

# Urbanization and Rural-Urban Migration: Theory and Policy

# 7

Cities will increasingly become the main players in the global economy.

—*Kofi Annan, former secretary general of the United Nations and Nobel laureate for Peace*

By fostering economic growth, urbanization helped reduce absolute poverty in the aggregate but did little for urban poverty.

—*Martin Ravallion, Shaohua Chen, and Prem Sangraula, 2008*

## 7.1 The Migration and Urbanization Dilemma

In this chapter, we focus on one of the most complex and nuanced dilemmas of the development process: the phenomenon of massive and historically unprecedented movements of people from the rural countryside to the burgeoning cities of Africa, Asia, and Latin America. In Chapter 6, we documented the extraordinary increase in world and especially developing-country population over the past few decades. By 2050, world population is expected to exceed 9 billion people, and nowhere will population growth be more dramatic than in the cities of the developing world. Indeed, according to United Nations estimates, the world became more urban than rural in 2008, for the first time in human history.

After reviewing trends and prospects for overall urban population growth, we examine in this chapter the potential role of cities—both the modern sector and the urban informal sector—in fostering economic development. We then turn to a well-known theoretical model of rural-urban labor transfer in the context of rapid growth and high urban unemployment. In the final section, we evaluate various policy options that governments in developing countries may wish to pursue in their attempts to moderate the heavy flow of rural-to-urban migration and to ameliorate the serious unemployment problems that continue to plague their crowded cities. This chapter's case study looks at patterns of migration in India and Botswana.

**FIGURE 7.1** Urban Population and Per Capita Income across Selected Countries



Source: UN-Habitat, "State of the World's Cities, 2001," <http://www.unchs.org/Istanbul+5/86.pdf>. Reprinted with permission.

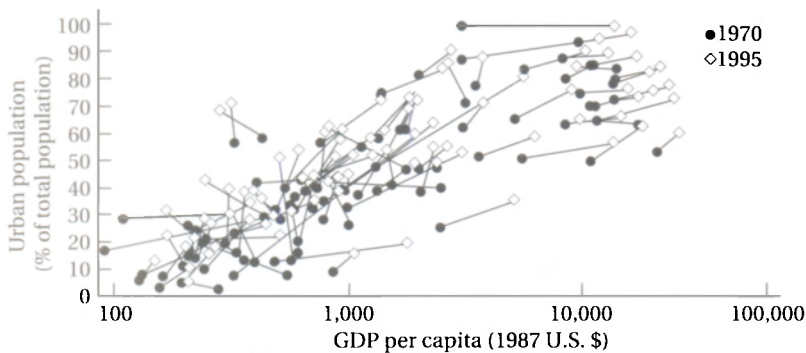
### Urbanization: Trends and Projections

The positive association between urbanization and per capita income is one of the most obvious and striking "stylized facts" of the development process. Generally, the more developed the country, measured by per capita income, the greater the share of population living in urban areas. Figure 7.1 shows urbanization versus GNI per capita; the highest-income countries, such as Denmark, are also among the most urbanized, while the very poorest countries, such as Rwanda, are among the least urbanized. At the same time, while individual countries become more urbanized as they develop, today's poorest countries are far more urbanized than today's developed countries were when they were at a comparable level of development, as measured by income per capita, and on average developing countries are urbanizing at a faster rate.

Figure 7.2 shows urbanization over time and across income levels over the quarter century from 1970 to 1995. Each line segment represents the trajectory of one country, starting from the solid dots, which represent the 1970 income and urbanization level for a given country and ending at the end of the line segments (marked by a diamond), which represent the corresponding 1995 income and urbanization level for the same country. Although the World Bank caption to the figure stated that "urbanization is closely associated with economic growth," the figure may also be interpreted as showing that urbanization is occurring everywhere, at high and low levels of income and whether growth is positive or negative. Even when the lines point to the left, indicating shrinking incomes per capita over the period, they still generally point upward, indicating that urbanization continued. In short, urbanization is happening everywhere in the world, although at differing rates. So we need to consider urbanization carefully—is it only correlated with economic development, or is causation also at work?

Indeed, one of the most significant of all modern demographic phenomena is the rapid growth of cities in developing countries. In 1950, some 275 million

FIGURE 7.2 Urbanization across Time and Income Levels

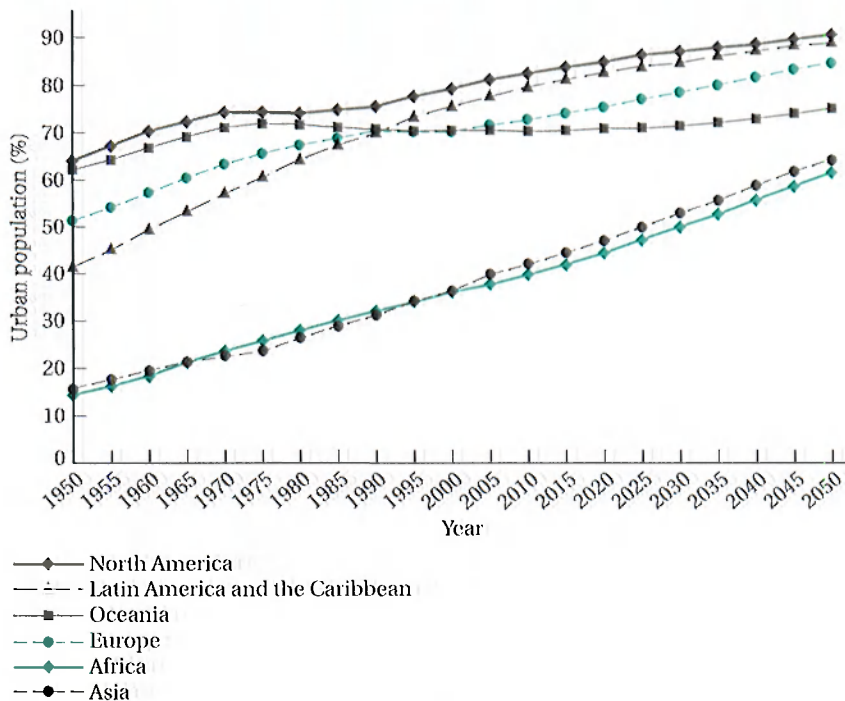


Source: International Bank for Reconstruction and Development/The World Bank, *World Development Report, 1999–2000*. Reprinted with permission.

people were living in cities in the developing world, 38% of the 724 million total urban population, by 2010, the world's urban population had surpassed 3.4 billion, with over three-quarters of all urban dwellers living in metropolitan areas of low- and middle-income countries.

While in a significant number of cases the speed at which the share of urban population has increased in developing countries in the late twentieth and early twenty-first century is not much faster than in many of the developed countries when they were urbanizing in the late nineteenth century, nonetheless shares of urban population are being reached, particularly in Africa, at lower levels of per capita income than at a comparable stage in developed countries. Relatedly, urbanization in Africa is not associated with industrialization, as it was in the now-developed countries. Moreover, in most regions of the developing world, because population is so much larger, the sheer numbers of people coming into the city is unprecedented. Also unprecedented is the very large sizes of individual cities at such low levels of income per capita. The largest cities in developed countries in the past were much smaller than the large cities of developing countries today.

Figure 7.3 shows the growth of the proportion of the population living in urban areas by region. For the period 2005 to 2030, the UN projects that world population will grow at a 1.78% average annual rate. Accordingly, there will be almost 5 billion urban dwellers by 2030, nearly five-eighths of the projected 8.1 billion world population in that year. In fact, after 2015, the number of people living in rural areas in the world is projected to actually begin to decrease, by some 155 million people from 2015 to 2030, or an annual rate of  $-0.32\%$ . The most rapid urbanization is now occurring in Asia and Africa; well before 2030, more than half of all people in these regions will live in urban areas. More than half the world's urban population will live in Asia, and the projected 2030 urban population of Africa of 748 million will be larger than the entire projected 685 million total population of Europe.<sup>1</sup>

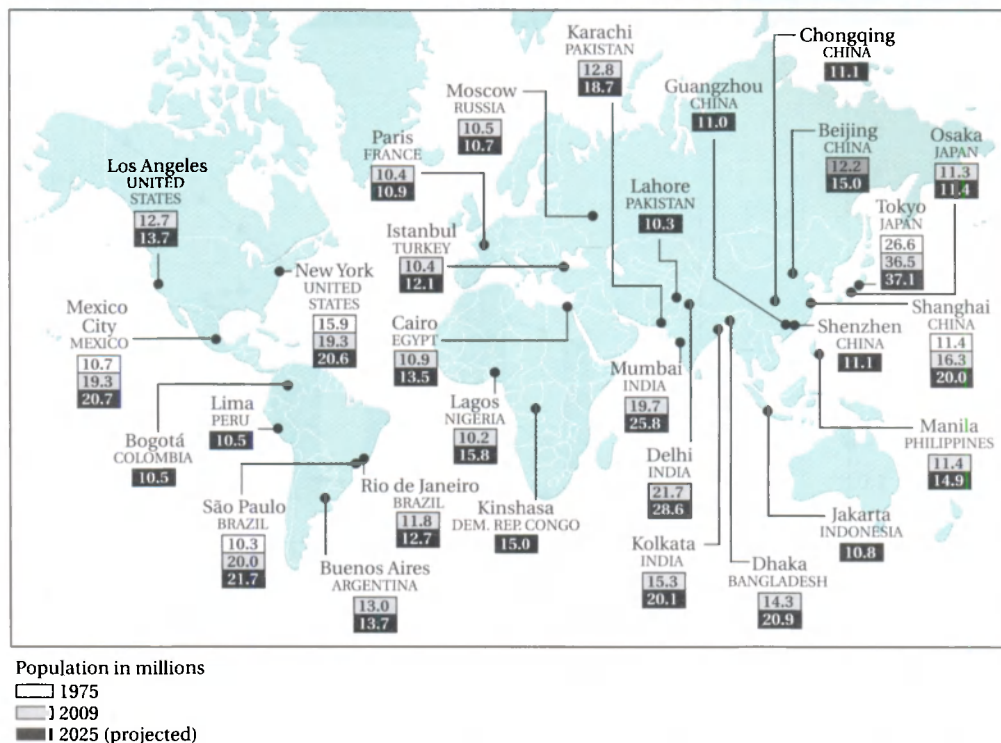
**FIGURE 7.3** Proportion of Urban Population by Region, 1950–2050

Source: The United Nations is the author of the original material. *World Urbanization Prospects: The 2009 Revision*. © 2009 United Nations. Reproduced with permission.

Although a majority of developing-country urban growth will be found in cities of less than 5 million people, it is also the case that population growth in cities over 5 million in population is more rapid than growth of smaller cities (under 500,000) in the developing world. In fact, according to the UN, by 2025, only about half the urban population will be in cities with less than a half million people, the lowest fraction ever. Moreover, the developing world is also coming to dominate the world's largest cities, including the megacities with over 10 million inhabitants. Figure 7.4 provides a map locating megacities, the largest cities in the world containing a population of at least 10 million people. As the figure shows, in 1975, there were only 3 megacities, but by 2009, there were 21 such metropolises. Of these 21, two-thirds were located in the developing world. By 2025, only 5 of the 29 largest cities will be in high-income countries. Moreover, as Figure 7.5 shows, almost all of the increments to the world's population will be accounted for by the growth of urban areas as migrants continue to stream into the cities from rural areas and as urbanization rates in the developing world continue to approach those of the developed world.

A central question related to the unprecedented size of these urban agglomerations is how these cities will cope—economically, environmentally, and politically—with such acute concentrations of people. While it is true that cities

FIGURE 7.4 Megacities: Cities with 10 Million or More Inhabitants



Source: Data from United Nations Population Division, *World Urbanization Prospects: The 2009 Revision* (New York: United Nations, 2009), tab. 3.

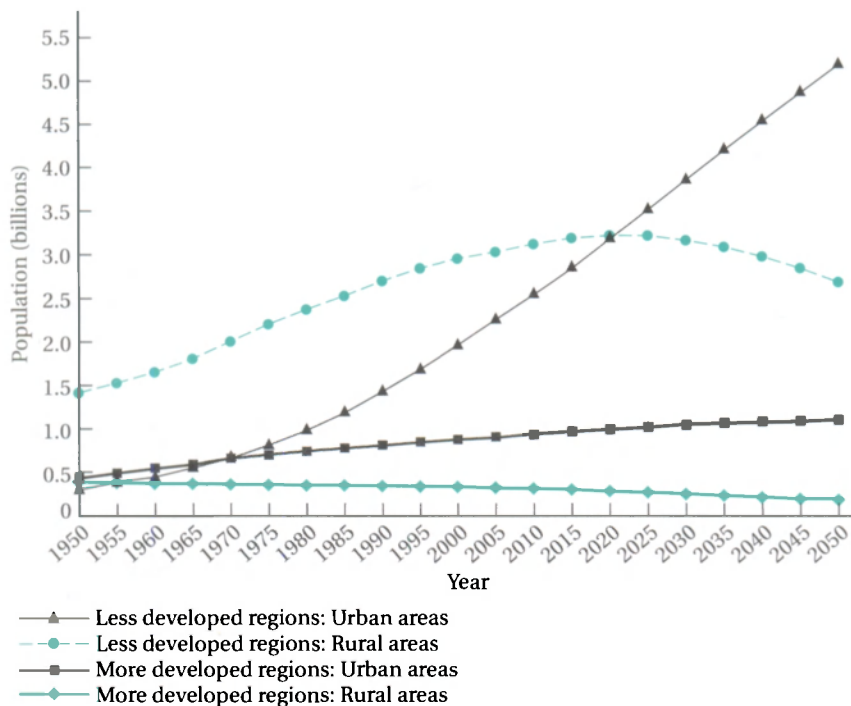
offer the cost-reducing advantages of agglomeration economies and economies of scale and proximity as well as numerous economic and social externalities (e.g., skilled workers, cheap transport, social and cultural amenities), the social costs of a progressive overloading of housing and social services, not to mention increased crime, pollution, and congestion, can outweigh these historical urban advantages. Former World Bank president Robert McNamara expressed his skepticism that huge urban agglomerations could be made to work at all:

These sizes are such that any economies of location are dwarfed by costs of congestion. The rapid population growth that has produced them will have far outpaced the growth of human and physical infrastructure needed for even moderately efficient economic life and orderly political and social relationships, let alone amenity for their residents.<sup>2</sup>

Along with the rapid spread of urbanization and the **urban bias** in development strategies has come this prolific growth of huge slums and shantytowns. From the *favelas* of Rio de Janeiro and the *pueblos jóvenes* of Lima to the *bustees* of Kolkata and the *bidonvilles* of Dakar, such makeshift communities have been growing rapidly. Today, slum settlements represent over one-third of the urban population in all developing countries.

**Urban bias** The notion that most governments in developing countries favor the urban sector in their development policies, thereby creating a widening gap between the urban and rural economies.

**FIGURE 7.5** Estimated and Projected Urban and Rural Population of the More and Less Developed Regions, 1950–2050



Source: The United Nations is the author of the original material. *Millennium Development Goal Report 2010*. © 2010 United Nations. Reproduced with permission.

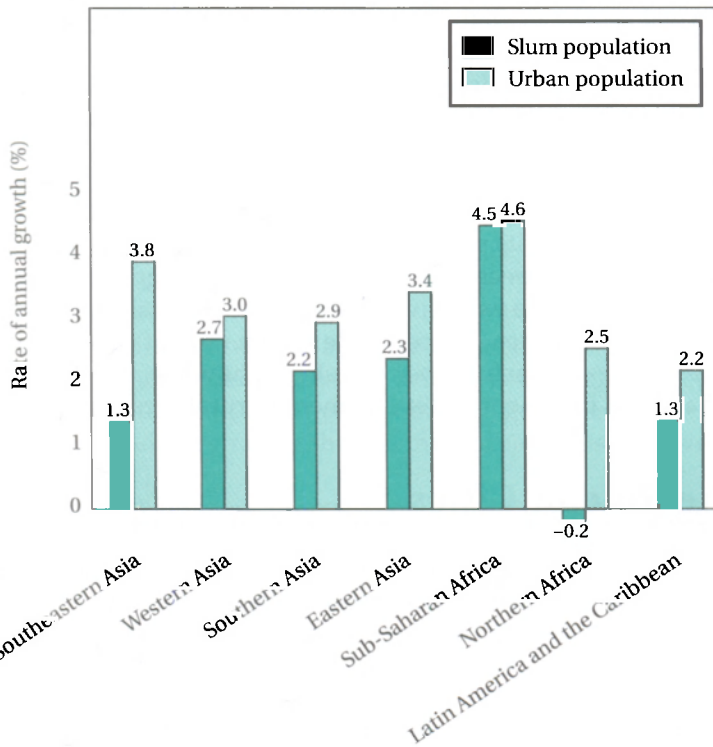
Figure 7.6 shows the annual growth of urban and slum populations in the 1990–2001 period, drawn from the 2006 United Nations *Millennium Development Goals Report*. As the *Report* summarized:

Sub-Saharan Africa is the world's most rapidly urbanizing region, and almost all of this growth has been in slums, where new city residents face overcrowding, inadequate housing, and a lack of water and sanitation. In Western Asia, as well, most of the urban growth is occurring in slums. The rapid expansion of urban areas in Southern and Eastern Asia is creating cities of unprecedented size and complexity and new challenges for providing a decent environment for the poor. Northern Africa is the only developing region where the quality of urban life is improving: In this region, the proportion of city dwellers living in slums has decreased by 0.15 per cent annually.

Although population growth and accelerated **rural-urban migration** are chiefly responsible for the explosion in urban shantytowns, part of the blame rests with governments. Their misguided urban-planning policies and outmoded building codes often means that 80% to 90% of new urban housing is "illegal." For example, colonial era building codes in Nairobi, Kenya, have made it impossible to build an "official" house for less than \$3,500. The law

**Rural-urban migration** The movement of people from rural villages, towns, and farms to urban centers (cities) in search of jobs.

FIGURE 7.6 Annual Growth of Urban and Slum Populations, 1990–2001



Source: Adapted from United Nations, *Millennium Development Goals Report, 2006* (New York: United Nations, 2006), p. 20.

has also required every dwelling to be accessible by car. As a result, two-thirds of Nairobi's land has been occupied by 10% of the population, while many slum dwellings cannot legally be improved. Similarly, in Manila, Philippines, a large majority of the population has historically been too poor to be able to buy or rent an officially "legal" house.<sup>3</sup>

Statistics show that rural migrants constitute anywhere from 35% to 60% of recorded urban population growth. Accordingly, 90 out of 116 developing countries responding to a UN survey indicated that they had initiated policies to slow down or reverse their accelerating trends in rural-urban migration.<sup>4</sup>

Given widespread dissatisfaction with the experience of rapid urban growth in developing countries, the critical issue that needs to be addressed is the extent to which national governments can formulate development policies that can have a definite impact on trends in and the character of urban growth. It is clear that the emphasis on industrial modernization, technological sophistication, and metropolitan growth created a substantial geographic imbalance in economic opportunities and contributed significantly to the accelerating influx of rural migrants into urban areas. Is it possible and or even desirable now to attempt to reverse these trends by pursuing a different set of population and development policies? With birth rates declining in many developing countries, rapid urban growth and accelerated rural-urban migration will

undoubtedly be one of the most important development and demographic issues of the coming decades. And in urban areas, the growth and development of the informal sector, as well as its role and limitations for labor absorption and economic progress, will assume increasing importance.

Before examining conditions in developing-country cities more closely, let us first consider the potential advantages offered by cities. Urban areas have played a highly constructive role in the economies of today's developed countries, and they offer huge and still largely untapped potential to do the same for developing countries. A detailed look at the informal sector in developing cities will give an idea of its potential as an engine of growth. We also consider in more detail what has been different—and what has gone wrong—with urban development and the excessively rapid pace of rural-urban migration in many developing countries. We conclude with a look at constructive policies to help cities foster successful urban development while at the same time giving more balanced treatment to development in rural areas.

## 7.2 The Role of Cities

What explains the strong association between urbanization and development? To a large degree, cities are formed because they provide cost advantages to producers and consumers through what are called **agglomeration economies**. As noted by Walter Isard, these agglomeration economies come in two forms. **Urbanization economies** are effects associated with the general growth of a concentrated geographic region. **Localization economies** are effects captured by particular sectors of the economy, such as finance or automobiles, as they grow within an area. Localization economies often take the form of backward and forward linkages of the type introduced in Chapter 4. When transportation costs are significant, users of the outputs of an industry may benefit from a nearby location to save on these costs. This benefit is a type of forward linkage. In addition, firms of the same or related industries may benefit from being located in the same city, so they can all draw on a large pool of workers with the specific skills used in that sector or from specialized infrastructure. This is a type of backward linkage. Workers with specialized skills appropriate to the industry prefer to be located there as well so that they can easily find a new job or be in a position to take advantage of better opportunities.

### Industrial Districts

An economic definition of a city is “an area with relatively high population density that contains a set of closely related activities.” Firms often also prefer to be located where they can learn from other firms doing similar work. Learning takes place in both formal relationships, such as joint ventures, and informal ones, such as from tips learned in evening social clubs or over lunch. These spillovers are also agglomeration economies, part of the benefits of what Alfred Marshall called “industrial districts,” and they play a big role in Michael Porter’s “clusters” theory of competitive advantage.<sup>5</sup> Firms located in such industrial districts also benefit from the opportunity to contract out work easily when an unusually large order materializes. Thus a firm of modest size

#### Agglomeration economies

Cost advantages to producers and consumers from location in cities and towns, which take the forms of urbanization economies and localization economies.

#### Urbanization economies

Agglomeration effects associated with the general growth of a concentrated geographic region.

#### Localization economies

Agglomeration effects captured by particular sectors of the economy, such as finance or autos, as they grow within an area.




does not have to turn down a big job due to lack of capacity, an arrangement that provides “flexible specialization.”<sup>6</sup> Further, firms may wish to operate in well-known districts for the marketing advantages of locating where company procurers and household consumers of their goods know to shop to get the best selection.

It may not matter so much where such industrial districts are located as that they somehow got an early start there, perhaps because of a historical accident. For example, in the United States, many innovative computer firms located in Silicon Valley, California, simply because other such firms were already located there. Analogously, suppliers to shoe firms located in the Sinos Valley in southern Brazil and in Guadalajara in Mexico because so many shoe firms located in those regions. Some of the benefits are gained simply by the fact of location—Khalid Nadvi has termed this “passive collective efficiency”—but other benefits must be achieved through collective action, such as developing training facilities or lobbying government for needed infrastructure as an industry rather than as individual firms (“active collective efficiency”).

A growing body of evidence shows that industrial clusters are increasingly common in developing countries, at stages of industrial development ranging from cottage industry to advanced manufacturing techniques, and appear to be significant factors in emerging industrial competitiveness. Nevertheless, the dynamism of these clusters has varied widely. Some of the identified districts are traditional clusters of artisans that have shown little ability to innovate, export, or expand. Traditional cottage industries are often grouped together by village, a phenomenon found throughout the developing world that is particularly prominent in Java. But such groupings often remain one-family microenterprises with little division of labor or use of modern techniques. Producers in a village are better off sharing a common specialization than producing a random assortment of goods, in part because intermediaries work with villages with a high concentration of producers in their sector. But such traditional producers sometimes benefit little from “internal” divisions of labor within the firm, producing a largely complete product within the household and remaining at very low productivity and incomes. For example, a small town in Kenya may have a dozen or more families fabricating wheelbarrows, each family starting with timber and a few simple purchased metal inputs and producing a final product for sale. Nevertheless, clustering can generate more specialized employment in the rural nonfarm sector, as in the rural hand-loom weaver clusters of Ethiopia, in which microentrepreneurs share a workspace, take part in a finer division of labor, and benefit from trade credits for working capital. Researchers also found that “improved infrastructure can enhance firm performance in a cluster . . . producers in electrified towns work longer hours than those in towns without electricity.”

In some cases, traditional township specializations have evolved into more developed clusters, with still modest-size but somewhat larger firms using a more detailed division of labor, such as a group of wheelbarrow producers with some specialization, each employing a few workers. Eventually, the cluster might expand in scope and become a low-tech metal products industrial district selling products throughout the country as the town grows into a small city. These clusters are reminiscent of the industrial districts of


**BOX 7.1 FINDINGS The Emergence of Industrial Districts or Clusters in China**

Prior to the 1980s, industry in China was state-owned, and factories were dispersed geographically for military defense. Beginning in 1980, Special Economic Zones such as Shenzhen were created to attract foreign firms in many industries; domestic firms sold inputs to them, but not as clusters. Township and village enterprises (TVEs) then emerged, initiated outside of local governments but “vaguely owned” by them. TVE managers usually tried a variety of activities, and early 1990s field research found little evidence that firms in the same or related industries were locating in close proximity to each other. But starting in the mid-1990s, TVEs rapidly privatized, and a combination of competition, responses to credit constraints, an abundance of entrepreneurial talent, and supportive local policies led to the emergence of localized industrial clusters. But like other Chinese institutions (see the case study in Chapter 4), some may ultimately prove “transitional.”

The Zhili Township children’s garment cluster studied by Fleisher and colleagues saw “a significant rise in specialization and outsourcing among firms.” Median investment to start a business more than doubled, but bank loans remain unnecessary as many entrepreneurs generated sufficient savings. Accordingly, many firms entered, and after 2000, wages rose and profitability fell. In response, firms selling directly to markets sought to “signal their commitment to product quality”—nearly half by establishing trademarks and nearly a fifth achieving International Organization for Standardization (ISO) certification. Meanwhile, quality of subcontractors is “monitored by their outsourcing partners.” Social capital is critical, Fleisher and colleagues concluded: “Clustering within established communities where long-time relationships among family and neighbors prevail offers an institutional substitute for court enforcement of contractual relationships among borrowers and lenders and between outsourcing firms and their subcontractors.” They also reported that “township government has imposed safety regulations in response to major industrial accidents” and helped “prevent a

destructive ‘race to the bottom’ in terms of product quality and employee safety” where markets failed to do so.

From firm surveys in the Puyuan cashmere sweater district, Ruan and Zhang found that state-owned banks rarely give loans to small and medium-size enterprises. But small firms borrow from relatives and friends and give and receive credit from buyers and sellers, so clusters lower “capital barriers to entry through the division of labor, enabling individuals to choose the appropriate type of specialization according to their capital portfolio,” while a deeper division of labor allows “people with different talents and endowments to find their own positions.” Similar conclusions follow from a study of the world’s largest footwear cluster in Wenzhou.

With a detailed analysis of 1995 and 2004 firm census data, Long and Zhang confirm that “China’s rapid industrialization is marked by increased clustering.” Their research supports the conclusion that clustering of firms relaxes credit constraints through “two mechanisms: (1) within a cluster, finer division of labor lowers the capital barriers to entry, and (2) closer proximity makes the provision of trade credit among firms easier.” They find that clusters use more “entrepreneurs and labor, and less . . . capital, compared to non-clustered large factories” and thus follow comparative advantage. They note that clusters could be useful in countries facing a “scarcity of capital and an inefficient financial system.” However, they caution, “clustering may be a second-best solution to the financing problem when the local conditions do not permit easy access to regular financing.” Thus clustering, like TVEs, might be a transitional form until financial markets deepen, formal contract enforcement can be provided, and larger investments are needed.

*Sources:* Fleisher, Belton, Dinghuan Hu, William McGuire, and Xiaobo Zhang. *The Evolution of an Industrial Cluster in China*. IFPRI Discussion Paper No. 896. Washington, D.C.: International Food Policy Research Institute, 2009.

Huang, Zuhui, Xiaobo Zhang, and Yunwei Zhu. “The role of clustering in rural industrialization: A case study of Wenzhou’s footwear industry.” *China Economic Review* 19 (2008): 409–420.

Long, Cheryl, and Zhang, Xiaobo. Cluster-Based Industrialization in China: Financing and Performance. IFPRI Discussion Paper No. 937. Washington, D.C.: International Food Policy Research Institute, 2009.

Ruan, Jianqing, and Xiaobo Zhang. *Credit Constraints, Organizational Choice, and Returns to Capital: Evidence from a Rural Industrial Cluster in China*. IFPRI Discussion Paper

No. 830. Washington, D.C.: International Food Policy Research Institute, 2008.

Ruan, Jianqing, and Xiaobo Zhang. "Finance and cluster-based industrial development in China." *Economic Development and Cultural Change* 58 (2009): 143–164.

developed countries but require that sufficient financing be gathered to invest in core firms using somewhat larger-scale capital goods. But note that clusters of some sophistication can emerge in an otherwise fairly rural but densely populated area.

As Hermine Weijland found in her study of Java, Indonesia, "It needs only a few fortunate years of market expansion to create gains from externalities and joint action."<sup>8</sup> She cites as examples local clusters that have upgraded and now competitively produce such goods as roof tiles, rattan furniture, cast metal, and textiles. Similarly, Dorothy McCormick concluded from a study of six representative clusters in Africa that "groundwork clusters prepare the way; industrializing clusters begin the process of specialization, differentiation, and technological development; and complex industrial clusters produce competitively for wider markets."<sup>9</sup> In some cases, the evidence suggests that coordination failures are not overcome, and so there may be a role for government policy in encouraging the upgrading of clusters. In other cases, it is the government itself that shares blame for cluster stagnation when it enforces irrational and stifling regulations, which are far more damaging than the usual policy of benign neglect toward nascent clusters in the informal sector. Examples of clusters in developing countries that are widely considered successful include surgical instruments in Sialkot, Pakistan; software in the Bengaluru (Bangalore) area in India; and footwear in the Sinos Valley, Brazil (although this last industry is also known for its use of child labor). Clusters of all kinds, however, and particularly those producing for the local market, face substantial challenges from globalization and trade liberalization.

Again, not all of the collective efficiency advantages of an industrial district are realized through passive location. Others are actively created by joint investments and promotional activities of the firms in the district. One factor determining the dynamism of a district is the ability of its firms to find a mechanism for such collective action. While the government can provide financial and other important services to facilitate cluster development, **social capital** is also critical, especially group trust and a shared history of successful collective action, which requires time to develop. Government can help by bringing parties together and helping them gain experience cooperating on more modest goals before tackling larger ones, but social capital normally grows organically in an economic community and cannot be created forcibly. Even with collective action to supplement passive benefits of agglomeration, traditional clusters may not survive in their current form into more advanced stages of industrialization. Nonetheless, as Hubert Schmitz and Khalid Nadvi note, even if transitional, districts in the informal sector may still play a crucial role in mobilizing

**Social capital** The productive value of a set of social institutions and norms, including group trust, expected cooperative behaviors with predictable punishments for deviations, and a shared history of successful collective action, that raises expectations for participation in future cooperative behavior.

underused human and financial resources.<sup>10</sup> The dramatic widespread emergence of industrial districts in China is examined in Box 7.1.

Statistical estimates show that benefits of agglomeration can be quite substantial in practice. For example, studies have demonstrated that “if a plant moves from a location shared by 1,000 workers employed by firms in the same industry to one with 10,000 such workers, output will increase an average of 15%, largely because the pool of specialized workers and inputs deepens.” Moreover, “productivity rises with city size, so much so that a typical firm will see its productivity climb 5% to 10% if city size and the scale of local industry double.”<sup>11</sup>

### Efficient Urban Scale

Localization economies do not imply that it would be efficient for all of a country’s industries to be located together in a single city. These economies extend across closely related industries, such as those with strong backward and forward linkages, but there are fewer productivity benefits for unrelated industries to locate together. One notable exception is the potential spillover from technological progress in one industry to its adaptation for different uses in another industry. But there are also some important **congestion** costs. The higher the urban density, the higher the costs of real estate. It is much more expensive to build vertically than horizontally, increasingly so as skyscraper scale is reached, so that when market forces work properly, tall buildings are built primarily when urban land costs become high. (Note that skyscrapers and other buildings of monumental scale are sometimes built for political show rather than for economic efficiency, such as the world’s tallest buildings in Dubai, United Arab Emirates; Taipei, Taiwan; and Kuala Lumpur, Malaysia.) In large urban areas, workers may find themselves with longer and longer commutes and greater transportation costs and may demand higher wages to cover these costs. In addition, the costs of infrastructure such as water and sewer systems are higher in concentrated urban areas. In theory, if costs of transportation of finished goods are high and consumers wish to be located in the largest city to avoid paying those transportation costs as much as possible, economic activity could become indefinitely concentrated within a city (called the “black hole” effect), but it is generally much less costly to improve the transportation system of a country than to pay the costs of maintaining a gargantuan urban complex. Under competitive forces, and other things being equal, if workers are mobile, a worker in a large city with higher wages but higher costs of living (such as higher housing prices) is no better off in real material terms than a worker with comparable education, experience, ability, and health in a small city who has lower wages and lower costs of living.<sup>12</sup>

Thus the concentrating, or “centripetal,” forces of urban agglomeration economies are opposed by the dispersing, or “centrifugal,” forces of diseconomies featuring increasing costs with greater concentration, because some of the factors of production, most obviously land, are not mobile. We can “create” more central city land by building skyscrapers, but only to a certain scale and only at substantial cost. Thus it is normal for an economy to have a range of cities, with sizes dependent on the scale of the industries it sponsors and the extent of agglomeration economies found for that industry or cluster of industries.

**Congestion** An action taken by one agent that decreases the incentives for other agents to take similar actions. Compare to the opposite effect of a complementarity.

Two well-known theories of city size are the urban hierarchy model (central place theory) and the differentiated plane model.<sup>13</sup> In the urban hierarchy model, originated by August Losch and Walter Christaller, plants in various industries have a characteristic market radius that results from the interplay of three factors: economies of scale in production, transportation costs, and the way the demand for land is spread over space. The larger the economies of scale in production and the lower the transportation costs, the larger the radius of territory that will be served by that industry to minimize costs. In contrast, if the price of real estate is bid up to high levels in the resulting cities, this will tend to create smaller radii. As a result, small cities contain activities with short market radii, while large cities emerge to contain activities of both small and large radii. Generally speaking, activities of a national scope, such as government and finance, will be located in a single city (though not necessarily the same large city because of the effect of congestion costs). Clearly, the urban hierarchy approach applies better to nonexport industries than to export industries. When countries have different specializations in the international market or are at different stages of economic development, the size distribution of cities may potentially differ. For example, a developing country that still overwhelmingly specializes in agriculture might reasonably have one or two large cities serving national industries such as finance and government and many smaller towns serving local agricultural areas. A country with a highly differentiated manufacturing and service base might have a large number of medium-size cities.

In the differentiated plane model, originated by Alfred Weber, Walter Isard, and Leon Moses, the limited number of transportation routes linking the industries within an economy plays a key role. The model predicts urban concentrations at the points where the scarce transportation routes cross, called "internal nodes." The hierarchy of urban sizes depends on the pattern of nodes and the industrial mix. Primary processing industries have few inputs and are usually located near the source of the primary resource. However, there will also be incentives for industries with strong backward or forward linkages to locate in the same city.

### 7.3 The Urban Giantism Problem

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In the case of developing countries, the main transportation routes are often a legacy of colonialism. Theorists of the dependence school (see Chapter 3) have compared colonial transportation networks to drainage systems, emphasizing ease of extraction of the country's natural resources. In many cases, the capital city will be located near the outlet of this system on the seacoast. This type of transportation system is also called a "hub-and-spoke system," which is especially visible when the capital city is located in the interior of the country. Many nations inherited a hub-and-spoke system from colonial times, including many in Africa and Latin America, which also facilitated movement of troops from the capital to the outlying towns to suppress revolts.

The differentiated plane approach emphasizes the lasting impact of historical accidents. In this case, it helps explain where the most oversized cities are found in the developing world and suggests where policies of urban decentralization

may be most helpful. Note that not all countries inherited such a hub-and-spoke system; Germany did not; the United States did not, in part because it is the result of the merger of 13 separate British colonies, which retained some measure of local autonomy, as do the federal states of Germany. The recent development of the United States makes the emergence of cities such as Atlanta from the crossing of transportation routes especially clear, but the same principle has applied elsewhere over longer historical periods. Of course, as nations become wealthy, they generally build better transportation systems.

Sometimes one urban core becomes too large to keep the costs of the industries located there to a minimum. In developed countries, other cores are often developed within the broad metropolitan region, enabling the region as a whole to continue to receive benefits of agglomeration while lowering some of the costs; or new cities may develop in entirely different parts of the country. But this creation of new urban cores does not happen automatically if there are advantages to locating where other firms and residents are already present. This is another chicken-and-egg coordination problem of the type described in Chapter 4. Who will be the pioneer if it is less costly to stay where you are and wait for other pioneers to settle in the new city first? In economic terms, the agglomeration economies of cities are externalities, which must somehow be internalized or the market will fail. How can this be done?

In the United States, developers frequently internalize the externality by creating a new "edge city" within a metropolitan area, financing and building a new center where land is still relatively inexpensive, perhaps 10 to 50 kilometers from the original urban core. This takes place within a context of public oversight in the form of zoning regulations and inducements such as tax breaks. In developing countries, however, capital markets generally do not work well enough for this process of development to take place. In Europe, the public sector plays a much larger role in coordinating new towns and large developments.

In developing countries, however, governments are less involved in the dispersal of economic activity to more manageable sizes or, if they are involved, are often less effective. For example, government may seek to disperse industry without regard to the nature of agglomeration economies, giving incentives for dispersal but no attention to clustering relevant industries together, a problem seen in industrial parks in Pakistan. And all too often, the incentives are for firms to concentrate in the capital city or other "urban giants." A key problem of countries such as Peru and Argentina is that their giant capitals suffer from enormous levels of congestion, but adequate midsize cities that might provide alternative locations for growth are lacking. A well-designed infrastructure development program, including more efficient links between medium-size cities and better roads, utilities, and telecommunications within these cities, can help alleviate this problem.

A more detailed comparison of North and South America is instructive. The largest urban area in the United States, the New York metropolitan area, has about 6% of the national population. Toronto, the largest metropolitan area in Canada, has about 5 million residents, some 15% of the Canadian population. But Mexico City holds nearly one-fifth of the population of Mexico, Montevideo nearly half of the population of Uruguay, Lima over one-quarter of the population of Peru, and Buenos Aires and Santiago close to a third of the populations of Argentina and Chile, respectively.<sup>14</sup>

TABLE 7.1 Population of the Largest and Second-Largest Cities in Selected Countries (millions)

Country	Largest-City Population	Second-Largest-City Population	Ratio
Canada	Toronto, 5.035	Montreal, 3.603	1.40
United States	New York, 18.727	Los Angeles, 12.303	1.52
Argentina	Buenos Aires, 12.551	Cordoba, 1.423	8.82
Brazil	Sao Paulo, 18.647	Rio de Janeiro, 11.368	1.64
Chile	Santiago, 5.605	Valparaiso, 0.837	6.70
Mexico	Mexico City, 18.735	Guadalajara, 4.057	4.62
Peru	Lima, 8.081	Arequipa, 0.732	11.04

Source: From UN World Urbanization Prospects 2009 Revision, 2005 data (most recent non-projected year).

Note: Definitions of city size differ across studies.

### First-City Bias

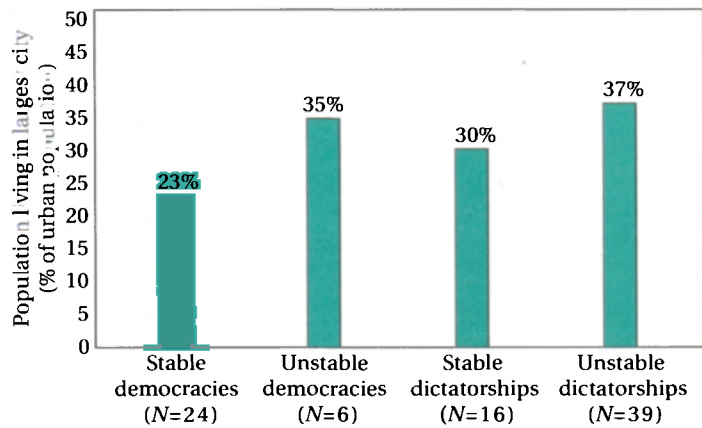
A form of urban bias that has often caused considerable distortions might be termed *first-city bias*. The country's largest or "first-place" city receives a disproportionately large share of public investment and incentives for private investment in relation to the country's second-largest city and other smaller cities. As a result, the first city receives a disproportionately—and inefficiently—large share of population and economic activity.

Table 7.1 shows the largest and second-largest cities in the United States, Canada, and major Latin American countries. Notice that in all of the outsized capital cities—Buenos Aires, Santiago, Mexico City, and Lima—the first city also serves as the capital. Some other developing countries have remarkably outsized first cities, notably Thailand, where Bangkok has a population about 20 times the size of the second city. Further examples can be found in the Philippines (where Manila has over seven times the population of the second city), and Congo (where Kinshasa has more than five times the second city's population). There are at least ten other examples of relatively large first (prime) cities in developing nations with sizeable populations.<sup>15</sup>

### Causes of Urban Giantism

Why have first cities often swelled to such a large multiple of second cities in developing countries? Overall, urban giantism probably results from a combination of a hub-and-spoke transportation system and the location of the political capital in the largest city. This is further reinforced by a political culture of rent seeking and the capital market failures that make the creation of new urban centers a task that markets cannot complete. Other more detailed explanations also generally involve unfortunate consequences of political economy (see Chapter 11). One argument, featured in the work of Paul Krugman, stresses that under import substitution industrialization (see Chapter 12), with a high level of protection, there is much less international trade, and population and economic activity have an incentive to concentrate in a single city, largely to avoid transportation costs. Thus firms wish to set up operations in the city where the most consumers already live, which attracts more people to the region in search of jobs and perhaps lower prices (made possible because there

FIGURE 7.7 Politics and Urban Concentration



Source: Data from Alberto F. Ades and Edward L. Glaeser, "Trade and circuses: Explaining urban giants," *Quarterly Journal of Economics* 110 (1995): 196. Copyright © 1995 by the President and Fellows of Harvard College and the Massachusetts Institute of Technology.

Note: N = number of countries in group.

are fewer transport costs to be passed on to consumers and perhaps by economies of larger store size and specialized sales districts); this concentration in turn attracts still more firms and consumers in a circle of causation. However, when trade barriers are reduced, the incentive to focus production on the home market is also reduced, and exporters and their suppliers have much less incentive to be located in the country's biggest population center. This moves production toward ports and borders, or elsewhere in the country, to escape the excessive congestion costs of the largest city.<sup>16</sup>

Another explanation for urban giants focuses on the consequences of dictators' efforts to remain in power. As Figure 7.7 shows, on average, a much larger share of a country's urbanized population (37%) lives in the first city in unstable dictatorships than in stable democracies (23%). In interpreting this finding, Alberto Ades and Edward Glaeser argue that unstable dictatorships (fearing overthrow) must provide "bread and circuses" for the first city (usually the capital) to prevent unrest; this extreme urban bias in turn attracts more migrants to the favored city and a still larger need for bread and circuses. It should be noted that although the authors attempt to control for reverse causality, it may still be the case that unstable dictatorships also tend to emerge in countries with high first-city concentrations.<sup>17</sup>

In the developing world, until recently, relatively few countries were effective democracies. Until the democratization waves beginning in the 1980s, most developing countries had authoritarian governments of one form or another. To remain in power and prevent popular uprisings and coups, which were generally thought to be most threatening when launched from the capital city, governments had an incentive to "buy off" the population of the largest city. This focus of national government spending on the capital city is



the bread-and-circuses effect, recalling the phrasing of “rent-sharing” policies in ancient Rome in its period of expansion. The availability of better opportunities, whether the equivalent of the grain handouts in ancient Rome or jobs, wages, infrastructure, and other government services concentrated in the capital city of many of today’s developing countries, attracts an ever-growing migrant population, in turn leading to larger precautionary government spending as the fear of political instability grows.

Another political economy factor contributes to capital city giantism: It becomes advantageous for firms to be located where they have easy access to government officials, to curry political favor from a regime that can be induced to give companies special favors for a price or that simply demands bribes to function at all. The resulting first-city giantism may be viewed as a form of underdevelopment trap, which may be escaped fully only with a return to democratic rule together with a better balance of incentives to compete for exports as well as home consumption. Democracy does not eliminate political benefits of location in the national capital, but while lobbyists still congregate in the political capital, there may be less incentive for production to become overconcentrated there. Moreover, a free press tends to expose corruption and generate public pressure to root it out, as recent experience in many democratizing countries in Latin America and East Asia makes clear.

The explanations for urban giantism—production for the home market in the face of high protection and transport costs, few adequate smaller cities as alternative locations for firms reflecting infrastructure patterns, location of the capital in the largest city, and the political logic of unstable dictatorships—are complementary and help explain some of the advantages of democracies with more balanced economic policies, including well-planned investments in infrastructure. Such countries are able to avoid some of the costs of urban giantism.

Finally, special factors may lead to high costs of doing business elsewhere in the country. There is an incentive to locate in the capital where personal security is highest in countries in or emerging from conflict such as the Democratic Republic of Congo. And firms may be responding primarily to costs and risks resulting from extortion, greater corruption, or civil unrest in rural areas and small cities, as well as bad infrastructure. The swelling of the urban giant can therefore also be a symptom of binding constraints on development elsewhere in the country that growth diagnosticians can learn from (see Chapter 4). This may suggest priority policies to help overcome a nation’s particular problems of high costs of operating outside the primate city.

With our better understanding of the causes of outsized primate cities, it becomes clear that this feature is not inevitable. Indeed, if trends toward greater democracy, reduced incidence of coups, increased outward-looking policies, and improved prospects of solving and preventing civil conflicts are maintained, the ratios of largest to second-largest cities where urban giantism has prevailed are likely to continue to decrease.

## 7.4 The Urban Informal Sector

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As noted in Chapter 3, a focus of development theory has been on the dualistic nature of developing countries’ national economies—the existence of a modern

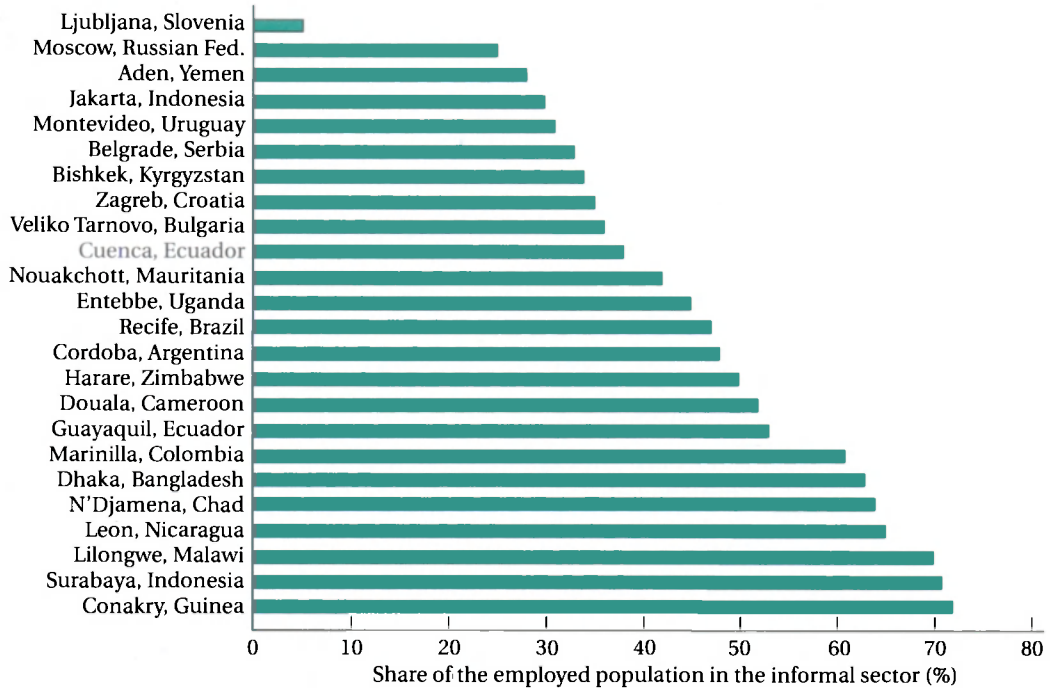
urban capitalist sector geared toward capital-intensive, large-scale production and a traditional rural subsistence sector geared toward labor-intensive, small-scale production. This dualistic analysis has also been applied specifically to the urban economy, which has been decomposed into a formal and an informal sector.

**Informal sector** The part of the urban economy of developing countries characterized by small competitive individual or family firms, petty retail trade and services, labor-intensive methods, free entry, and market-determined factor and product prices.

The existence of an unorganized, unregulated, and mostly legal but unregistered **informal sector** was recognized in the 1970s, following observations in several developing countries that massive additions to the urban labor force failed to show up in formal modern-sector unemployment statistics. The bulk of new entrants to the urban labor force seemed to create their own employment or to work for small-scale family-owned enterprises. The self-employed were engaged in a remarkable array of activities, ranging from hawking, street vending, letter writing, knife sharpening, and junk collecting to selling fireworks, prostitution, drug peddling, and snake charming. Others found jobs as mechanics, carpenters, small artisans, barbers, and personal servants. Still others were highly successful small-scale entrepreneurs with several employees (mostly relatives) and higher incomes. Some could even eventually graduate to the formal sector, where they become legally registered, licensed, and subject to government labor regulations. With the unprecedented rate of growth of the urban population in developing countries expected to continue and with the increasing failure of the rural and urban formal sectors to absorb additions to the labor force, more attention is being devoted to the role of the informal sector in serving as a panacea for the growing unemployment problem.

The informal sector continues to play an important role in developing countries, despite decades of benign neglect and even outright hostility. In many developing countries, about half of the employed urban population works in the informal sector. Figure 7.8 shows the relative importance of informal unemployment in selected cities. Most of these cities reflect the typical range of informal-sector employment share, from about 30% to 70%. (The only exception is Ljubljana, a virtually developed city near Austria and Italy.) We find a similar pattern of high informal-sector employment in cities throughout the developing world. For example, in India, the urban informal sector comprises 28.5% of employment in Kolkata, 46.5% in Ahmedabad, 49.5% in Mumbai, 53.8% in Chennai, 61.4% in Delhi, and 65.5% in Bangaluru.

The informal sector is characterized by a large number of small-scale production and service activities that are individually or family-owned and use simple, labor-intensive technology. They tend to operate like monopolistically competitive firms with ease of entry, excess capacity, and competition driving profits (incomes) down to the average supply price of labor of potential new entrants. The usually self-employed workers in this sector have less formal education, are generally unskilled, and lack access to financial capital. As a result, worker productivity and income tend to be lower in the informal sector than in the formal sector. Moreover, workers in the informal sector do not enjoy the measure of protection afforded by the formal modern sector in terms of job security, decent working conditions, and old-age pensions. Many workers entering this sector are recent migrants from rural areas unable to find employment in the formal sector. Their motivation is often to obtain sufficient income for survival, relying on their own indigenous resources to create work. As many members of the household as possible are involved in income-generating activities, including women and children, and

**FIGURE 7.8** Importance of Informal Employment in Selected Cities

Source: UN-Habitat, "State of the World's Cities, 2001," <http://www.unchs.org/Istanbul+5/statereport.htm>. Reprinted with permission.

they often work very long hours. A large fraction inhabit shacks and small cinder-block houses that they themselves have built in slums and squatter settlements, which generally lack minimal public services such as electricity, water, drainage, transportation, and educational and health services. Others are even less fortunate, homeless, and living on the pavements. They find sporadic temporary employment in the informal sector as day laborers and hawkers, but their incomes are insufficient to provide even the most rudimentary shelter.

### Policies for the Urban Informal Sector

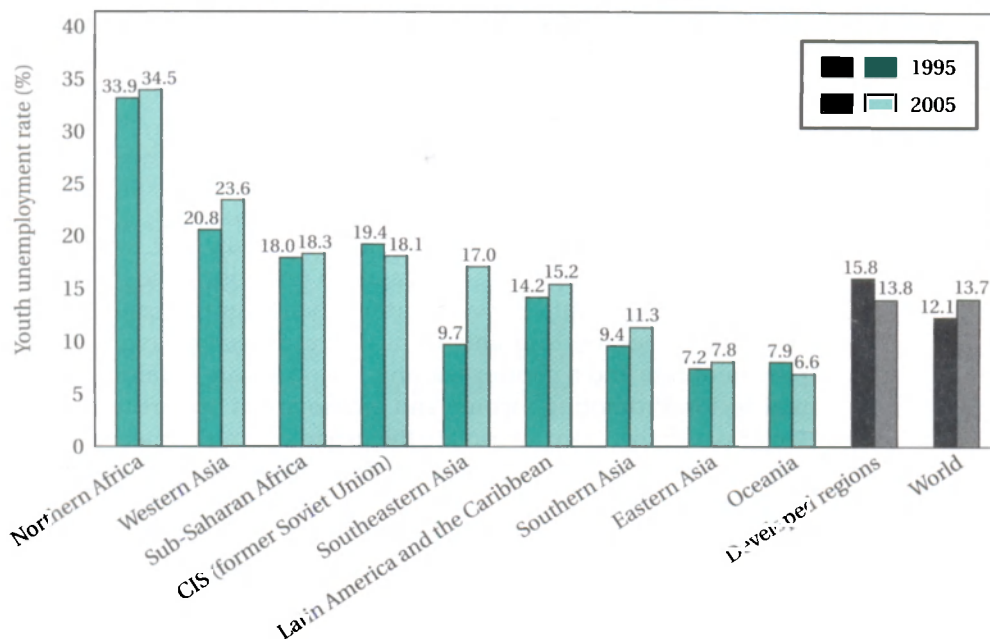
In terms of its relationship with other sectors, the informal sector is linked with the rural sector in that it allows excess labor to escape from extreme rural poverty and underemployment, although under living and working conditions and for incomes that are often not much better. It is closely connected with the formal urban sector: The formal sector depends on the informal sector for cheap inputs and wage goods for its workers, and the informal sector in turn depends on the growth of the formal sector for a good portion of its income and clientele.

Informal-sector incomes have remained persistently higher than those in the poorest rural regions despite the continued flow of rural-urban migration. The Nobel laureate Sir Arthur Lewis in the 1950s viewed traditional-sector workers, petty traders such as newspaper hawkers, as unproductive and essentially engaged in distractions from the main urban work of industrialization. But if wages are persistently higher in very competitive activities such as urban informal work than in rural work, this likely reflects higher productivities as well. Consequently, a revisionist view espousing the constructive role of cities (that includes their informal sectors) in economic development has taken hold. This approach has been championed by the Dar es Salaam-based UN-Habitat, in its "State of the World's Cities" reports.<sup>18</sup> The 2001 report systematically criticized what it termed the "anti-urban bias of the development agencies." Acting on the strong development tradition beginning with the Lewis skepticism of the urban informal sector, developed with the Todaro migration model (examined later in this chapter) emphasizing the negative consequences of urban bias for both efficiency and equity, continuing with the influential work of the integrated rural development school of the 1970s and recast and reemphasized in recent years under the Wolfensohn and subsequent presidencies at the World Bank, development agencies have indeed stressed rural development rhetorically. Many scholars have concluded, however, that this rhetoric often goes untranslated into real resources for the rural areas so that any pro-rural bias of development agencies is typically little more than a partial correction to the overriding forces for urban bias. However, the renewed focus on the development role of cities is an important trend. Besides UN-Habitat, the World Bank and other agencies have placed increasing emphasis on improved urban development.<sup>19</sup> The new focus is on how to make cities in developing countries more dynamic engines of growth and more livable environments, and it promises to be one of the more important streams of emerging research and policy analysis in economic development in coming years. In any case, while medium-size cities undoubtedly deserve greater attention for the constructive role they play in the development process, this does not obviate the problem of overconcentration of activities in first-city urban giantism.

The important role that the informal sector plays in providing income opportunities for the poor is clear. There is some question, however, as to whether the informal sector is merely a holding ground for people awaiting entry into the formal sector and as such is a transitional phase that must be made as comfortable as possible without perpetuating its existence until it is itself absorbed by the formal sector or whether it is here to stay and should in fact be promoted as a major source of employment and income for the urban labor force.<sup>20</sup>

In support of the latter view, the formal sector in developing countries often has a small base in terms of output and employment. To absorb future additions to the urban labor force, the formal sector must be able to generate employment at a very high rate. This means that output must grow at an even faster rate, since employment in this sector increases less than proportionately in relation to output. This sort of growth seems highly unlikely in view of current trends. Thus the burden on the informal sector to absorb more labor will continue to grow unless other solutions to the urban unemployment problem

FIGURE 7.9 Youth Unemployment Rates, 1995 and 2005



Source: Adapted from United Nations, *Millennium Development Goals Report, 2006* (New York: United Nations, 2006), p. 24.

are provided. But young people face increasingly difficult job prospects, as can be seen in Figure 7.9.

The informal sector has demonstrated its ability to generate employment and income for the urban labor force. As pointed out earlier, it is already absorbing an average of 50% of the urban labor force. Some studies have shown the informal sector generating almost one-third of urban income.

Several other arguments can be made in favor of promoting the informal sector. First, scattered evidence indicates that the informal sector generates surpluses even in a hostile policy environment that denies it access to the advantages offered to the formal sector, such as credit, foreign exchange, and tax concessions. Thus the informal sector's surplus could provide an impetus to growth in the urban economy. Second, as a result of its low capital intensity, only a fraction of the capital needed in the formal sector is required to employ a worker in the informal sector, offering considerable savings to developing countries so often plagued with capital shortages. Third, by providing access to training and apprenticeships at substantially lower costs than provided by formal institutions and the formal sector, the informal sector can play an important role in the formation of human capital. Fourth, the informal sector generates demand for semiskilled and unskilled labor whose supply is increasing in both relative and absolute terms and is unlikely to be absorbed by

the formal sector with its increasing demands for a skilled labor force. Fifth, the informal sector is more likely to adopt appropriate technologies and make use of local resources, allowing for a more efficient allocation of resources. Sixth, the informal sector plays an important role in recycling waste materials, engaging in the collection of goods ranging from scrap metals to cigarette butts, many of which find their way to the industrial sector or provide basic commodities for the poor. Finally, promotion of the informal sector would ensure an increased distribution of the benefits of development to the poor, many of whom are concentrated in the informal sector.

Promotion of the informal sector is not, however, without its disadvantages. One of the major disadvantages in promoting the informal sector lies in the strong relationship between rural-urban migration and labor absorption in the informal sector. Migrants from the rural sector have both a lower unemployment rate and a shorter waiting period before obtaining a job in the informal sector. Promoting income and employment opportunities in the informal sector could therefore aggravate the urban unemployment problem by attracting more labor than either the desirable parts of the informal or the formal sector could absorb. Furthermore, there is concern over the environmental consequences of a highly concentrated informal sector in the urban areas. Many informal-sector activities cause pollution and congestion (e.g., pedicabs) or inconvenience to pedestrians (e.g., hawkers and vendors). Moreover, increased densities in slums and low-income neighborhoods, coupled with poor urban services, could cause enormous problems for urban areas. Any policy measures designed to promote the informal sector must be able to cope with these various problems. Finally, it is an almost universal observation that when regular formal-sector employment becomes available, many informal-sector microentrepreneurs switch sectors to take these jobs—clear evidence of “revealed preference.”

There has been little discussion in the literature as to what sorts of measures might be adopted to promote the informal sector. The International Labor Organization has made some general suggestions. To begin with, governments will have to abandon their hostility toward the informal sector and adopt a more positive and sympathetic posture. For example, in Latin America, although improving in many cases, bureaucratic red tape and an inordinate number of administrative procedures needed to register a new business result in delays of up to 240 days in Ecuador, 310 days in Venezuela, and 525 days in Guatemala. Until recently, Brazil, Mexico, and Chile all required more than 20 applications before a company could be approved to do business. Such procedures not only cause excessive delays but can also inflate the costs of doing business by up to 70% annually. So informal-sector businesses simply skirt the law.

Because access to skills plays an important role in determining the structure of the informal sector, governments should facilitate training in the areas that are most beneficial to the urban economy. In this way, the government can play a role in shaping the informal sector so that it contains production and service activities that provide the most value to society. Specifically, such measures might promote legal activities and discourage illegal ones by providing proper skills and other incentives. It could also generate taxes that now go unpaid.

The lack of capital is a major constraint on activities in the informal sector. The provision of credit would therefore permit these enterprises to expand, produce more profit, and hence generate more income and employment. Microfinance institutions have been leading the way in providing enhanced credit access (see Chapter 15). Access to improved technology would have similar effects. Providing infrastructure and suitable locations for work (e.g., designating specific areas for stalls) could help alleviate some of the environmental and congestion consequences of an expanded informal sector. Finally, better living conditions must be provided, if not directly, then by promoting growth of the sector on the fringes of urban areas or in smaller towns where the population will settle close to its new area of work, away from the urban density. Promotion of the informal sector outside the urban areas may also help redirect the flow of rural-urban migration, especially if carried out in conjunction with the policies discussed later in this chapter.

### Women in the Informal Sector

In some regions of the world, women predominate among rural-urban migrants and may even comprise the majority of the urban population. Though historically, many of these women were simply accompanying their spouses, a growing number of women in Latin America, Asia, and Africa migrate to seek economic opportunity. With the exception of the export enclaves of East Asia and a few other cities, where everything from computers to running shoes are manufactured, few of these migrants are able to find employment in the formal sector, which is generally dominated by men. As a consequence, women often represent the bulk of the informal-sector labor supply, working for low wages at unstable jobs with no employee or social security benefits. The increase in the number of single female migrants has also contributed to the rising proportion of urban households headed by women, which tend to be poorer, experience tighter resource constraints, and retain relatively high fertility rates. The changing composition of migration flows has important economic and demographic implications for many urban areas of the developing world.

Because members of female-headed households are generally restricted to low-productivity informal-sector employment and experience higher dependency burdens, they are more likely to be poor and malnourished and less likely to obtain formal education, health care, or clean water and sanitation, often remaining effectively excluded from government services. Dropout rates among children from households headed by women are much higher because the children are more likely to be working to contribute to household income.

Many women run small business ventures or microenterprises that require little or no start-up capital and often involve the marketing of homemade foodstuffs and handicrafts. Though women's restricted access to capital leads to high rates of return on their tiny investments, the extremely low capital-labor ratios confine women to low-productivity undertakings. Studies in Latin America and Asia have found that where credit is available to women with informal-sector microenterprises, repayment rates have equaled or exceeded those for men (see Chapter 15). And because women are able to make more productive use of capital and start from a much lower investment base, their rates of return on investments often surpass those for men.

Despite the impressive record of these credit programs, they remain limited. The majority of institutional credit is still channeled through formal-sector agencies, and as a result, women generally find themselves ineligible for even small loans. Government programs to enhance income in poor households will inevitably neglect the neediest households so long as governments continue to focus on formal-sector employment of men and allocation of resources through formal-sector institutions. To solve the plight of poor urban women and their children, it is imperative that efforts be made to integrate women into the economic mainstream. Ensuring that women benefit from development programs will require that women's special circumstances be considered in policy design.

The legalization and economic promotion of informal-sector activities, where the majority of the urban female labor force is employed, could greatly improve women's financial flexibility and the productivity of their ventures. However, to enable women to reap these benefits, governments must repeal laws that restrict women's rights to own property, conduct financial transactions, or limit their fertility. Likewise, barriers to women's direct involvement in technical training programs and extension services must be eradicated. Finally, the provision of affordable child care and family-planning services would lighten the burden of women's reproductive roles and permit them a greater degree of economic participation.

## 7.5 Migration and Development

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As noted earlier in the chapter, rural-urban migration has been dramatic, and urban development plays an important role in economic development. Rates of rural-urban migration in developing countries have exceeded rates of urban job creation and thus surpassed greatly the absorption capacity of both industry and urban social services.

Migration worsens rural-urban structural imbalances in two direct ways. First, on the supply side, internal migration disproportionately increases the growth rate of urban job seekers relative to urban population growth, which itself is at historically unprecedented levels because of the high proportion of well-educated young people in the migrant system. Their presence tends to swell the urban labor supply while depleting the rural countryside of valuable human capital. Second, on the demand side, urban job creation is generally more difficult and costly to accomplish than rural job creation because of the need for substantial complementary resource inputs for most jobs in the industrial sector. Moreover, the pressures of rising urban wages and compulsory employee fringe benefits in combination with the unavailability of appropriate, more labor-intensive production technologies means that a rising share of modern-sector output growth is accounted for by increases in labor productivity. Together this rapid supply increase and lagging demand growth tend to convert a short-run problem of resource imbalances into a long-run situation of chronic and rising urban surplus labor.

But the impact of migration on the development process is much more pervasive than its exacerbation of urban unemployment and underemployment. In fact, the significance of the migration phenomenon in most developing countries is not necessarily in the process itself or even in its impact on the

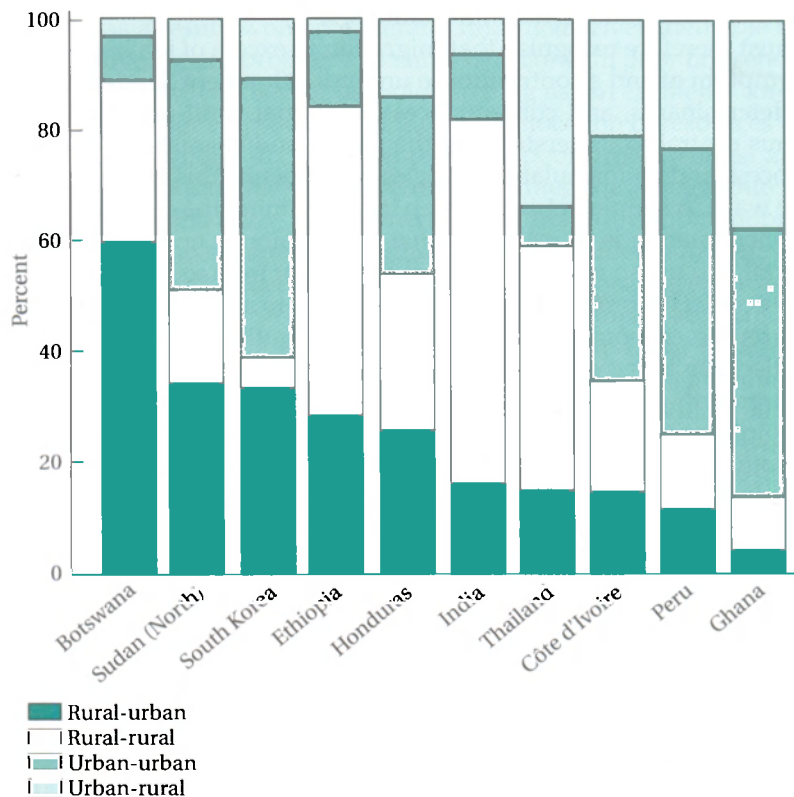


sectoral allocation of human resources. Rather, its significance lies in its implications for economic growth in general and for the character of that growth, particularly its distributional manifestations.

We must therefore recognize that migration in excess of job opportunities is both a symptom of and a contributor to underdevelopment. Understanding the causes, determinants, and consequences of internal rural-urban labor migration is thus central to understanding the nature and character of the development process and to formulating policies to influence this process in socially desirable ways. A simple yet crucial step in underlining the centrality of the migration phenomenon is to recognize that any economic and social policy that affects rural and urban real incomes will directly or indirectly influence the migration process. This process will in turn itself tend to alter the pattern of sectoral and geographic economic activity, income distribution, and even population growth. Because all economic policies have direct and indirect effects on the level and growth of urban or rural incomes or both, they all will have a tendency to influence the nature and magnitude of the migration stream. Although some policies may have a more direct and immediate impact (e.g., wages and income policies and employment promotion programs), there are many others that, though less obvious, may in the long run be no less important. Included among these policies, for example, would be land tenure arrangements; commodity pricing; credit allocation; taxation; export promotion; import substitution; commercial and exchange-rate policies; the geographic distribution of social services; the nature of public investment programs; attitudes toward private foreign investors; the organization of population and family-planning programs; the structure, content, and orientation of the educational system; the functioning of labor markets; and the nature of public policies toward international technology transfer and the location of new industries. There is thus a clear need to recognize the central importance of internal and, for many countries, even international migration and to integrate the two-way relationship between migration and population distribution on the one hand and economic variables on the other into a more comprehensive framework designed to improve development policy formulation.

In addition, we need to understand better not only why people move and what factors are most important in their decision-making process but also what the consequences of migration are for rural and urban economic and social development. If all development policies affect migration and are affected by it, which are the most significant, and why? What are the policy options and trade-offs among different and sometimes competing objectives (e.g., curtailing internal migration and expanding educational opportunities in rural areas)? Part of our task in the following sections will be to seek answers to these and other questions relating to migration, unemployment, and development.

Migration patterns are complex. The most important type of migration from the standpoint of long-run development is rural-urban migration, but a great deal of rural-rural, urban-urban, and even urban-rural migration also takes place. Rural-urban migration is most important because the population share of cities is growing, despite the fact that fertility is much lower in urban areas, and the difference is accounted for by rural-urban migration. It is also important because of the potential development benefits of economic activity of cities, due to agglomeration economies and other factors. However, urban-rural migration is

**FIGURE 7.10** Components of Migration in Selected Countries


Source: *World Development Report, 1999–2000*, “Internal migration and urbanization: Recent contributions and new evidence,” by Robert E. B. Lucas. Copyright 1999 by World Bank. Reproduced with permission of World Bank via Copyright Clearance Center.

important to understand because it usually occurs when hard times in cities coincide with increases in output prices from the country’s cash crops, as occurred in Ghana not long ago. Thus the overall picture is one of a remarkable amount of “churning,” or continuous movements of people within developing countries, especially over short distances. These movements contradict the popular image of stasis in traditional societies. The composition of internal migration for several countries is shown in Figure 7.10.

In addition to wage differentials, age, and education, migration is also explained partly by relocation upon remarrying; prior emigration of family members; distance and costs of relocation; occurrence of famine, disease, violence, and other disasters; and relative standing in the origin community, with those lower on the social order more likely to migrate. Migration can also be a form of portfolio diversification for families who seek to settle some members in areas where they may not be affected by economic shocks in the same way as if they had stayed at home.<sup>21</sup>

## 7.6 Toward an Economic Theory of Rural-Urban Migration

The economic development of western Europe and the United States was closely associated with the movement of labor from rural to urban areas. For the most part, with a rural sector dominated by agricultural activities and an urban sector focusing on industrialization, overall economic development in these countries was characterized by the gradual reallocation of labor out of agriculture and into industry through rural-urban migration, both internal and international. Urbanization and industrialization were in essence synonymous. This historical model served as a blueprint for structural change in developing countries, as evidenced, for example, by the original Lewis theory of labor transfer (see Chapter 3).

But the overwhelming evidence of the past several decades, when developing nations witnessed a massive migration of their rural populations into urban areas despite rising levels of urban unemployment and underemployment, lessens the validity of the Lewis two-sector model of development.<sup>22</sup> An explanation of the phenomenon, as well as policies to address the resulting problems, must be sought elsewhere. One theory to explain the apparently paradoxical relationship of accelerated rural-urban migration in the context of rising urban unemployment has come to be known as the **Todaro migration model** and in its equilibrium form as the **Harris-Todaro model**.<sup>23</sup>

### A Verbal Description of the Todaro Model

Starting from the assumption that migration is primarily an economic phenomenon, which for the individual migrant can be a quite rational decision despite the existence of urban unemployment, the Todaro model postulates that migration proceeds in response to urban-rural differences in expected income rather than actual earnings. The fundamental premise is that migrants consider the various labor market opportunities available to them in the rural and urban sectors and choose the one that maximizes their expected gains from migration. A schematic framework showing how the varying factors affecting the migration decision interact is given in Figure 7.11.

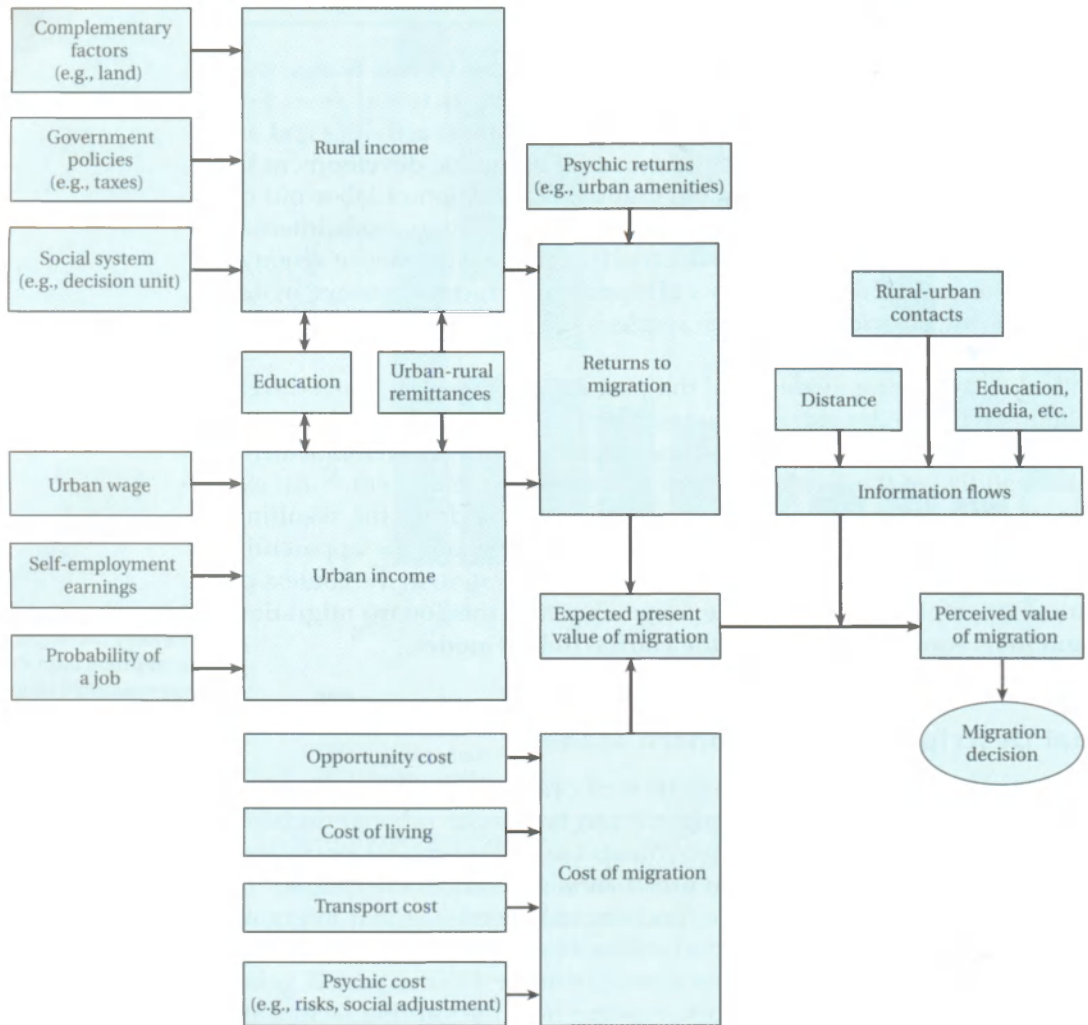
In essence, the theory assumes that members of the labor force, both actual and potential, compare their expected incomes for a given time horizon in the urban sector (the difference between returns and costs of migration) with prevailing average rural incomes and migrate if the former exceeds the latter. (See Appendix 7.1 for a mathematical formulation.)

Consider the following illustration. Suppose that the average unskilled or semiskilled rural worker has a choice between being a farm laborer (or working his own land) for an annual average real income of, say, 50 units or migrating to the city, where a worker with his skill or educational background can obtain wage employment yielding an annual real income of 100 units. The more commonly used economic models of migration, which place exclusive emphasis on the income differential factor as the determinant of the decision to migrate, would indicate a clear choice in this situation. The worker should seek the higher-paying urban job. It is important to recognize, however,

#### Todaro migration model

A theory that explains rural-urban migration as an economically rational process despite high urban unemployment. Migrants calculate (present value of) urban expected income (or its equivalent) and move if this exceeds average rural income.

**Harris-Todaro model** An equilibrium version of the Todaro migration model that predicts that expected incomes will be equated across rural and urban sectors when taking into account informal-sector activities and outright unemployment.

**FIGURE 7.11 Schematic Framework for Analyzing the Rural-to-Urban Migration Decision**


Source: Derek Byerlee, "Rural-urban migration in Africa: Theory, policy, and research implications," *International Migration Review* 3 (1974): 553. Copyright © 1974. Reproduced with permission of Blackwell Publishing Ltd.

that these migration models were developed largely in the context of advanced industrial economies and hence implicitly assume the existence of full or near-full employment. In a full-employment environment, the decision to migrate can be based solely on the desire to secure the highest-paid job wherever it becomes available. Simple economic theory would then indicate that such migration should lead to a reduction in wage differentials through the interaction of the forces of supply and demand, in areas of both emigration and immigration.

Unfortunately, such an analysis is not realistic in the context of the institutional and economic framework of most developing nations. First, these countries are beset by a chronic unemployment problem, which means that a typical migrant cannot expect to secure a high-paying urban job immediately. In fact, it is much more likely that on entering the urban labor market, many uneducated, unskilled migrants will either become totally unemployed or will seek casual and part-time employment as vendors, hawkers, repairmen, and itinerant day laborers in the urban traditional or informal sector, where ease of entry, small scale of operation, and relatively competitive price and wage determination prevail. In the case of migrants with considerable human capital in the form of a secondary or university certificate, opportunities are much better, and many will find formal-sector jobs relatively quickly. But they constitute only a small proportion of the total migration stream. Consequently, in deciding to migrate, the individual must balance the probabilities and risks of being unemployed or underemployed for a considerable period of time against the positive urban-rural real income differential. The fact that a typical migrant who gains a modern-sector job can expect to earn twice the annual real income in an urban area than in a rural environment may be of little consequence if the actual probability of his securing the higher-paying job within, say, a one-year period is one chance in five. Thus the actual probability of his being successful in securing the higher-paying urban job is 20%, and therefore his expected urban income for the one-year period is in fact 20 units and not the 100 units that an urban worker in a full-employment environment would expect to receive. So with a one-period time horizon and a probability of success of 20%, it would be irrational for this migrant to seek an urban job, even though the differential between urban and rural earnings capacity is 100%. However, if the probability of success were 60% and the expected urban income therefore 60 units, it would be entirely rational for our migrant with his one-period time horizon to try his luck in the urban area, even though urban unemployment may be extremely high.

If we now approach the situation by assuming a considerably longer time horizon—a more realistic assumption, especially in view of the fact that the vast majority of migrants are between the ages of 15 and 24—the decision to migrate should be represented on the basis of a longer-term, more permanent income calculation. If the migrant anticipates a relatively low probability of finding regular wage employment in the initial period but expects this probability to increase over time as he is able to broaden his urban contacts, it would still be rational for him to migrate, even though expected urban income during the initial period or periods might be lower than expected rural income. As long as the **present value** of the net stream of expected urban income over the migrant's planning horizon exceeds that of the expected rural income, the decision to migrate is justifiable. This, in essence, is the process depicted in Figure 7.11.

Rather than equalizing urban and rural wage rates, as would be the case in a competitive model, we see that rural-urban migration in our model equates rural and urban expected incomes. For example, if average rural income is 60 and urban income is 120, a 50% urban unemployment rate would be necessary before further migration would no longer be profitable. Because expected incomes are defined in terms of both wages and employment probabilities, it is possible to have continued migration despite the existence of sizable rates of

**Present value** The discounted value at the present time of a sum or money to be received in the future.

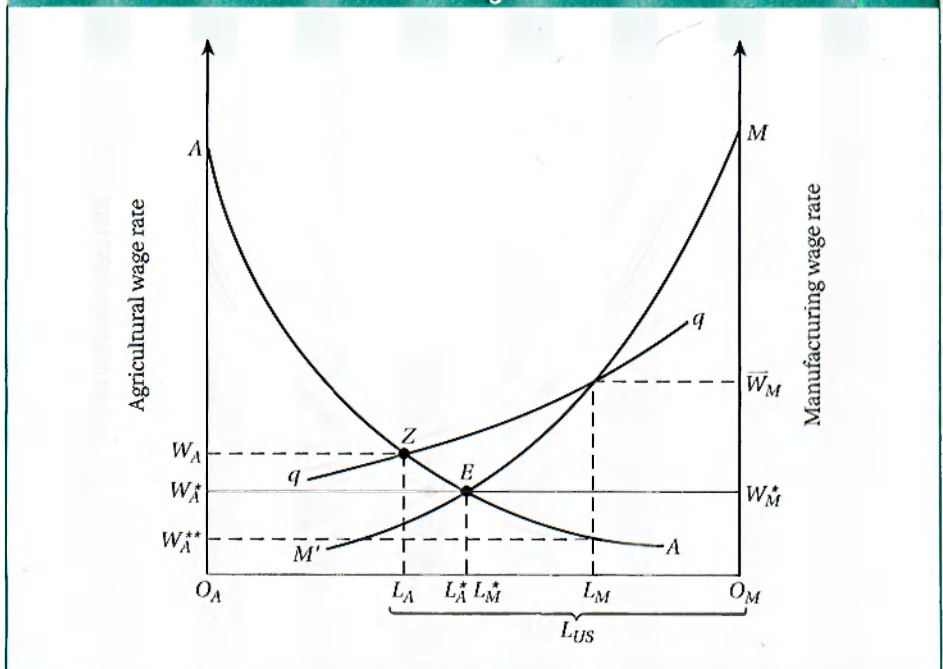
urban unemployment. In our example, migration would continue even if the urban unemployment rate were 30% to 40%.

### A Diagrammatic Presentation

This process of achieving an unemployment equilibrium between urban expected wages and average rural income rather than an equalized rural-urban wage as in the traditional neoclassical free-market model can also be explained by a diagrammatic portrayal of the basic Harris-Todaro model. This is done in Figure 7.12.<sup>24</sup> Assume only two sectors, rural agriculture and urban manufacturing. The demand for labor (the marginal product of labor curve) in agriculture is given by the negatively sloped line  $AA'$ . Labor demand in manufacturing is given by  $MM'$  (reading from right to left). The total labor force is given by line  $O_A O_M$ . In a neoclassical, flexible-wage, full-employment market economy, the equilibrium wage would be established at  $W_A^* = W_M^*$ , with  $O_A L_A^*$  workers in agriculture and  $O_M L_M^*$  workers employed in urban manufacturing. All available workers are therefore employed.

But what if urban wages are institutionally determined (inflexible downward) as assumed by Todaro at a level  $\bar{W}_M$ , which is at a considerable distance above  $W_A^*$ ? If for the moment we continue to assume that there is no unemployment,  $O_M L_M$  workers would get urban jobs, and the rest,  $O_A L_M$ , would have to settle for rural employment at  $O_A W_A^{**}$  wages (below the free-market level of  $O_A W_A^*$ ). So now we have an urban-rural real wage gap of  $\bar{W}_M - W_A^{**}$ , with  $\bar{W}_M$  institutionally fixed. If rural workers were free to migrate (as they are almost everywhere except China), then despite the availability of only  $O_M L_M$  jobs, they are willing to take their chances in the urban job lottery. If their chance (probability) of securing one

**FIGURE 7.12** The Harris-Todaro Migration Model



of these favored jobs is expressed by the ratio of employment in manufacturing,  $L_M$ , to the total urban labor pool,  $L_{US}$ , then the expression

$$W_A = \frac{L_M}{L_{US}} (\bar{W}_M) \quad (7.1)$$

shows the probability of urban job success necessary to equate agricultural income  $W_A$  with urban expected income  $(L_M/L_{US}) (\bar{W}_M)$ , thus causing a potential migrant to be indifferent between job locations. The locus of such points of indifference is given by the  $qq'$  curve in Figure 7.12.<sup>25</sup> The new unemployment equilibrium now occurs at point  $Z$ , where the urban-rural actual wage gap is  $\bar{W}_M - W_A$ ,  $O_A L_A$  workers are still in the agricultural sector, and  $O_M L_M$  of these workers have modern (formal)-sector jobs paying  $\bar{W}_M$  wages. The rest,  $O_M L_A - O_M L_M$ , are either unemployed or engaged in low-income informal-sector activities. This explains the existence of urban unemployment and the private economic rationality of continued rural-to-urban migration despite this high unemployment. However, although it may be privately rational from a cost-benefit perspective for an individual to migrate to the city despite high unemployment, it can, as will soon become clear, be socially very costly.

There are many ways to extend the model; here we mention four. First, Equation 7.1 simplifies by assuming that those who migrate and do not get a modern job receive no income; but if they instead receive urban informal-sector income, we modify expected income accordingly.<sup>26</sup> Second, note that if instead of assuming that all urban migrants are the same, we incorporate the reality of different levels of human capital (education), we can understand why a higher proportion of the rural educated migrate than the uneducated—because they have a better chance (a higher probability) of earning even higher urban wages than unskilled migrants.

Third, we often observe that migrants from the same rural region tend to settle in common cities, even the same neighborhoods of cities, that are relatively distant from the migrants' place of origin. In a model proposed by William Carrington, Enrica Detragiache, and Tara Vishwanath, earlier migrants create a positive externality for later potential migrants from their home region by lowering their costs of moving by helping with resettlement and lowering their probability of unemployment by providing them with jobs or information about available jobs. Thus the search for employment, selection into the migration decision, and forward-looking behavior may all be incorporated into an equilibrium migration model.<sup>27</sup>

Fourth, The Todaro and Harris-Todaro models are relevant to developing countries even if the wage is not fixed by institutional forces, such as a minimum wage. Recent theoretical research on rural-urban migration has confirmed that the emergence of a high modern-sector wage alongside unemployment or an urban traditional sector as seen in these models can also result from market responses to imperfect information, **labor turnover**, **efficiency wage** payments, and other common features of labor markets.<sup>28</sup>

To sum up, the Todaro migration model has four basic characteristics:

1. Migration is stimulated primarily by rational economic considerations of relative benefits and costs, mostly financial but also psychological.
2. The decision to migrate depends on expected rather than actual urban-rural real-wage differentials where the expected differential is determined

**Labor turnover** Worker separations from employers, a concept used in theory that the urban-rural wage gap is partly explained by the fact that urban modern-sector employers pay higher wages to reduce labor turnover rates and retain trained and skilled workers.

**Efficiency wage** The notion that modern-sector urban employers pay a higher wage than the equilibrium wage rate in order to attract and retain a higher-quality workforce or to obtain higher productivity on the job.

by the interaction of two variables, the actual urban-rural wage differential and the probability of successfully obtaining employment in the urban sector.

3. The probability of obtaining an urban job is directly related to the urban employment rate and thus inversely related to the urban unemployment rate.
4. Migration rates in excess of urban job opportunity growth rates are not only possible but also rational and even likely in the face of wide urban-rural expected income differentials. High rates of urban unemployment are therefore inevitable outcomes of the serious imbalance of economic opportunities between urban and rural areas in most underdeveloped countries.

### Five Policy Implications

Although the Todaro theory might at first seem to devalue the critical importance of rural-urban migration by portraying it as an adjustment mechanism by which workers allocate themselves between rural and urban labor markets, it does have important policy implications for development strategy with regard to wages and incomes, rural development, and industrialization.

First, imbalances in urban-rural employment opportunities caused by the urban bias, particularly first-city bias, of development strategies must be reduced. Because migrants are assumed to respond to differentials in expected incomes, it is vitally important that imbalances between economic opportunities in rural and urban sectors be minimized. When urban wage rates rise faster than average rural incomes, they stimulate further rural-urban migration in spite of rising levels of urban unemployment. This heavy influx of people into urban areas not only gives rise to socioeconomic problems in the cities but may also eventually create problems of labor shortages in rural areas, especially during the busy seasons. These social costs may exceed the private benefits of migration.

Second, urban job creation is an insufficient solution for the urban unemployment problem. The traditional (Keynesian) economic solution to urban unemployment (the creation of more urban modern-sector jobs without simultaneous attempts to improve rural incomes and employment opportunities) can result in the paradoxical situation where more urban employment leads to higher levels of urban unemployment! Once again, the imbalance in expected income-earning opportunities is the crucial concept. Because migration rates are assumed to respond positively to *both* higher urban wages *and* higher urban employment opportunities (or probabilities), it follows that for any given positive urban-rural wage differential (in most developing countries, urban wages are typically three to four times as large as rural wages), higher urban employment rates will widen the expected differential and induce even higher rates of rural-urban migration. For every new job created, two or three migrants who were productively occupied in rural areas may come to the city. Thus if 100 new jobs are created, there may be as many as 300 new migrants and therefore 200 more urban unemployed. Hence a policy designed to reduce urban unemployment may lead not only to higher levels of urban unemployment but also to lower levels of agricultural output due to **induced migration**.

**Induced migration** Process in which the creation of urban jobs raises expected incomes and induces more people to migrate from rural areas.



Third, indiscriminate educational expansion will lead to further migration and unemployment. The Todaro model also has important policy implications for curtailing public investment in higher education. The heavy influx of rural migrants into urban areas at rates much in excess of new employment opportunities necessitates rationing in the selection of new employees. Although within each educational group such selection may be largely random, many observers have noted that employers tend to use educational attainment or number of years of completed schooling as the typical rationing device. For the same wage, they will hire people with more education in preference to those with less, even though extra education may not contribute to better job performance. Jobs that could formerly be filled by those with a primary education (sweepers, messengers, filing clerks, etc.) now require secondary training; those formerly requiring a secondary certificate (clerks, typists, bookkeepers, etc.) must now have a university degree. It follows that for any given urban wage, if the probability of success in securing a modern-sector job is higher for people with more education, their expected income differential will also be higher, and they will be more likely to migrate to the cities. The basic Todaro model therefore provides an economic explanation for the observed fact in most developing countries that rural inhabitants with more education are more likely to migrate than those with less.

Fourth, wage subsidies and traditional scarcity factor pricing can be counterproductive. As noted in Chapter 5 and Appendix 5.1, a standard economic policy prescription for generating urban employment opportunities is to eliminate factor price distortions by using “correct” prices, perhaps implemented by wage subsidies (fixed government subsidies to employers for each worker employed) or direct government hiring. Because actual urban wages generally exceed the market or “correct” wage as a result of a variety of institutional factors, it is often argued that the elimination of wage distortions through price adjustments or a subsidy system will encourage more labor-intensive modes of production. Although such policies can generate more labor-intensive modes of production, they can also lead to higher levels of unemployment in accordance with our argument about induced migration. The overall welfare impact of a **wage subsidy** policy when both the rural and urban sectors are taken into account is not immediately clear. Much will depend on the level of urban unemployment, the size of the urban-rural expected-income differential, and the magnitude of induced migration as more urban jobs are created.

Finally, programs of integrated rural development should be encouraged. Policies that operate only on the demand side of the urban employment picture, such as wage subsidies, direct government hiring, elimination of factor price distortions, and employer tax incentives, are probably far less effective in the long run in alleviating the unemployment problem than policies designed directly to regulate the supply of labor to urban areas. Clearly, however, some combination of both kinds of policies is most desirable.

Conceptually, it may be useful to think of cities and their surrounding rural areas as integrated systems. There are significant complementarities between town and country (see Chapter 9). Agricultural and raw materials grown and extracted in rural areas are inputs for urban industry. Although there is some urban agriculture, most food consumed in urban areas is grown in agricultural regions. Towns are needed to allow sufficient agglomeration economies, as well as economies of scale, to produce and exchange many

**Wage subsidy** A government financial incentive to private employers to hire more workers, as through tax deductions for new job creation.

goods and services that are needed in rural areas. In turn, when rural incomes grow, markets for urban manufactures expand. People come from their rural residences to work in the city by the day or the week. City residents temporarily migrate to nearby agricultural regions during peak planting and harvesting seasons. Thus rural-urban linkages are extensive. And while investment in urban areas can accelerate migration to cities, investment in agriculture can raise productivity and incomes, making labor redundant, and also accelerate migration. As a result, for policy purposes, it may make a great deal of sense to take account of rural impacts when devising urban policies and vice versa.

At the same time, as globalization proceeds (see Chapter 12), cities tend to trade more with other cities, often in distant parts of the world, and less with nearby rural areas. Moreover, cities generally get the upper hand when urban and rural areas are treated as a bloc, reinforcing urban bias. And rural hinterlands, far from significant cities and from the attention of distant governments, whether national or regional, often suffer from benign neglect at best and systematic exploitation at worst, such as forced sale of food at low prices. Thus rural areas need to retain their own autonomy, and poverty programs need to be tailored to the needs of rural citizens.

Every effort must be made to broaden the economic base of the rural economy. The present unnecessary economic incentives for rural-urban migration must be minimized through creative and well-designed programs of integrated rural development. These should focus on both farm and nonfarm income generation, employment growth, health care delivery, educational improvement, infrastructure development (electricity, water, roads, etc.), and the provision of other rural amenities. Successful rural development programs adapted to the socioeconomic and environmental needs of particular countries and regions seem to offer the only viable long-run solution to the problem of excessive rural-urban migration.

To assert, however, that there is an urgent need for policies designed to curb the excessive influx of rural migrants is not to imply an attempt to reverse what some observers have called inevitable historical trends. Rather, the implication of the Todaro migration model is that there is a growing need for a policy package that does not exacerbate these historical trends toward urbanization by artificially creating serious imbalances in economic opportunities between urban and rural areas.

## 7.7 Summary and Conclusions: A Comprehensive Migration and Employment Strategy

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Based on long-term trends, comparisons with developed countries, and still-strong individual incentives, continued urbanization and rural-urban migration are probably inevitable. Urban bias spurs migration, but focused investment in agriculture raises rural productivity sufficiently to require less labor; a majority of alternative types of employment expansion tend to be concentrated in urban areas because of agglomeration effects. Moreover, as education increases

in rural areas, workers gain the skills they need, and perhaps the rising aspirations, to seek employment in the city. But the pace of rural-urban migration is still often excessive from the social viewpoint. At various points throughout this chapter, we have looked at possible policy approaches designed to improve the very serious migration and employment situation in developing countries. We conclude with a summary of what appears to be the consensus of most economists on the shape of a comprehensive migration and employment strategy.<sup>24</sup> This would appear to have seven key elements:

1. *Creating an appropriate rural-urban economic balance.* A more appropriate balance between rural and urban economic opportunities appears to be indispensable to ameliorating both urban and rural unemployment problems and to slowing the pace of rural-urban migration. The main thrust of this activity should be in the integrated development of the rural sector, the spread of rural nonfarm employment opportunities, improved credit access, better agricultural training, the reorientation of social investments toward rural areas, improving rural infrastructure, and addressing shortcomings of rural institutions (including corruption, discrimination, and stratification), the presence of which has the effect of raising the cost of delaying out-migration.

2. *Expansion of small-scale, labor-intensive industries.* The composition or “product mix” of output has obvious effects on the magnitude (and in many cases the location) of employment opportunities because some products (often basic consumer goods) require more labor per unit of output and per unit of capital than others. Expansion of these mostly small-scale and labor-intensive industries in both urban and rural areas can be accomplished in two ways: directly, through government investment and incentives and improved access to credit, particularly for activities in the urban informal sector, and indirectly, through income redistribution (either directly or from future growth) to the rural poor, whose structure of consumer demand is both less import-intensive and more labor-intensive than that of the rich. Under the right conditions such enterprises can agglomerate as industrial districts in ways that can generate exports, as pointed to by the findings on China in Box 7.1.

3. *Eliminating factor price distortions.* There is ample evidence to demonstrate that correcting factor price distortions—primarily by eliminating various capital subsidies and curtailing the growth of urban wages through market-based pricing—would increase employment opportunities and make better use of scarce capital resources. But by how much or how quickly these policies would work is not clear. Moreover, their migration implications would have to be ascertained. Correct pricing policies by themselves are insufficient to fundamentally alter the present employment situation.

4. *Choosing appropriate labor-intensive technologies of production.* One of the principal factors inhibiting the success of any long-run program of employment creation in both urban industry and rural agriculture is the almost complete technological dependence on (typically laborsaving) machinery and equipment from the developed countries. Domestic and international efforts can help reduce this dependence by developing technological research and adaptation capacities in developing countries. Such efforts might first be linked to the development of small-scale, labor-intensive rural and urban enterprises. They could

focus on developing low-cost, labor-intensive methods of meeting rural infrastructure needs, including roads, irrigation and drainage systems, and essential health and educational services. This is an area where scientific and technological assistance from the developed countries could prove extremely helpful.

5. *Modifying the linkage between education and employment.* The emergence of the phenomenon of the educated unemployed is calling into question the appropriateness of the massive quantitative expansion of educational systems, especially at the higher levels. Formal education has become the rationing tunnel through which all prospective jobholders must pass. Although a full discussion of educational problems and policies must await the next chapter, one way to moderate the excessive demand for additional years of schooling (which in reality is a demand for modern-sector jobs) would be for governments, often the largest employers, to base their hiring practices and their wage structures on other criteria. Moreover, the creation of attractive economic opportunities in rural areas would make it easier to redirect educational systems toward the needs of rural development. At present, many of the skills needed for development remain largely neglected.

6. *Reducing population growth.* This is most efficiently accomplished through reductions in absolute poverty and inequality, particularly for women, along with the expanded provision of family-planning and rural health services. The labor force size for the next two decades is already determined by today's birth rates, and hidden momentum of population growth applies as well to labor force growth. Together with the demand policies identified in points 1 through 5, the population and labor supply reduction policies described in this chapter provide an essential ingredient in any strategy to combat the severe employment problems that developing countries face now and in future years.

7. *Decentralizing authority to cities and neighborhoods.* Experience shows that decentralization of authority to municipalities is an essential step in the improvement of urban policies and the quality of public services. Local conditions vary greatly among small and large cities, as well as across different national regions, and policies need to be designed to reflect these differences. Local officials have greater information about evolving local conditions; and when officials are held accountable for local fiscal performance and know they must answer to recipients of the services they provide, they also have greater incentives to carry out their responsibilities effectively. Decentralization, with increased authority of cities and regions, has been a major international trend in the organization of government (see Chapter 11).

We conclude by noting that while a much higher urban share of population is inevitable, the tempo and pattern of urbanization will be key determinants of whether the deeper objectives of economic development are achieved. China and India, which together account for over one-third of the world's population, are entering their most rapid migration and urbanization period. Several African and other Asian countries are at a similar point. Because of fixed costs including infrastructure and land use patterns, the quality of policies toward urbanization and migration that are implemented now are thus of momentous importance for the character of economic development for many decades to come.

## Case Study 7

# Rural-Urban Migration and Urbanization in Developing Countries: India and Botswana

About half of the world's population lives in cities; by 2025, nearly two-thirds will live in urban areas. Most of the urban growth is taking place in the developing world. The patterns of this growth and its implications are complex. Urban population growth in the developing world is far more rapid than population growth generally; about half the urban growth is accounted for by migrants from rural areas. Unchecked urbanization of the developing world is placing a strain on infrastructure and public health and threatens social stability. Shantytowns and similar makeshift settlements represent over one-third of developing-country urban residences. About half of the urban labor force works in the informal sector of low-skilled, low-productivity, often self-employed jobs in petty sales and services. Still, this sector may generate up to a third of urban income and features a low capital intensity, low-cost training, waste recycling, and employment creation. What drives migration? The cases of India and Botswana are instructive in showing the value of the probabilistic theory of migration and suggesting ways of extending it.

Any economic or social policy that affects rural and urban incomes will influence migration; this, in turn, will affect sectoral and geographic economic activity, income distribution, and even population growth. Before the Todaro and Harris-Todaro migration models were introduced, migration was widely viewed as irrational or driven by noneconomic motivations, sometimes attributed to the lure of the "bright city lights." Noneconomic factors do influence migration decisions, but economic factors are now understood to be primary. In the economic version of the bright-city-lights theory, people rationally migrated on the basis of costs and benefits.

In this approach, it was assumed that if migrants appeared to be worse off, this was because other benefits were being overlooked, with the effect of making the migrants feel better off (or raising their overall utility).

The Todaro migration models postulate that observed migration is individually rational but that migrants respond to urban-rural differences in expected rather than actual earnings. Urban modern-sector earnings are much higher than rural earnings, which may in turn be even higher than urban traditional-sector earnings. Migration occurs until average or expected rather than actual incomes are equal across regions, generating equilibrium unemployment or underemployment in the urban traditional sector. The extension of the model to consider equilibrium and effects of actions such as increases in wages and probability of employment in the urban areas, undertaken by Harris and Todaro, shows that under some conditions, notably elastic supply of labor, creation of employment opportunities in cities can actually lead to an *increase* in unemployment by attracting more migrants than there are new jobs. Despite being individually rational, extensive rural-urban migration generates social costs for crowded cities, while excessive migration also imposes external costs on the rural areas emptied of better-educated, more venturesome young people as well as external costs on urban infrastructure and lost output.

One set of relevant migration and employment policies emphasizes rural development, rural basic-needs strategies, elimination of factor price distortions, appropriate technology choice, and appropriate education. Each is intended to increase the incentives for rural residents to remain in rural areas

rather than migrate to cities. But even if rural development is successful, fewer rural laborers will ultimately be needed, and demand for products of the cities will grow, which will fuel migration anyway. So other policies seek to influence the pattern of urban development to gain the most benefits for the fewest costs from migration that is probably inevitable.

India provides an interesting setting for a case study because future urban migration is potentially so vast and because a number of interesting studies have been undertaken there. Botswana offers a good counterpoint because it has better published data, and more advanced statistical analysis of those data has been undertaken there than for most developing regions.

## India

One of the most detailed studies of rural-urban migration, providing some tests of the Todaro migration models and depicting the characteristics of migrants and the migration process, is Biswajit Banerjee's *Rural to Urban Migration and the Urban Labour Market: A Case Study of Delhi*.

Everyone who has been to a major city in a developing country has noticed the sharp inequality between residents with modern-sector jobs and those working in the informal sector. But can the informal sector be seen as a temporary way station on the road to the formal sector, or can the barriers between these sectors be explained by education and skill requirements that informal-sector workers cannot hope to meet? Banerjee found that the idea of segmented formal-informal rural labor markets could be substantiated statistically. After carefully controlling for human capital variables, Banerjee was still left with earnings in the formal sector 9% higher than in the informal sector that were not explained by any standard economic factor. Even so, the earnings differences found in India were not nearly so dramatic as implied in some of the migration literature.

In much of the literature on urbanization, the typical laborer is characterized as self-employed or working on some type of piecework basis. But Banerjee found that only 14% of his informal-sector sample worked in nonwage employment. Interestingly, average monthly incomes of nonwage workers were 47% higher than those of formal-sector workers.

Banerjee argued that entry into nonwage employment was not easy in Delhi. Some activities required significant skills or capital. Those that did not were often controlled by cohesive "networks" of operators that controlled activities in various enterprises. Entry barriers to self-employment in petty services are probably lower in other developing-country cities.

Consistent with these findings, Banerjee found that mobility from the informal to the formal sector was low: There was little evidence that more than a very small minority of informal-sector workers were actively seeking jobs in the formal sectors, and only 5% to 15% of rural migrants into the informal sector had moved over to the formal sector in a year's time.

Moreover, the rate of entrance into the formal sector from the informal sector was just one-sixth to one-third that of the rate of direct entry into the urban formal sector from outside the area.

Informal-sector workers tended to work in the same job almost as long as those in the formal sector; the average informal-sector worker had worked 1.67 jobs over a period of 61 months in the city, while formal-sector workers averaged 1.24 jobs over an urban career of 67 months.

Banerjee's survey data suggested that a large number of informal-sector workers who had migrated to the city were attracted by the informal rather than the formal sector, coming to work as domestic servants, informal construction laborers, and salespeople. Of those who began nonwage employment upon their arrival, 71% had expected to do so. The fact that only a minority of informal-sector workers continued to search for formal-sector work was taken as further evidence that migrants had come to Delhi expressly to take up informal-sector work.

Workers who appear underemployed may not consider themselves as such, may perceive no possibility of moving into the modern sector, may be unable to effectively search for modern-sector work while employed in the informal sector, and hence do not create as much downward pressure on modern-sector wages as it would at first appear. This may be one factor keeping modern-sector wages well above informal-sector wages for indefinite periods of time despite high measured urban underemployment.

One reason for this focus on the informal sector was concluded to be the lack of contacts of informal-sector workers with the formal sector. About two-thirds of direct entrants into the formal sector and nearly as many of those switching from the informal to the formal sector found their jobs through personal contacts. This overwhelming importance of contacts was taken to explain why some 43% of Banerjee's sample migrated after receiving a suggestion from a contact, which suggests that job market information can become available to potential migrants without their being physically present in the city. An additional 10% of the sample had a pre-arranged job in the city prior to migration.

Finally, the duration of unemployment following migration is usually very short. Within one week, 64% of new arrivals had found employment, and although a few were unemployed for a long period, the average waiting time to obtain a first job was just 17 days.

Banerjee also found that migrants kept close ties to their rural roots. Some three-quarters of the migrants visited their villages of origin and about two-thirds were remitting part of their urban incomes, a substantial 23% of income on average. This indicates that concern for the whole family appeared to be a guiding force in migration. It also suggests a source of the rapid flow of job market information from urban to rural areas.

In a separate study, A. S. Oberai, Pradhan Prasad, and M. G. Sardana examined the determinants of migration in three states in India—Bihar, Kerala, and Uttar Pradesh. Their findings were consistent with the ideas that migrants often have a history of chronic underemployment before they migrate, migrate only as a measure of desperation, and have the expectation of participating in the informal urban sector even in the long run. Remittances were found to be substantial, and considerable levels of return migration were also documented, among other evidence of continued close ties of migrants to their home villages.

But Banerjee's fascinating findings do not necessarily represent a challenge to the applicability of Harris-Todaro or other "probabilistic migration models." Instead, they suggest that they need to be extended to accommodate the apparently common pattern of migrating with the ultimate aim of urban informal-sector employment. As Ira Gang and

Shubhashis Gangopadhyay have noted, one can modify the model to include in the urban area not only a formal sector but also a highly paid informal sector, as well as a low-paid (or unemployed) sector. In this case, people will migrate looking for either a formal-sector job or a high-paid informal-sector job. This seems to be consistent with Banerjee's evidence. The assumption that keeps the essence of the probabilistic models intact is that the wage of the formal urban sector exceeds the high-paid informal wage, which in turn exceeds the agricultural wage, which in turn exceeds the low-paid informal (or unemployed) wage. In fact, if rural wages remain below all urban opportunities, this suggests that we are well out of equilibrium, and much additional migration must occur before expected incomes can be equalized across sectors. The particular formulations of the Todaro models are really no more than examples of a general principle: that migrants go where they expect in advance to do better, not where they do better after the fact. The basic ideas of the Todaro models do not depend on a particular notion of an informal or a formal sector.

Oded Stark's ideas on a family's use of migration can be a useful supplement to the Todaro models and may apply to some of Banerjee's findings. In his view, a family will send members to different areas as a "portfolio diversification" strategy, to reduce the risk that the family will have no income. This approach is useful to explain any observed migration from higher- to lower-wage areas and into higher-wage areas but not necessarily the area with the highest expected wage. The basic idea of the Todaro models still applies, but this approach looks at families rather than individuals and stresses risk aversion.

Other studies have shown that the Todaro migration models have held up well without modification in other parts of the world. A survey by Deepak Mazumdar confirmed that the evidence is overwhelming that migration decisions are made according to rational economic motivations.

## Botswana

A study of migration behavior conducted by Robert E. B. Lucas in Botswana addressed such problems in the most economically and statistically sophisticated empirical study of migration in a developing country. His econometric model consisted of four

groups of equations—for employment, earnings, internal migration, and migration to South Africa. Each group was estimated from microeconomic data on individual migrants and nonmigrants. Very detailed demographic information was used in the survey.

Rural migrants in Botswana move to five urban centers (they would be called towns rather than cities in many parts of the world) as well as to neighboring South Africa. Lucas found that unadjusted urban earnings are much higher than rural earnings—68% higher for males—but these differences become much smaller when schooling and experience are controlled for.

Lucas's results confirm that the higher a person's expected earnings and the higher the estimated probability of employment after a move to an urban center, the greater the chances that the person will migrate. And the higher the estimated wage and probability of employment for a person in his or her home village, the lower the chances that the person will migrate. This result was very "robust"—not sensitive to which subgroups were examined or the

way various factors were controlled for—and statistically significant. It represents clear evidence in support of Todaro's original hypothesis.

Moreover, Lucas estimated that at current pay differentials, the creation of one job in an urban center would draw more than one new migrant from the rural areas, thus confirming the Harris-Todaro effect. Earnings were also found to rise significantly the longer a migrant had been in an urban center, holding education and age constant. But the reason was because of increases in the rate of pay rather than in the probability of modern-sector employment.

Taken together, the best-conducted studies of urbanization confirm the value of probabilistic migration models as the appropriate place to start seeking explanations of rural-to-urban migration in developing countries. But these studies underscore the need to expand these explanations of migration, considering that many people today migrate to participate in the informal rather than the formal urban sector and that workers may face a variety of risks in different settings. ■

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## Concepts for Review

Agglomeration economies  
Congestion  
Efficiency wage  
Harris-Todaro model  
Induced migration

Informal sector  
Labor turnover  
Localization economies  
Present value  
Rural-urban migration

Social capital  
Todaro migration model  
Urban bias  
Urbanization economies  
Wage subsidy

## Questions for Discussion

1. Why might the problem of rapid urbanization be a more significant population policy issue than curtailing population growth rates over the next two decades for most developing countries? Explain your answer.
2. Describe briefly the essential assumptions and major features of the Todaro model of rural-urban migration. One of the most significant implications of this model is the paradoxical conclusion that government policies designed to create more urban employment may in fact lead to more urban unemployment. Explain the reasons for such a paradoxical result.
3. "The key to solving the serious problem of excessive rural-urban migration and rising urban unemployment and underemployment in developing countries is to restore a proper balance between urban and rural economic and social opportunities." Discuss the reasoning behind this statement, and give a few specific examples of government policies that would promote a better balance between urban and rural economic and social opportunities.
4. For many years, the conventional wisdom of development economics assumed an inherent conflict between the objectives of maximizing output growth and promoting rapid industrial employment growth. Might these two objectives be mutually supportive rather than conflicting? Explain your answer.
5. What is meant by the expression "getting prices right"? Under what conditions will eliminating factor price distortions generate substantial new employment opportunities? (Be sure to define factor price distortions.)
6. The informal sector is becoming an ever-larger part of the urban economy. Distinguish between the urban formal and informal sectors, and discuss both the positive and the negative aspects of the informal urban labor market.
7. Why are primate cities—generally the capital—often disproportionately large in many developing countries? Which factors can be addressed with better policies?
8. What is an industrial district? How might governments of developing countries help them succeed?

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## Notes and Further Reading

1. Data are drawn from the following references, which also provide excellent further reading: United Nations Economic and Social Affairs Division, *World Urbanization Prospects. The 2009 Revision: Highlights*, New York: UN, 2010, and earlier editions; World Bank, *World Development Report 2009*; and UN-Habitat, "State of the World's Cities, 2006–07," <http://www.unhabitat.org> and other editions.
2. Robert S. McNamara, "The population problem: Time bomb or myth?" *Foreign Affairs* 62 (1984): 1107–1131. For additional information on the problems of rapid urban population growth, see Bertrand Renaud, *National Urbanization Policy in Developing Countries* (New York: Oxford University Press, 1981). A less concerned viewpoint is expressed in Jeffrey G. Williamson, "Migration and urbanization," in *Handbook of Development Economics*, vol. 1, ed. Hollis B. Chenery and T. N. Srinivasan (Amsterdam: Elsevier, 1988), pp. 426–465.
3. United Nations Population Fund, *Population, Resources, and the Environment* (New York: United Nations, 1991), p. 61.
4. United Nations Population Division, *World Population Monitoring, 1987* (New York: United Nations, 1988). Those results were reiterated in the Program of Action of the 1994 International Conference on Population and Development, para. 9.1.
5. See Michael Porter, *The Competitive Advantage of Nations* (New York: Free Press, 1990); his theory is reviewed further in Chapter 12. Marshall introduced the industrial districts concept in his 1890 *Principles of Economics*.
6. See Michael Piore and Charles Sabel, *The Second Industrial Divide* (New York: Basic Books, 1984).
7. The significance of industrial districts in developing countries is difficult to pin down, in part because such clusters overlap traditional political jurisdictions for which data are collected. An excellent source on this topic is Hubert Schmitz and Khalid Nadvi, eds., "Introduction: Clustering and industrialization," *World Development* 27 (1999): 1503–1514. See also Khalid Nadvi, "Collective efficiency and collective failure: The response of the Sialkot Surgical Instrument Cluster to global quality pressures," *World Development* 27 (1999): 1605–1626. The Ethiopia study is Gezahegn Ayele, Lisa Moorman, Kassu Wamisho, and Xiaobo Zhang, "Infrastructure and cluster development," International Food Policy Research Institute discussion paper no. 980, 2009.
8. Hermine Weijland, "Microenterprise clusters in rural Indonesia: Industrial seedbed and policy target," in *ibid.*, p. 1519.
9. Dorothy McCormick, "African enterprise and industrialization: Theory and reality," in *ibid.*, pp. 1531–1551.
10. Schmitz and Nadvi, "Introduction," pp. 1505–1506, summarize it this way:  

In the early stage, both the mobilizations and use of resources occur in small amounts at a time. This is where clustering becomes significant because it facilitates specialization and effective investment in small steps. Producers do not have to acquire equipment for the entire production process; they can concentrate on particular stages, leaving other stages to other entrepreneurs. Specialized workshops that can repair and upgrade existing machinery further help to reduce technological discontinuities. It follows that investment [and working] capital is needed in small, rather than big, lumps ["riskable steps"]. . . . One producer's investment in specialized skill renders returns because others have invested in complementary expertise. Specialization does not mean isolation, however, because without interaction no one can sell their products or services. . . . Clustering draws out the less exceptional and more common "ordinary" entrepreneurs.

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11. World Bank, *World Development Report, 1999–2000* (New York: Oxford University Press, 2000), ch. 6.
12. *Ibid.*
13. For an introductory overview of urban economics, see, for example, Arthur M. O'Sullivan, *Urban Economics*, 5th ed. (New York: McGraw-Hill/Irwin, 2002). Formal models of some of these ideas can

be found in Masahisa Fujita, Paul Krugman, and Anthony J. Venables, *The Spatial Economy: Cities, Regions, and International Trade* (Cambridge, Mass.: MIT Press, 1999). We would like to thank Anthony Yezer for his very helpful suggestions on these sections.

14. In this comparison, it is no accident that a relatively modest scale of the largest city tends to be found in countries in which the political capital is not found in the largest city, as will be explained shortly. This has been true in Canada and the United States nearly since their founding; it is more recently true in Brazil, where urban growth has been diverted to the new capital, Brasilia, which was inaugurated in 1960 and has reached a population approaching 4 million. Comparative advantage and geography are other important factors; continent-sized countries are more plausible settings for multiple major hubs, as are also found in China and India. The picture also changes somewhat if one considers what the UN termed megaregions in a 2010 report, which include Hong Kong–Shenzhen–Guangzhou in China and Rio de Janeiro–Sao Paulo in Brazil.
15. With the exception of France and Britain, most ratios in Europe are small. Examples—Italy: Rome, 3.4 million; Milan, 2.9 million. Germany: Berlin, 3.4 million; Hamburg, 1.7 million. Netherlands: Rotterdam and Amsterdam, 1.0 million each. Portugal: Lisbon, 2.7 million; Porto, 1.3 million. Spain: Madrid, 5.4 million; Barcelona, 4.8 million. Other sizable developing countries where ratios of largest to second-largest city are relatively higher include Indonesia (about 4), Ethiopia (over 8), Afghanistan (over 6), and Côte d’Ivoire (over 6). Egypt, Iran, Iraq, Kenya, Nigeria, and Bangladesh all have ratios of about 3. Some ratios are higher with alternative metropolitan area estimates.
16. For example, while Mexico City continues to expand, it has a smaller share of industry and now of population than in decades past. A major reason is the growing concentration of export industries in northern Mexico along the U.S. border, especially following implementation of NAFTA and, even more recently, the move of some low-skill industries to southern Mexico.
17. Alberto F. Ades and Edward L. Glaeser, “Trade and circuses: Explaining urban giants,” *Quarterly Journal of Economics* 110 (1995): 195–227. Urban concentration is defined as the average share of urbanized population living in the main city from 1970 to 1985. Stable countries are defined as those whose average number of revolutions and coups is below the worldwide median. Dictatorships are countries whose average Gastil democracy and freedoms index for the period is higher than 3. See also Rasha Gustavsson, “Explaining the phenomenon of Third World urban giants: The effects of trade costs,” *Journal of Economic Integration* 14 (1999): 625–650.
18. UN-Habitat’s annual “State of the World’s Cities” reports are available at <http://www.unhabitat.org>.
19. On the limited impact of the rhetorical critique of urban bias and the policy shift away from it, see World Bank, *World Development Report, 2008–2009* (New York: Oxford University Press, 2008), on the often unrealized role of agriculture in development (discussed in Chapter 9). Information on the new thinking in international agencies on the development roles of cities can be obtained from UN-Habitat at <http://www.unhabitat.org> and the World Bank at <http://www.worldbank.org/urban>. Two good chapters on the role of cities are included in *World Bank, World Development Report, 1999–2000* (New York: Oxford University Press, 1999). And again, note that urban poverty is receiving renewed attention, thanks in part to the seventh Millennium Development Goal target of achieving significant improvement in the lives of at least 100 million slum dwellers by 2020.
20. For a concise review of this debate, see Cathy A. Rakowski, “Convergence and divergence in the informal sector debate: A focus on Latin America, 1984–92,” *World Development* 22 (1994): 501–516. See also Donald C. Mead and Christian Morrison, “The informal sector elephant,” *World Development* 24 (1996): 1611–1619, and Edward Funkhauser, “The urban informal sector in Central America: Household survey evidence,” *World Development* 24 (1996): 1737–1751.
21. See Oded Stark, *The Migration of Labor* (Cambridge, Mass.: Blackwell, 1991), and Robert E. B. Lucas, “Internal migration and urbanization: Recent contributions and new evidence,” background paper for World Bank, *World Development Report, 1999–2000*.

22. Although the *rate* of rural-urban migration slowed during the 1980s, especially in Latin America and sub-Saharan Africa, as a result of declining urban real wages and fewer formal-sector employment opportunities, the actual number of migrants continued to increase.
23. See Appendix 7.1 and Michael P. Todaro, "A model of labor migration and urban unemployment in less developed countries," *American Economic Review* 59 (1969): 138–148, and John R. Harris and Michael P. Todaro, "Migration, unemployment, and development: A two-sector analysis," *American Economic Review* 60 (1970): 126–142.
24. This graph was first introduced in W. Max Corden and Ronald Findlay, "Urban unemployment, intersectoral capital mobility, and development policy," *Economica* 42 (1975): 59–78. It reflects Harris and Todaro, "Migration, unemployment, and development."
25. Note that  $qq'$  is a rectangular hyperbola, a unitary-elasticity curve showing a constant urban wage bill; that is,  $L_M \times W_M$  is fixed.
26. That is, if informal-sector income is greater than zero, we add to expected urban income (on the right side of Equation 7.1) the informal-sector wage  $W_{UI}$  times the probability of receiving it:  $W_{UI}(1 - L_M/L_{US})$ , where  $(1 - L_M/L_{US})$  is the probability of not receiving the preferred urban formal wage. We can further distinguish wages and probabilities of receiving them in this period, or in a more general model in future periods; for a fully developed model, see Appendix 7.1.
27. William J. Carrington, Enrica Detragiache, and Tara Vishwanath, "Migration with endogenous moving costs," *American Economic Review* 86 (1996): 909–930.
28. Whereas the Todaro model focuses on the institutional determinants of urban wage rates above the equilibrium wage, several later analysts have sought to explain this phenomenon by focusing on the high costs of labor turnover (the so-called labor turnover model) in urban areas and the notion of an efficiency wage; an above-equilibrium urban wage enables employers to secure a higher-quality workforce and greater productivity on the job. For a review of these various models, see Joseph E. Stiglitz, "Alternative theories of wage determination and unemployment in LDCs: The labor turnover model," *Quarterly Journal of Economics* 88 (1974): 194–227, and Janet L. Yellen, "Efficiency wage models of unemployment," *American Economic Review* 74 (1984): 200–205. For evidence of the existence and importance of an institutionally determined urban-rural wage gap, see Francis Teal, "The size and sources of economic rents in a developing country manufacturing labour market," *Economic Journal* 106 (1996): 963–976.
- In an influential study, Valerie Bencivenga and Bruce Smith make the alternative assumption that urban modern firms do not know the productivity of migrants but that some potential migrants from rural areas are highly productive and others are unproductive within formal-sector (say, industrial) firms. In this scenario, firms will be motivated through competitive forces to (in effect) offer migrants a package of a wage and a probability of employment. Modern-sector firms hire labor until their marginal products are equal to the resulting high wage rate, and unemployment ensues. Moreover, if modern-sector labor demand increases, both modern- and traditional-sector workforces expand proportionately, inducing additional migration. See Valerie R. Bencivenga and Bruce D. Smith, "Unemployment, migration, and growth," *Journal of Political Economy* 105 (1997): 582–608. An alternative perspective in the economics-of-information framework, based on moral hazard problems, is offered by Hadi S. Esfahani and Djavad Salehi-Ifsahani, "Effort observability and worker productivity: Toward an explanation of economic dualism," *Economic Journal* 99 (1989): 818–836.
29. See, for example, Gary S. Fields, "Public policy and the labor market in less developed countries," in *The Theory of Taxation for Developing Countries*, ed. David P. Newbery and Nicholas Stern (New York: Oxford University Press, 1987); Charles M. Becker, Andrew M. Hammer, and Andrew R. Morrison, *Beyond Urban Bias in Africa: Urbanization in an Era of Structural Adjustment* (Portsmouth, N.H.: Heinemann, 1994), chs. 4–7; David Turnham, *Employment and Development: A New Review of Evidence* (Paris: Organization for Economic Co-ordination and Development, 1993), pp. 245–253; Paul P. Streeten, *Strategies for Human Development:*

*Global Poverty and Unemployment* (Copenhagen: Handelshøjskolens Forlag, 1994), pp. 50–64; and Cedric Pugh, "Poverty and progress: Reflections on housing and urban policies in developing countries, 1976–96," *Urban Studies* 34 (1997): 1547–1595. The literature has also examined strategies to eliminate excessive migration through wage subsidies; these would prove expensive and difficult to administer, but their

analysis has yielded interesting insights into the nature of the Harris-Todaro migration model. See, for example, Ira Gang and Shubhashis Gangopadhyay, "Optimal policies in a dual economy with open unemployment and surplus labour," *Oxford Economic Papers* 39 (1987): 378–387, which also contains references to important earlier work.