

Part II

Multi-polity governance and planning in federacy

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5 Novel spatial formats

Megaregions and global cities

Saskia Sassen

Introduction

Major shifts in the scales, spaces, and contents of economic activity are engendering novel spatial formats. The more prominent of these include global cities and megaregions, both of which are contributing to a whole series of old and new global intercity geographies. In turn, these shifts call for changes in our interpretations and policy frameworks to adjust to these novel spatial formats and maximize their benefits and distributive potential. Rather than reviewing all the components of this transformation, I will examine the spatial features and economic contents of megaregions and global cities. The policy issues are sufficiently complex and diverse across administrative units to warrant a separate discussion; they are not addressed here.¹

While megaregions and global cities are different formats, I will argue that analytically we can identify similar dynamics at work in both arrangements. Two such dynamics stand out. One is scaling and its consequences—in this case, megaregional scaling and global scaling. The other is the interaction between geographic dispersal and new kinds of agglomeration economies, which, in this case, are operating respectively, within a megaregion and in global cities. Specifying a common analytic ground for these two very diverse spatial formats should enable us to develop a sharper approach to empirical research and, possibly, policy. These diverse spatial formats should also help in assessing the extent to which policy decisions can encourage greater economic integration between a country's more globalized city (or cities) and other areas currently performing subordinate functions within the national territorial hierarchy. In other words, taking a megaregional scale might help in connecting the "winners" and the "laggards." The megaregion then becomes a scale that includes both globalizing and provincial cities and areas. This raises a question as to whether this linking of winners and laggards can also be extended to cross-border intercity networks by strengthening the connections between winners and laggards in the global political economy.

One consequence is that not only do winners gain privileges, as is typical with the "targeting" of resources to enable the formation of world-class cities and silicon valleys, but laggards, or less successful areas, also do as well.

102 *Saskia Sassen*

More precisely, laggards can be enabled to become dynamically interconnected with winners within a megaregion in ways that replicate current practices at the global scale, notably outsourcing to low-cost areas, and in novel ways made possible because the low-cost area is within a megaregion. The hope is that rather than pursuing the usual economic policies focused on the most advanced sectors, this would make a strong case for concentrating on the poorer regions, not as charity but as a recognition that they are part of the advanced sectors; after all, when major firms outsource jobs to low-cost areas across the world, they are outsourcing some of *their* tasks. Many advanced economic sectors sufficiently combine diverse tasks so that they have preference for both lower-cost areas for some of these tasks, and yet also for dense high-cost areas for other tasks.

To mention just one of several possible examples, this type of framing would bring value to poorer areas within even the most developed countries, as these might be developed to house activities that are now outsourced to low-wage countries. One key focus should be to avoid a race to the bottom, which occurs when these activities are offshored, which might be simpler to ensure when both headquarters and low-wage activities are in the same country. A second goal should be to provide alternative or complementary development paths to what is today's prevalent path, i.e. the preference for policies to support high-end economic activities, such as bio-tech parks and luxury office parks.

Parallel to this effort to incorporate laggards into policy frames that currently target mostly successful areas is the effort to understand how cities in the middle range of urban hierarchies fit in today's global intercity geographies. For instance, in the case of the US, many of these mid-range cities are also part of megaregions. The analytic bridge between megaregions and intercity geographies is the fact that the operational chains of a growing number of firms are currently part of both spatial formats. This opens up a whole new research agenda about economic globalization and place, in addition to the existing global city scholarship. Here, I will examine 2008 data from a recent study of the seventy-plus global hubs, which include nine US cities. The purpose here is to broaden the range of globalizing cities in the analysis beyond the usual top twenty global cities, and to weaken the overwhelming analytical and empirical weight of these major cities in our understanding of cities in a global political economy. Similarly, examining the top nine US cities is a way to expand the analysis beyond the familiar top three or four global cities in the US. It shows that as corporate economic globalization has developed so has the quantity and types of territorial insertions of global city functions; in the case of the US, these presently go well beyond just New York City. This expanded focus also allows us to capture the growth and diversification of global intercity flows.

These are some of the issues addressed in this chapter. The first section is a brief introduction to megaregions and global cities, as well as their intercity geographies. The second section brings together critical analytic issues for the

study of these two spatial formats. The third and fourth section then apply these to megaregions and the proliferation of major and minor global cities, respectively.

Two novel spatial formats

One major tendency evident throughout the world is the formation of increasingly large urbanized areas that, at some point, are best described as megaregions. Here, I take the Regional Plan Association (RPA) definition of ten emergent megaregions in the US, each at different levels of development (RPA 2007). Often, these are merely seen as more of the same—more people, more endless urban landscapes. At its most elemental stage, the megaregion is born from population growth in a geographic setting where cities and metro-areas blend into each other. This indeed calls for cross-regional infrastructures, notably transport and electricity, and various forms of regional planning and coordination, which can be seen at the present time. But are these conditions, which amount to an expanded version of urbanization economies, all there is to consider?

A basic starting point for my analysis is that a megaregion is a sufficient, internally diverse, economic territory that can contain diverse spatial logics—particularly, agglomeration and dispersal logics—which might translate into high-cost high-density areas and low-cost low-density areas. We know that large, integrated firms need both types of areas for their operations. Thus, the megaregional scale could enable the exploring of novel development strategies predicated on this diversity of spatial logics, hopefully to the advantage of both the more advanced and the least advanced areas within that megaregion. It would take innovative governance umbrellas, along with new types of private-public arrangement.

The most common advantages of scales larger than that of the city, such as metropolitan and regional scales, come from sharing transport infrastructures for people and goods, enabling robust housing markets, and, possibly, supporting the development of office, science, and technology parks. More complex and elusive is whether the benefits of megaregional economic interaction can go beyond these familiar scale economies. There is no definitive research on this subject. Thus empirical specification can be only partial, as the available evidence is fragmentary for the urban level, a shortcoming that becomes acute when dealing with the novel category of the megaregion.² There is, however, enough analysis and evidence on one particular component of this subject—the advantages for global firms and markets of particular types of agglomeration economies at the urban level—that we can begin to use it as a lens into the megaregional scale that can take us beyond merely urbanization economies. Agglomeration economies are to be distinguished from such familiar urbanization economies because they involve complex interactions of diverse components, rather than simply, for instance, more people using a train line and the scale economies this might enable.

Departing from the more common propositions, I will argue that the specific advantages of the megaregional scale consist of and arise from the co-existence within one regional space of multiple types of agglomeration economies. These types of agglomeration economies are currently distributed across diverse economic spaces and geographic scales: central business districts, office parks, science parks, the transportation and housing efficiencies derived from large (but not too large) commuter belts, low-cost manufacturing districts (nowadays often offshore), tourism destinations, specialized branches of agriculture, such as horticulture or organically grown food, and the complex kinds of agglomeration economies evident in global cities. Each of these spaces evinces distinct agglomeration economies and empirically, at least, is found in diverse types of geographic settings—from urban to rural, from local to global.

The thesis is that a megaregion is sufficiently large and diverse, and has the capability to accommodate a far broader range of types of agglomeration economies and geographic settings than it typically does today. This would take the advantages of megaregional location beyond the notion of urbanization economies. A megaregion can then be seen as a scale that can benefit from the fact that our complex economies need diverse types of agglomeration economies and geographic settings. This diversity ranges from extremely high agglomeration economies shown by the specialized advanced corporate services to the fairly modest economies demonstrated by suburban office parks and regional labor-intensive low-wage manufacturing. The megaregion can incorporate this diversity into a single economic mega-zone. Indeed, in principle it could create conditions for the return of particular (not all) activities now outsourced to other regions or to foreign locations.³

Thus, the critical dimension for the purposes of this chapter is not merely a question of the contents of a megaregion, such as its economic sectors, transport infrastructure, housing markets, and the types of goods and services that get produced and distributed, exported and imported—a sort of X-ray of a megaregion. Another critical aspect is the specification of economic interactions within the megaregion in order to detect what could be re-incorporated into that region (e.g. factories, or routine clerical work that is now outsourced, nationally or internationally) as well as to detect emerging megaregional advantages.

One path into the question of megaregions and the global economy is through the particular global circuits that provide connections across borders. The diversity of sub-economies in a megaregion signals a possibly equally diverse set of such cross-border circuits (Sassen 2008a, 2008c; SAIS Review 2009). Identifying these circuits is significantly easier for some of these sub-economies (e.g. Silicon Valley, Hollywood) than for others (e.g. the Midwestern machine and tool-making export-oriented sector, Wall Street). The best data available today on these global circuits, beyond specialized firm studies and commodity-chains (e.g. Wal-Mart) concern global financial and specialized services, which are mostly intercity networks. Particular networks

connect particular groups of cities. This allows us to recover multiple details about the diverse roles of cities in the global economy.

The formation of intercity geographies is contributing a socio-technical infrastructure for a new global political economy, new cultural spaces, and new types of social networks. Some of these intercity geographies are thick and highly visible—the flows of professionals, tourists, artists, and migrants among specific groups of cities. Others are thin and barely visible—the highly specialized electronic financial trading networks that connect particular cities depending on the type of instrument involved. A bit thicker are the global commodity chains for diverse products that run from exporting hubs to importing hubs. Later on in this chapter, I will briefly examine some of these specialized intercity geographies.

An often overlooked dimension underlying these intercity geographies, and one that I keep stumbling upon in my research, is that today's global economy brings to the fore the specialized capabilities of different cities and regions. This goes against the more common notion that globalization homogenizes urban economies, a notion that I argue is only partially correct. Globalization homogenizes standards (for manufacturing, for the building of state-of-the-art office districts, for financial reporting, for accounting, and so on), and it engenders global markets for standardized products. It also feeds the specialized differences of places—thus, Chicago and New York, the two major financial centers of the US, have each become more and more specialized in their distinct sectors. The same can be said for Shanghai, Hong Kong, and Shenzhen, the three major financial centers of China—they are not becoming more equal. This contributes to explain why the number of major and minor global cities has expanded parallel to the expansion of globalization. One effect of these trends is to multiply the number of specialized/distinct circuits connecting cities around particular economic activities.

The specialized economic histories of major cities and regions matter in today's global economy because there is a globally networked division of functions. This fact is easily obscured by the common emphasis on competition and by the standardization (no matter how good the architecture) of state-of-the-art built environments, from offices to airports. This, then, also means that today's megaregions need to extract these specialized capabilities, which might include some very different sub-economies in different sites of a given megaregion. It is important to standardize transport infrastructures and various standards across a megaregion. However, this should not obscure the fact that the value-adding potential of that region may well lie in the particular economic (and cultural) capabilities of the diverse urban and non-urban sites of that region. These types of particularities come to the fore in the evidence on the different types of advantages of diverse cities worldwide. There is no perfect global city. Global economic actors (but also cultural, political, and civic actors) need many global cities, no matter how imperfect, rather than just one perfect global city.

This also means that a city's or a region's role in these intercity geographies is not only determined by its overall rank—an aggregate measure—but in fact can be critically shaped by its specialized capabilities. Elsewhere (Sassen 2008a), I have argued that the common notion of the homogenization of the urban landscape in today's economy misses a critical point. It neglects, or obscures, the fact of the diversity of economic trajectories through which cities and regions become globalized, even when the final visual outcomes may look similar. Out of this surface analysis based on homogenized landscapes comes a second possibly spurious inference: that similar visual landscapes are a function of convergence. Both propositions—that similar visual landscapes are indicators both of similar economic dynamics and of convergence—may indeed capture various situations. But key conditions are not captured, and, in fact, are rendered invisible by such notions. Similar landscapes may contain very different economies and hence may not be competing—they are, instead, complementary. At the scale of the megaregion, this can become very significant because it signals that a megaregion can accommodate a broad range of a large firm's diverse activities, as I discuss in the next section.

The diverse spatial logics of megaregions: Does their interaction add to economic growth?

Translocal chains of operations are increasingly common for many firms and for whole economic sectors.⁴ Establishing which segments of such chains are located in a given area becomes important in the specification of that area. One set of familiar categories through which to establish this is the agglomeration of a firm's operations versus its dispersal.

My thesis is that the megaregion is a scale that can accommodate a very broad range of the segments in a firm's or a sector's chain of operations (from those subject to agglomeration economies to those that can be dispersed to low-cost, low-density areas). Such a firm or sector can then derive multiplier growth effects from the fact that the region can accommodate both the agglomeration and the dispersal components of its operational chain. Thereby this thesis captures one very specific and partial feature of megaregions, but one overlooked in the emergent discussion about such regions. By emphasizing this particular dynamic, I do not want to minimize the significance of the more familiar facts of urbanization economies and scale economies. Both are of importance, and can make an enormous difference to the economic well-being of a region. I merely want to add yet another variable and argue that part of the specificity of the scale of the megaregion is that it *can* accommodate such diverse, yet mutually dependent spatial logics in ways that would be almost impossible in cities or suburbs. Today, these dependencies are largely organized at a global scale, with global outsourcing the most familiar format. The substantive rationality for the pursuit of my thesis is that it contains the possibility of significant equity effects that are lost in global outsourcing—

where it often becomes a race to the bottom regarding workers' wages and work conditions.

Thus, the first step is to examine why and at what stage of the production process a firm's or a sector's agglomeration sites are articulated with its outsourcing, or, more generally, its geographic dispersal sites. Examining the question of agglomeration economies in the current period is framed by two facts that are potentially in tension with each other. On the one hand, the new information technologies enable firms to disperse a growing range of their operations, whether at the metro, regional, or global level, without losing system integration.⁵ This has the potential to reduce (though not eliminate) the benefits of urbanization economies for such firms. Whether this also reduces agglomeration economies for these firms is, in my analysis, a more complicated question. In my research, I find that for some headquarters, such a move brings with it a greater need to buy inputs that used to be produced in-house, and that it is these inputs whose production continues to evince agglomeration economies, and hence tends to be bought from firms located in cities (Sassen 2001: Chapter 5). On the other hand, the evidence clearly shows a preference for high-density locations for firms in a large range of advanced economic sectors; such locational preferences point to the existence of agglomeration economies, although the character of the latter has also changed (Sassen 2001: Chapters 1 and 5).

First, I address the most extreme instance—globalized firms with considerable digitization of their production process and their outputs. In this case, there are conceivably fewer and fewer agglomeration advantages, especially for the most advanced sectors, typically high-value producing, capable of buying the latest technologies, and highly globalized, that is, with multiple operations across the world. Contesting this technologically driven explanation, one can show how and why, precisely, these firms are subject to extreme agglomeration economies in some—although not all, of their components.⁶ This fact matters for understanding megaregional advantage because megaregions contain extremely dense cities with diverse resources and types of talent that can deliver the agglomeration economies that leading firms need. A second implication for the megaregion is that it can accommodate low-cost, underdeveloped areas—that is, the second type of sites that characterize so many of the leading economic sectors.

What gives this additional meaning for megaregions are the growth effects resulting from interactions of a firm's diverse types of sites. Thus, one of the hypotheses in my global city model is that a firm's central headquarter functions expand as a result of that firm's multi-sitedness (whether national or global).⁷ The more affiliates, service outlets, or factories a firm has worldwide, the more its central management and servicing functions expand. This is a significant growth potential that can be endogenized into a megaregion. This growth effect goes beyond the mere addition of jobs resulting from that of a megaregion capturing more sites from a firm's chain of operations, in itself

108 *Saskia Sassen*

an attractive potential. It also adds a complex networked dynamic that begins to articulate very diverse parts of a megaregion.

Does geographic dispersal feed agglomeration economies?

A good starting point is to focus on why the most advanced firms of the knowledge economy are subject to what are often seen as extreme agglomeration economies, even when they function in electronic markets and produce digitized outputs. Another way to ask this question is to focus on the most globalized and digitized of all knowledge sectors: Why does global finance need financial centers? Or, more generally, why do highly specialized global corporate services that can be transmitted digitally thrive in dense downtowns? This means inserting place in an analysis of knowledge economies, which are usually examined in terms of their mobility and space-time compression. Looking at the knowledge economy, and more broadly, global firms, from the optic of regions, cities, or metro-areas, brings in different variables.⁸

In its sharpest formulation, the question then becomes: Why do cities matter for global firms, particularly global firms that are wealthy enough to buy the technical innovations that free them from place, its frictions, and its costs? Further, why do they matter in a way that they did not as recently as the 1970s, when major headquarters were far more likely to leave cities and relocate in suburbs. Here are three logics that contribute to an answer.⁹

The first is that no matter how intensive a user of digital technology a firm is, its operational logic is not the same as the engineer's logic for designing that technology. Confusing these two potentially very diverse logics has produced a whole series of misunderstandings. When the new information and communications technologies (ICTs) began to be widely used in the 1980s, many experts "forecasted" the end of cities as strategic spaces for firms in advanced sectors. Many routinized sectors did leave cities, and many firms dispersed their more routine operations to the regional, national, and global scale. But the most advanced sectors and firms kept expanding their top-level operations in particular types of cities.

Why were those experts so wrong? They overlooked a key factor—when firms and markets use these new technologies, they do so with financial or economic objectives in mind, not the objectives of the engineer who designed the technology. The logics of users may well thwart or reduce the full technical capacities of the technology.¹⁰ When firms and markets disperse many of their operations globally, with the help of the new technologies, the intention is not to relinquish control over these operations but rather to keep control over top-level matters and to be capable of appropriating the benefits/profits of that dispersal.¹¹ Insofar as central control is part of the globalizing of activities, their top-level headquarter functions have actually expanded simply because it is more complicated and riskier to function in 30 or 50 or more countries, each with distinct laws, accounting rules, and business cultures.

As these technologies are increasingly helpful in maintaining centralized control over globally dispersed operations, their use has also fed the expansion of central operations. The result has been an increase in high-level office operations in major cities, and a growth in the demand for high-level and highly paid professional services, either produced in-house or bought from specialized service firms. Thus, the more these technologies enable global geographic dispersal of corporate activities, the more they produce density and centrality at the other end—the cities where their headquarter functions are located.

A second logic explaining the ongoing advantages of spatial agglomeration has to do precisely with the complexity and specialization level of central functions. These rise with globalization and with the added speed that the new ICTs allow for. As a result, global firms increasingly need to buy the most specialized financial, legal, accounting, consulting, and other such services. These service firms get to do some of the most difficult and speculative work. It has been increasingly found that these corporate service firms evince agglomeration economies, as their work benefits from being in complex environments that function as knowledge centers, because they contain multiple specialized firms and high-level professionals with worldwide experience. Cities are such environments—with the forty-plus global cities in the world the most significant of these environments, but with a growing number of other cities strong in particular elements of such environments. In brief, cities or central places provide the social connectivity that allows a firm to maximize the benefits of its technological connectivity.¹²

A third logic concerns the meaning of information in an information economy, of which there are two types. One is the datum, which may be complex, and yet is standard knowledge—the level at which a stock market closes, the privatization of a public utility, a bankruptcy. But there is a far more difficult type of “information,” akin to an interpretation/evaluation/judgment. It entails negotiating a series of data, and a sequence of interpretations of a mix of data in hopes of producing a higher-order datum. Access to the first type of information is now global and immediate (even if often at a premium) from just about any place in the highly developed world, and increasingly in the rest of the world thanks to the digital revolution.

It is the *second* type of information that requires a complicated mixture of elements—the “social infrastructure” for global connectivity—which gives major financial centers a leading edge. When the more complex forms of information needed to execute major international deals cannot be gotten from existing databases, no matter how much one is willing to pay, then one needs to create that information; it becomes part of the production process in specialized corporate service firms, including financial services both as service providers and as firms in their own right. That creation includes, as critical components, interpretation, inference, and speculation. At this point, one needs the social information loop and the associated de facto interpretations and inferences that come with bouncing off information among talented,

110 *Saskia Sassen*

informed people. It is the importance of this input that has given a whole new significance to credit rating agencies, for instance. Part of the rating has to do with interpreting and inferring. When this interpreting becomes “authoritative,” it becomes “information” available to all. For specialized firms in these complex domains, credit ratings are but one of these inputs; the creation of authoritative information needs to be part of a production process, either in-house or bought from specialized firms. This process of making inferences/interpretations into “information” takes an exceptional mix of talents and resources. Cities are complex environments that can deliver this mix.

The key implication of this analysis for megaregions is the possibility of containing at least some of the dispersed operations of a given firm, as well as its central headquarters. The feedback effects of containing both of these can be significant, feeding simultaneous growth in a megaregion’s low-cost, and possibly marginal areas, as well as in its global cities, or cities that are national business centers.

Cities in the global economy: An expanding network with regional groundings

A new data set shows nine US cities, rather than the usual four, to be major commercial hubs in the global economy. In addition to New York, Chicago, Los Angeles, and Boston, the list now includes San Francisco, Atlanta, Miami, Houston, and Washington, DC.

The data were collected from the perspective of firms and investors who want to do business globally. The study gets at equity issues through variables such as basic services and quality of life, which brings down some of the major centers, which are characterized by large numbers of poor and degraded residential and commercial areas. But the study does not really address issues of inequality per se, which we know from other sources are critical in global cities (Sassen 2001: Chapters 8 and 9; Sassen 2008c; *Annals of the American Academy of Political and Social Science* 2009).

The data come from the MasterCard Global Centers of Commerce (GCOC) study, which shows how major cities compare in performing critical functions that connect markets and commerce globally, and was developed by a panel of eight experts from different parts of the world.¹³ In the 2006 phase, we started out with sixty-three cities that met the initial criteria; in the 2008 phase, this number had increased to seventy-five, which was eventually aggregated into seven overall indicators (legal and political framework, economic stability, ease of doing business, financial flow, business center, knowledge creation/information flow, livability). The result was that seventy-five cities qualified as major and not-so-major commercial hubs in the global economy, including nine US cities (see Table 5.1 and Table 5.2 (parts 1, 2, and 3)).

Several major trends stand out. One of the most interesting findings coming out of the 2008 MasterCard study is a new type of regionalism (see Table 5.1). Even as the network of major and minor global cities expands, we see a

Table 5.1 Top thirty cities for selected indicators (2008)

Rank	GCOC Index*	Indicator 1: Political and legal frameworks	Indicator 3: Ease of doing business	Indicator 5: Business center
1	London	Stockholm	Singapore	Hong Kong
2	New York	Singapore	Hong Kong	London
3	Tokyo	Copenhagen	London	Singapore
4	Singapore	New York	Toronto	Shanghai
5	Chicago	Chicago	New York	Dubai
6	Hong Kong	Philadelphia	Dublin	Tokyo
7	Paris	Los Angeles	Edinburgh	Paris
8	Frankfurt	Boston	Vancouver	New York
9	Seoul	Atlanta	Montreal	Amsterdam
10	Amsterdam	Miami	Chicago	Seoul
11	Madrid	San Francisco	San Francisco	Frankfurt
12	Sydney	Houston	Sydney	Los Angeles
13	Toronto	Dallas	Los Angeles	Bangkok
14	Copenhagen	Washington, DC	Boston	Chicago
15	Zürich	Zürich	Washington, DC	Miami
16	Stockholm	Geneva	Copenhagen	Taipei
17	Los Angeles	Toronto	Atlanta	Madrid
18	Philadelphia	Montreal	Miami	Milan
19	Osaka	Vancouver	Melbourne	Beijing
20	Milan	Frankfurt	Dallas	Atlanta
21	Boston	Berlin	Tokyo	Toronto
22	Taipei	Munich	Brussels	Osaka
23	Berlin	Hamburg	Houston	Dallas
24	Shanghai	Dusseldorf	Philadelphia	Sydney
25	Atlanta	Vienna	Berlin	Shenzhen
26	Vienna	London	Amsterdam	São Paulo
27	Munich	Edinburgh	Stockholm	Istanbul
28	San Francisco	Amsterdam	Munich	Moscow
29	Miami	Tokyo	Vienna	Barcelona
30	Brussels	Osaka	Osaka	Houston
<i>Other US cities</i>				
	Houston (34)			Philadelphia (34)
	Dallas (35)			San Francisco (38)
	Washington, DC (36)			Washington, DC (41)
				Boston (49)

* Aggregate of all indicators; US cities are in bold.

Source: MasterCard Global Centers of Commerce 2008.

Table 5.2 Top thirty cities for selected indicators and subindicators, 2008

Rank	GCOC Index	Dealing with licenses	Registering property	Trading across borders	Political and legal frameworks*	Quality of life	Basic services
1	London	Copenhagen	Riyadh	Singapore	Stockholm	Los Angeles	Singapore
2	New York	Seoul	Stockholm	Copenhagen	Copenhagen	Sydney	Copenhagen
3	Tokyo	Stockholm	New York	Hong Kong	Singapore	San Francisco	Munich
4	Singapore	Singapore	Chicago	Stockholm	Atlanta	Melbourne	Frankfurt
5	Chicago	Frankfurt	Philadelphia	Frankfurt	Boston	London	Vancouver
6	Hong Kong	Berlin	Los Angeles	Berlin	Washington, DC	New York	Dusseldorf
7	Paris	Munich	Boston	Munich	Chicago	Paris	Tokyo
8	Frankfurt	Hamburg	Atlanta	Hamburg	Houston	Milan	Zürich
9	Seoul	Dusseldorf	Miami	Dusseldorf	Los Angeles	Rome	Stockholm
10	Amsterdam	Toronto	San Francisco	Tel Aviv	Miami	Boston	Vienna
11	Madrid	Montreal	Houston	Vienna	New York	Berlin	London
12	Sydney	Vancouver	Dallas	Amsterdam	San Francisco	Washington, DC	Osaka
13	Toronto	New York	Washington, DC	New York	Montreal	Vancouver	Montreal
14	Copenhagen	Chicago	Zürich	Chicago	Toronto	Tokyo	Dallas
15	Zürich	Philadelphia	Geneva	Philadelphia	Vancouver	Chicago	Paris
16	Stockholm	Los Angeles	Dubai	Los Angeles	Berlin	Vienna	Sydney
17	Los Angeles	Boston	Singapore	Boston	Frankfurt	Dallas	Toronto
18	Philadelphia	Atlanta	London	Atlanta	Munich	Dusseldorf	Atlanta

Table 5.2 Continued

Rank	GCOC Index	Dealing with licenses	Registering property	Trading across borders	Political and legal frameworks*	Quality of life	Basic services
19	Osaka	Miami	Edinburgh	Miami	London	Johannesburg	Hamburg
20	Milan	San Francisco	Bangkok	San Francisco	Tokyo	Frankfurt	Amsterdam
21	Boston	Houston	Amsterdam	Houston	Zürich	Toronto	Philadelphia
22	Taipei	Dallas	Toronto	Dallas	Geneva	Atlanta	Boston
23	Berlin	Washington, DC	Montreal	Washington, DC	Vienna	Miami	Brussels
24	Shanghai	Mexico City	Vancouver	Seoul	Melbourne	Brussels	Washington, DC
25	Atlanta	Bangkok	Santiago	Dublin	Sydney	Amsterdam	Geneva
26	Vienna	Paris	Copenhagen	Tokyo	Amsterdam	Philadelphia	Melbourne
27	Munich	Dublin	Istanbul	Osaka	Barcelona	Osaka	New York
28	San Francisco	Zürich	Moscow	Toronto	Madrid	Munich	Chicago
29	Miami	Geneva	St. Petersburg	Montreal	Dublin	Houston	Berlin
30	Brussels	Brussels	Shanghai	Vancouver	Dubai	Barcelona	Los Angeles
<i>Other US cities</i>							
	Houston (34)						Miami (31)
	Dallas (35)						Houston (32)
	Washington, DC (36)						San Francisco (33)

Notes: US cities are in bold. *This indicator comprises more than the preceding set of subindicators.

Source: MasterCard Global Centers of Commerce 2008.

Table 5.2 Continued

Rank	Banking services	Investor protection	Corporate tax burden	Contract enforcement	Ease of doing business*	Financial services network: Banking/financial services companies	Starting a business
1	London	Singapore	Singapore	Singapore	Singapore	London	Sydney
2	New York	Hong Kong	Hong Kong	Hong Kong	Hong Kong	New York	Melbourne
3	Singapore	Kuala Lumpur	Dubai	Vienna	London	Tokyo	Toronto
4	Hong Kong	New York	Riyadh	Sydney	Toronto	Hong Kong	Montreal
5	Paris	Chicago	Dublin	Melbourne	New York	Frankfurt	Vancouver
6	Frankfurt	Philadelphia	London	New York	Dublin	Singapore	Dublin
7	Amsterdam	Los Angeles	Edinburgh	Chicago	Edinburgh	Paris	Brussels
8	Madrid	Boston	Copenhagen	Philadelphia	Vancouver	Shanghai	Singapore
9	Copenhagen	Atlanta	Santiago	Los Angeles	Montreal	Milan	Paris
10	Zürich	Miami	Stockholm	Boston	Chicago	Madrid	Stockholm
11	Stockholm	San Francisco	Toronto	Atlanta	San Francisco	Amsterdam	New York
12	Berlin	Houston	Montreal	Miami	Sydney	São Paulo	Chicago
13	Munich	Dallas	Vancouver	San Francisco	Los Angeles	Seoul	Philadelphia
14	Vienna	Washington, DC	Amsterdam	Houston	Boston	Moscow	Los Angeles
15	Dublin	Tel Aviv	Johannesburg	Dallas	Washington, DC	Beijing	Boston
16	Brussels	Toronto	Zürich	Washington, DC	Copenhagen	Sydney	Atlanta
17	Hamburg	Montreal	Geneva	Seoul	Atlanta	Zürich	Miami
18	Barcelona	Vancouver	Lisbon	Paris	Miami	Chicago	San Francisco
19	Düsseldorf	Dublin	Beirut	Dublin	Melbourne	Mumbai	Houston

Table 5.2 Continued

Rank	Banking services	Investor protection	Corporate tax burden	Contract enforcement	Ease of doing business*	Financial services Starting a network: Banking/ financial services companies
20	Geneva	Johannesburg	Sydney	Budapest	Dallas	Dallas
21	Dubai	London	Melbourne	Tokyo	Tokyo	Washington, DC
22	Edinburgh	Edinburgh	New York	Osaka	Brussels	Hong Kong
23	Tokyo	Tokyo	Chicago	Brussels	Houston	Copenhagen
24	Sydney	Osaka	Philadelphia	Frankfurt	Philadelphia	London
25	Toronto	Brussels	Los Angeles	Berlin	Berlin	Edinburgh
26	Los Angeles	Copenhagen	Boston	Munich	Amsterdam	Zürich
27	Osaka	Bogota	Atlanta	Hamburg	Stockholm	Geneva
28	Milan	Lisbon	Miami	Dusseldorf	Munich	Tel Aviv
29	Montreal	Mumbai	San Francisco	Moscow	Vienna	Lisbon
30	Dallas	Santiago	Houston	St. Petersburg	Osaka	Amsterdam
<i>Other US cities</i>						
	Washington, DC (31)					Atlanta (36)
	Chicago (41)					San Francisco (38)
	Boston (42)					Boston (41)
	Atlanta (43)					Miami (42)
	Miami (44)		Dallas (31)			Houston (49)
	San Francisco (45)		Washington, DC (32)			Washington, DC (50)
	Philadelphia (52)					Dallas (54)
	Houston (54)					Philadelphia (60)

* This indicator comprises more than the preceding set of subindicators.

Source: MasterCard Global Centers of Commerce 2008.

Table 5.2 Continued

<i>Rank</i>	<i>Employing workers</i>	<i>Closing a business</i>	<i>Air passenger traffic</i>	<i>Air cargo traffic</i>	<i>Conventions/exhibitions/meetings</i>	<i>Commercial real estate development</i>	<i>Business center*</i>
1	New York	Singapore	London	Hong Kong	London	Hong Kong	Hong Kong
2	Chicago	Tokyo	Chicago	Tokyo	Paris	New York	London
3	Philadelphia	Osaka	Atlanta	Shanghai	Berlin	Singapore	Singapore
4	Los Angeles	Toronto	Paris	Seoul	Vienna	São Paulo	Shanghai
5	Boston	Montreal	Tokyo	Frankfurt	Singapore	Toronto	Dubai
6	Atlanta	Vancouver	Dallas	Paris	Hong Kong	Buenos Aires	Tokyo
7	Miami	Copenhagen	New York	Miami	Prague	Vancouver	Paris
8	San Francisco	Amsterdam	Houston	Singapore	New York	Dubai	New York
9	Houston	Brussels	Los Angeles	Los Angeles	Istanbul	Milan	Amsterdam
10	Dallas	Dublin	Frankfurt	London	Munich	Rio de Janeiro	Seoul
11	Washington, DC	London	Washington, DC	Dubai	Shanghai	Seoul	Frankfurt
12	Singapore	Edinburgh	Madrid	Amsterdam	Barcelona	Tel Aviv	Los Angeles
13	Copenhagen	Seoul	Shanghai	Taipei	Dubai	Tokyo	Bangkok
14	Sydney	Taipei	Amsterdam	New York	Seoul	Miami	Chicago
15	Melbourne	Sydney	Beijing	Chicago	Madrid	Osaka	Miami
16	Hong Kong	Melbourne	Moscow	Bangkok	Tokyo	Bangalore	Taipei
17	Toronto	Hong Kong	Milan	Beijing	Bangkok	Madrid	Madrid
18	Montreal	New York	Toronto	Osaka	Moscow	Caracas	Milan

Table 5.2 Continued

Rank	Employing workers	Closing a business	Air passenger traffic	Air cargo traffic	Conventions/exhibitions/meetings	Commercial real estate development	Business center*
19	Vancouver	Chicago	Philadelphia	Brussels	São Paulo	Istanbul	Beijing
20	London	Philadelphia	Rome	Dallas	Beijing	Moscow	Atlanta
21	Edinburgh	Los Angeles	Seoul	Atlanta	Milan	Shenzhen	Toronto
22	Tokyo	Boston	Hong Kong	Kuala Lumpur	Budapest	Kuala Lumpur	Osaka
23	Osaka	Atlanta	Munich	Milan	Chicago	Santiago	Dallas
24	Dublin	Miami	São Paulo	Sydney	Edinburgh	St. Petersburg	Sydney
25	Zürich	San Francisco	San Francisco	Shenzhen	San Francisco	Montreal	Shenzhen
26	Geneva	Houston	Miami	Bogota	Brussels	Amsterdam	São Paulo
27	Kuala Lumpur	Dallas	Barcelona	San Francisco	Amsterdam	Chicago	Istanbul
28	Bangkok	Washington, DC	Boston	Philadelphia	St. Petersburg	London	Moscow
29	Riyadh	Stockholm	Bangkok	Mumbai	Sydney	San Francisco	Barcelona
30	Santiago	Madrid	Mexico City	São Paulo	Dublin	Shanghai	Houston
<i>Other US cities</i>							
					Boston (45)	Boston (39)	Philadelphia (34)
					Los Angeles (47)	Atlanta (44)	San Francisco (38)
			Houston (34)		Atlanta (51)	Philadelphia (46)	Washington DC (41)
			Washington, DC (38)		Miami (54)	Washington DC (47)	Boston (49)
			Boston (45)		Dallas (66)	Los Angeles (57)	
					Houston (67)	Dallas (60)	
					Philadelphia (70)	Houston (68)	

*This indicator comprises more than the preceding set of subindicators.

Source: MasterCard Global Centers of Commerce 2008.

consolidation of a European region and an Asian region. Thus the much discussed shift from a uni- to a multi-polar world can also be deselected in these findings. Asia, not surprisingly, now has four of the twelve leading echelon of global cities—Tokyo, Singapore, Hong Kong, and Seoul. And, more surprising, with the ascendance of Madrid into the top echelon—joining London, Paris, Frankfurt, and Amsterdam—Europe now has five. In contrast, the United States is left with only two (New York and Chicago), as Los Angeles has fallen from tenth to seventeenth place, and Boston, Philadelphia, Miami, and Atlanta are in a lower echelon. Notwithstanding the power of the US economy, the US's global cities are clearly part of a larger global network with major centers of gravity in Europe and Asia—a distributed formation. Toronto, Sydney, Zürich, and Copenhagen close out the top echelon of fifteen.

A second remarkable finding is that with the expansion of the global economy since the 1980s, the number of cities that are now capable of delivering global city functions has continued to increase. Thus, cities that fell out of the global network have now become reintegrated. One example is Buenos Aires, which saw firms and professionals leave as its severe economic downturn and bankruptcy erupted in 2000; the ensuing years saw the largest sovereign bankruptcy in modern history, and yet it has now become reincorporated. This also brings to the fore that global cities are built, developed, made in parts. Much investment and effort from local governments and firms, both national and foreign, goes into these processes. Since global firms and markets need a vast network of spaces of operation, it is economically efficient to reintegrate cities that have been rebuilt as platforms for the global economy.

Third, the data also signal that there is no perfect global city—no city ranks at the top in all the 100 data points aggregated into seven variables, on which the study is based. There is sharp variability. This also points to the fact that global firms and markets need many global cities, despite the fact that some are rather elementary—better many cities than one, single perfect city, as could possibly have been the case in earlier empires, where the capital was *the* city of the empire. Thus New York, one of the most important global cities, ranks rather low in a whole range of variables, which is not going to shock anybody. But more surprising are some of the very low rankings of various aspects of London, now the top global city in the world. A somewhat different pattern is evident in many of the mega-cities of the global south that have now emerged as global cities. These tend to rank high in global corporate aspects and very low in social issues. Thus, Mumbai and São Paulo are financial and economic powerhouses, and have high rankings in financial indicators, but they have very low rankings in basic services and general social conditions and livability. Yet they are critical to the global economy.

Fourth, a new type of city is emerging as a significant platform for global firms and markets. These are cities in small countries, where foreign firms locate not to invest in these countries but to use them as a platform. They have all the resources, the best legal and political frameworks, and basic services for all. They are veritable global platforms. Dubai provides this in a spectacular

fashion in the Middle East, as does Singapore in Southeast Asia. But what stands out here is how the European cities have ascended in this domain. Thus, Copenhagen, with its strong legal and political framework, is emerging as a platform. For investors to go to Copenhagen is not necessarily about investing in that relatively small economy. Frankfurt, which in the 1980s quickly rose to become one of the top financial centers in the world, also emerged as such a platform. Locating in Frankfurt was not about investing in the city. Amsterdam, which ascended to tenth, is another such platform in what is a very small country.

Fifth, Zürich, which has long been, and remains the capital of international private banking, has lost ground to Amsterdam and Madrid as a financial center. Madrid, on the other hand, is reinserting itself in its old imperial geography, with heavy investments throughout Latin America. This has given Spanish firms and investors a strong base for significant financial gains, which in turn have enabled the acquisition of, among others, one of the largest UK banks and the British Airports Corporation. It indicates the extent to which private banking in today's global economy is not quite the power base it was, and that old imperial geographies can be reactivated.

Why is this expansion of the worldwide network of global cities happening? The general consensus is that most people now live in cities. But that is far too general a reason to explain the fact that our global economy, increasingly based on knowledge capital that can circulate electronically, has produced a "systemic" demand for a growing number of global cities over the last twenty years. Let us recall that, as recently as the 1970s, many of our most powerful cities had become poor—New York City, London, and Tokyo among them—and some had actually gone bankrupt.

The network of global cities has expanded as more and more firms go global and enter a growing range of national economies. The main business center(s) in each of these economies begins to evolve as a global city—it is the bridge between global firms and markets, and the specifics of national economies. This then also explains the multi-polar character of the network of global cities. In all of these cities we see the rebuilding of central areas—whether downtown and/or at the edges—as part of this new economic role. It amounts to rebuilding cities as platforms for a rapidly growing range of globalized activities and flows, from economic to cultural and political. This also explains why architecture, urban design, and urban planning have all become more important and visible in the last two decades.

Of interest to the question of megaregions in the case of the US is the fact that about half of the megaregions identified by the RPA (2007) in the United States contain at least one, but typically more, of these global commercial hubs. Beyond New York and Chicago, the overall GCOC Index positions the remaining four top US cities between the seventeenth and the thirtieth rank. Further, Houston and Washington, which in the earlier study were within the top twenty-three, are now well below that thirtieth rank. For Table 5.2, I selected only a few subindicators and indicators to bring to the fore: (1) the

120 *Saskia Sassen*

strengths of cities such as Atlanta and Philadelphia, usually not listed in the top four US cities; and (2) the weaknesses of the top cities, notably New York. The purpose is to illustrate the strengths and weaknesses of US cities in this global urban infrastructure for corporate capital, and the considerable variability of these strengths and weaknesses once we isolate specific criteria. It brings to the fore the ascendance of a distributed format, rather than simply a hierarchy as in older urban systems, and the fact that what matters is a network of cities, not just one (see also *Annals of the American Academy of Political and Social Science* 2009).

How these diverse, often disjunctural trends play out in the two other major regions, Asia and Europe, is a critical part of the overall picture I am seeking to specify. The experts of these regions and diverse cities are the ones most capable of addressing this.

Global intercity geographies: From hierarchical to transversal

One way to think about the global economy is in terms of the many highly specialized circuits that compose it. Different circuits contain different groups of countries and cities. Viewed this way, the global economy becomes concrete and specific, with a well-defined geography. Globally traded commodities—gold, butter, coffee, oil, sunflower seeds—are redistributed to a vast number of destinations, no matter how few the points of origin might be. The expansion of global trade has brought hundreds and hundreds of locations into these networks.¹⁴

These circuits are multidirectional and criss-cross the world, feeding intercity geographies with both expected and unexpected strategic nodes. For instance, New York is the leading global market to trade financial instruments on coffee, even though it does not grow a single bean. But a far less powerful financial center, Buenos Aires, is the leading global market to trade financial instruments on sunflower seeds. Cities located on global circuits, whether few or many, become part of distinct, and often highly specialized, intercity geographies. Thus if one were to track the global circuits of gold as a financial instrument, it is London, New York, Chicago, and Zürich that dominate. But if one were to track the direct trading in the metal, Johannesburg, Mumbai, Dubai, and Sydney all appear on the map.

In the last twenty years, there has been a sharp escalation in the capacity to control some of these economic circuits. Thus, while the commodities themselves may come from well over eighty countries and are sold in all countries of the world, about twenty financial exchanges control the global commodities futures trading. The map tightens when the seventy-three commodities traded are aggregated into three major groups. Five major global futures exchanges (NYME, LME, CBOT, TCOM, and IPE) are located in New York, London, Chicago, and Tokyo, and concentrate 76 percent of trading in these seventy-

three commodities futures traded globally. Aggregated into three major groups, one single market clearly dominates in each. For agricultural commodities futures, the CBOT (Chicago) controls the most global trading; for energy, it is the NYME (New York); and for metals, it is the LME (London).

This tighter map of commodities futures trading illustrates the role of cities in today's globalizing and increasingly electronic economy. This is one of the points where global cities enter the picture. They are not the places where commodities are produced, but they are the places where commodity futures are invented, to facilitate the global trading of these commodities and help in managing some of the associated risks. This tighter map also makes concrete what is one of the main counter-intuitive trends evident in today's global economy—that the more globalized and non-material the activity (trading in financial instruments), the more concentrated the global map of those activities.

There are other such global maps, beyond commodities, commodities futures, and, in general, finance. Here, my focus on the global networks of global service firms will show us yet another version of this mix of globally distributed operations and high agglomeration economies. One way of tracking the global operations of firms is through their overseas affiliates. The top 100 global service firms have affiliates in 315 cities worldwide. For all multinational firms, the figure jumps to 1 million overseas affiliates.

The global operations of specialized service firms give us a sort of mirror image of the sharp concentration of the financial futures exchanges mentioned above. Their central operations are about managing the sales of their services to as many places as possible, whereas futures trading markets seek to concentrate as big a share of the trade in commodities as possible. The servicing operations of these firms become increasingly in demand in a growing number of cities as globalization expands. When countries open up to foreign firms and investors and allow their markets to become integrated into global markets, it is often the foreign service firms that take over the most specialized servicing; it has happened in cities as diverse as Buenos Aires and Beijing.

But the data point to a new pattern emerging along with this expanded globalization. It is the rise of cities such as Mumbai and Dubai as centers for servicing regional operations. More generally, the data show more transversal connectivities—that is, among mid-range cities emerging as service centers for other mid-range cities, rather than all international servicing originating in the leading global cities, as was the case in the 1980s and much of the 1990s. Returning to the issue of megaregions in the US, this growth of transversal mid-range connectivities points to an opening up of possibilities for mid-range cities in the US.

The global map produced by the operations of the top 100 service firms is dramatically different from the map produced by the financial trading of commodity futures, which is in turn different from that of the trading in the actual commodities. The extreme concentration apparent in finance would stand out even more if a map was drawn showing the trading of goods and the

122 *Saskia Sassen*

innumerable criss-crossing circuits connecting points of origin and destination. It does suggest that the specialized services are a sector that seeks out cities—as far as these firms are concerned, the more the better.

Implications for megaregions¹⁵

There is much to be said about megaregions. My concern in this chapter has been to identify possible types of intraregional economic interactions that could be enabled by the megaregional scale. I focus on two key issues: first, whether such interactions might mean moving beyond economic planning styles that search to support and/or recruit only the most advanced economic sectors, such as “knowledge economies,” and beginning to find value in the less developed areas of a region and in lower-income jobs; second, whether this co-presence of high- and low-value areas might in turn give megaregions particular advantages in today’s global economy. If both of these are indeed the case, it is useful to ask whether and how novel types of megaregional coordination and governance could help in extracting and realizing these advantages. I have argued here that the central effort should be to understand the benefits of megaregions as going beyond familiar scale economies—that is, beyond the advantages of bigger and more of the same, whether mega-sized parking lots or longer train routes.

One component of this is whether a megaregion can seek to accommodate a larger range of the operations constituting a firm’s value chain—from high agglomeration sites to dispersal sites. Practically speaking, this points to the possibility of bringing into or back to a megaregion some of the services and goods-producing jobs and operations currently offshored to take advantage of lower wages and fewer regulations. Can these be reinserted in the low-growth, low-cost areas of a megaregion? What type of planning would it take, and can it be done in ways that optimize the benefits for all involved—not only firms but also workers and localities? This would expand the project of optimizing growth beyond office parks and science parks, the preferred options today, and move across far more diverse economic sectors. It would use the lever of the megaregional scale to provide diverse spaces catering to different types of activities, ranging from those subject to high- and those subject to low-agglomeration economies. And, finally, the megaregional scale would help in optimizing the growth effect arising from the interactions of some of these diverse economies. This growth effect would be optimized by re-regionalizing some of the low-cost operations of firms today spread across the country and/or the world.

This way of thinking about the megaregional scale raises the importance of planning and coordination to secure optimal outcomes for all parties involved, including the challenge of securing the benefits firms pursue when they disperse their operations to low-wage areas. This would work for some types of economic sectors and types of firms, but not for all. Some activities that have been outsourced to other countries have not worked out, and have since been

repatriated—they range from airline sales agents to particular types of design work in industries as diverse as garments and high-tech. But many of these outsourced activities are doing fine as far as the firms are concerned. Research and specific policies would be needed to establish the what, how, and where of the advantages for the pertinent firms of accessing low-wage workers within the US. This includes understanding how the location of these low-cost components in the megaregion where a given firm is headquartered could compensate for higher costs. It may require megaregional investment in developing low-cost areas for such jobs—a kind of rural enterprise zone.

There can possibly be a positive macro-level effect from repatriating some of these jobs, if a race to the bottom can be avoided and a certain level of consumption capacity is secured in the low-income areas of a region by ensuring reasonable wages or certain kinds of indirect subsidies. This brings a specific positive effect for a megaregion's less developed areas insofar as lower-wage households tend to spend a much larger share of their income on their place of residence—they lack the investment capital of the upper income strata, who can manage to allocate most of their income on overseas investments. Finally, this is also one element in the larger challenge of securing more equitable outcomes (for an analysis of options see, for example, Henderson 2005). It is important to ask about the distributive effects of the current configuration and of (potentially) optimized outcomes as described in this chapter. There is sufficient evidence on how extreme ill-distribution of the benefits of economic growth is undesirable in the long run.

These ways of specifying the meaning of a megaregion (or a region) take us beyond uses of the term as a sort of conceptual “packaging” to a more dynamic concept of the megaregion. Besides the advantages of urbanization, a megaregion is a sufficiently large in scale to optimize the benefits of diverse and interacting low- and high-income areas. What the megaregion offers in this context is a bigger range of types of locations than a city or a metro area—it offers locations tendering high-agglomeration economies all the way to locations where the advantage comes from dispersal. This would mean a direct growth effect between a megaregion's high- and low-agglomeration sites—the more the former grows, the more the latter will also grow. Then it becomes desirable for a megaregion to maximize the co-presence of these two types of locations. It also means freeing the lower-income area from its policy designation as a hopeless economic laggard.

In practical terms, there are, clearly, massive challenges for a megaregion to achieve this type of co-presence—maximizing the extent to which a megaregion can contain both the agglomeration and dispersal segments of a firm's chain of operations. For one, it is a counter-sensical, counter-intuitive proposition. It is not easy to see why a megaregion's highly dynamic economic spaces (the central areas of its global cities and silicon valleys), anchored by the headquarters of global and national firms, might actually be fed and strengthened in part by developing the “dispersal locations” of those same firms. Thinking of developing such “dispersal locations” as one way of making

the most of negative externalities might make it more acceptable to the skeptics—you might as well go for activities that benefit from geographically dispersed arrangements once you hit excess congestion disadvantages. But one option at this point is, of course, to develop such items as golf courses and ex-urban oversized luxury housing. This is an argument that can be countered, since megaregions tend to contain much land that is not optimal for those uses but that could be optimal for developing “dispersal locations.” Further, and critical to some of my substantive concerns for disadvantaged areas, these could benefit from such development—if a race to the bottom is to be avoided.

Notes

- 1 This chapter is derived from two larger projects that include policy discussions and extensive bibliographic materials (RPA 2007; OECD et al. 2006).
- 2 For one of the definitive examinations of the shortcomings of the data on sub-national scaling, see the report by the National Academy of Sciences 2003. See also OECD et al. 2006.
- 3 Besides “regionalizing” various segments of a firm’s chain of operations, one might also propose to regionalize more segments of various commodity chains. See, for example, Gereffi et al. 2005.
- 4 See, for instance, the forthcoming Special Issue of *Global Networks* (Derudder and Witlox 2010).
- 5 For one of the best data sets on the dispersal of the operations of firms in corporate services at the global scale, see GaWC n.d.
- 6 A parallel issue here, not fully addressed in this chapter, is the articulation of technical connectivity with social connectivity (Sassen 2008b: Chapter 7).
- 7 This is a type of agglomeration economy I found during my research on global cities, but it can also be applied to national or regional scales. The hypothesis is that the greater a firm’s capacity for geographic dispersal, the higher the agglomeration economies it is subject to in its top-level headquarter functions (for a brief explanation of the nine hypotheses that specify the global city model, see Sassen 2001: New Preface). It is the specialized functions of globalized firms that evince the highest agglomeration economies. Their complexity, the uncertainty of the markets such firms are involved in, and the growing importance of speed in all these transactions are a mix of conditions that constitute a new logic for agglomeration; it is not the logic posited in older models, where weight and distance (cost of transport) are seen to shape agglomeration economies. I argue that the mix of firms, talents, and expertise in a broad range of specialized fields makes a certain type of dense environment function as a strategic knowledge economy, wherein the whole is more than the sum of (even its finest) parts.
- 8 This spatial lens is also to be distinguished from the more common angle of firms and markets (see, for example, Ernst 2005).
- 9 For a full development of this subject please see Sassen 2008b: Chapters 5 and 7; also Sassen 2001.
- 10 For a detailed explanation of this thwarting of technical logics by the economic, financial, or, for that matter, cultural and political logics of users, see Sassen 2008b: Chapter 7.
- 11 Today’s multinationals have over 1 million affiliates worldwide. Affiliates are but one mode of global operation. For empirical details about some aspects see Taylor 2004; World Federation of Exchanges 2009 (annual updates).

- 12 For a detailed examination of the importance of the sub-national scale for a global market, see Harvey 2007.
- 13 The members of the research group are: Professor Fan Gang, Director, National Economic Research Institute, Beijing; Manu Bhaskaran, Partner/Head, Economic Research, Centennial Group, Singapore; Dr. Michael Goldberg, Professor Emeritus, Sauder School of Business, University of British Columbia; Professor William Lever, Emeritus Professor of Urban Studies, University of Glasgow; Professor Maurice D. Levi, Chair of Bank of Montreal Professor of International Finance, University of British Columbia; Dr. Anthony Pellegrini, Partner/Director of the Urban and Infrastructure Policy and Finance Practice, Centennial Group, Washington, DC; Professor Peter J. Taylor, Co-Director, Globalization and World Cities Research Group and Network, Loughborough University, UK; and myself.
- 14 This networked system also feeds unnecessary mobilities, because the intermediary economy of specialized services thrives on any kind of mobility. Thus, in the UK case, a study by the New Economics Foundation and the Open University of London found that in 2004, the UK exported 1,500 tons of fresh potatoes to Germany, and imported 1,500 tons of the same product from the same country; it sent 10,200 tons of milk and cream to France, and imported 9,900 tons of the same dairy goods from France; and so on over a vast spectrum of items.
- 15 This portion of the chapter is based on a paper prepared for the RPA and presented at Princeton University's Institute for Regional Policy, and subsequently published in the Institute's papers series (RPA 2007).

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126 Saskia Sassen

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