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THE NEW URBAN ECONOMY

The Intersection of Global Processes and Place

In the 1970s, only two decades before the first edition of this book was published, many of our great cities worldwide were in physical decay. They were losing people, firms, their key roles in the national economy, and a share of national wealth. New York and Tokyo were officially bankrupt; London was informally bankrupt. As we move into the twenty-first century, a rapidly growing number of cities have reemerged as strategic places for a wide range of activities and dynamics. Underlying all the other dimensions has been the critical new economic role of cities in national economies and in an increasingly globalized world. Much is known about the wealth and power of global firms and financial exchanges. Their ascendance in a globalizing world is no longer surprising. And the new information and communication technologies are generally recognized as the handmaidens of economic globalization—both the tools and the infrastructure. Now we are also learning about the fact that these firms and exchanges are highly susceptible to crisis. Since the 1980s, five major financial crises have affected most firms, largely due to the high level of financializing in more and more economies.[1]

Less clear is why cities should matter more in the globalized world that began in the 1980s than they did in the Keynesian world of the mid-1900s. Nor is it clear in what ways the financializing of a growing range of economic sectors affects cities, especially global cities. Finally, although inequality has long been a feature of cities, major structural trends in today's phase generate novel types of social and spatial inequality that begin to alter the meaning of urbanity itself. This is especially evident in global cities, which become the site for new kinds of political practices and political actors.

FROM THE KEYNESIAN CITY TO THE GLOBAL CITY

In that earlier period, cities were above all centers for administration, small-scale manufacturing, and commerce. Cities were mostly the space for rather routinized endeavors. The strategic spaces where the major innovations were happening were the government (the making of social contracts, such as the welfare state) and mass manufacturing, including mass construction of suburban regions and national transport infrastructure.

The most common and easiest answers as to why cities became strategic in a global corporate economy are the ongoing need for face-to-face communications and the need for creative classes and inputs. Both are part of the answer. But in my reading, these are surface conditions and cannot fully explain the new phase.

The rise of cities as strategic economic spaces is the consequence of a deeper structural transformation evident in all developed economies. It affects cities at multiple levels, from provincial to global. At the heart of this deep structural trend is the fact that even the most material economic sectors (mines, factories, transport systems, hospitals) today are buying more insurance, accounting, legal, financial, consulting, software programming, and other such services for firms. These so-called intermediate services tend to be produced in cities, no matter the nonurban location of the mine or the steel plant that is being serviced. Thus, even an economy centered in manufacturing or mining will feed the urban corporate services economy. Firms operating in more routinized and subnational markets increasingly buy these service inputs from more local or regional cities, which explains why we see the growth of a professional class and the associated built environments also in cities that are not global. The difference for global cities is that they are able to handle the more complex needs of firms and exchanges operating globally. Only in its most extreme forms can this structural transformation feed into the growth of global cities.

The outcomes of this structural condition get wired into urban space. The growth of a high-income professional class and high-profit corporate service firms becomes legible in urban space through the growing demand of state-of-the-art office buildings and all the key components of the residential sphere and consumption. The growing demand of both leads to often massive and visible displacements of the more modest-income households and modest-profit-making firms, no matter how healthy these may be from the perspective of the economy and market demand. In this process, urban space itself is one of the actors producing the outcome. This partly explains why architecture, urban design, and urban planning have each played such critical roles. Beginning in the 1980s, we see the partial rebuilding of cities as platforms for a rapidly growing range of globalized activities and flows, from economic to cultural and political. But it also explains why global cities became an object of investment when this global phase took off in the 1980s, beyond being a place for investment. And it partly explains

why the number and types of cities that became such objects expanded rapidly as globalization expanded in the 1990s and onward.

When I first developed the global city model in the 1980s, my starting points were the global networks of affiliates of firms, global financial exchanges, global trade routes, and global commodity chains. The emergent scholarship on globalization examining these global operations emphasized geographic dispersal, decentralization, and deterritorialization. This was indeed all happening. But I was interested in the territorial moment of all these increasingly electronic and globally dispersed operations. At that time, my idea was to focus on New York and Los Angeles. They seemed to be major territorial nodes. But sticking to my own methodology—starting with the global operations of firms and exchanges and tracking the sites where they hit the ground—forced me to recognize that in the 1980s, New York, London, and Tokyo stood out, with Los Angeles far from the top of the list.

Applying this methodology today leads one to a vastly expanded global geography of sites. There is more of everything—export processing zones, offshore banking centers, massive warehouses that are one stop on global trade routes, and many more global cities.

THE MULTIPLE CIRCUITS OF THE GLOBAL ECONOMY

There is no such entity as "the" global economy. There are global formations, such as electronic financial markets and firms that operate globally. But the key feature of the current era is a vast number of highly particular global circuits that crisscross the world, some specialized and some not, and connect specific areas, most of which are cities. Although many of these global circuits have long existed, what began to change in the 1980s was their proliferation and increasingly complex organizational and financial framings. These emergent intercity geographies begin to function as an infrastructure for globalization. And they increasingly urbanize global networks.

Different circuits contain different groups of countries and cities. For instance, Mumbai is today part of a global circuit for real estate development that includes investors from cities as diverse as London and Bogotá. Coffee is mostly produced in Brazil, Kenya, and Indonesia, but the main trading place for futures on coffee is Wall Street, even though New York does not grow a single bean. The specialized circuits in gold, coffee, oil, and other commodities each involve particular places, which will vary depending on whether it is a production circuit, a trading circuit, or a financial circuit. And then there are the types of circuits a firm such as Walmart needs to outsource the production of vast amounts of products, including manufacturing, trading, and financial/insurance servicing circuits. If we were to track the global circuits of gold as a

financial instrument, London, New York, Chicago, and Zurich dominate. But the wholesale trade in the metal brings São Paulo, Johannesburg, and Sydney into the map, and the trade in the commodity, much of it aimed at the retail trade, adds Mumbai and Dubai. New York and London are the biggest financial centers in the world. But they do not dominate all markets. Thus, Chicago is the leading financial center for the trading of futures, and in the 1990s, Frankfurt became the leading trader for, of all things, British treasuries. These cities are all financial leaders in the global economy, but they lead in different sectors and they are different types of financial centers.

Yet another pattern, the combination of global dispersal and the ongoing spatial concentrations of certain functions, becomes evident by the vast number of multinational corporations. The total number of multinational corporations is unclear, due to the many diverse types of firms. The Organisation for Economic Cooperation and Development (OECD, 2013) found, in its narrowest definition, 29,253 multinational enterprises as of 2013; in contrast, using more general measures, the UN Conference on Trade and Development (UNCTAD, 2007) reported 78,000 transnational corporations (TNCs) with 780,000 foreign affiliates in 2006. Although financial services can be bought everywhere electronically, the major headquarters of leading global financial services firms tend to be concentrated in a limited number of cities, and these directly experience the unemployment crisis of the sector. Each of these financial centers is particularly specialized and strong in specific segments of global finance, even as they also engage in routinized types of transactions that need to be executed by all financial centers.

More than global economic forces feed this proliferation of circuits. Migration, cultural work, and civil society struggle to preserve human rights, the environment, and social justice, while also striving to feed the formation and development of global circuits. Thus, nongovernmental organizations (NGOs) fighting for the protection of the rainforest function in circuits that include Brazil and Indonesia as homes of the major rainforests, the global media centers of New York and London, and the places where the key forestry companies selling and buying wood are headquartered, notably Oslo, London, and Tokyo. Particular music circuits connect specific areas of India with London, New York, Chicago, and Johannesburg, and even more particular music circuits connect parts of China with Los Angeles.

Adopting the perspective of one of these cities reveals the diversity and specificity of its location on some or many of these circuits. These emergent intercity geographies function as an infrastructure for multiple forms of globalization. The critical nodes in these intercity geographies are not simply the cities but, more specifically, the particular, often highly specialized capabilities of each city. Further, a critical trend is that, ultimately, being a global firm or market means entering the specificities and particularities of national economies. This explains why such global firms and markets need more and more global cities as they expand their operations across the world. Handling these national specificities and particularities is a far more complex process than simply imposing global standards.

This process is easier to understand if we consider consumer sectors rather than the organizational/managerial side of global firms. Thus, even such a routinized operation as McDonald's adjusts its products to the national cultures in which it operates, whether that is France, Japan, or South Africa. When it comes to the managerial and organizational aspects, matters become complicated. The global city contains the needed resources and talents to bridge between global actors and national specifics. Even a highly imperfect global city is better for a global firm or exchange than no such city. And this, then, explains why the many and very diverse global cities around the world do not just compete with each other but also collectively form a globally networked platform for the operations of firms and markets.

The network of global cities has expanded as more and more firms go global and enter a growing range of foreign national economies. The management and servicing of much of the global economic system takes place in this growing network of global cities and city-regions. And even though this role involves only certain components of urban economies, it has contributed to a repositioning of cities both nationally and globally.

This repositioning of cities and the move away from intercity competition is further strengthened by the emerging fact that cities are at the forefront of a range of global governance challenges. Because of this, many cities have had to develop capabilities to handle these challenges long before national states signed international treaties or passed national laws. The air quality emergency in cities such as Tokyo and Los Angeles back in the 1980s is one instance: these cities could not wait until an agreement such as Kyoto might appear, nor could they wait until national governments passed mandatory laws for car fuel efficiency and zero emissions. With or without a treaty or law, they urgently had to address air quality. And they did. Cities have even shown a willingness to go against national law when the urgency of confronting particular conditions has demanded it. For instance, in 2006, more than 800 municipal governments in the United States signed on to a declaration for joint action banning carbon dioxide that the U.S. Environmental Protection Agency had designated as safe. More recently, days after President Donald Trump announced the U.S. withdrawal from the Paris Agreement in June 2017, over 300 mayors and 10 governors announced they would follow the rules outlined in the Paris Agreement despite the federal government's stance (Climate Mayors 2017). Cities such as Boston, Austin, and San Francisco have all made steps toward energy efficiency and green building across the city as well as the creation of eco-districts that focus on climate protection on a neighborhood level (Boston Planning & Development Agency 2017; City of Austin Office of Sustainability 2017; San Francisco Planning Department 2013). Beyond the United States, cities across the globe have also committed to the Paris Agreement. After Iceland signed on, the country's capital, Reykjavik announced its plan to become carbon neutral by 2040 partly through using geothermal technology and hydroelectricity. Meanwhile, in 2008 before hosting the Olympics, Beijing's municipal government was compelled by the international

community to reduce its air pollution. City officials closed local factories and restricted automobile usage as a way of combatting the smog. Air pollution in China received global attention again in 2016 when, in preparation for the G20 Summit in Hangzhou, the city government closed multiple chemical manufacturing factories to decrease air pollution.

Finally, the urgency of such global challenges in cities takes on a further practical character by the urbanizing of war. The new military asymmetries arising from conventional armies confronting networked insurgencies tend to produce an increasingly urban geography of warring. Within this context, the expanding presence of cities in global networks and the expanding number of intercity networks take on added meanings.

THE SPECIALIZED DIFFERENCES OF CITIES MATTER: THERE IS NO PERFECT GLOBAL CITY

Although competition exists among cities, there is far less of it than is usually assumed. A global firm does not want one global city, but rather, many. However, given the level of specialization of globalized firms, what are preferred cities will vary according to the firm. Firms thrive on the specialized differences of cities, and this gives a city its particular advantage in the global economy. This also points to the possibility of an urban global politics of reclamations among cities on similar circuits that confront similar corporate giants.

Recognizing the value of the specialized differences of cities and urban regions in today's global economy shows how the deep economic history of a place matters for the type of knowledge economy that a city or a city-region ends up developing. This goes against the common view that globalization homogenizes economies. How much this deep economic history matters varies and partly depends on the particulars of a city's or a region's economy. It matters more than is commonly assumed, and it matters in ways that are not generally recognized. Globalization homogenizes standards—for managing, for accounting, for building state-of-the-art office districts, and so on. But it needs diverse, specialized economic capabilities.

The capabilities needed to trade, finance, service, and invest globally must be produced. They are not simply a by-product of the power of global firms and advancements in telecommunications. Different cities have different resources and talents for producing particular types of capabilities. The global city is a platform for producing such global capabilities, even when this requires large numbers of foreign firms, as is the case in cities as diverse as Beijing and Buenos Aires. Each of the seventy-five plus major and minor global cities in the world contributes to the production of these capabilities in its home country and thereby functions as a bridge between its national economy and the global economy.

The other side of this dynamic is that for a firm to go global, it has to operate in multiple cities that function as entry points into national economies. This bridging capacity is critical: the multiple circuits connecting major and minor global cities are the live infrastructure of the global economy. This indicates that cities do not simply compete with each other. A global firm does not want one global city, even if it is the best in the world. Different groups of cities will be desirable, even if they have some serious negatives. This helps explain why there is no one "perfect" global city. Today's global phase does not function through one imperial global capital that has it all. A major study of worldwide commerce in 2008 rated top cities using numerous variables measuring diverse aspects of these cities relevant to global firms.[2] Not one of the cities ranks at the top in all of the sixty-five variables, and none of the top seventy-five cities get the perfect score of 100. The top two cities, London and New York, score a seventy-nine and seventy-three, respectively; further down, the tenth-ranked city, Amsterdam, scores sixty, followed by Madrid with fifty-eight (see Exhibit 4.1). Yet London and New York rank low in several variables—neither is in the top ten when it comes to starting a business, closing a business, or political and legal frameworks (see Exhibits 4.2 and 4.3a). If we consider a critical variable in the "Ease of Doing Business" indicator, part of which is "Ease of Entry and Exit," both London and New York also rank fairly low compared with other metropolises. Coming in at forty-third and fifty-sixth, respectively, the two cities do not make it within the top thirty listed in the "Ease of Doing Business and Subindicators" rankings featured in Exhibit 4.3b. Perhaps most surprising, London ranks thirty-seventh on "Contract Enforcement" and twenty-first on "Investor Protection." Singapore ranks number one in relation to all three of these variables. Less surprising is that while New York ranks first in certain aspects of "Livability," such as "Personal Freedom," it ranks low with regards to other data points under the "Livability" measure, such as that of "Health and Safety" (see Exhibit 4.4). Under this subindicator, the city ranks outside of the top thirty, coming in at thirty-fourth. In the Global South, cities such as Mumbai and São Paulo are in the top group for financial and economic services but are brought down in their overall score by their low rankings in factors related to the ease of doing business and livability, given their especially low levels of well-being for vast sectors of the population (see Exhibits A.4.1 and A.4.2).

The growing number of global cities, along with their differences, signals a shift to a multipolar world. The falling positions of U.S. cities compared with the 2006 survey is part of this shift (see Exhibit 4.5). Los Angeles dropped from the tenth to the seventeenth rank, and Boston from thirteenth to twenty-third, while European and Asian cities moved up in the top ranks, notably Madrid going from sixteenth to eleventh. In 2006, the United States had six cities in the top twenty; in 2008, it had four. These shifts give added content to the loss of position of the United States as the dominant economic and military power. It is not that the United States is suddenly poorer; rather, other regions of the world are rising and multiple forces are feeding these multisited economic, political, and cultural strengths.

EXHIBIT 4.1 ■ Worldwide Centers of Commerce (WCOC) 2008 Overall Ranking

Rank	City	WCOC Index
1	London	79.17
2	New York	72.77
3	Tokyo	66.60
4	Singapore	66.16
5	Chicago	65.24
6	Hong Kong	63.94
7	Paris	63.87
8	Frankfurt	62.34
9	Seoul	61.83
10	Amsterdam	60.06
11	Madrid	58.34
12	Sydney	58.33
13	Toronto	58.16
14	Copenhagen	57.99
15	Zurich	56.86
16	Stockholm	56.67
17	Los Angeles	55.73
18	Philadelphia	55.55
19	Osaka	54.94
20	Milan	54.73

Source: Exhibit prepared by Saskia Sassen, based on MasterCard. 2008. *2008 Worldwide Centers of Commerce Index*. Purchase, NY: MasterCard.

Note: 100 is the top score.

EXHIBIT 4.2 ■ Political and Legal Frameworks and Selected Subindicators

Rank	Indicator 1: Political and Legal Frameworks	Dealing With Licenses	Registering Property	Trading Across Borders	Export-Import Bank Exposure Premiums for Sovereign and Nonsovereign Risk Transactions
1	Stockholm	Copenhagen	Riyadh	Hong Kong	London
2	Copenhagen	Bangkok	Stockholm	Copenhagen	New York
3	Singapore	Tokyo	Atlanta	Singapore	Singapore
4	Atlanta	Stockholm	Boston	Berlin	Tokyo
5	Boston	Singapore	Washington, DC	Frankfurt	Chicago
6	Washington, DC	Dublin	Chicago	Munich	Hong Kong
7	Chicago	Paris	Houston	Montreal	Paris
8	Houston	Berlin	Los Angeles	Toronto	Seoul
9	Los Angeles	Frankfurt	Miami	Vancouver	Frankfurt
10	Miami	Munich	New York	Stockholm	Amsterdam
11	New York	Atlanta	San Francisco	Vienna	Madrid
12	San Francisco	Boston	Zurich	Dubai	Sydney
13	Montreal	Washington, DC	Geneva	Atlanta	Toronto
14	Toronto	Chicago	Dubai	Boston	Copenhagen
15	Vancouver	Houston	Singapore	Washington, DC	Zurich
16	Berlin	Los Angeles	London	Chicago	Stockholm

(Continued)

EXHIBIT 4.2 ■ (Continued)

Rank	Indicator 1: Political and Legal Frameworks	Dealing With Licenses	Registering Property	Trading Across Borders	Export-Import Bank Exposure Premiums for Sovereign and Nonsovereign Risk Transactions
17	Frankfurt	Miami	Montreal	Houston	Philadelphia
18	Munich	New York	Toronto	Los Angeles	Los Angeles
19	London	San Francisco	Vancouver	Miami	Osaka
20	Tokyo	Seoul	Beijing	New York	Milan
21	Zurich	Montreal	Chengdu	San Francisco	Taipei
22	Geneva	Toronto	Shanghai	Amsterdam	Boston
23	Vienna	Vancouver	Shenzhen	London	Atlanta
24	Melbourne	Mexico City	Bangkok	Tel Aviv	Berlin
25	Sydney	Melbourne	Amsterdam	Barcelona	Miami
26	Amsterdam	Sydney	Santiago	Madrid	Munich
27	Barcelona	Santiago	Copenhagen	Melbourne	Vienna
28	Madrid	Zurich	Moscow	Sydney	San Francisco
29	Dublin	Geneva	St. Petersburg	Paris	Dublin
30	Dubai	Copenhagen	Vienna	Tokyo	Brussels

Source: Exhibit prepared by Saskia Sassen, based on MasterCard. 2008. *2008 Worldwide Centers of Commerce Index*. Purchase, NY: MasterCard.

Note: Top ten cities from WCOC indicated.

EXHIBIT 4.3A ■ Ease of Doing Business and Subindicators (Part 1 of 2)

Rank	Indicator 3: Ease of Doing Business	Starting a Business	Employing Workers	Getting Credit	Closing a Business	Conventions/ Exhibitions/Meetings
1	Vancouver	Sydney	New York	Kuala Lumpur	Singapore	London
2	Toronto	Melbourne	Chicago	London	Tokyo	Paris
3	Montreal	Toronto	Philadelphia	Edinburgh	Osaka	Berlin
4	Singapore	Montreal	Los Angeles	Frankfurt	Toronto	Vienna
5	London	Vancouver	Boston	Berlin	Montreal	Singapore
6	Dublin	Dublin	Atlanta	Munich	Vancouver	Hong Kong
7	Copenhagen	Brussels	Miami	Hamburg	Copenhagen	Prague
8	San Francisco	Singapore	San Francisco	Dusseldorf	Amsterdam	New York
9	New York	Paris	Houston	Sydney	Brussels	Istanbul
10	Los Angeles	Stockholm	Dallas	Melbourne	Dublin	Munich
11	Washington, DC	New York	Washington, DC	New York	London	Shanghai
12	Hong Kong	Chicago	Singapore	Chicago	Edinburgh	Barcelona
13	Boston	Philadelphia	Copenhagen	Toronto	Seoul	Dubai
14	Chicago	Los Angeles	Sydney	Philadelphia	Taipei	Seoul
15	Stockholm	Boston	Melbourne	Los Angeles	Sydney	Madrid
16	Tokyo	Atlanta	Hong Kong	Boston	Melbourne	Tokyo
17	Miami	Miami	Toronto	Atlanta	Hong Kong	Bangkok

(Continued)

EXHIBIT 4.3A ■ (Continued)

Rank	Indicator 3: Ease of Doing Business	Starting a Business	Employing Workers	Getting Credit	Closing a Business	Conventions/ Exhibitions/Meetings
18	Brussels	San Francisco	Montreal	Miami	New York	Moscow
19	Sydney	Houston	Vancouver	San Francisco	Chicago	São Paulo
20	Atlanta	Dallas	London	Montreal	Philadelphia	Beijing
21	Houston	Washington, DC	Edinburgh	Houston	Los Angeles	Milan
22	Melbourne	Hong Kong	Tokyo	Dallas	Boston	Budapest
23	Zurich	Copenhagen	Osaka	Washington, DC	Atlanta	Chicago
24	Frankfurt	London	Dublin	Vancouver	Miami	Edinburgh
25	Geneva	Edinburgh	Zurich	Buenos Aires	San Francisco	San Francisco
26	Amsterdam	Zurich	Geneva	Dublin	Houston	Brussels
27	Munich	Geneva	Kuala Lumpur	Tel Aviv	Dallas	Amsterdam
28	Berlin	Tel Aviv	Bangkok	Hong Kong	Washington, DC	St. Petersburg
29	Paris	Lisbon	Riyadh	Madrid	Stockholm	Sydney
30	Vienna	Amsterdam	Santiago	Barcelona	Madrid	Dublin

Source: Compiled from data in MasterCard (2008). 2008 *Worldwide Centers of Commerce Index*. Purchase, NY: MasterCard.

Note: Top ten cities from WCOC indicated.

EXHIBIT 4.3B ■ Ease of Doing Business and Subindicators (Part 2 of 2)

Rank	Indicator 3: Ease of Doing Business	Banking Services	Ease of Entry and Exit	Investor Protection	Corporate Tax Burden	Contract Enforcement
1	Vancouver	London	Singapore	Singapore	Singapore	Singapore
2	Toronto	New York	Hong Kong	Hong Kong	Hong Kong	Hong Kong
3	Montreal	Singapore	Frankfurt	Kuala Lumpur	Dubai	Vienna
4	Singapore	Hong Kong	Amsterdam	New York	Riyadh	Sydney
5	London	Paris	Toronto	Chicago	Dublin	Melbourne
6	Dublin	Frankfurt	Copenhagen	Philadelphia	London	New York
7	Copenhagen	Amsterdam	Stockholm	Los Angeles	Edinburgh	Chicago
8	San Francisco	Madrid	Berlin	Boston	Copenhagen	Philadelphia
9	New York	Copenhagen	Munich	Atlanta	Santiago	Los Angeles
10	Los Angeles	Zurich	Vienna	Miami	Stockholm	Boston
11	Washington, DC	Stockholm	Hamburg	San Francisco	Toronto	Atlanta
12	Hong Kong	Berlin	Montreal	Houston	Montreal	Miami
13	Boston	Munich	Vancouver	Dallas	Vancouver	San Francisco
14	Chicago	Vienna	Dusseldorf	Washington, DC	Amsterdam	Houston
15	Stockholm	Dublin	Prague	Tel Aviv	Johannesburg	Dallas
16	Tokyo	Brussels	Paris	Toronto	Zurich	Washington, DC
17	Miami	Hamburg	Seoul	Montreal	Geneva	Seoul

(Continued)

EXHIBIT 4.3B ■ (Continued)

Rank	Indicator 3: Ease of Doing Business	Banking Services	Ease of Entry and Exit	Investor Protection	Corporate Tax Burden	Contract Enforcement
18	Brussels	Barcelona	Zurich	Vancouver	Lisbon	Paris
19	Sydney	Dusseldorf	Shanghai	Dublin	Beirut	Dublin
20	Atlanta	Geneva	Milan	Johannesburg	Sydney	Budapest
21	Houston	Dubai	Taipei	London	Melbourne	Tokyo
22	Melbourne	Edinburgh	Dublin	Edinburgh	New York	Osaka
23	Zurich	Tokyo	Brussels	Tokyo	Chicago	Brussels
24	Frankfurt	Sydney	Geneva	Osaka	Philadelphia	Frankfurt
25	Geneva	Toronto	Dubai	Brussels	Los Angeles	Berlin
26	Amsterdam	Los Angeles	Lisbon	Copenhagen	Boston	Munich
27	Munich	Osaka	Rome	Bogotá	Atlanta	Hamburg
28	Berlin	Milan	Santiago	Lisbon	Miami	Dusseldorf
29	Paris	Montreal	Beijing	Mumbai	San Francisco	Moscow
30	Vienna	Dallas	Budapest	Santiago	Houston	St. Petersburg

Source: Exhibit prepared by Saskia Sassen, based on MasterCard. 2008. 2008 Worldwide Centers of Commerce Index. Purchase, NY: MasterCard.

Note: Top ten cities from WCOC indicated.

EXHIBIT 4.4 ■ Livability and Selected Subindicators

Rank	Indicator 7: Livability	Quality of Life	Basic Services	Health and Safety	Personal Freedom
1	Vancouver	Los Angeles	Singapore	Zurich	New York
2	Dusseldorf	Sydney	Copenhagen	Geneva	Tokyo
3	San Francisco	San Francisco	Munich	Stockholm	Chicago
4	Frankfurt	Melbourne	Frankfurt	Frankfurt	Paris
5	Vienna	London	Vancouver	Amsterdam	Frankfurt
6	Munich	New York	Dusseldorf	Toronto	Amsterdam
7	Zurich	Paris	Tokyo	Copenhagen	Toronto
8	Tokyo	Milan	Zurich	Munich	Copenhagen
9	Paris	Rome	Stockholm	Vienna	Zurich
10	Copenhagen	Boston	Vienna	Dublin	Stockholm
11	Sydney	Berlin	London	Montreal	Philadelphia
12	Berlin	Washington, DC	Osaka	Vancouver	Los Angeles
13	Toronto	Vancouver	Montreal	Dusseldorf	Osaka
14	Boston	Tokyo	Dallas	Berlin	Milan
15	Geneva	Chicago	Paris	Brussels	Boston
16	Stockholm	Vienna	Sydney	Hamburg	Atlanta
17	Los Angeles	Dallas	Toronto	Edinburgh	Berlin
18	Amsterdam	Dusseldorf	Atlanta	Singapore	Miami
19	Montreal	Johannesburg	Hamburg	Tokyo	Munich
20	Melbourne	Frankfurt	Amsterdam	Osaka	Vienna
21	Washington, DC	Toronto	Philadelphia	Boston	San Francisco
22	Brussels	Atlanta	Boston	San Francisco	Brussels
23	Osaka	Miami	Brussels	Paris	Hamburg
24	London	Brussels	Washington, DC	Melbourne	Montreal
25	New York	Amsterdam	Geneva	Chicago	Houston

(Continued)

EXHIBIT 4.4 ■ (Continued)

Rank	Indicator 7: Livability	Quality of Life	Basic Services	Health and Safety	Personal Freedom
26	Chicago	Philadelphia	Melbourne	Sydney	Dallas
27	Hamburg	Osaka	New York	Philadelphia	Washington, DC
28	Dallas	Munich	Chicago	Washington, DC	Vancouver
29	Philadelphia	Houston	Berlin	London	Dusseldorf
30	Milan	Barcelona	Los Angeles	Madrid	Geneva

Source: Exhibit prepared by Saskia Sassen, based on MasterCard. 2008. 2008 Worldwide Centers of Commerce Index. Purchase, NY: MasterCard.

Note: Top ten cities from WCOC indicated.

EXHIBIT 4.5 ■ Worldwide Centers of Commerce (WCOC) Index, 2006

Rank	City	WCOC Index
1	London	77.79
2	New York	73.80
3	Tokyo	68.09
4	Chicago	67.19
5	Hong Kong	62.32
6	Singapore	61.95
7	Frankfurt	61.34
8	Paris	61.19
9	Seoul	60.70
10	Los Angeles	59.05
11	Amsterdam	57.30
12	Toronto	57.11
13	Boston	56.47
14	Sydney	56.26
15	Copenhagen	56.14

Rank	City	WCOC Index
16	Madrid	56.06
17	Stockholm	54.51
18	San Francisco	54.36
19	Zurich	54.33
20	Atlanta	54.19

Source: Exhibit prepared by Saskia Sassen, based on MasterCard. 2008. *2008 Worldwide Centers of Commerce Index*. Purchase, NY: MasterCard.

Note: 100 is the top score.

URBAN/RURAL SPECIFICITY FEEDS THE KNOWLEDGE ECONOMY

The specific global circuits upon which an urban center is located will vary from center to center, depending on a city's particular strengths, just as the groupings of cities vary upon each circuit. This reality also indicates to us that the specialized differences of cities matter and that there is less competition among cities and more of a global or regional division of functions than is commonly recognized. For example, the knowledge economies of São Paulo, Chicago, and Shanghai all share a long history of servicing major heavy manufacturing sectors; theirs are economic histories that global cities such as New York and London never developed. Out of these specialized differences comes a global division of functions. Thus, a steel factory, a mining firm, or a machine manufacturer that wants to go global will, depending on its location, go to São Paulo, Shanghai, or Chicago for its legal, accounting, financial, insurance, economic forecasting, and other such specialized services. It will not go to New York or London for this highly particular servicing. Increasingly, these urban economies are part of a networked global platform.

The deep economic history of a place and the specialized economic strengths it can generate increasingly matter in a globalized economy. This goes against the common view that globalization homogenizes economies. How much this specificity matters will vary, partly depending on that region's economy. Establishing how a city or a region becomes a knowledge economy requires highly detailed research. So let me use a case I researched, Chicago, to illustrate this. Chicago is usually seen as a latecomer to the knowledge economy—almost fifteen years later than New York and London. Typically, the answer is that Chicago had to overcome its heavy agro-industrial past: its economic history was seen as a disadvantage compared with old trading and financial centers such as New York and London. But I found that its past was not a disadvantage. It was one key source

of its competitive advantage. This is most visible in the fact of its preeminence as a futures market built on pork bellies. The complexity, scale, and international character of Chicago's historical agro-industrial economy required highly specialized financial, accounting, and legal expertise. But these were/are quite different from the expertise required to handle the sectors within which New York specialized—service exports, finance, and trade. Chicago's past as a massive agro-industrial complex gave it some of its core and distinctive knowledge economy components and has made it the leading global futures financial center and global provider of specialized services (accounting, legal, insurance, etc.) for handling heavy industry, heavy transport, and large-scale agriculture. Chicago, São Paulo, Shanghai, Tokyo, and Seoul are among the leading producers of these types of specialized corporate services, not in spite of their economic pasts as major heavy industry centers, but because of them. Thus, when Boeing decided that it needed to enter the knowledge economy, it did not move its headquarters to New York but to Chicago.

THE GLOBAL CITY AS A POSTINDUSTRIAL PRODUCTION SITE

We are seeing the formation of a new producer-services complex in major cities. But how is this complex of management, financing, and servicing processes of internationalization actually constituted in cities? And what are the actual components of the larger work of running the global operations of firms and markets that get done in these cities? The answers to these two questions help us understand the new or sharply expanded role of a particular kind of city in the phase of the world economy that took off in the mid-1980s.

At the heart of this development lie two intersecting processes critical to the current phase. The first process is the sharp growth in the globalization of economic activity (see Chapter 2) and the concomitant increases in the scale and the complexity of international transactions, which in turn feeds the growth of top-level multinational headquarters' functions as well as the growth of advanced corporate services. Although globalization raises their scale and complexity, these operations are also evident at smaller geographic scales and lower orders of complexity, as is the case with firms that operate regionally or nationally. Also, these firms run increasingly dispersed operations, albeit not global, as they set up chains or buy up the traditional single-owner shops that sell flowers, food, or fuel or run chains of hotels and a growing range of service facilities. Though operating in simpler contexts, these firms also need to centralize their control, management, and specialized servicing functions. National and regional market firms need not negotiate the complexities of international borders and the regulations and accounting rules of different countries, but they do create a growing demand for corporate services of all kinds, feeding economic growth in second-order cities as well.

The second process we need to consider is the growing service intensity in the organization of all industries (Sassen [1991] 2001: chap. 5). This development has contributed to a massive growth in the demand for services (legal, accounting, insurance, etc.) by firms in all industries, from mining and manufacturing to finance and consumer industries. Cities are key sites for the production of services for firms. Hence, the increase in service intensity in the organization of all industries has had a significant growth effect on cities beginning in the 1980s. This growth in services for firms is evident in cities at different levels of a nation's urban system. Some of these cities cater to regional or subnational markets, others cater to national markets, and yet others cater to global markets. In this context, the specific effect of globalization is a question of scale and added complexity. The key process from the perspective of the urban economy is the growing demand for services by firms in all industries and across market scale—global, national, or regional.

As a result of these two intersecting processes, we see in cities the formation of a new urban economic core of high-level management and specialized service activities that comes to replace the older, typically manufacturing-oriented office core. In the case of cities that are major international business centers, the scale, power, and profit levels of this new core suggest the formation of a new urban economy in at least two regards. First, even though these cities have long been centers for business and finance, since the mid-1980s there have been dramatic changes in the structure of the business and financial sectors, as well as sharp increases in the overall magnitude of these sectors and their weight in the urban economy. Second, the ascendance of the new finance and services complex engenders a new economic regime; that is, although this sector may account for only a fraction of the economy of a city, it imposes itself on that larger economy. Most notably, the possibility for superprofits in finance has the effect of devalorizing manufacturing because manufacturing cannot generate the superprofits typical in much financial activity.

This does not mean that everything in the economy of these cities has changed. On the contrary, these cities still show a great deal of continuity and many similarities with cities that are not global nodes. Rather, the implantation of global processes and markets has meant that the internationalized sector of the economy has expanded sharply and has imposed a new valorization dynamic—that is, a new set of criteria for valuing or pricing various economic activities and outcomes. This has had devastating effects on large sectors of the urban economy. High prices and profit levels in the internationalized sector and its ancillary activities, such as top-of-the-line restaurants and hotels, have made it increasingly difficult for other sectors to compete for space and investments. Many of these other sectors have experienced considerable downgrading or displacement; for example, neighborhood shops tailored to local needs have been replaced by upscale boutiques and restaurants catering to the new, high-income urban elite.

Although at a different order of magnitude, these trends also took off in the early 1990s in several major cities in the developing world that have become

integrated into various world markets: São Paulo, Buenos Aires, Bangkok, Taipei, and Mexico City are a few examples. Also in these cities, the new urban core was fed by the deregulation of financial markets, the ascendance of finance and specialized services, and integration into the world markets. The opening of stock markets to foreign investors and the privatization of what were once public-sector firms have been crucial institutional arenas for this articulation. Given the vast size of some of these cities, the impact of this new core to their larger urban areas is not always as evident as in central London or Frankfurt, nonetheless the transformation is still very real.

PRODUCER SERVICES

The expansion of producer services is a central feature of growth in today's advanced urban economies and, to a lesser degree, in national economies as well. The critical period for the rise of producer services in developed countries was the 1980s, and their rise can function as a lens with which to understand the underlying structural transformations in the economy. The concern here is to capture this shift rather than to track the evolution of producer services since then. In the 1980s, developed countries mostly experienced a decline or slowdown in manufacturing alongside a sharp growth in producer services. Elsewhere, I have posited that the fundamental reason for this growth lies in the increased service intensity in the organization of all industries (Sassen [1991] 2001: 166–68). Whether in manufacturing or in warehousing, firms are using more legal, financial, advertising, consulting, and accounting services. These services can be seen as part of the supply capacity of an economy because they facilitate adjustments to changing economic circumstances (Marshall et al. 1986: 16). They are a mechanism that organizes and adjudicates economic exchange for a fee (Thrift 1987) and are part of a broader intermediary space of economic activity (Bryson and Daniels 2007).

Producer services are services for firms, from the most sophisticated to the most elementary. They include financial, legal, general management matters, innovation, development, design, administration, personnel, production technology, maintenance, transport, communications, wholesale distribution, advertising, cleaning services, security, and storage. Central components of the producer-services category are a range of industries with mixed business and consumer markets. They are insurance, banking, financial services, real estate, legal services, accounting, and professional associations.[3]

Although disproportionately concentrated in the largest cities, producer services are actually growing at faster rates at the national level in most developed economies. The crucial process feeding the growth of producer services is the increasing use of service inputs by firms in all industries. Consumption of services has also risen in households, either directly (such as the growing use of accountants to prepare tax returns) or indirectly via the reorganization of consumer industries (buying flowers or dinner from franchises or chains rather than

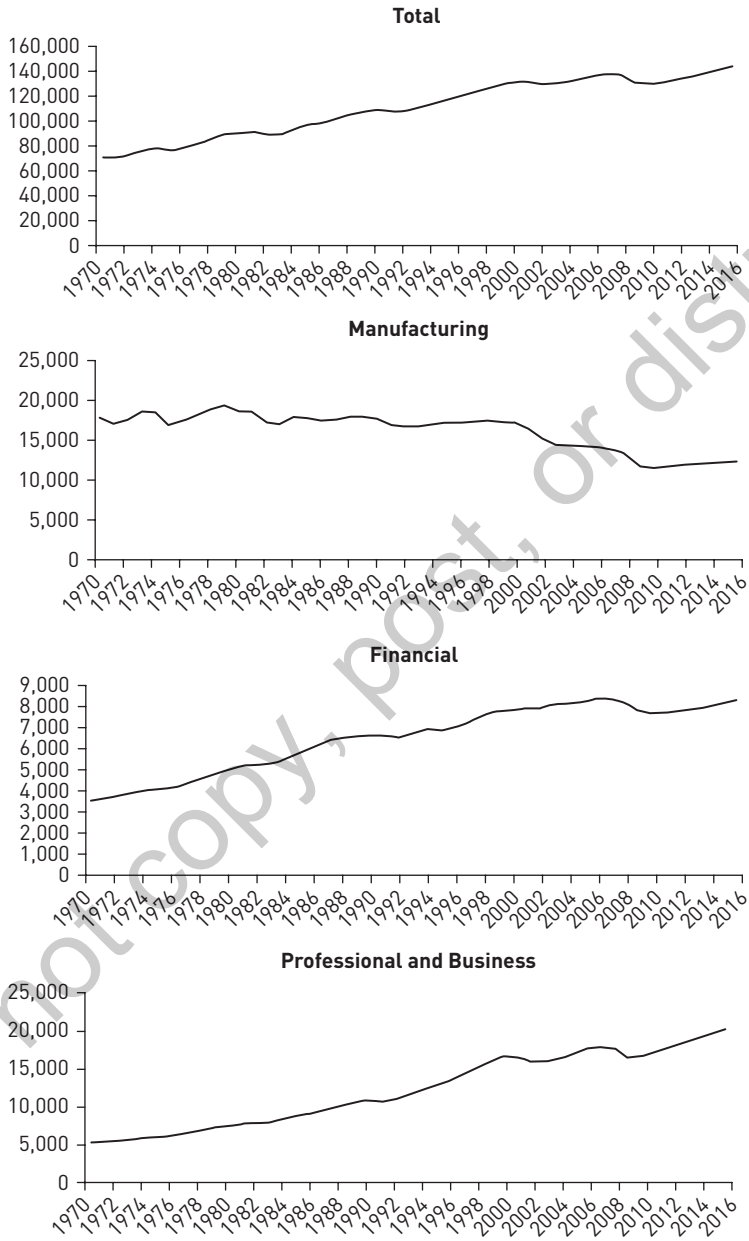
from self-standing and privately owned "mom-and-pop" shops). Services directly bought by consumers tend to be available, often through mere outlets, wherever population is concentrated. In that regard, they are far less geographically concentrated than producer services, especially those catering to top firms. The demand for specialized services by households, from accounting to architects, may be a key factor contributing to the growth of these mixed-market services at the national level.

National employment trends for the crucial period of the shift show that some of the mixed-market producer services (usually categorized as *mostly producer services*) make up the fastest-growing sector in most developed economies even though they account for a small share of total jobs. Generally, these trends continue. According to data from the Bureau of Labor Statistics (BLS 2017a), total employment in the United States grew from 71 million in 1970 to 144 million in 2016, (see Exhibit 4.6). The mostly producer services sector has grown well above average, especially miscellaneous business services and financial activities. Other major growth sectors include health, education, and personal services (care, leisure, hospitality). Despite this growth, the 2008 financial crisis had greatly weakened employment rates, and only recently has the United States began to recover in terms of employment. Nevertheless, while many sectors have been expanding, employment in the manufacturing industry has overall declined. As is the case with growth in other sectors, however, manufacturing did slightly increase following the recession.

A focus on cities reveals the same trend, though sharper, in the critical period of the mid-1980s. Producer services linked to the expansion of a global economy became the most dynamic, fastest-growing sector in many cities. Particularly notable here is the United Kingdom, where overall employment actually fell and manufacturing suffered severe losses. Yet in only three years, between 1984 and 1987, employment in producer services grew in Central London, even as relative and absolute declines hit all other major employment sectors in the city; producer services as a share of total employment rose from 31 to 40% in Central London by 1989 (Frost and Spence 1992). Similar developments took place in New York City: in 1987, at the height of the 1980s boom, producer services accounted for 37.7% of private-sector jobs and grew sharply, including the 62% growth in legal services jobs. In contrast, employment fell by 22% in manufacturing and by 20% in transport. (For detailed accounts, see Sassen 1991 [2001]: chap. 8).

Accompanying these sharp growth rates in producer services was an increase in the level of employment specialization in business and financial services in major cities throughout the 1980s. For example, more than 90% of jobs in finance, insurance, and real estate (FIRE) in New York City were located in Manhattan, as were 85% of business service jobs. By 1990, after large-scale suburbanization of households and firms, the finance and business services in the New York metropolitan area were more concentrated in Manhattan than they had been in the mid-1950s (Harris 1991).[4]

EXHIBIT 4.6 ■ National Employment in the United States by Select Industry, 1970–2016[a]



Source: Compiled from data from the U.S. Bureau of Labor Statistics (BLS 2017a).

Note:

a. Data calculated from 12-month averages.

b. Total U.S. employment is defined by the Bureau of Labor Statistics as total non-agriculture that has been seasonally adjusted.

In the 1990s, the mostly producer services began to grow faster at the national level than in major cities. This is commonly interpreted as cities losing producer-services jobs to larger metropolitan areas and small towns. I interpret the data differently: the fact of growth nationwide is an indicator of the growing importance of producer services for all sectors of the economy (see Sassen [1991] 2001: chap. 5). If we consider only those components of producer services that may be described as information industries, we can see a steady growth in jobs across the United States. But the incidence of these industries does not decline in major cities. New York City posted a significantly higher concentration than any other major American city. From 1970 to 2000, employment in professional and business services grew from 24.2% of jobs in New York City to 37.2%, from 24.1% to 33.2% in Los Angeles, and from 19.2% to 33.5% in Chicago. All three cities show a higher incidence of these specialized services throughout this period of transformation of the urban economy than their average growth of 15.1% to 17.6% in the national economy. High concentration of finance and certain producer services in the downtowns of major international financial centers around the world, from Toronto and Sydney to Frankfurt and Tokyo, have all increasingly specialized in these services even as their share of the global market declined as new international centers joined the global network.

These cities emerged as important producers of services for firms, including services for export to the rest of their national economies and worldwide. In this phenomenon there is a strong tendency toward hierarchy and specialization. New York and London are the leading producers and exporters of accounting, advertising, management consulting, international legal, and other business services. In fact, New York, Tokyo, Paris, London, Zurich, and Munich accounted for a large share of the world's top 100 largest publicly listed financial company assets in 2008 (see Exhibits A.4.3 to A.4.5). These cities were also among the world's top fifty largest insurer assets in 2016, together with cities like Newark, Shenzhen, and Toronto sprinkled in (see Exhibit A.4.6). These and a few other cities are the most important international markets for these services. Some of the cities have long been major exporters of these services, notably New York, London, Paris, and Hong Kong. Others only became major exporters in these services when the new global phase began in the 1980s; for example, Tokyo did not emerge as an important center for the international trade in services until the late 1980s, going beyond its initial restricted role of exporting only the services required by its large international trading houses. Beginning early on, Japanese firms gained a significant share of the world market in certain producer services, namely construction and engineering, but not in others, such as advertising and international legal services (Rimmer 1988). For instance, in the late 1970s, the United States accounted for sixty of the top 200 international construction contractors; Japan accounted for ten (Rimmer 1986). By 1985, in a sharp reversal, each accounted for thirty-four (see Sassen [1991] 2001: 174–75).

There are also tendencies toward specialization among different cities within a country. In the United States, New York is more narrowly specialized as a financial, business, and cultural center; thus, it leads in banking, securities, manufacturing administration, accounting, and advertising. Washington, D.C., leads in

legal services, computing and data processing, management and public relations, research and development, and membership organizations; at the same time, some of the legal activity concentrated in Washington, D.C., is actually serving New York businesses that have to go through legal and regulatory procedures, lobbying, and so on. Such services are bound to be found in the national capital, and many are oriented to the national economy and to noneconomic purposes. Furthermore, in another contrast with New York City, much of the specialized activity in Washington, D.C., is aimed not at the world economy but at the national economy in sectors such as medical and health research. Thus, adequate understanding requires that we specify the composition of a city's producer-services complex and whether or not it is oriented toward world markets and integration into the global economy or, rather, if it responds largely to domestic demand.[5]

It is important to recognize that manufacturing remains a crucial sector in all of these economies, even when it may have ceased to be a dominant sector in major cities. Indeed, when these new trends began to emerge in cities in the 1980s and even more strongly in the 1990s, scholars debated about the place of manufacturing in urban economies dominated by advanced services. Several scholars argued that the producer-services sector could not exist without manufacturing (Cohen and Zysman 1987; Markusen 1994).

The weakening of the manufacturing sector in the broader New York region could be seen as a threat to the city's status as a leading financial- and producer-services center (Markusen and Gwiasda 1994). A key proposition for this argument is that producer services depend on a strong manufacturing sector for growth (Noyelle and Dutka 1988; Sassen [1991] 2001; Drennan 1992). Drennan (1992), the leading analyst of New York City's producer-services sector during the 1980s and 1990s, argued that strong finance- and producer-services sectors remain possible notwithstanding declines in their industrial bases, partly thanks to their robust integration into the world markets. Consequentially, articulation with both sector's hinterlands becomes secondary.

In a variant on both positions (Sassen [1991] 2001), I argue that manufacturing is one factor feeding the growth of the producer-services sector but that it does so whether located in the area in question or overseas. Even though manufacturing—and mining and agriculture, for that matter—feeds growth in the demand for producer services, its actual location is of secondary importance for global-level service firms. Thus, whether manufacturing plants are located offshore or within a country is irrelevant as long as they are part of a multinational corporation likely to buy the needed legal and accounting services from top-level firms. Second, in my research, I find that the territorial dispersal of plants, especially if international, actually raises the demand for producer services (see the subsection on "Global Cities," following "Strategic Places," in Chapter 2). This is yet another meaning, or consequence, of globalization: the growth of producer service firms headquartered in New York, London or Paris can be fed by manufacturing located anywhere in the world as long as these firms are part of a multinational corporate network. Thus, Detroit's manufacturing job losses resulting from outsourcing are New York's job gains in advanced producer services. Third,

evident in many global financial markets, a good part of the producer-services sector is fed by financial and business transactions that have nothing to do with manufacturing; at most, they concern transactions for which manufacturing is incidental, such as merger and acquisition activity which is centered on buying and selling firms no matter what they do). Above all, financial innovation of speculative instruments also represents an example of these practices.

THE FORMATION OF A NEW PRODUCTION COMPLEX

According to standard conceptions about information industries, the rapid growth and disproportionate concentration of many of the producer services in central cities should not have happened. This is especially so for advanced corporate services because they are thoroughly embedded in the most advanced information technologies; they would seem to have locational options that bypass the high costs and congestion typical of major cities. However, cities offer agglomeration economies and highly innovative environments. Some of these services are produced in-house by firms, but a large share is outsourced to specialized service firms. The growing complexity, diversity, and specialization of the services these firms require make it more efficient to buy them from specialized firms rather than hiring in-house, full-time professionals. The growing demand for these services has enabled a freestanding specialized service sector to become economically viable in cities.

The work of producing these services benefits from proximity to other specialized services, especially in the leading and most innovative sectors of these industries. Complexity and innovation often require highly specialized inputs from several industries. The production of a financial instrument, for example, requires inputs from accounting, advertising, legal services, economic consulting, public relations, software innovations, design, and printing. In this regard, these are highly networked firms. These particular characteristics of production explain the centralization of management and servicing functions that has fueled the economic boom in major cities beginning in the mid-1980s.

The commonly heard explanation that high-level professionals require face-to-face interactions needs to be refined in several ways. Producer services, unlike other types of services, are not necessarily dependent on spatial proximity to buyers—that is, firms served. Rather, economies occur in such specialized firms when they are located close to others that produce key inputs or whose proximity makes possible joint production of certain service offerings. The accounting firm can service its clients at a distance, but producing that service depends on proximity to specialists, from lawyers to programmers. My interpretation is that so-called face-to-face communication is actually a production process that requires multiple simultaneous inputs and feedbacks. At the current stage of technical development, having immediate and simultaneous access to the pertinent experts is still the most effective way to operate, especially when dealing with a highly

complex product. Moreover, concentration arises from the needs and expectations of the people likely to be employed in these new, high-skilled jobs who tend to be attracted to the amenities and lifestyles that large urban centers can offer.

A critical variable in the most advanced and specialized segments of the sector is speed. Time replaces weight as a force for agglomeration. In the past, the weight of inputs, from iron ore to unprocessed agricultural products, was a major constraint that encouraged agglomeration in sites where the heaviest inputs were located. Today, the combination of added complexity and acceleration of economic transactions has created new forces for agglomeration; that is, if there were no time pressures and little complexity, the client could conceivably use a widely dispersed array of cooperating specialized firms. And this is often the case in routine operations. Where time is of the essence, however, as it is today in many of the leading sectors of these industries, the benefits of agglomeration in the production of specialized services are still extremely high—to the point where no matter the costs of urban agglomeration, the concentration of multiple state-of-the-art specialized service firms has become an indispensable arrangement. Central here has been the general acceleration of all transactions, especially in finance (where minutes and seconds count), the stock markets, the foreign-currency markets, the futures markets, and so on. Speed in these types of sectors puts a premium not just on competence among lawyers, accountants, financiers, and so on, but also on the knowledge that emerges from the interactions among talented and experienced professionals.

This combination of constraints and advantages has promoted the formation of a producer-services complex in all major cities. The producer-services complex is intimately connected to the world of corporate headquarters, leading to the formation of a joint headquarters–corporate-services complex. But the two need to be distinguished. Although headquarters still tend to be disproportionately concentrated in cities, many have moved out during the last two decades. Headquarters can indeed be located outside cities, but they need a producer-services *complex* somewhere to gain access to the needed specialized services and financing. Headquarters of firms with very high overseas activity or in highly innovative and complex lines of business still tend to locate in major cities. In brief: on the one hand, firms in more routinized lines of activity, with predominantly regional or national markets, appear to be increasingly free to move or install their headquarters outside of cities. On the other hand, firms in highly competitive and innovative lines of activity or with a strong world-market orientation appear to benefit from being located at the center of major international business centers, no matter how high the costs.

Both types of firms, however, need access to a corporate-services complex; access to individual firms is not enough. Where this complex is located is increasingly unimportant from the perspective of many, though not all, headquarters. However, from the perspective of producer-services firms, such a specialized complex is most likely to be in a city rather than, for example, in a suburban office park. The latter will be the site for producer-services firms but not for a services complex. And only such a complex is capable of handling the most advanced and complicated corporate needs.

These issues are examined in the next two sections. The first discusses how the spatial dispersal of economic activities engenders an increased demand for specialized services; the transnational corporation is one of the major agents in this process. The second section examines whether and, if so, under what conditions corporate headquarters need cities.

CORPORATE HEADQUARTERS AND CITIES

The general literature and some more scholarly accounts commonly use the concentration of major headquarters as an indication of a city's status as an international business center. The loss of these types of headquarters is then interpreted as a decline in the city's status. Actually, using such headquarters' concentration as an index is an increasingly problematic measure, given the way in which corporations are classified, the locational options telecommunications offer corporations, and the analysis developed earlier about a trend toward outsourcing the functions of corporate headquarters.

Several variables determine which headquarters concentrate in major international financial and business centers. First, how we measure or simply count headquarters makes a difference. Frequently, the key measure is the size of the firm relative to employment and overall revenue. Using this measure, some of the largest firms in the world are still manufacturing firms, and many of these have their main headquarters in proximity to their major factory complex, which is unlikely to be in a large city because of space constraints. Such firms *are* likely, however, to have secondary headquarters for highly specialized functions in major cities. Furthermore, many manufacturing firms are oriented to the national market and do not need to be located in a city's national business center. Thus, the much-publicized departure of major headquarters from New York City in the 1960s and 1970s involved these types of firms, as did the large numbers of departures from Chicago in the 1990s. A quick look at the Fortune 500 list of the largest U.S. firms shows that many have left large cities. If, however, instead of size, the measure is the share of total firm revenue coming from international sales, many firms that are not on the Fortune 500 list come into play. In the case of New York, for example, the results change dramatically: in 1990, 40% of U.S. firms with half their revenue from international sales had their headquarters in New York City. Further, although moving away from major metropolitan areas has become the general trend for firms in a broad range of economic sectors, two of the largest components of producer services—the high-tech industry and financial services—continue to concentrate in large cities. "In this instance, profound deregulation has encouraged firm consolidation and market expansion. In response, the now-larger companies have chosen to locate their headquarters in larger metropolitan areas" (Klier and Testa 2002: 14). Klier and Testa's calculations regarding the headquarters of large U.S. corporations (employing more than 2,500 worldwide) show that in 2000, New York still

was home to 14% of these companies, and the top five U.S. metro areas combined accounted for 33% of such firms. As of 2016, New York City is home to seventy-two headquarters of the multinationals featured in the Fortune 1000 List with Houston, Atlanta, Chicago, and Dallas following shortly after, home to forty-two, twenty-three, twenty-two, and sixteen firms, respectively (Dempsey 2016).

Second, the nature of the urban system in a country is a factor in the geographic distribution of headquarters. Sharp urban primacy tends to entail a disproportionate concentration of headquarters in the primate city no matter what measure one uses. Third, different economic histories and business traditions may combine to produce different results. Finally, headquarters concentration may be linked to a specific economic phase. For example, unlike New York's loss of top Fortune 500 headquarters, Tokyo has gained these types of headquarters. Osaka and Nagoya, the two other major economic centers in Japan, lost headquarters to Tokyo. This change seems to be linked to the combination of the increasing internationalization of the Japanese economy and the ongoing role of government regulation on cross-border transactions. Firms need easy access to government regulators. As a result, Tokyo had an increase in central headquarters command and servicing functions. In brief, understanding the meaning of headquarters concentration requires disaggregation across several variables. Although headquarters are still disproportionately concentrated in major cities, the patterns that became evident in the mid-1980s and continue do represent a change (see Exhibits 4.1–4.5 and A.4.1–A.4.8).

The discussion about producer services, the producer-services complex, and the locational patterns of headquarters point to two significant developments since the 1980s. One is the growing service intensity in the organization of the economy; the other is the emergence of a producer-services complex that, although strongly geared toward the corporate sector, is far more likely to remain concentrated in urban centers than are the headquarters it serves.

In the same vein is the relatively recent phenomenon of corporate inversion, that is, the act of moving one's company headquarters to another country. *The Economist* (2015) describes this as, "a maneuver in which a (usually American) firm acquires or merges with a foreign rival, then shifts its domicile abroad to reap tax benefits." As this move is often made to avoid high corporate tax rates in a home country, it is not surprising that many companies in the United States—which has one of the highest corporate tax rates in the world at about 35% according to the OECD (2017d)—have attempted corporate inversion. Before the 2000s, inversions occurred but were not common. Yet as the movement of multinational firms became more fluid and corporate tax rates in other countries became more competitive, moving headquarters became more desirable. However, changing headquarters can be a challenge because it requires approval from the governments involved. The company must provide legitimate reasons, such as the fact that it receives a large portion of its income from the state to which the company wants to move, or that the company has acquired a new company located there.

Successful inversions are messy, involving multiple firms across many nations. Take, for example, the American fast-food chain Burger King, which merged with

the Canadian doughnut shop Tim Hortons in 2014 to form Restaurant Brands International. The merger occurred after 3G Capital, the Brazilian investment firm with a majority share in Burger King, purchased Tim Hortons for $11.4 billion. The newly formed multinational selected the location of Tim Hortons' base of operations, Oakville, Ontario, as its headquarters, over Burger King's headquarters in Miami. Some U.S. politicians criticized this choice, claiming it resulted from the difference in corporate tax rates between the two countries; the Americans for Tax Fairness (2014) estimate that the move could save the company between $400 million and $1.2 billion in U.S. taxes over four years. Just this year, Restaurant Brands International also acquired the U.S. chain Popeyes Louisiana Kitchen for $1.8 billion.

Ireland is one of the more popular destinations for companies seeking to relocate their global headquarters.[6] Many U.S. companies, including medical equipment company Medtronic, management conglomerate Eaton Corporation PLC, and pharmaceutical company Actavis Generics, are now based in Dublin. Paul Krugman (Halpin 2016) and other economists have criticized Ireland for this practice of what many call "leprechaun economics," a title that refers to the seemingly magical way in which companies can hoard wealth thanks to the relatively low Irish corporate tax rate (Halpin 2016). At 12.5%, the country's corporate tax rate is the lowest within the European Union, prompting many companies—including Google, Facebook, LinkedIn, Apple, and Tyco—to relocate their regional headquarters to Ireland. In 2013, a U.S. Senate-led investigation of Apple Inc. into profit shifting and tax avoidance concluded that Apple had indeed avoided taxes, but had done so legally through loopholes in the tax code. Apple Inc. was also recently accused of tax avoidance by the European Commission, which in 2016 demanded up to 13 billion euros in back-taxes.

Scholars suggest that to combat corporate inversion, politicians should focus on closing tax loopholes rather than on decreasing the U.S. corporate tax rate or forcing corporations to pay the difference (The Economist 2014). *The Economist* (2014) details that in 2013, the United States lost $150 billion in tax revenue thanks to these loopholes, which was "more than half of what America collected in total corporate taxes." The Obama administration took steps to restrict corporate inversions. As of 2016, the U.S. Treasury attempted to close some of these loopholes: it prohibited the creation of new parent companies in foreign countries, limited the extent to which U.S. companies could merge with foreign corporations, and disallowed the acquisition of multiple U.S. firms within a short period. After harsh criticism from the Obama administration, Allergan and Pfizer ended their $152 billion merger in April 2016. Although these measures have been relatively effective, the U.S. Treasury must approach the situation head on and reduce the corporate tax rate. Though both Democrats and Republicans can agree that the corporate tax rate needs to change (the Obama administration proposed cutting to 28% whereas some conservatives have countered with 25%), they were unable to agree on what to do with the revenues. Ultimately, no change was made. It is yet unclear whether this issue will be addressed under the new administration, but without a change, corporations will continue to invert as global competition continues to rise.

The Servicing of Transnational Corporations

The territorial dispersal of multi-establishment firms, whether at the regional, national, or global level, has been one important factor in the sharp rise of producer services (see Exhibits A.4.7–A.4.8). Firms running multiple plants, offices, and service outlets must coordinate planning, internal administration, distribution, marketing, and other central headquarters activities. As large corporations move into the production and sale of final consumer services, a wide range of management functions previously performed by independently owned consumer-service firms are moved to the central headquarters of the new corporate chains. Regional, national, or global chains of motels, food outlets, and flower shops require vast centralized administrative and servicing structures. A parallel pattern of expansion of central high-level planning and control operations takes place in governments, brought about partly by the technical developments that make this expansion possible and partly by the growing complexity of regulatory and administrative tasks. Thus, governments are also buying more outside consulting services of all sorts and outsourcing what were once government jobs.

Formally, the development of the modern corporation and its massive participation in world markets and foreign countries have made planning, internal administration, product development, and research increasingly important and complex. Diversification of product lines, mergers, and transnationalization of economic activities all require highly specialized skills. A firm with several geographically dispersed manufacturing plants contributes to the development of new types of planning in production and distribution surrounding the firm. The development of multisite manufacturing, service, and banking has created an expanded demand for a wide range of specialized service activities to manage and control global networks of factories, service outlets, and branch offices. Although to some extent these activities can be carried out in-house, a large share is not. Together, headquarters and the producer services deliver the components of what might be called *global control capability*. High levels of specialization, the possibility of externalizing the production of some of these services, and the growing demand by large and small firms and increasingly also governments are all conditions that have both resulted from and made possible the development of a market for freestanding producer-services firms.

This, in turn, means that small firms can buy components of that global control capability, such as management consulting or international legal advice, as can firms and governments from anywhere in the world. This accessibility contributes to the formation of marketplaces for such services in major cities. Thus, although the large corporation is undoubtedly a key agent inducing the development of this capability and is its prime beneficiary, it is not the sole user.

A brief examination of the territorial dispersal entailed by transnational operations of large enterprises illustrates some of the points raised here. Exhibits 4.7, A.4.7, and A.4.8 provide information about the operations of major corporations outside their home countries. Chapter 2 introduced data about the number of TNCs and their affiliates worldwide (see Exhibit A.2.6) and provided indicative

EXHIBIT 4.7 ■ Cities Ranked by Assets of the World's Top Fifty Publicly Listed Financial TNCs, 2008[a]

Rank	Average GSI[b]	No. of Top Financial TNCs	City	Total Assets (US$ millions)	Total Employees	Affiliates		
						Total	Number Foreign	No. of Host Countries
1	52.3	5	Paris	8,679,654	553,951	2,498	1,630	217
2	43.9	7	New York	7,422,354	842,192	2,966	1,854	235
3	40.0	5	London	6,797,451	641,201	2,419	1,290	166
4	30.8	3	Tokyo	4,167,163	145,442	311	175	51
5	55.2	4	Zurich	3,602,362	194,752	1,337	1,240	126
6	32.6	1	Edinburgh	3,511,187	199,000	1,169	388	32
7	43.3	3	Amsterdam	3,270,013	225,833	2,412	1,436	100
8	52.4	1	Frankfurt	3,150,820	80,456	934	713	36
9	39.1	2	Bilbao	2,277,942	282,897	660	402	51
10	43.7	3	Munich	2,275,604	228,860	1,330	824	105
11	42.4	3	Brussels	1,572,522	97,983	973	736	71
12	56.7	1	Milan	1,495,868	174,519	1,111	1,052	34

(Continued)

EXHIBIT 4.7 ■ (Continued)

Rank	Average GSI[b]	No. of Top Financial TNCs	City	Total Assets (US$ millions)	Total Employees	Affiliates		
						Total	Number Foreign	No. of Host Countries
13	37.2	3	Toronto	1,319,023	166,372	350	286	53
14	32.2	3	Stockholm	1,285,432	66,132	388	295	47
15	38.9	1	Turin	910,062	108,310	218	127	26
16	26.2	1	Copenhagen	680,095	23,624	73	50	10
17	59.5	1	Trieste	549,269	84,063	396	342	41
18	25.8	1	Dublin	277,705	16,026	197	101	13
19	33.5	1	Omaha, NE	267,399	246,000	570	200	32
20	31.1	1	Oslo	263,592	14,057	33	32	10

Source: Calculations based on UNCTAD (2009b: 234).

Notes:

a. Top financial companies as determined by Geographical Spread Index (see note b). Data on total assets and employees, from UNCTAD (2008b), currency (US$) millions. Data on affiliates is based on Dun and Bradstreet's "Who Owns Whom" database.

b. The Geographical Spread Index (GSI) is calculated as the square root of the Internationalization Index multiplied by the number of host countries. Average GSI is the average for all top financial companies in a city.

c. The UNCTAD have chosen to no longer calculate statistics on TNCs. The Division on Investment and Enterprise of UNCTAD stated, "Because TNCs, by their very nature, cross borders, the degree to which the financial data of any given TNC are consolidated is often uncertain."

data about the distribution of financial and banking operations of major firms across the network of offshore tax havens (Exhibit A.2.7). These and other figures throughout this book point to a vast global operational space dispersed over a multiplicity of locations. These types of extensive operations feed the growth of central management, coordination, control, and servicing functions. Some of these functions are performed in the headquarters; others are bought or contracted for, thereby feeding the growth of the producer-services complex.

AN EMERGING GLOBAL LABOR MARKET

The early 1990s saw the beginnings of a global labor market. Today, in 2017, the elements are in place. But as a labor market, it is not very open and not very global. It is a mix of markets, government programs that allow firms to hire foreign workers, and intermediaries such as global manpower firms and other employment placement services. Elementary as this global labor market is, its future seems in doubt given the recent economic recession, stronger government intervention in economies, an increase in populist and xenophobic political regimes, growing sentiment against low-wage immigrant workers and foreign professionals, and more paperwork everywhere. And yet a number of trends suggest we are entering a new era when it comes to the need for and advantages of having a global labor market from the perspective of firms. The advantages for the workers themselves and for the larger economy of a city or a country are a separate matter.

The sheer rise in high-skilled migration since the 1990s is reason enough to investigate these matters. In OECD countries alone, the overall number of high-skilled migrants increased 120% between 1990 and 2010, from 12 to 27 million people (Kerr et al. 2017: 7). During this period, OECD destination countries have indicated greater skill selection in the immigrants they admit, a trend in line with observations of growing selectivity in the immigration policies of host countries. These findings elucidate the increasing benefits, importance, and sway this emerging global labor market has on a wide variety of industries and firms across the world.

In what follows, I focus on the ways in which firms interact with, facilitate, and benefit from these developing migration trends. I base our understanding on both existing data and our in-depth interviews with firms and experts from across the world. This includes such combinations as the manager of the China-based operations of a Singaporean firm or the U.S.-based operation of a Mexican firm. The data we use come from specialized manpower reports and include trend data not usually used in analyses of the employment of foreign workers. Based on this information, I detect three trends that mark a new phase in the development of a global labor market that goes well beyond the familiar notion of the search for "talent." The key argument put forth by firms recruiting foreign professionals is the scarcity of talent in a country, with the best-known recent case being the

need for importing high-tech workers in the United States, the United Kingdom, and Germany. The structural trends discussed here point to a vastly expanded need for a global labor market and a qualitative change in the parameters of that market. The reasons for these shifts are the changing character of economic globalization, the growing segmentation of specialized labor markets, and the demographic turn. All three will take us well beyond the current understanding of the need for foreign workers, particularly foreign professionals.

Three Changes in the Role of Foreign Talent for Global Firms

The pattern that has dominated until quite recently was to bring home-country professionals to run a firm's overseas operations. This pattern is increasingly being recognized as insufficient. We can detect three changes feeding a tipping point in the global labor market.

First, the available evidence suggests that the importance of hiring foreign professional workers will only grow. This has to do with the fact that the global economy is not as flat as is often thought, and indeed is not about to become flatter anytime soon. Even in some of the most globally standardized industries, global firms encounter and need to engage the enduring particularities of national, regional, and even local political economies, as well as the distinctive economic cultures of countries. Employing local professionals is not only a good idea because of the talent aspect. It is also becoming necessary to maximize operational effectiveness and success because they can bridge between the foreign firm and a country's national economic culture. These trends are evident in research on the global workforce. A 2017 study conducted by Envoy Global found that 91% of employers feel that sourcing foreign nationals is important to their company's talent acquisition, up from 86% in 2016. In the same study, 55% of employers reported anticipating an increase in their foreign national headcount, compared to just 34% the year before. This trend is also reflected in employer outsourcing strategy and plans: 60% of employers expect growth in their demand for work authorization in jurisdictions outside of the United States for the coming year. These rates are even higher for companies in science, technology, engineering, and mathematics (STEM) fields (Exhibit 4.8).

Second, and partly because of the just-mentioned trend, global firms will have to bring foreign professionals into the highest level of home headquarters to understand and learn from the specificity of the foreign location and its uses/understandings of talent. This is in sharp contrast with the older and still prevalent modus operandi, which is to bring foreign professionals into a firm's home-country headquarters to teach them the firm's culture; this older pattern will continue, but it will progressively become insufficient.

Third, the older pattern of bringing home-country professionals to run overseas operations will increasingly need to be accompanied by the hiring of local professionals, including for the highest posts and even for heading overseas offices. Indeed, in our interviews, we found indications that global firms are hiring local

EXHIBIT 4.8 ■ Anticipated Increase in Employment of Foreign Workers, 2011

During the next year, do you expect your company's foreign national headcount to:						
	Significantly Increase	Somewhat Increase	Remain the Same	Somewhat Decrease	Significantly Decrease	Not Sure
2017	20%	35%	31%	10%	4%	1%
2016	8%	26%	53%	8%	2%	3%
STEM 2017	24%	32%	30%	9%	3%	1%
STEM 2016	6%	26%	55%	7%	2%	3%

Source: Envoy Global. 2017. *Immigration Trends Report 2017.* Copyright © 2017 Envoy Global Inc. Reprinted with permission. All rights reserved.

professionals to *run* their foreign offices, not just to *staff* their foreign offices. Our findings are corroborated by ManpowerGroup's 2011 survey investigating the global hiring practices of more than 25,000 employers across thirty-nine countries and territories. The survey determined that many companies are increasingly placing local rather than expatriate managers at the helm of international operations, though 44% of the multinational companies surveyed are still employing expatriates at the management level or above (Exhibit 4.9).

My own research has led me to emphasize a very specific aspect that is often obscured by the more general analyses of the search for talent. This is the problem of "incomplete knowledge." Firms have always confronted incomplete knowledge in market economies. When such firms go global, this problem becomes acute. The corporate services for firms (accounting, law, finance, forecasting, credit rating, and kindred specialized corporate services) are, in my analysis, an "organizational commodity" that becomes increasingly important the more a firm (or an economic sector) operates in globalized markets (Sassen [1991] 2001: chap. 5; 2010). This holds for global firms and markets, no matter what the sector—mining, agribusiness, finance, insurance, and so on. I go further. The proposition I developed to organize the many different conditions and needs is that the more digitized and the more globalized the operations of a firm, the more acute is its incomplete knowledge problem, partly because of the acceleration of operations and decisions in highly digitized sectors. Adding foreign professionals to a firm's staff is one key component to address this problem of incomplete knowledge. These foreign workers bring more than the basic skill or talent the firm knows it

EXHIBIT 4.9 ■ Senior-Level Expatriate Employees (Employees Based in Countries Other Than Their Homes), 2011

Employers Hiring Expatriates at the Management Level				
	Global	Americas	Asia Pacific	Europe
None	34%	15%	33%	51%
0 to 5%	20%	25%	23%	13%
5% to 20%	13%	22%	11%	10%
More than 20% of Senior Team	11%	19%	9%	10%

Source: Compiled from ManpowerGroup. 2011. *The Borderless Workforce 2011*. Milwaukee: ManpowerGroup. (https://www.manpowergroup.co.nz/documents/White-Papers/2011_The-Borderless-Workforce-2011_Research-Results.pdf).

needs. They also bring a type of tacit or difficult-to-codify knowledge about the economic "culture" of their country of origin. Thus, bringing in foreign talent means, in part, addressing the problem of incomplete knowledge: foreign talent is brought to headquarters to learn the established culture of the firm as well as to bring in new, country-specific understandings of what is a good investment, what is informal trust, and so on. And this is one of the key aspects of the changing role of foreign talent in a global economy.

This also works at the level of the city, particularly the seventy-five-plus global cities in today's world. The city's specificity in addressing the incomplete knowledge problem, especially for global actors, is that its wide range of networks, information loops, and professionals coming from diverse parts of the world produce a particular type of knowledge capital. I refer to it as "*urban* knowledge capital." This kind of knowledge capital is more than the sum of the "knowledges" of the professionals and the firms in a city. This, then, also explains why global capitalism produced a systemic demand for a growing number of global cities across the world as globalization expanded in the 1990s and onward. Each of these is a site for the production of urban knowledge capital, in good part specific to each city. Indeed, since the beginning, I have argued that this phase of globalization *needs* the specialized differences of cities: this specialized difference makes the urban knowledge capital of each global city specific. It is going to be different in Rome from what it is in Milan, different in New York from Chicago, in Hong Kong from Shanghai, and so on. And the fact of these specialized differences then also explains the growing importance of local talent in a global firm: local workers can bring that specific knowledge into the firm where they are employed.

The specifics of the current period are well captured in the findings from our in-depth interviews with global firms (Sassen, Nicol, and Walinska 2011). They bring to the fore the enormously variable conditions under which firms function. All of our interviewees pointed out the particular differences in each of the countries where they operate. And they made clear that they were learning that they had to address this fact and change old strategies. These differences hold for more aspects such as extremely varied political economies and management cultures across countries worldwide, with the United States and China probably the most familiar contrast. Nor is it only the global firms of the dominant economic cultures, notably the United States and Europe, that find these sharp differences. Also, global firms from less dominant countries, such as Mexico, India, and Malaysia, found these differences were important and that they had to recognize them.

Some of the interviews provided unexpected insights into how firms handle foreign professionals. In the case of today's two global powers, China and the United States, one might expect the United States to come across as more enlightened vis-à-vis foreign professionals, given its long immigration history and the many benefits that immigration has brought to the country. Instead, the United States is often critiqued on this account whereas China, a far less democratic and more closed country, is seen as having a more enlightened position regarding foreign talent. One reason might be that the leadership in China knows it needs to bring in foreign professionals and firms, whereas the United States is perhaps less aware of its own needs, taking the presence of foreign professionals for granted. The second aspect that comes through is the sectoral difference: a global firm that specializes in manpower for other firms (recruiting the appropriate workers for global firms) has to deal with the law and policies of each of the countries involved—an ongoing part of a manpower firm's work. This is quite different from a firm whose business is to make products and deliver services rather than to recruit and hire foreign talent. Yet data shows an increase in global hiring practices across the board: in Envoy Global's Immigration Trends Report, 70% of the employers surveyed operate global mobility departments, which often report to an organization's human resources (HR) offices. Of the surveyed firms, nearly half had a team of at least nine people specifically employed to recruit and hire foreign workers. Clearly, both global and manpower firms are key actors in the development of a global labor market for professionals.

Finally, this is still a partial labor market that requires the ongoing participation of governments because foreign workers are involved. Much of this is a question of systemic positioning—each country has its own specific way of being articulated within the global economy. But it also shows us the enormous variability and segmentations in the global labor market. To a good extent, the global labor market for professionals is made up of multiple specialized labor markets rather than being one single market. This further underlines the fact that the differences among the seventy-five-plus global cities in the world today matter far more than is conveyed by notions that the global economy is flat.

Growing Segmentation in the Global Labor Market

Much of what is signaled by the structural trends for top-level professionals, discussed earlier, actually concerns a wide range of occupations, from manual production workers to senior executives. ManpowerGroup's 2011 study found that, for its surveyed employers, the top job positions filled by foreign workers were engineers, laborers, workers in skilled manual trades, production operators, sales representatives, middle managers, technicians, administrative or office support, information technology (IT) staff, and senior executives or board members (see Exhibit 4.10). Although Exhibit 4.11 only refers to foreign employment in the United States, the data echoes ManpowerGroup's 2011 findings, indicating a wide range of employment opportunities for migrants and the high potential for profits in these positions. High-skilled foreign workers are employed for a variety of reasons, including language abilities and knowledge of foreign markets (see Exhibit 4.12). Additionally, many industries are seeking foreign workers to mediate labor market shortfalls. As demand in certain industries rapidly increases, the rate at which domestic pools of potential workers can gain the appropriate skills

EXHIBIT 4.10 ■ Top Ten Job Categories Using Foreign Talent, 2011

Demand (Job Categories Using Foreign Talent)	
Job	**Percentage**
Engineers	11%
Laborers	8%
Skilled Manual Trades	7%
Production Operators	5%
Sales Representatives	5%
Middle Managers	4%
Technicians	4%
Administrative/PA/Office Support, etc.	3%
IT Software Experts (programmers, etc.)	3%
Senior Executives/Board Members	3%

Source: ManpowerGroup Inc., 2011 *Borderless Workforce Survey Global Summary 2011.* Milwaukee: ManpowerGroup. (https://www.manpowergroup.co.nz/documents/White-Papers/2011_The-Borderless-Workforce-2011_Research-Results.pdf).

and experience often lags. When companies have limited training capacities or lack the time to train new workers, firms and recruitment agencies often look to the global labor market. An example of this phenomenon is the outsourcing of high-skilled migrant labor to fill positions in the medical industry. These patterns in recruitment are contributing to the segmentation of the global labor market, leading to increasingly diversified high-skilled workforces (Kerr et al. 2017).

EXHIBIT 4.11 ■ Top H-1B Visa Sponsors by Industry, United States, 2017[a]

Top H-1B Visa Sponsors by Industry, United States, 2016			
Rank	**NAICS* Industry**	**Number of LCA**	**Average Salary**
1	Computer Systems Design and Related Services	336,513	$78,876
2	Management, Scientific, and Technical Consulting Services	53,647	$94,320
3	Colleges, Universities, and Professional Schools	27,641	$74,997
4	Architectural, Engineering, and Related Services	17,682	$76,937
5	Software Publishers	12,993	$114,081
6	Accounting, Tax Preparation, Bookkeeping, and Payroll Services	12,640	$83,704
7	Scientific Research and Development Services	9,912	$86,594
8	Semiconductor and Other Electronic Component Manufacturing	8,370	$106,665
9	General Medical and Surgical Hospitals	8,102	$128,365
10	Securities and Commodity Contracts Intermediation and Brokerage	7,861	$118,711

Source: Compiled from NAICS. 2017. *2017 H1B Visa Report*. Washington, DC: NAICS. http://www.myvisajobs.com/Reports/2016-H1B-Visa-Category.aspx?T=IN.

Note:

a. Based on data from employers for fiscal year 2016.

*NAICS = North American Industry Classification System

**LCA = Labor Condition Application petition for H-1B Visa

EXHIBIT 4.12 ■ Reasons for Hiring Foreign High-Skilled Workers

Factor ("We hire foreign employees because")	Agree (%)	Strongly Agree (%)
Overall they are the best candidates.	49.07	9.26
There is a lack of good domestic applicants.	55.45	10.91
They know foreign markets.	64.86	36.04
They speak foreign languages.	71.17	47.75
They speak English.	56.13	26.42
The type of knowledge required for these jobs is not produced by the domestic education system.	27.93	4.50
Their skills better fit our work tastes.	51.35	15.32

Source: Bauer, Thomas K. and Kunze, Astrid. 2004. *The Demand for High-Skilled Workers and Immigration Policy*. Bonn: IZA. Reprinted with permission.

The data sets reveal an enormously diverse range of occupations, from manual production workers to senior executives. These findings are also supported by the Migration Policy Institute's 2009 research on the employment of foreign workers worldwide, commissioned by the British Broadcasting Corporation (BBC) World Service, which found that the need for foreign workers concerns professional talent and production workers. However, research suggests that though professional pursuits and migration corridors are expanding and diversifying for high-skilled foreigners, labor opportunities are actually narrowing for those in low-skilled industries, as will be discussed later (Kerr et al., 2017, p. 7). These findings suggest that although the global labor market *is* becoming increasingly segmented, its diversification remains highly stratified and uneven. Nonetheless, the intensifying segmentation of the global labor market takes many forms. An expansive interpretation of the global labor market would lead us to say that the sources of segmentation include (1) a mix of specialized markets for talent and their specific recruitment channels; (2) the work of intermediaries, such as global mobility HR departments, employment placement services, and professional recruitment agencies; and (3) the multiplication of diverse government policies

aimed at contracting foreign workers, some operating from the employers' side and others from the workers' side.

In addition to the demand for foreign labor in an array of industries, the segmentation of the global labor market is also fueled by high-skilled migrants who are seeking more and more opportunities abroad. Segmentation is thus further precipitated because some countries are more attractive to high-skilled workers compared with others. Understanding the types of destination country characteristics found attractive by high-skilled immigrants is important in nuancing our conceptions of the overarching forces indirectly or directly governing and modulating global migration flows and labor markets.

The Adecco Group, the largest global staffing agency in the world, publishes an annual global talent competitiveness report measuring trends in high-skilled migration. The report uses several categories to assess a country's competitiveness in growing, attracting, and retaining talent in general, and foreign talent in particular (See Exhibit 4.13). For the sake of our analysis, we will focus on one specific indicator and its two sub-pillars: the Attract Factor, broken down according to Internal and External Openness. The Attract Factor measures a country's overall success in attracting talent. External Openness refers to a country's capacity to attract businesses and people and is measured through several indicators: foreign direct investment (FDI) and technology transfer, prevalence of foreign ownership, migrant stock, prevalence of international students, and rates of brain gain and drain. Internal Openness, meanwhile, evaluates a country's social climate and its consequential accessibility to incoming talent. This sub-pillar addresses issues of state-mediated social diversity and rights and representation by measuring tolerance to minorities and immigrants, social mobility, and gender equality. Internal Openness evaluates state efforts to remove barriers in entering the workforce faced by those from disadvantaged backgrounds. Considering these different indicators, the Adecco Group's Global Talent Competitiveness Index report has ranked the overall most attractive countries to incoming talent; topping the list are Singapore, Australia, and Luxembourg (see Exhibit 4.14).

Both my own research and the GTCI 2016 report have found that foreign employees value migrant agency, intellectual and technological exchange, safe communities ensured by strong democracies, the rule of law, and the openness of the labor and entrepreneurial markets of a destination country. The key actors in the global labor market, firms and foreign workers—whether professionals or manual laborers—want more market and less government regulation. Available data on professionals also shows they respond to market conditions: one of the best-known examples is the return of 10,000 plus high-tech workers from Silicon Valley to their native India when the dot-com crisis in Silicon Valley closed many firms at a time when, as it happens, India had become a major destination for high-tech firms and jobs.

The second issue that deserves further examination is the increasingly complex and diversified combination of regimes through which migrants move. The number of these regimes has grown sharply since the 1980s, and especially since

EXHIBIT 4.13 ■ Top-Ranking Countries in Attracting Foreign Talent, Disaggregated by External and Internal Openness and Corresponding Indicators, GTCI Report, 2016

	Indicators	How Indicator Was Assessed	Top Ranking Country in This Category
External Openness	Foreign direct investment (FDI) and technology transfer	Average answer to the question: To what extent does foreign direct investment (FDI) bring new technology into your country?	Ireland
	Prevalence of foreign ownership	Average answer to the question: How prevalent is foreign ownership of companies in your country?	Luxembourg
	Migrant stock	Adult migrant stock (%)	United Arab Emirates
	International students	Tertiary inbound mobility ratio (%)	United Arab Emirates
	Brain gain	Average answer to the question: Does your country attract talented people from abroad?	Switzerland
	Brain drain	Average answer to the question: Does your country retain talented people?	Switzerland
Internal Openness	Tolerance to minorities	Percentage of respondents who answered positively to the question: Is the area where you live a good place or not a good place to live for racial and ethnic minorities?	New Zealand

	Indicators	How Indicator Was Assessed	Top Ranking Country in This Category
	Tolerance to immigrants	Percentage of respondents who answered positively to the question: Is the area where you live a good place or not a good place to live for immigrants?	New Zealand
	Social mobility	Average answer to the question: To what extent do individuals in your country have the opportunity to improve their economic situation through their personal efforts regardless of the socioeconomic status of their parents?	Finland
	Female graduates	Female Tertiary Graduates (%)	Barbados
	Gender earnings	Estimated Earned Income Ratio	Denmark

Source: Compiled from the Adecco Group. 2016. *The Global Talent Competitiveness Index 2015–2016*. Zurich: Adecco Group. http://www.gtci2015-16.com/gtci-2015-16/.

EXHIBIT 4.14 ■ Top-Ranking Countries in Attracting Talent, GTCI Report, 2016

Most Attractive Countries, GTCI Report, 2016	
Rank	**Country**
1	Singapore
2	Australia

(Continued)

EXHIBIT 4.14 ■ (Continued)

Most Attractive Countries, GTCI Report, 2016	
Rank	**Country**
3	Luxembourg
4	Canada
5	New Zealand
6	Qatar
7	Switzerland
8	Norway
9	United Kingdom
10	Denmark
11	Sweden
12	Barbados
13	Ireland
14	United States
15	Costa Rica
16	Belgium
17	Netherlands
18	Panama
19	Germany
20	Finland

Source: Compiled from the Adecco Group. 2016. *The Global Talent Competitiveness Index 2015–2016*. Zurich: Adecco Group. http://www.gtci2015-16.com/gtci-2015-16/.

the 1990s, when globalization expanded rapidly and incorporated most countries in the world. The diversity of national regimes through which this labor market functions becomes evident when we consider the top ten senders and receivers of foreign workers. According to the previously mentioned Manpower Group 2011 survey of 25,000 employers across thirty-nine countries, the top ten countries from which these firms hire foreign workers are China, India, the

United Kingdom, the United States, the Philippines, Germany, Mexico, Poland, Colombia, and France (See Exhibit 4.15).

Inversely, the top ten foreign destinations to which firms fear losing their national workers are China, the United States, India, Germany, the United Kingdom, Japan, Brazil, Australia, France, and Mexico (see Exhibit 4.16). An issue that has always been important is the question of brain drain—a phenomenon seen from countries that lose talent. Interesting here is ManpowerGroup's finding that the United States is no longer viewed as the most threatening country relative to competition for foreign talent—that is now China. After China and the United States is a mix of expected and unexpected countries, ranging from highly developed states like Germany, to emerging markets such as Brazil.

Foreign workers and the firms that hire them must navigate and process an enormous diversity of national visa systems and paperwork. In fact, the ManpowerGroup survey found that the overall largest obstacle faced by

EXHIBIT 4.15 ■ Top Source Countries for High-Skilled Workers, 2011

Supply (Common Supply Countries for Talent)	
Country	**Percentage**
China	11%
India	11%
UK	10%
USA	7%
Philippines	5%
Germany	4%
Mexico	4%
Poland	4%
Colombia	3%
France	3%
Romania	3%
South Africa	3%

Source: ManpowerGroup. 2011. *The Borderless Workforce* 2011. Reprinted with permission from ManpowerGroup.

EXHIBIT 4.16 ■ Losing National Workers: Top Countries Seen as Threats

Countries Posing the Biggest Competitive Threat (2011)					
Rank	Country	Overall Global Perception	In the Americas	In Asia Pacific	In Europe
1	China	30%	27%	40%	21%
2	USA	18%	32%	20%	8%
3	India	10%	9%	12%	9%
4	Germany	8%	3%	2%	18%
5	UK	7%	4%	8%	9%
6	Japan	5%	5%	11%	/
7	Brazil	5%	14%	2%	1%
8	Australia	4%	2%	6%	4%
9	France	3%	2%	1%	5%
10	Mexico	2%	9%	/	/
11	Singapore	2%	1%	5%	/
12	Italy	2%	1%	/	5%

Source: ManpowerGroup 2011. *The Borderless Workforce 2011. Milwaukee: Manpower Group.* (https://www.manpowergroup.co.nz/documents/White-Papers/2011_The-Borderless-Workforce-2011_Research-Results.pdf).

companies hiring foreign workers is maneuvering visa and legal requirements (See Exhibit 4.17). The report also cites language and cultural barriers as a major hindrance in efforts to recruit foreign talent. Interestingly, however, on a regional level, the main hurdles faced by firms in hiring foreigners varies. ManpowerGroup found that the complications posed by various visa regimes is a larger obstacle for companies in the Americas and Asia Pacific compared with those in Europe. The ease of migration facilitated by European Union (EU) citizenship perhaps explains these findings. Instead, European firms cite the European Union's wide range of differing languages, dialects, and customs as the main barrier they face when recruiting and hiring foreigners. In analyzing the regional differences in how firms rank hiring obstacles, we can better understand the role played by governments in facilitating or complicating foreign hiring practices. Culture and

language may always pose an obstacle. Governments, however, retain the power to modify and streamline their visa regimes to accommodate the needs of firms and workers navigating increasingly complex global labor markets.

Across the wide range of visa regimes negotiated by workers and firms alike, certain migration corridors are prominent. Correlating with the overall growth in high-skilled migration, only 15% of the world's 4,176 major migration corridors hosted no migrant travel in the year 2010. This reflects a 50% decline in inactive migration routes since 1990 (Kerr et al., 2017, p. 7). More corridors are in use, and many are being used with higher frequency. These numbers indicate several notable phenomena. First and foremost, analyzing this data supports our findings that trends in high-skilled migrant stocks are diversifying over time, partly a consequence of firms' increasing need for foreign talent. This diversification is reflected in migrant stock, as well as in the wider set of origin countries from which high-skilled foreigners are migrating and the larger distances they are traveling (Kerr et al., 2017, p. 7).

Additionally, the directional flow of these corridors both reflects and enforces overarching political and economic power imbalances. In line with the concepts of brain drain and gain I have discussed, these corridors reveal that high-skilled workers gravitate toward countries that boast a particular array of qualities deemed "attractive"—features that are often characteristic of a nation's level of socioeconomic development. There are certain migration flows in which highly developed countries receive the largest shares of foreign talent. These patterns can perhaps be understood as reflecting colonial histories as well as a neocolonial present. What were once extractive and mercantilist practices—in which

EXHIBIT 4.17 ■ Biggest Obstacles in Recruiting Foreign Workers, Disaggregated by Region, 2011

Biggest Obstacles in Recruiting Foreign Workers				
Obstacles	**Global**	**Americas**	**Asia Pacific**	**Europe**
Understanding visa/ legal requirements	22%	36%	18%	13%
Language Barriers	17%	17%	16%	16%
Costs	10%	16%	10%	4%
Cultural Assimilation	8%	10%	9%	3%
None	37%	26%	32%	56%

Source: ManpowerGroup 2011. *The Borderless Workforce 2011. Milwaukee: Manpower Group*. https://www.manpowergroup.co.nz/documents/White-Papers/2011_The-Borderless-Workforce-2011_Research-Results.pdf.

Note: Figures may not total 100% due to rounding.

world powers stripped peripheral nations of their raw resources—are now partly self-perpetuating phenomena in which high-skilled workers leave their countries for more developed and "attractive" destinations. This is a quantifiable issue: a Harvard University study on high-skilled migration reports that emigration rates of college-educated workers in developing countries are up to thirty times higher than those of lower skilled workers (Kerr et al. 2017). These migration corridors funnel the most talented and specialized workers from less developed regions—often in the Global South—into already highly developed and affluent regions—often in the Global North (See Exhibit 4.18).

The segmentation of the global labor market is further evident in analysis of specific migration corridors and the locations where high-skilled migrants settle. The Harvard report indicates a significant agglomeration of migrant talent: roughly two-thirds of all international high-skilled foreigners reside in OECD countries, the collective population of which constitutes less than one-fifth of that of the entire world. This asymmetric distribution is clear even within the OECD. The United States, Canada, the United Kingdom, and Australia—four

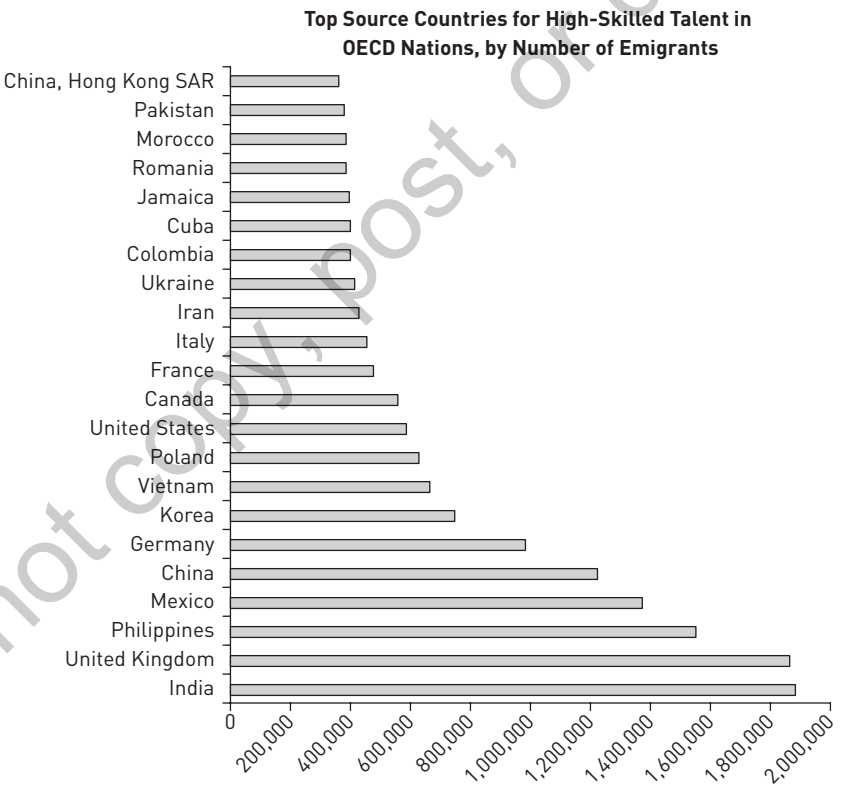
EXHIBIT 4.18 ■ Migration Corridors of Inventors, Top South–North Flows

Migration Corridors of Inventors: Top 10 South–North Flows			
Ranking	**Sending Country**	**Receiving Country**	**Number of Migrants (Thousands)**
1	India	USA	44.6
2	China	USA	35.6
3	Russia	USA	4.3
4	China	Japan	2.5
5	China	Singapore	1.9
	Turkey	USA	1.9
6	Iran	USA	1.4
7	Russia	Germany	1.2
	Romania	USA	1.2
	Mexico	USA	1.2

Source: Compiled from The Adecco Group. 2016. *The Global Talent Competitiveness Index 2015–2016*. Zurich: The Adecco Group. http://www.gtci2015-16.com/gtci-2015-16/.

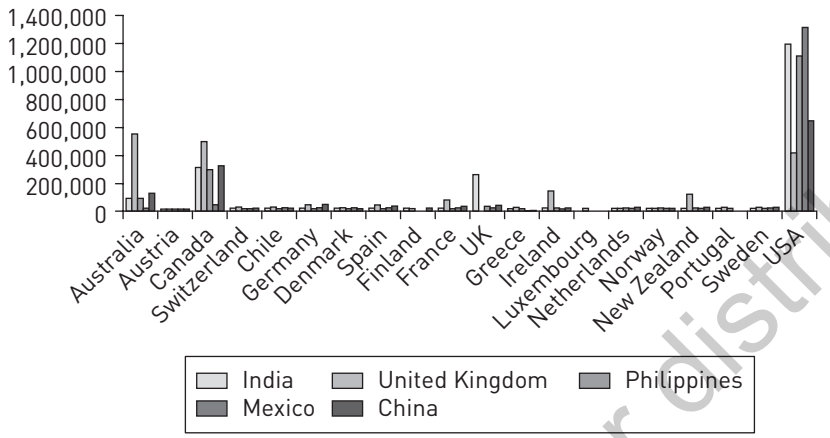
Anglo-Saxon nations—are home to more than two-thirds of the high-skilled migrants residing in the OECD (See Exhibit 4.19). This agglomeration can even be observed at the regional and urban levels. In the United States, significant concentrations of migrant talent occur in major cities such as Boston, Chicago, New York, Seattle, Miami, and those of Northern and Southern California. These patterns have global implications. Major cities across the world are by and large home to the majority of foreign talent in any given country. This agglomeration is geographic and often segmented according to occupation and industry sector as well. Certain migrant settlement patterns can occur in response to labor market shortfalls, as previously discussed, or around innovation areas, such as Silicon Valley (Kerr et al. 2017).

EXHIBIT 4.19A ■ Distribution of Countries With Highest Brain Drain to OECD Nations



Source: Compiled from Brücker H., S. Capuano, and A. Marfouk. 2013. Education, gender and international migration: Insights from a panel-dataset 1980–2010, mimeo. (http://www.iab.de/en/daten/iab-brain-drain-data.aspx).

EXHIBIT 4.19B ■ Distribution of Countries With Highest Brain Drain to OECD Nations, by Number of Emigrants, 2010



Source: Compiled from Brücker H., S. Capuano, and A. Marfouk. 2013. Education, gender and international migration: Insights from a panel-dataset 1980–2010, mimeo. (http://www.iab.de/en/daten/iab-brain-drain-data.aspx).

The existing labor market is not sufficiently developed to meet a finely grained demand. And the key intermediaries would have a hard time making hyper-segmented demand for specialized talent a profitable endeavor until better scale economies arise. Government programs would most likely be overwhelmed with bureaucratic obstacles if they had to develop dozens of new types of visas for highly specialized workers. Finally, a major contextual condition that heightens the urgency of developing a working global labor market is the demographic turn. Today, scholars generally accept that the demographics of highly developed societies are fast moving toward negative growth. Today's high unemployment and overall low economic growth make it difficult to imagine we might soon face shortages in particular sectors. Yet the immediate demographic future is already on its way—it is not a matter of forecasting but merely a matter of time.

If we consider the new expanded ways in which foreign workers, especially professionals in innovative sectors, are being used, we can see that the demand for such workers will continue. One interesting factor here is that smaller or less powerful firms in need of foreign workers found the economic and financial crisis of 2008 actually made it easier to hire foreign workers because the larger firms were less aggressive in recruiting. Further, as globalization incorporates more and more countries into specific specialized economic circuits, both global cities and foreign workers will only take on more importance. Compared

with the 1980s, our current global economy is far more diversified and complex. Countries that were passive recipients of foreign firms today have developed their own capabilities and notions of what are their priorities and preferences. One type of glue that keeps all these diverse sectors and geographies connected is the global circulation of professionals, and, in less visible ways, the circulation of manual skilled workers. A critical item on the agenda for firms that employ these workers and intermediaries such as global employment service firms is to ensure that proper protection and guarantees of contract are in place for both types of foreign workers.

CONCLUSION: CITIES AS POSTINDUSTRIAL PRODUCTION SITES

A central concern in this chapter is cities as production sites for the leading service industries of our time and, hence, the recovery of the infrastructure of activities, firms, and jobs necessary for running the advanced corporate economy. Specialized services are usually understood as specialized outputs rather than as the production process involved. A focus on the production process allows us (1) to capture some of the locational characteristics of these service industries and (2) to examine the proposition that there is a producer-services complex with locational and production characteristics that differ from those of the corporations it serves. This producer-services complex, more than headquarters generally, benefits from, and even needs, a city location. We see this dynamic for agglomeration operating at different levels of the urban hierarchy, from the global to the regional.

Major cities concentrate infrastructure and servicing, a key dynamic that produces a capability for global control. This capability is essential if geographic dispersal of economic activity—whether factories, offices, or financial markets—is to take place under continued concentration of ownership and profit appropriation. It cannot simply be subsumed under the structural aspects of the globalization of economic activity; it needs to be produced. It is insufficient to posit, or take for granted, the power of large corporations, no matter how vast this power is.

By focusing on the production of this capability, I add a neglected dimension to the familiar issue of the power of large corporations. The emphasis shifts to the *practice* of global control: the work of producing and reproducing the organization and management of a global production system and a global marketplace for finance, both under conditions of economic concentration. Power is essential in the organization of the world economy, but so is production: in this case, the production of those inputs that constitute the capability for global control and the infrastructure of jobs involved in this production. This allows us to focus on cities and on the urban social order associated with these activities.

Notes

1. The global financial crises I am referring to are: the Latin American Debt Crisis, the Asian Financial Crisis, the Mexican Peso Crisis, the Dot-com Bubble, and the 2008 Global Financial Crisis.
2. The 2008 MasterCard Study of Centers of Global Commerce compiles one hundred factors that cover a very wide range of conditions, from macrolevel factors such as political and legal frameworks to the particulars of how easy it is to execute an import or export operation or how many days it takes to open and to close a firm, as well as livability factors and a city's global recognition. The author is one of the experts on this project. This 2008 study is the most recent.
3. Mixed markets create measurement problems. These problems can be partly overcome because the consumer and business markets in these industries often involve very different sets of firms and different types of location patterns and, hence, they can be distinguished on this basis. Given the existence of mixed markets and the difficulty of distinguishing between markets in the organization of the pertinent data, it is helpful to group these services under the category of "mostly" producer services—that is, services produced mostly for firms rather than for individuals. It has become customary to refer to them, for convenience, as *producer services*.
4. Jobs were and remain far more concentrated in the central business district in New York City compared with other major cities in the United States. By the late 1980s, about 27% of all jobs in the consolidated statistical area were in Manhattan compared with 9% nationally (Drennan 1989). The 90% concentration ratio of finance was far above the norm.
5. The data on producer services are creating a certain amount of confusion in the United States. Faster growth at the national level and in medium-size cities is often interpreted as indicating a loss of share and declining position of leading centers such as New York or Chicago. Thus, one way of reading these data is as decentralization of producer services; that is, New York and Chicago are losing a share of all producer services in the United States—a zero-sum situation in which growth in a new location is construed ipso facto as a loss in an older location. Another way is to read it as growth everywhere. The evidence points to the second type of explanation: the growing service intensity in the economy nationwide is the main factor explaining growth in medium-size cities rather than the loss of producer services firms in major cities and their relocation to other cities.
6. Other notable destinations for corporations to invert to are Bermuda, Canada, the Cayman Islands, and the United Kingdom.

CHAPTER 4

Appendix

EXHIBIT A.4.1A ■ Financial Dimension and Selected Subindicators (Part 1 of 2)

Rank	Indicator 4: Financial Dimension	Total Value of Equities Trading	Total Number of Derivatives Contracts	Total Number of Commodities Contracts
1	London	New York	Seoul	New York
2	New York	London	Chicago	London
3	Frankfurt	Tokyo	Frankfurt	Chicago
4	Seoul	Frankfurt	London	Shanghai
5	Chicago	Shanghai	Philadelphia	Tokyo
6	Tokyo	Singapore	Mumbai	Mumbai
7	Mumbai	Paris	Sao Paulo	Osaka
8	Moscow	Milan	Johannesburg	Kuala Lumpur
9	Shanghai	Hong Kong	New York	São Paulo
10	Madrid	Shenzhen	Mexico City	Johannesburg
11	Singapore	Seoul	Amsterdam	Paris
12	Paris	Zurich	Boston	Dubai
13	Hong Kong	Toronto	Taipei	Sydney
14	Sydney	Amsterdam	Osaka	Buenos Aires
15	Milan	Sydney	Tel Aviv	Singapore
16	São Paulo	Moscow	Paris	Bangkok
17	Amsterdam	Mumbai	Sydney	Taipei

(Continued)

EXHIBIT A.4.1A ■ (Continued)

Rank	Indicator 4: Financial Dimension	Total Value of Equities Trading	Total Number of Derivatives Contracts	Total Number of Commodities Contracts
18	Copenhagen	Taipei	Hong Kong	Budapest
19	Taipei	Stockholm	Moscow	Jakarta
20	Zurich	Philadelphia	Buenos Aires	Hamburg
21	Toronto	Madrid	Copenhagen	Dusseldorf
22	Johannesburg	Riyadh	Stockholm	Moscow
23	Stockholm	São Paulo	Singapore	New Delhi
24	Bangkok	Johannesburg	Milan	St. Petersburg
25	Philadelphia	Istanbul	Tokyo	Hong Kong
26	Buenos Aires	Osaka	Montreal	Seoul
27	Dubai	Copenhagen	Madrid	Frankfurt
28	Kuala Lumpur	Brussels	Warsaw	Amsterdam
29	Mexico City	Dusseldorf	Athens	Madrid
30	Shenzhen	Barcelona	Budapest	Toronto

Source: Exhibit prepared by Saskia Sassen, based on MasterCard. 2008. 2008 *Worldwide Centers of Commerce Index.* Purchase, NY: MasterCard.

Note: Top ten cities from 2008 WCOC indicated.

EXHIBIT A.4.1B ■ Financial Dimension and Selected Subindicators (Part 2 of 2)

Rank	Indicator 4: Financial Dimension	Banking/ Financial Services Companies	Insurance Companies	Investments/ Securities Firms	Total Value of Bond Trading
1	London	London	London	New York	London
2	New York	New York	New York	London	Copenhagen
3	Frankfurt	Tokyo	Hong Kong	Tokyo	Madrid

Rank	Indicator 4: Financial Dimension	Banking/ Financial Services Companies	Insurance Companies	Investments/ Securities Firms	Total Value of Bond Trading
4	Seoul	Hong Kong	Singapore	Hong Kong	Moscow
5	Chicago	Frankfurt	Paris	Singapore	Bogotá
6	Tokyo	Singapore	Dublin	Chicago	Istanbul
7	Mumbai	Paris	Beijing	Paris	Seoul
8	Moscow	Shanghai	Shanghai	Seoul	Frankfurt
9	Shanghai	Milan	Milan	Frankfurt	Milan
10	Madrid	Madrid	Chicago	Madrid	Tel Aviv
11	Singapore	Amsterdam	Los Angeles	Sydney	Zurich
12	Paris	São Paulo	Boston	Toronto	Santiago
13	Hong Kong	Seoul	Toronto	Zurich	Barcelona
14	Sydney	Moscow	Tokyo	Los Angeles	Mumbai
15	Milan	Beijing	Madrid	Shanghai	Buenos Aires
16	Sao Paulo	Sydney	Sydney	Milan	Berlin
17	Amsterdam	Zurich	Zurich	San Francisco	Dublin
18	Copenhagen	Chicago	Atlanta	Bangkok	Prague
19	Taipei	Mumbai	Houston	Beijing	Shanghai
20	Zurich	Kuala Lumpur	Bangkok	Sao Paulo	Singapore
21	Toronto	Mexico City	Melbourne	Miami	Amsterdam
22	Johannesburg	Jakarta	Santiago	Dubai	Paris
23	Stockholm	Brussels	Mumbai	Amsterdam	Toronto
24	Bangkok	Bangkok	Frankfurt	Boston	Cairo
25	Philadelphia	Geneva	Copenhagen	Atlanta	Shenzhen
26	Buenos Aires	Istanbul	Stockholm	Houston	Tokyo
27	Dubai	Munich	Vienna	Geneva	Stockholm
28	Kuala Lumpur	Warsaw	Montreal	Mumbai	Kuala Lumpur
29	Mexico City	Toronto	Mexico City	Mexico City	Sydney
30	Shenzhen	Los Angeles	Bogotá	Buenos Aires	Budapest

Source: Exhibit prepared by Saskia Sassen, based on MasterCard. 2008. 2008 *Worldwide Centers of Commerce Index.* Purchase, NY: MasterCard.

Note: Top ten cities from 2008 WCOC indicated.

EXHIBIT A.4.2 ■ Business Center and Selected Subindicators

Rank	Indicator 5: Business Center	Air Passenger and Aircraft Traffic Through City Ports	Number of 5-Star Hotels	Volume of Commercial Real Estate Development	TEU Traffic Through City Ports	Air Cargo Traffic Through City Ports	International Air Passenger Traffic Through City Ports
1	Hong Kong	London	London	Hong Kong	Singapore	Hong Kong	London
2	London	Chicago	Dubai	New York	Shanghai	Tokyo	Paris
3	Singapore	Atlanta	Paris	Singapore	Hong Kong	Shanghai	Amsterdam
4	New York	Paris	Madrid	Sao Paulo	Shenzhen	Seoul	Frankfurt
5	Tokyo	Tokyo	Cairo	Toronto	Dubai	Frankfurt	Hong Kong
6	Los Angeles	Dallas	Singapore	Buenos Aires	Hamburg	Paris	Tokyo
7	Paris	New York	Bangkok	Vancouver	Los Angeles	Miami	Singapore
8	Chicago	Houston	Hong Kong	Dubai	New York	Singapore	Dubai
9	Amsterdam	Los Angeles	Shanghai	Milan	Tokyo	Los Angeles	Seoul
10	Shanghai	Frankfurt	Berlin	Rio de Janeiro	Jakarta	London	Bangkok
11	Seoul	Washington, DC	Seoul	Seoul	Manila	Dubai	Madrid
12	Frankfurt	Madrid	Mumbai	Tel Aviv	Barcelona	Amsterdam	Milan
13	Miami	Shanghai	Beijing	Tokyo	Vancouver	Taipei	Munich
14	Bangkok	Amsterdam	Sao Paulo	Miami	Taipei	New York	Rome
15	Toronto	Beijing	New York	Osaka	Melbourne	Chicago	New York
16	Dubai	Moscow	Sydney	Bangalore	Osaka	Bangkok	Moscow
17	Atlanta	Milan	Buenos Aires	Madrid	Sydney	Beijing	Dublin

Rank	Indicator 5: Business Center	Air Passenger and Aircraft Traffic Through City Ports	Number of 5-Star Hotels	Volume of Commercial Real Estate Development	TEU Traffic Through City Ports	Air Cargo Traffic Through City Ports	International Air Passenger Traffic Through City Ports
18	Sydney	Toronto	Frankfurt	Caracas	Houston	Osaka	Taipei
19	Melbourne	Philadelphia	Milan	Istanbul	Bangkok	Brussels	Zurich
20	San Francisco	Rome	Tokyo	Moscow	Athens	Dallas	Copenhagen
21	Houston	Seoul	Atlanta	Shenzhen	Montreal	Atlanta	Vienna
22	Montreal	Hong Kong	Edinburgh	Kuala Lumpur	Buenos Aires	Kuala Lumpur	Barcelona
23	Madrid	Munich	Rome	Santiago	St. Petersburg	Milan	Brussels
24	Vancouver	São Paulo	Istanbul	St. Petersburg	Beirut	Sydney	Toronto
25	Washington, DC	San Francisco	Hamburg	Montreal	Miami	Shenzhen	Shanghai
26	Milan	Miami	Washington, DC	Amsterdam	Dublin	Bogotá	Los Angeles
27	Brussels	Barcelona	New Delhi	Chicago	Amsterdam	San Francisco	Kuala Lumpur
28	Boston	Boston	San Francisco	London	Lisbon	Philadelphia	Miami
29	Dublin	Bangkok	Melbourne	San Francisco	Istanbul	Mumbai	Istanbul
30	Munich	Mexico City	Chicago	Shanghai	Rio de Janeiro	São Paulo	Dusseldorf

Source: Exhibit prepared by Saskia Sassen, based on MasterCard. 2008. 2008 *Worldwide Centers of Commerce Index.* Purchase, NY: MasterCard.

Note: Top ten cities from 2008 WCOC indicated.

EXHIBIT A.4.3 ■ Cities Ranked by Assets of the World's Top 100 Largest Publicly Listed Financial Companies, 2003 (US$ Millions)

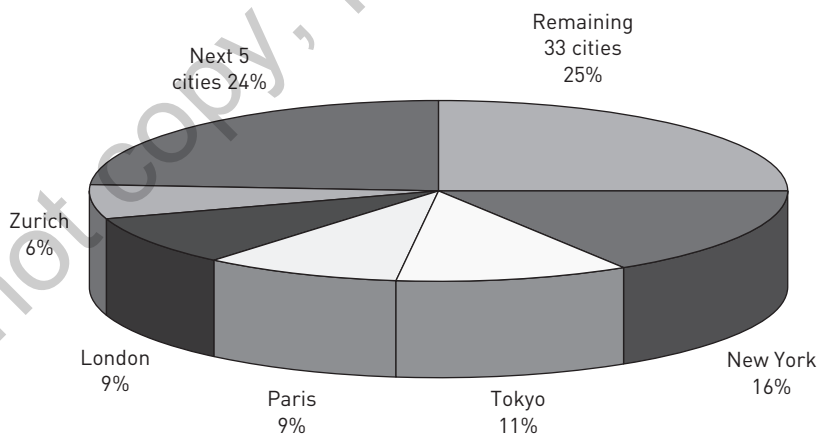
Rank	City	Assets	Percentage of Top 100
	New York	6,503,764	15.532
	Tokyo	4,640,834	11.083
	Paris	3,799,065	9.074
	London	3,599,982	8.605
	Zurich	2,474,926	5.916
	Munich	2,238,616	5.357
	Frankfurt	1,997,733	4.778
	Amsterdam	1,686,464	4.039
	Edinburgh	1,544,645	3.6910
	Brussels	1,383,624	3.3011
	Toronto	1,082,111	2.5812
	Washington, DC*	1,009,569	2.4113
	Stockholm	821,879	1.9614
	McLean, VA*	803,449	1.9215
	Milan	627,724	1.5016
	Osaka	514,090	1.2317
	Rome	488,853	1.1718
	Melbourne	445,715	1.0619
	Madrid	443,010	1.0620
	Winston-Salem, NC*	401,032	0.9621
	Sydney	396,318	0.9522
	San Francisco*	387,798	0.9323
	Bilbao*	361,608	0.8624
	Antwerp*	326,951	0.7825

Rank	City	Assets	Percentage of Top 100
	Newark, NJ*	321,274	0.7726
	Ottawa*	310,551	0.7427
	Copenhagen*	308,456	0.7428
	The Hague*	294,646	0.7029
	Seoul	290,253	0.6930
	OTHERS	2,368,506	5.660
	TOTAL	41,873,446	100.00

Source: Based on "World Business" (2004).

Notes: Asterisk (*) denotes a city with only one headquarters of a top 100 company. Ranked by assets as determined by the *Wall Street Journal* Market Data Group and FactSet Research Systems, Inc. Figures are based on each company's fiscal 2003 results (2004 for Japanese firms).

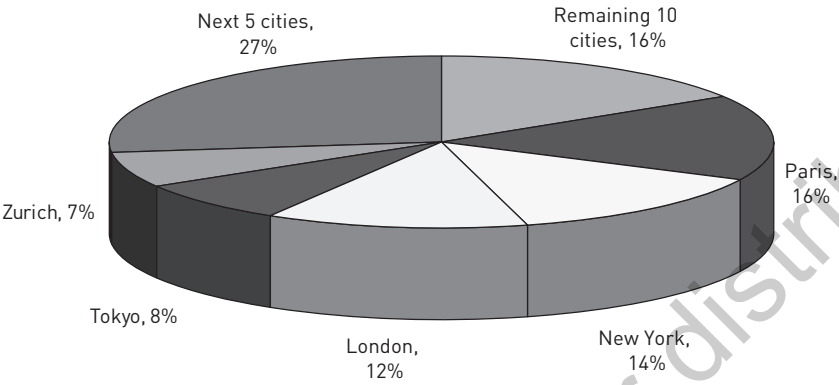
EXHIBIT A.4.4 ■ Cities Ranked by Assets of the World's Top 100 Largest Publicly Listed Financial Companies, 2003 (US$ Millions)



Source: Calculations based on "World Business" (2004).

Notes: Ranked by assets as determined by the *Wall Street Journal* Market Data Group and FactSet Research Systems, Inc. Figures are based on each company's fiscal 2003 results (2004 for Japanese firms).

EXHIBIT A.4.5 ■ Cities Ranked by Assets of the World's Top Fifty Publicly Listed Financial TNCs as Determined by Geographical Spread Index, 2008



Source: Calculations based on UNCTAD (2009b: 234).

Notes: The Geographical Spread Index (GSI) is calculated as the square root of the Internationalization Index multiplied by the number of host countries.

EXHIBIT A.4.6A ■ Cities Ranked by Assets of the World's Fifty Largest Insurers, 2005

Rank	City	Assets	Percentage of Top 50
Total for Top 50		8,324,240	100.00
Total for United States		2,760,140	33.16
Top 20 Cities in the World (ranked by assets)			
1	Munich	1,374,460	16.51
2	New York	1,251,180	15.03
3	London	938,180	11.27
4	Paris	759,880	9.13
5	Zurich	553,280	6.64
6	Toronto	388,110	4.66
7	Newark, NJ	381,940	4.59
8	Tokyo	352,370	4.23

Rank	City	Assets	Percentage of Top 50
9	Trieste	317,660	3.81
10	The Hague	311,160	3.74
11	Hartford, CT	259,740	3.12
12	Omaha, NE	181,860	2.18
13	Northbrook, IL	149,730	1.80
14	Columbus, OH	116,880	1.40
15	Philadelphia, PA	110,380	1.33
16	St. Paul, MN	109,680	1.32
17	Hamilton, Bermuda	103,470	1.24
18	Taipei	68,840	0.83
19	Dorking	60,020	0.72
20	Sydney	55,400	0.67
Top 10 Cities in the United States			
1	New York	1,251,180	15.03
2	Newark, NJ	381,940	4.59
3	Hartford, CT	259,740	3.12
4	Omaha, NE	181,860	2.18
5	Northbrook, IL	149,730	1.80
6	Columbus, OH	116,880	1.40
7	Philadelphia, PA	110,380	1.33
8	St. Paul, MN	109,680	1.32
9	Columbus, GA	52,910	0.64
10	Warren, NJ	43,130	0.52

Source: Calculations based on *Forbes* (2005).

EXHIBIT A.4.6B ■ Cities Ranked by Assets of the World's Fifty Largest Insurers, 2016

Rank	City	Assets (US$ billions)	Percentage of Top 50
Total for Top 50		16,807.40	100
Total for United States		3,350.80	19.94
Top Cities in the World (ranked by assets)			
1	Tokyo	128.00	7.62
2	New York	518.60	3.09
3	Paris	311.00	1.85
4	Munich	112.90	0.67
5	Newark, NJ	757.40	4.51
6	Shenzhen	732.30	4.36
7	Zurich	1,790.10	10.65
8	Toronto	1,053.10	6.27
9	The Hague	123.70	0.74
10	Beijing	529.70	3.15
11	London	578.80	3.44
12	Trieste	539.30	3.21
13	Montreal	300.70	1.79
14	Radnor	757.40	4.51
15	Edinburgh	252.30	1.50
16	Hartford	230.40	1.37
17	Taipei	230.30	1.37
18	Des Moines	218.70	1.30
19	Seoul	196.40	1.17
20	Washington, D.C.	166.00	0.99
Top Cities in the United States			
1	New York	1,559.10	9.28
2	Newark, NJ	757.40	4.51
3	Radnor, PA	254.00	1.51
4	Hartford, CT	230.40	1.37
5	Washington, D.C.	166.00	0.99
6	Des Moines, IA	218.70	1.30
7	Columbus, GA	118.30	0.70
8	Northbrook, IL	106.50	0.63
9	Richmond, VA	106.40	0.63
10	—	—	—

Source: Calculations based on *Forbes* (2016).

Note: Insurers include companies in the following industries: diversified insurance, insurance brokers, life & health insurance, property & casualty insurance.

EXHIBIT A.4.7A ■ The Twenty-Five Largest Nonfinancial Transnational Corporations, Ranked by Foreign Assets, 1990 (US$ Billions and Number of Employees)

Rank	Corporation	Country	Industry[a]	Assets Foreign	Total	Sales Foreign	Total	Employment Foreign	Total
1	Royal Dutch Shell	United Kingdom/ Netherlands	Petroleum refining	69.2[b]	106.4	47.1[b]	106.5	99,000	137,000
2	Ford	United States	Motor vehicles and parts	55.2	173.7	47.3	97.7	188,904	370,383
3	GM	United States	Motor vehicles and parts	52.6	180.2	37.3	122	251,130	767,200
4	Exxon	United States	Petroleum refining	51.6	87.7	90.5	115.8	65,000	104,000
5	IBM	United States	Computers	45.7	87.6	41.9	69	167,868	373,816
6	British Petroleum	United Kingdom	Petroleum refining	31.6	59.3	43.3	59.3	87,200	118,050
7	Asea Brown Boveri	Switzerland	Industrial and farm equipment	26.9	30.2	25.6[d]	26.7	200,177	215,154
8	Nestlé	Switzerland	Food	—[c]	28	35.8	36.5	192,070	199,021
9	Philips Electronics	Netherlands	Electronics	23.3	30.6	28.8[d]	30.8	217,149	272,800
10	Mobil	United States	Petroleum refining	22.3	41.7	44.3	57.8	27,593	67,300

(Continued)

EXHIBIT A.4.7A ■ (Continued)

Rank	Corporation	Country	Industry[a]	Assets Foreign	Total	Sales Foreign	Total	Employment Foreign	Total
11	Unilever	United Kingdom/ Netherlands	Food	—[c]	24.7	16.7[b]	39.6	261,000	304,000
12	Matsushita Electric	Japan	Electronics	—[c]	62.0	21.0	46.8	67,000	210,848
13	Fiat	Italy	Motor vehicles and parts	19.5	66.3	20.7[d]	47.5	66,712	303,238
14	Siemens	Germany	Electronics	—[c]	43.1	14.7[d]	39.2	143,000	373,000
15	Sony	Japan	Electronics	—[c]	32.6	12.7	20.9	62,100	112,900
16	Volkswagen	Germany	Motor vehicles and parts	—[c]	42.0	25.5[d]	42.1	95,934	268,744
17	Elf Aquitaine	France	Petroleum refining	17.0	42.6	11.4[d]	32.4	33,957	90,000
18	Mitsubishi	Japan	Trading	16.7	73.8	45.5	129.3	—	32,417
19	GE	United States	Electronics	16.5	153.9	8.3	57.7	62,580	298,000
20	Du Pont	United States	Chemicals	16.0	38.9	17.5	37.8	36,400	124,900
21	Alcatel Alsthom	France	Electronics	15.3	38.2	13.0	26.6	112,966	205,500
22	Mitsui	Japan	Trading	15.0	60.8	48.1	136.2	—	9,094

Rank	Corporation	Country	Industry[a]	Assets Foreign	Total	Sales Foreign	Total	Employment Foreign	Total
23	News Corporation	Australia	Publishing and printing	14.6	20.7	4.6	5.7	—	38,432
24	Bayer	Germany	Chemicals	14.2	25.4	20.3	25.9	80,000	171,000
25	B.A.T. Industries	United Kingdom	Tobacco	—[c]	48.1	16.5[d]	22.9	—	217,373

Source: Based on UNCTAD, Programme on Transnational Corporations, company annual financial statements, Worldscope company accounts database, unpublished sources from companies, The Industrial Institute for Economic and Social Research (2005) in Stockholm, Sweden, and Stopford (1992). The Worldscope database uses standardized data definitions to adjust for differences in accounting terminology. Data for U.S. companies with fiscal year-end up to February 10, 1991, as well as for non-U.S. companies with fiscal year-end until January 15, 1991, are classified as 1990 data.

Notes:

a. Industry classification of companies follows that in the Fortune Global 500 list in Fortune, July 29, 1991, and the Fortune Global Service 500 list in *Fortune*, August 26, 1991.

In the Fortune classification, companies are included in the industry or service that represents the greatest volume of their sales; industry groups are based on categories established by the US Office of Management and Budget. Several companies, however, are highly diversified.

b. Excludes other European countries.

c. Data for foreign assets not available; ranking is according to foreign assets estimated by the Transnational Corporations and Management Division on the basis of the ratio of foreign to total employment, foreign to total fixed assets, or other similar ratios.

d. Includes export sales, which are not separately reported.

EXHIBIT A.4.7B ■ The Twenty-Five Largest Nonfinancial Corporations, Ranked by Foreign Assets, 2015 (US$ Billions and Number of Employees)

Ranking by:					Assets		Sales		Employment	
Foreign assets	TNI[a]	Corporation	Country	Industry[b]	Foreign	Total	Foreign	Total	Foreign[c]	Total
1	37	Royal Dutch Shell plc	United Kingdom	Mining, quarrying and petroleum	288,283	340,157	169,737	264,960	68,000	93,000
2	64	Toyota Motor Corporation	Japan	Motor vehicles	273,280	422,176	165,195	236,797	148,941	348,877
3	67	General Electric Co	United States	Industrial and commercial machinery	257,742	492,692	64,146	117,385	208,000	333,000
4	19	Total SA	France	Petroleum refining and related industries	236,719	244,856	123,995	159,162	65,773	96,019
5	40	BP plc	United Kingdom	Petroleum refining and related industries	216,698	261,832	145,640	222,894	46,700	79,800
6	59	Exxon Mobil Corporation	United States	Petroleum refining and related industries	193,493	336,758	167,304	259,488	44,311	73,500
7	75	Chevron Corporation	United States	Petroleum refining and related industries	191,933	266,103	48,183	129,648	31,900	61,500
8	61	Volkswagen Group	Germany	Motor vehicles	181,826	416,596	189,817	236,702	334,076	610,076
9	18	Vodafone Group Plc	United Kingdom	Telecommunications	166,967	192,310	52,150	61,466	75,666	105,300
10	65	Apple Computer Inc	United States	Computer equipment	143,652	290,479	151,983	233,715	65,585	110,000
11	5	Anheuser-Busch InBev NV	Belgium	Food & beverages	129,640	134,635	39,592	43,604	140,572	152,321
12	51	Softbank Corp	Japan	Telecommunications	125,485	184,325	42,437	76,313	45,036	66,154
13	34	Honda Motor Co Ltd	Japan	Motor vehicles	125,270	162,268	102,204	121,730	138,942	204,730

Ranking by:					Assets		Sales		Employment	
Foreign assets	TNI[a]	Corporation	Country	Industry[b]	Foreign	Total	Foreign	Total	Foreign[c]	Total
14	66	Enel SpA	Italy	Electricity, gas and water	124,603	175,806	41,619	83,962	34,874	67,914
15	63	Daimler AG	Germany	Motor vehicles	123,881	236,874	141,456	165,872	113,606	284,015
16	28	Eni SpA	Italy	Petroleum refining and related industries	118,319	147,024	50,354	75,175	24,666	29,053
17	12	CK Hutchison Holdings Limited	Hong Kong, China	Retail trade	118,250	133,280	17,224	21,511	239,552	270,000
18	29	Glencore Xstrata PLC	Switzerland	Mining, quarrying and petroleum	114,941	128,485	115,640	170,497	135,656	181,350
19	47	Siemens AG	Germany	Industrial and commercial machinery	113,020	134,995	71,048	93,958	135,720	348,000
20	31	Telefonica SA	Spain	Telecommunications	110,879	134,134	38,192	52,402	97,719	129,890
21	39	Nissan Motor Co Ltd	Japan	Motor vehicles	109,475	154,651	83,272	101,624	83,567	149,338
22	6	Nestlé SA	Switzerland	Food & beverages	101,977	124,590	90,607	92,215	324,115	335,000
23	69	Deutsche Telekom AG	Germany	Telecommunications	100,140	156,981	48,996	76,826	90,632	225,243
24	60	Mitsubishi Corporation	Japan	Wholesale trade	100,095	132,777	17,381	57,739	54,273	71,994
25	30	Allergan PLC	Ireland	Pharmaceuticals	99,535	135,841	12,884	15,071	22,860	31,200

Source: UNCTAD (2016b).

Notes:

a. The Transnational Index, or TNI, is calculated as the average of three ratios: foreign assets to total assets, foreign sales to total sales, and foreign employment to total employment.

b. Industry classification for companies follows the U.S. Standard Industrial Classification as used by the U.S. Securities and Exchange Commission (SEC).

Foreign employment data are calculated by applying the share of foreign employment in total employment of the previous year to total employment in 2015.

c. Foreign employment data are calculated by applying the share of foreign employment in total employment of the previous year to total employment in 2015.

EXHIBIT A.4.8A ■ Geographical Concentration of TNCs by Foreign Assets, Foreign Sales, Foreign Employment, and Number of Entries, 1996 (Percentage of Total and Number)

Region/Economy	Foreign Assets	Foreign Sales	Foreign Employment	Number of Entities
European Union	37	38	46	39
France	9	8	9	11
Germany	12	11	12	9
Netherlands	8	8	10	3
United Kingdom	12	12	15	11
Japan	16	26	10	18
United States	33	27	20	30
Total value (US$ billions and number)	1,475	2,147	4,447,732	100

Source: UNCTAD (1997: 35).

EXHIBIT A.4.8B ■ Transnational Index[a] Values for the Top 100 TNCs Worldwide in Selected Countries, 2015

Region/Economy	Average TNI[a] 2015	Number of Top TNCs 2015
EU-27	40.58	53
France	50.80	9
Germany	57.15	13
United Kingdom	28.05	17
Japan	56.91	11
United States	73.43	21
World	50.50	100

Source: UNCTAD (2016b).

Note:

a. The Transnational Index, or TNI, is calculated as the average of three ratios: foreign assets to total assets, foreign sales to total sales, and foreign employment to total employment.