</td>
</tr>
<tr>
<td>Santiago del Estero</td>
<td>Santiago del Estero, El Zanjón, La Banda</td>
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**Intermediate agglomerations**

<table>
<thead>
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<th>Agglomeration</th>
<th>Localities, 2014 EPH</th>
<th>Localities, 2010 Population Censusa</th>
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<tr>
<td>Bahía Blanca</td>
<td>Bahía Blanca, General Daniel Cerri</td>
<td>Bahía Blanca</td>
</tr>
<tr>
<td>Comodoro Rivadavia</td>
<td>Comodoro Rivadavia, Rada Tilly</td>
<td>Comodoro Rivadavia</td>
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<td>Concordia</td>
<td>Concordia</td>
<td>Same as EPH</td>
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<tr>
<td>Formosa</td>
<td>Formosa</td>
<td>Same as EPH</td>
</tr>
<tr>
<td>Paraná</td>
<td>Colonia Avellaneda, Oro Verde, Paraná, San Benito, Sauce Montrull</td>
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<tr>
<td>Río Cuarto</td>
<td>Río Cuarto, Las Higueras</td>
<td>Same as EPH</td>
</tr>
<tr>
<td>San Fernando del Valle de Catamarca</td>
<td>San Fernando del Valle de Catamarca, San José, San Isidro</td>
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<tr>
<td>San Luis</td>
<td>San Luis, Juana Koslay, La Punta</td>
<td>San Luis, Juana Koslay</td>
</tr>
<tr>
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<td>Santa Rosa, Toay</td>
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<tr>
<td>La Rioja</td>
<td>La Rioja</td>
<td>Same as EPH</td>
</tr>
<tr>
<td>San Nicolás de los Arroyos</td>
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**Small agglomerations**

<table>
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<th>Localities, 2014 EPH</th>
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<td>Río Gallegos</td>
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</tr>
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<td>Rawson</td>
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<td>Rawson, Trelew</td>
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<tr>
<td>Ushuaia</td>
<td>Ushuaia, Río Grande</td>
<td>Ushuaia</td>
</tr>
<tr>
<td>Viedma</td>
<td>Viedma, Carmen de Patagones</td>
<td>Same as EPH</td>
</tr>
</tbody>
</table>

**Sources:** INDEC 2010, 2014.

**Notes:** EPH = Permanent Household Survey (Encuesta Permanente de Hogares).

a. An agglomeration is a territory whose built-up area incorporates a city core (usually a municipality) and the suburban areas adjacent to the municipal boundaries. Agglomerations are named by their core municipality. Agglomerations comprise one or more localities—territorial divisions whose boundaries are defined by geographic characteristics or modifications in the land (i.e., buildings and streets). While agglomerations generally comprise adjacent localities, in a few cases, agglomerations include localities that are geographically non-contiguous. Such as, for instance, the case of Ushuaia and Río Grande, where the distance between both is about 200 km.

b. While the 2010 population census and the EPH generally adopt consistent definitions of agglomerations, in a few cases, there are some discrepancies in the localities included in the EPH and 2010 population census' definition of agglomerations. The definition of agglomerations, according to the EPH, is for the year 2014.
Note

1. EPH = Permanent Household Survey (Encuesta Permanente de Hogares) of the National Institute of Statistics and Censuses (INDEC).

References


This appendix describes the methodology applied in the study for estimating economic activity at the agglomeration level in Argentina. The study uses nighttime light data for the purpose of deriving agglomeration-level estimates of real gross domestic product (GDP) and GDP growth for the period 1996 through 2010, based on the methodology developed by Henderson and others (2009) and Henderson and others (2011, 2012). The estimates are used to (a) analyze spatial patterns of economic development and growth (see chapter 4); (b) assess correlation between urban expansion patterns and economic dynamism (see chapter 5) and (c) estimate agglomeration-level GDP and GDP growth in 2010 for the construction of the productivity component of the prosperity index (see chapter 11 and appendix C). Whereas box 4.1 in chapter 4 presents an overview of nighttime light data, this appendix describes the methodology used for the analysis and provides more detailed evidence of the correlation between the intensity of nighttime light emissions and economic activity in Argentina.

Nighttime light data provide the advantages of being available at highly disaggregated levels, as opposed to official GDP data. Nighttime light data also possess useful analytical characteristics related to their availability, their granularity, and the information they provide on brightness and location dimensions. Nighttime light measurements are available at a very fine scale in two dimensions: light intensity and location of that intensity. As a consequence, they are useful in analyzing the evolution of economic activity over time and space.

In a series of articles, Henderson and others (2009) and Henderson and others (2011, 2012) have developed a methodology to estimate subnational GDP based on the findings that there is a strong empirical correlation between economic activity and the intensity level of nighttime lights. Henderson and others (2009) develop a theoretical model that suggests an optimal way to combine nighttime light data and available GDP. This model is based on the idea that both pieces of
information present measurement errors, but that these measurement errors are not correlated with each other. Henderson and others (2011) apply this method to a sample of 170 countries, whereas Henderson and others (2012) further develop the approach by providing additional examples of how nighttime light data react to documented economic and social phenomena, and they estimate a model that focuses on nighttime light density. On the basis of this methodology, several applications of nighttime light data have been produced to estimate local economic activities, including those found in Ellis and others (2016).

The nighttime light data used for this analysis is the Global Radiance Calibrated Nighttime Lights product that measures the brightness of the earth’s surface as an average of all cloud-free nights in a given time period. The data from the radiance calibrated nighttime lights are available at periodic intervals between 1996 through 2010, processed and provided by the National Oceanic and Atmospheric Administration’s (NOAA) National Centers for Environmental Information Earth Observation Group.2

The intensity of nighttime light data is measured by an area’s aggregate brightness. Intensity of nighttime light in this study is measured on a “digital number” (or DN) scale. Globally, the data range in values from 0 to 6,500 in 2010; in Argentina, the DN values range from 0 to 1,500. Light is determined to be urban when it goes beyond a brightness threshold, and an urban footprint is defined as an urban lit area with a nighttime light intensity above the brightness threshold. For Argentina, this threshold was determined to be 65, and was calculated by comparing the nighttime light values with the land cover classifications of GlobCover, the land cover product of the European Space Agency (ESA 2009).

The study finds evidence, based on regression analysis, of statistically significant relationships between the intensity of nighttime lights and GDP at the provincial level in Argentina. The existence of these statistically significant relationships justifies the use of the nighttime lights data both to proxy for levels of economic activity and to construct estimates of real GDP growth at the agglomeration level.

Table B.1 reports regression results for Argentina’s provinces for the period 1996 through 2010. This regression analysis uses gross provincial product (GPP) data from the Government of Argentina, Ministry of Economy and Public Finance (2015) complemented by estimates from the World Bank.3 The results show that the intensity of a province’s nighttime lights—that is, the aggregate brightness value—is strongly correlated with its level of GPP. The regression is run in natural logarithms so that the estimated coefficient represents the elasticity between economic activity and nighttime light data.4 The estimated elasticity of GPP with respect to lights is about 1.1 percent. The relationship is statistically significant at the 1 percent level and is robust to different specifications.5 In particular, the estimated elasticities in Argentina are larger than those in other countries, as estimated in Henderson and others (2011, 2012). A similar regression analysis for South Asian countries, based on pooled data for 1999 and 2010, found an estimated elasticity of GDP with respect to nighttime lights of about 1.1, which is stable over time (see Ellis and others 2016).
Estimating Subnational Gross Domestic Product with Nighttime Light Data

Leveraging the Potential of Argentine Cities

Estimates of GDP and GDP growth for the agglomerations sampled in the National Institute of Statistics and Censuses’ (INDEC) Permanent Household Survey (Encuesta Permanente de Hogares, or EPH) from 1996 through 2010 are derived from the nighttime light data using the regression results in regression (i) of table B.1. The unit of observation is the agglomeration’s footprint defined by the nighttime light data. One important exception is the city of Buenos Aires, for which administrative boundaries are used because it borders with peri-urban metropolitan Buenos Aires. GDP was estimated for 29 of the 31 agglomerations sampled in the EPH, except Ushuaia and Mar del Plata, since the light emissions for these two agglomerations in 1996 were below the brightness threshold used for the definition of urban areas. For any given agglomeration $i$, real GDP for the year $t$ is derived by substituting the natural logarithm of its aggregate brightness value into the following fitted equation:

$$\ln(GDP_{it}) = -3.449 + 1.078 \times \ln(DN_{it})$$

In which $\ln(GDP_{it})$ is the natural log of agglomeration $i$’s estimated real GDP level in year $t$ and $\ln(DN_{it})$ is the natural log of agglomeration $i$’s intensity of light measured by the DN in year $t$. The growth rate in the real GDP is calculated based on the estimated GDP.

Notes

1. An agglomeration is defined as a territory whose built-up area incorporates a city core (usually a municipality) and the suburban areas adjacent to the municipal boundaries. For the purpose of this analysis, contiguous night lights that are above a brightness threshold determine the footprint of an agglomeration.

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Table B.1 Argentina’s GPP Predicted by the Intensity of Nighttime Light Data, 1996–2010

<table>
<thead>
<tr>
<th>Regression i</th>
<th>Regression ii</th>
<th>Regression iii</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\ln(GPP)$</td>
<td>$\ln(GPP)$</td>
<td>$\ln(GPP/Area)$</td>
</tr>
<tr>
<td>$\ln(DN)$</td>
<td>1.078***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.032)</td>
<td></td>
</tr>
<tr>
<td>$\ln(DN/Area)$</td>
<td>0.943***</td>
<td>1.131***</td>
</tr>
<tr>
<td></td>
<td>(0.097)</td>
<td>(0.029)</td>
</tr>
<tr>
<td>Constant</td>
<td>-3.449***</td>
<td>-2.559***</td>
</tr>
<tr>
<td></td>
<td>(0.368)</td>
<td>(0.027)</td>
</tr>
<tr>
<td>Sample</td>
<td>161</td>
<td>161</td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.887</td>
<td>0.883</td>
</tr>
</tbody>
</table>

Sources: Based on Government of Argentina, Ministry of Economy and Public Finance 2015; NOAA.a
Notes: Standard errors in parentheses; DN = digital number; GPP = gross provincial product; Ln = natural logarithm; *** = statistically significant at 1 percent level.

a. The nighttime lights data used for the regression analysis are the Global Radiance Calibrated Nighttime Lights product provided by the National Oceanic and Atmospheric Administration’s (NOAA) National Centers for Environmental Information Earth Observation Group. The latest version of this product is available for download from http://ngdc.noaa.gov/eog/dmsp/download_radcal.html.
2. The latest version of this product is available for download from http://ngdc.noaa.gov/eog/dmsp/download_radcal.html.

3. For the years and provinces for which GPP data are not available, figures were estimated based on available turnover tax data.

4. The elasticity represents the percentage change in one variable (in this case, in GPP) that corresponds to a 1 percent change in another variable (the nighttime lights).

5. Full results of the regression analysis are available upon request.

References


Measuring Prosperity and Livability: Methodology

This appendix describes the methodology used for estimating two complementary metrics of city performance, specifically in generating prosperity and livability, as described in chapter 11. The analysis covers a sample of agglomerations surveyed in the National Institute of Statistics and Censuses’ (INDEC) Permanent Household Survey (Encuesta Permanente de Hogares, or EPH), which are referred to as the “EPH agglomerations” throughout this appendix. These agglomerations constitute about 70 percent of the urban population of Argentina. These two metrics are intended as tools to assess the relative performance of cities and to identify underperforming areas where policy action is required. They allow for the comparison of overall city performance, as well as of performance in specific components of prosperity and livability (for example, employment and housing). The methodology is generalizable to other countries or regions and can be modified depending on research questions and data available.

Methodology for Estimating the Prosperity Index

The prosperity index is a multidimensional metric that compares economic performance across agglomerations. It captures multiple dimensions of a city’s success in generating prosperity for its inhabitants. The index comprises three components, which affect a city’s ability to generate prosperity: (a) productivity, (b) employment, and (c) low level of poverty (with this last component named “no-poverty” in the prosperity analysis). For each of these components, a number of indicators were selected. For the construction of the prosperity index, the following steps were taken:

Step 1: Identify appropriate indicators for each component based on data availability. As a preliminary step for the selection of each component’s indicators, a filter was applied to (a) ensure that all indicators had enough variability and (b) eliminate major outliers.
Step 2: Convert the selected indicators from various dimensions into a comparable one (for example, rescale percentages).

Step 3: Transform the raw performance measures into comparable units by standardizing them into z-scores. For each indicator, this step is achieved by subtracting the average performance across agglomerations and dividing by the standard deviation. Hence, for each indicator, the transformed score takes on a value greater than (or less than) zero if an agglomeration outperforms (or underperforms) the average performance among the sample of agglomerations as follows: \[ \text{Indicator}_\text{z-score} = \frac{\text{Indicator} - \text{Mean}}{\text{Standard deviation}}. \]

Step 4: Aggregate the transformed indicator scores into components by taking the arithmetic average of the indicators.

Step 5: Combine the transformed scores across the three prosperity components, and take the arithmetic average of the z-scores to calculate the prosperity index. The resulting score is a measure of the overall performance across the components relative to the average for all agglomerations in the sample. To make the prosperity index and its components more intuitive, they are rescaled from 0 to 100.

The prosperity index was calculated for 29 of the 31 EPH agglomerations with the exception of Ushuaia and Mar del Plata, for which the productivity component is not available. For these two agglomerations, it was not possible to compute nighttime light emissions to estimate subnational GDP because the light emissions of these two agglomerations are below the brightness threshold used for the definition of urban areas. In addition to one consolidated prosperity index for metropolitan Buenos Aires, separate prosperity indexes have been computed for the city of Buenos Aires and peri-urban metropolitan Buenos Aires to compare relative performance. The indicators selected for the construction of each component and the data sources are described in tables C1 to C3.

### Table C.1 Productivity Component

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Year</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic density(^a) (estimated GDP per km(^2))</td>
<td>2010</td>
<td>Government of Argentina, Ministry of Economy and Public Finance 2015; NOAA(^b)</td>
</tr>
<tr>
<td>Growth(^a) (growth of estimated GDP)</td>
<td>1996–2010</td>
<td>Government of Argentina, Ministry of Economy and Public Finance 2015; NOAA(^b)</td>
</tr>
<tr>
<td>Average hourly wage</td>
<td>2014</td>
<td>INDEC 2014</td>
</tr>
</tbody>
</table>

**Notes:** GDP = gross domestic product; km\(^2\) = square kilometer. Once standardized, the average of the three indicators is taken to obtain the productivity component.

\(^a\) GDP estimates are based on nighttime light data. See appendix B for the methodology for estimating subnational GDP using nighttime light data.

\(^b\) The nighttime lights data used for the estimation of GDP are the Global Radiance Calibrated Nighttime Lights product provided by the National Oceanic and Atmospheric Administration’s (NOAA) National Centers for Environmental Information Earth Observation Group. The latest version of this product is available for download from http://ngdc.noaa.gov/eog/dmsp/download_radcal.html.
The livability index is a multidimensional metric that compares quality of life in agglomerations. It captures multiple dimensions of a city’s livability. The index is composed of seven components affecting quality of life: (a) public services, (b) housing, (c) public transport, (d) health, (e) education, (f) social inclusion, and (g) resilience. As with the prosperity index, a filter was applied to (a) ensure that all indicators had enough variability and (b) eliminate major outliers. The same methodology that was applied for construction of the prosperity index described earlier was used for construction of the livability index, except that the livability index is calculated as a geometric mean of the seven components. The geometric index, instead of the arithmetic mean, was used to compute the livability since a city’s overall livability depends on the interaction among the seven components included in the construction of the index.

The livability index is calculated for the 31 EPH agglomerations. In addition to one consolidated livability index for metropolitan Buenos Aires, separate livability indexes have been computed for the city of Buenos Aires and peri-urban metropolitan Buenos Aires to compare relative performance.

The indicators selected for the construction of each component and the data sources are described in tables C.4 to C.10.

Table C.2 Employment Component

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Year</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of annual employment growth</td>
<td>2006–10</td>
<td>INDEC 2006, 2010a</td>
</tr>
<tr>
<td>Informal workers, percentage of total working population (C)</td>
<td>2010</td>
<td>INDEC 2010a</td>
</tr>
<tr>
<td>Working professionals, percentage of total working population</td>
<td>2010</td>
<td>INDEC 2010a</td>
</tr>
</tbody>
</table>

Notes: C = complement. Higher values of employment growth and employed professionals are associated with higher levels of prosperity. The opposite is true for informal workers, of which higher values are associated with lower prosperity. Therefore, the complement of this last indicator is selected. Once standardized, the average of the three indicators is taken to obtain the employment component.

a. “Professionals” are defined as the segment of the employed population with a bachelor’s or higher degree.

Table C.3 No-Poverty Component

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Year</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gini coefficient (C)</td>
<td>2010</td>
<td>INDEC 2010a</td>
</tr>
<tr>
<td>Percentage of population below the moderate poverty line (US$4/day) (C)</td>
<td>2010</td>
<td>INDEC 2010a</td>
</tr>
</tbody>
</table>

Notes: C = complement. Higher values of the two indicators are related to lower levels of prosperity (in the case of the Gini coefficient, the closer it is to 1, the greater the inequality). Their complements are therefore used for construction of the component. Once standardized, the average of the two indicators is taken to obtain the no-poverty component.
Table C.4 Public Services Component

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Year</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of households with access to piped water supply</td>
<td>2010</td>
<td>INDEC 2010b</td>
</tr>
<tr>
<td>Percentage of households with access to sewerage network</td>
<td>2010</td>
<td>INDEC 2010b</td>
</tr>
<tr>
<td>Percentage of households with regular solid waste collection (twice per week)</td>
<td>2010</td>
<td>INDEC 2010b</td>
</tr>
<tr>
<td>Percentage of households with public lighting on their block</td>
<td>2010</td>
<td>INDEC 2010b</td>
</tr>
<tr>
<td>Percentage of households with pavement on their block</td>
<td>2010</td>
<td>INDEC 2010b</td>
</tr>
</tbody>
</table>

**Note:** Once standardized, the arithmetic average of the five indicators is taken to obtain the public services component.

Table C.5 Housing Component

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Year</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of households living in informal housing(^a) (C)</td>
<td>2010</td>
<td>INDEC 2010b</td>
</tr>
<tr>
<td>Percentage of households with quantitative housing deficit(^b) (C)</td>
<td>2010</td>
<td>INDEC 2010b</td>
</tr>
<tr>
<td>Percentage of households with qualitative housing deficit(^c) (C)</td>
<td>2010</td>
<td>INDEC 2010a</td>
</tr>
</tbody>
</table>

**Notes:**
- C = complement. Because higher values of informal housing and housing deficits are related to lower levels of livability, the complements of those indicators are taken. Once standardized, the average of the three indicators is taken to obtain the housing component.
- a. Households living in housing that lack security of tenure (tenure refers to the legal arrangements under which people have the right to occupy their accommodation) or housing that has inadequate access to water and sanitation.
- b. The quantitative deficit includes households living in housing units with inadequate living conditions, that is, units that are unrecoverable and must be replenished and co-habitation of households with more than one household per unit.
- c. The qualitative deficit includes households living in (a) units with critical overcrowding housing three or more people per room and (b) recoverable housing units with problems such as low-quality materials or lack of services, that is, type B housing units according to the 2010 population census (INDEC 2010). Type B housing units are defined as having no water inside the unit, a toilet without water (lack of sanitation), and/or a floor made of dust or loose materials.

Table C.6 Public Transport Component

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Year</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of passengers who take public transport (per 10,000 inhabitants)</td>
<td>2013</td>
<td>Government of Argentina, Ministry of the Interior and Transport 2013</td>
</tr>
<tr>
<td>Percentage of household expenditure in public transport (lowest quintile of income) (C)</td>
<td>2010</td>
<td>INDEC 2010c</td>
</tr>
</tbody>
</table>

**Notes:**
- C = complement. Because higher expenditure in public transport by the lowest quintile of income is related to lower levels of livability, the complement of this indicator is taken. Once standardized, the average of the two indicators is taken to obtain the public transport component.

Table C.7 Health Component

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Year</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of population with health coverage</td>
<td>2010</td>
<td>INDEC 2010a</td>
</tr>
<tr>
<td>Maternal mortality (per 100,000 live births) (C)</td>
<td>2010</td>
<td>Ministry of Health 2010a</td>
</tr>
<tr>
<td>Infant mortality (per 1,000 live births) (C)</td>
<td>2010</td>
<td>Ministry of Health 2010a</td>
</tr>
<tr>
<td>Occurrence of diseases related to the urban environment: cases of bronchiolitis, influenza, pneumonia, CO(_2) poisoning (per 100,000 inhabitants)</td>
<td>2010</td>
<td>Ministry of Health 2010b</td>
</tr>
</tbody>
</table>

**Notes:**
- C = complement. CO\(_2\) = carbon dioxide. Because higher values of mortality and diseases are related to lower levels of livability, the complements of those indicators are selected. Once standardized, the average of the four indicators is taken to obtain the health component.
Table C.8 Education Component

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Year</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of population (ages 16–17) enrolled in secondary education</td>
<td>2010</td>
<td>INDEC 2010a</td>
</tr>
</tbody>
</table>

Table C.9 Social Inclusion Component

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Year</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of youth (ages 15–24) unemployed (C)</td>
<td>2010</td>
<td>INDEC 2010a</td>
</tr>
</tbody>
</table>

Notes: C = complement. Because higher values of youth unemployment are related to lower levels of livability, the complement of this indicator is selected.

Table C.10 Resilience Component

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Year</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of population living near a garbage dump (C)</td>
<td>2010</td>
<td>INDEC 2010a</td>
</tr>
<tr>
<td>Percentage of population living in flood-prone zones (C)</td>
<td>2010</td>
<td>INDEC 2010a</td>
</tr>
</tbody>
</table>

Notes: C = complement. Because higher values of people living near a garbage dump or flood-prone zones are related to lower levels of livability, the complements of those indicators are taken. Once standardized, the average of the two indicators is taken to obtain the resilience component.

Note

1. The approach draws on the methodology applied in other studies, such as *Leveraging Urbanization in South Asia* (Ellis and others 2016).

References


Environmental Benefits Statement

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Argentina is a country of geographically diverse cities. Ninety percent of Argentina's population lives in cities, which hold the key to economic growth. Cities concentrate ideas, talent, and knowledge, providing opportunities for economic growth by generating agglomeration economies. Argentina's path to economic prosperity thus lies in efficient, sustainable, and economically thriving cities.

There are three main challenges to address in order for Argentine cities to fully leverage their potential: (1) unbalanced regional development; (2) limited global economic footprint of urban economies, with employment concentrated in nontradable and resource-intensive sectors; and (3) unplanned low-density urban expansion. To take full advantage of the benefits of agglomeration economies, Argentina needs to move toward a more balanced regional development, and to transition from local to global cities, as well as from urban sprawl to articulated densities.

*Leveraging the Potential of Argentine Cities: A Framework for Policy Action* aims to deepen the empirical understanding of the interplay between urbanization and agglomeration economies by asking the following questions:

- What are the main trends and spatial patterns of Argentina's urbanization that underlie agglomeration economies?
- Are urban policies leveraging or undermining the benefits of agglomeration economies?
- Are Argentine cities fully reaping the benefits of agglomeration economies to deliver improvements in prosperity and livability?

By answering such questions and exploring underlying issues and their implications for action, *Leveraging the Potential of Argentine Cities: A Framework for Policy Action* provides a conceptual framework, empirical data, and strategic directions to enable cities to take full advantage of agglomeration economies for enhanced prosperity and livability. The study identifies five priority policy areas: (1) promote sustainable and efficient spatial development; (2) position municipalities as competent and accountable service providers; (3) encourage sustainable and efficient housing development; (4) foster efficient, sustainable, and equitable urban transport; and (5) power the long-term economic growth of Argentine cities.

Addressing these priority areas calls for an institutional environment that enables all cities to thrive. To create such an enabling institutional environment, Argentina needs to strengthen the leadership of the federal government, empower municipalities, and enhance the coordinating role of provinces.