CHAPTER 1

# GLOBAL FINANCE AND ITS INSTITUTIONAL SPACES

SASKIA SASSEN

The aim of this chapter is to get a grip on the constitutive elements of global finance, and specifically high finance. A rapidly growing scholarship on financial institutions and markets has made a critical contribution to our understanding of high finance. Representative of diverse approaches are, for example, MacKenzie et al. (2007), Knorr Cetina and Preda (2004), Eichengreen (2003), Zaloom (2006), Fisher and Downey (2006), Krippner (2011), and the special issue of the journal *Globalizations* (2011). This chapter builds on elements of this vast scholarship but with a somewhat different organizing question and somewhat different types of data analyses, including of historical data. The aim is to bring to the fore the institutional spaces of finance through the notion of an operational field, rather than a focus on firms and markets. The argument is that global finance has debordered the narrowly defined notion of financial firms and markets, and financial institutions generally. It is not so much about institutions as about a larger assemblage of institutional, technical, and geographical components (Sassen 2008: 348–65). These components include, among others, a broad range of financial and nonfinancial institutions, different types of jurisdictions, technical infrastructures, and public and private domains.

This analytical perspective helps explain four of the key issues examined in this chapter. First, it helps explain why the Bretton Woods (BW) internationalism was not enough to generate the global financial system that emerged in the 1980s. Many of the components that became important in the 1980s were in place in the postwar period, as they were at the end of the 1800s. But the organizing logic of the whole assemblage of elements in each of those earlier periods was not conducive to the formation of a global, as distinct from an international, capital market. Second, it helps explain the distinctive growth patterns and conditions *for* growth of the global financial system, which are quite different from those of other economic sectors; the latter inhabit a more clearly defined institutional space than global finance. Third, it helps explain the networked format of

finance which enables it to incorporate diverse elements and develop innovative formats, such as alliances of exchanges; this contrasts with the old-style format of the traditional bank and the corporation, notably closure and vertical integration. Fourth, this analytic perspective can accommodate the fact that finance has properties that differentiate it from the rest of the market economy; one notable instance is its need to financialize other economic sectors—these function as the grist for its mill. Generally, much in these four traits holds for domestic high finance as well. But when finance goes global on the scale at which it has since the 1980s, some of these issues become acute, and therewith visible.

The first section examines the different organizing logic of BW internationalism from that of the post-1980s global era, even as many of the same elements are present in both; among these are an international framing geography, the development of norms to be adopted by all signatory states, and more. Distinguishing between components and encompassing organizing logic helps explain this (Sassen 2008: ch. 1). The second section examines the organizing logic of the post-1980s era. The third section discusses the major growth patterns and conditions for growth of the post-1980s financial system, which brings to the fore the differences between finance and other economic sectors.

The fourth section examines the slippery relation between finance and exchanges and, more generally, financial centers, both of which are institutionalized spaces rather than institutions per se. I examine this issue through the problem of "incomplete knowledge" (Sassen 2011 ch. 5) facing all firms and investors in market economies, and the role of financial centers in *making* knowledge; in the case of finance, the problem of "incomplete knowledge" can become acute given the velocities and orders of magnitude involved. Further, I (2011: chs 4 and 5) interpret the existing evidence as showing that the specialized differences of financial centers are a critical variable for addressing the problem of incomplete knowledge; this contrasts with much writing about financial centers that tends to overlook the specialized differences among these centers and emphasizes standardization—of technological facilities, operational standards, contractual obligations, and more. I see all these standardized conditions as the equivalent of an infrastructure for global financial centers. The strategic importance of financial specialization derives from the possibility of building deep and often largely informal knowledge about particular financial markets (e.g., Chicago's commodities markets). This in turn repositions the question of competition among firms, exchanges, and centers. I find that there is far less competition among centers and exchanges than is commonly posited. So much emphasis has gone to the standard features across exchanges and financial centers that this has, in turn, generated an overemphasis of competition.

It is impossible to do full justice in this short chapter to the subjects and to the vast literatures in diverse disciplines that are critical to my discussion here. Each of these subjects is complex and controversial and I have examined them at length elsewhere with extensive bibliographies (2001: ch. 4; 2008a: chs 4, 5, 7; 2009; 2010; 2011: chs 4 and 5).

## Varieties of financial internationalism

An infrastructure of laws and customs for interstate collaboration and cross-border transactions has been in place for well over a century. National states, especially major powers, have participated in a variety of internationalisms across history, especially during the immediate post-World War II period. This indicates that internationalism alone was not enough to move us into the type of world scale and global financial system evident today. It is too general a feature: the modern capitalist state was born within an international framework—with the empires of earlier centuries as one key component.

The major powers of the late nineteenth and early twentieth centuries had broad jurisdictions to prescribe regulations for their citizens given that the nexus between the modern market-centered state and its subjects could be very loose (for a variety of angles, see Murphy 1994; Picciotto and Mayne 1999; Sassen 2008: ch. 3; Suter 1992). Reciprocal arrangements such as extradition and judicial assistance were already developed by the late nineteenth century. While the executive power to enforce such regulation was, and in most regards remains, essentially territorial, the mobility of people and firms and the interlinking of ownership and world markets have meant that, in principle, state authority has long had considerable scope beyond its national territory (e.g., Brilmayer 1989; Walker 1993; Stephan 2002).

In several ways, then, the requisite capabilities for entering the global age were long available. This was perhaps particularly so after World War II when major states were developing international regimes and the necessary institutional infrastructure. For many observers and experts this is when the global age begins. But there are organizational features that have led some of us to emphasize that the larger organizing logic in that period was one centered in international regimes aimed at protecting national economies from external economic forces. They were not aimed at forming a *global* economy. Although international, this period was geared toward building the national economy and protecting the national interest. No genuinely global system was set in place.

In this context, the early BW system is particularly significant insofar as it aimed at something approaching genuine global governance for the good of each and all member states.[1] But the United States was, both then and later, a reluctant participant in this larger effort and consistently sought to pursue its own advantage. The US pushed BW toward the development of state capabilities for enabling firms to be global; in practice, this meant US firms, since these were dominant at a time when other major powers were recovering from massive war destruction; and it was these recovering states that were also far more disposed toward an international system that would ensure balance.

It is useful to distinguish two phases before the breakdown of the early 1970s. In its first 12 years, and in its framers' concept, the BW system was a supranational authority for protecting national governments.[2] Eventually, it evolved into a market-centered

system dominated by private banks, particularly US banks. Neither of these phases was akin to the current global economic system.

In my reading, much had to come together to reach the major tipping point for a new organizing logic that reoriented state capabilities toward global projects (see Sassen 2008: ch. 4). The strong unilateral pursuit of global dominance for its firms by the United States was not enough and was a different type of project from that of shaping today's global economy. Even the American push for an international system dominated by markets and firms was not enough to tip the international system into the new global phase that began in the 1980s. Yet many of the capabilities for international operation developed before and with BW were to become critical for the implementation of a global economy.

Methodologically this entails distinguishing the particular components from the larger whole. Among these are a series of capabilities involving both state and non-state actors. This was necessary to have major cross-border financial flows after World War II. But it was not enough to secure the existence of a global financial market. Similarly, cross-border trade flows are not enough to create a global trading system. The particular assemblage of territory, authority, and rights wired into the formation of today's global financial market and global trading system differs sharply from that of earlier international systems for handling cross-border flows. Thus, for instance, territory does not disappear from our global electronic financial system; rather it is repositioned as a network of a hundred plus global cities with major financial centers. And so are authority and rights: neoliberal policy transfers not only power, but also authority to global financial markets and away from national states, and it develops a range of new types of rights for global firms in foreign countries. At the same time, not everything about these three conditions changes—national borders have not changed much and national states continue to be indispensable actors. It is rather that the BW and the current global era are two very distinct assemblages of institutional, technical, and spatial components, each with its specific organizing logic even though they both depend on the International Monetary Fund (IMF) and national state policy.

This type of analysis can accommodate the importance of both the BW capabilities for the current system and the constitutive differences of these systems—each with its particular organizing logic. One indicator of this constitutive difference is the sharp policy changes that took off in the 1980s, from protectionisms of all sorts to deregulations of all sorts. It points to the specificity of the larger assemblage of elements that constitutes today's global financial system. It is not simply the power of finance and multinational corporations that reconfigure the system. Significant for finance are the new forms of private authority, actually enabled by the growing power of the executive branch of government, which in turn further feed executive branch power (Sassen 2008: ch. 4). Present in this dynamic is the possibility of an articulation between the executive branch and the financial system that cannot be simplified as either "the decline of the state" or the dominance of finance over the state. Nor can it be seen as a mere continuation of BW multilateralism.

Two framing features radically distinguish the postwar BW financial system, especially in its first decade, from the current global system, even if the latter incorporates some BW rules. One is the role of financial markets. Until the 1950s financial policy was cautionary, regulatory controls were in place, and the stock market was relatively inactive. The central policy issue was unemployment, not free trade or global finance as it became in the 1980s (Tabb 2004). In fact, unemployment was seen as resulting from free trade.[3] The early phase of the BW project involved the making of a global system to protect national economies against major crises. While it is not easy to disentangle the causal interactions between policy and stock markets, governments generally kept these policies in place even as growth resumed and stock markets revived in the 1950s. This became unacceptable in the 1980s.

The second major framing condition was the use of managed exchange rates and controls on international capital flows to protect the financial system from international competitive and exchange rate pressures. This insulation was the norm in the world economy of that time (Eichengreen 2003; Helleiner 1999). All the major powers supported systems for domestic economic management—including the United States. The most familiar of these policy systems are Britain's Keynesian welfare state, West Germany's "social market," France's "indicative planning," and Japan's Ministry of International Trade and Industry (MITI) model of systematic promotion of export industries. There was a trade-off in the early BW phase between embedded liberalism in the international trading and production order and increased domestic economic management aimed at protecting national economies from external disruptions and shocks. Underlying this policy stance was a concern with the redistributive effects of capitalist economies. Keynes proposed making debtor and surplus countries work at returning the international system to balance—which the United States, then the leading surplus country, rejected.[4] Keynes wanted easier borrowing for debtor nations (by then Britain was a debtor nation) and prevention of capital flight.[5] The actual regime adopted was not quite what Keynes had proposed (Kapstein 1994: 93; Ruggie 1998: 265; Tabb 2004: 112).

Bretton Woods delivered multiple capabilities for globalizing finance. But these framing aims amounted to a different organizing logic from what was to become necessary for the current global financial system.

## The global capital market: power and norm-making

The many negotiations between national states and global economic actors that led to our current global financial system generated a de facto normativity. Among familiar components are exchange rate parity, privileging low inflation over employment growth, and the variety of items found in IMF conditionality.[6] The claims and criteria

for policymaking that emerge as legitimate overrode older norms that privileged expenditures to ensure the well-being of people at large; those older norms are now seen as making states "less competitive" in a normative context where states are expected to become more so.

In my reading (2008: ch. 5), this normative transformation entails a privatizing of capacities for making norms, capacities we have associated with the state in our recent history. This brings with it strengthened possibilities of norm-making in the interests of the few rather than the majority. In itself, this is not new. New is the formalization of these privatized norm-making capacities and the sharper restricting of who benefits. This privatizing also brings with it a weakening and even elimination of public accountability. In practice this might not appear to be much of a change given multiple corruptions of the political process. But the formalizing of this weakened public accountability is consequential.

This was the setting for the ascendance of the post-1980s global financial system. The global capital market represents a concentration of power capable of systemically, not just through influence, shaping elements of national government economic policy and, by extension, other government policies. The powerful have long been able to influence government policy (Arrighi 1994). But today it is also the operational logic itself of the global financial system that becomes a norm for "proper" economic policy (Sassen 2008: ch. 5). These markets can now exercise the accountability functions formally associated with citizenship in liberal democracies: they can vote governments' economic policies out or in; they can force governments to take certain measures and not others. Given the properties of the systems through which these markets operate—speed, simultaneity, and interconnectivity—the resulting orders of magnitude give them real weight in the economies of countries and their policymaking.

There has long been a market for capital and it has long consisted of multiple, variously specialized, financial markets (e.g., Eichengreen 2003; Helleiner 1999). It has also long had global components (Arrighi 1994; Eichengreen 2003; Sinclair 2008). Indeed, a strong line of interpretation in the literature of the 1990s (e.g., Hirst and Thompson 1996) is that the post-1980s market for capital is nothing new and represents a return to an earlier global era—the turn of the century and, then again, the interwar period. However, all of this holds only at a high level of generality. When we factor in the specifics of today's capital market some significant differences emerge with those past phases. I emphasize two major ones here. One concerns today's far higher level of formalization and institutionalization of the global market for capital, partly an outcome of the interaction with national regulatory systems that themselves gradually became far more elaborate over the last hundred years (see Sassen 2001: chs 4 and 5). The second concerns the transformative impact of the new information and communication technologies, particularly computer-based technologies (henceforth referred to as digitization). In combination with the mix of dynamics and policies we usually refer to as globalization they have constituted the capital market as a distinct institutional order, to be differentiated from other major markets and circulation systems, such as global trade.

One outcome of these processes is the formation of a strategic cross-border operational field constituted through the partial disembedding of specific state operations from the broader institutional frame of the state; this entailed a shift from national agendas to a series of new global agendas. The transactions are strategic, cut across borders, and entail specific interactions among government agencies and business sectors, to address the new conditions produced and required by corporate economic globalization. They do not engage *the* state as such, as in international treaties, or intergovernmental networks. Rather, these transactions consist of the operations and policies of specific subcomponents of diverse institutional orders, including particulalr state agencies (for instance, technical regulatory agencies, specialized sections of central banks and ministries of finance, special commissions within the executive branch of government, etc.), components of the supranational system linked to the economy (IMF, World Trade Organization (WTO)), and private non-state actors. In this process these transactions push toward convergence across countries in order to create the requisite conditions for a workable global financial system. This global financial system, in turn, is embedded in a vast array of specific, often highly specialized, bits of state and supranational institutions; it does not only consist of its firms, exchanges, and electronic networks (Sassen 2008: 348–65, ch. 5).

There are two distinct features about this field of transactions that lead me to posit that we can conceive of it as a disembedded space in the process of becoming structured. The transactions take place in familiar settings: the state, the interstate system, the "private sector." But the practices of the agents involved are constructing a distinct assemblage of bits of territory, authority, and rights that functions as a new type of operational field. In this regard, it is a field that exceeds the institutional world of the interstate system and of "the global economy." Insofar as interactions between these specific state actors and specific private corporate actors provide substantive public rationales for developing national and international policy, it is an operational field that denationalizes state agendas. That is to say, the rationales for global action of those specific state and corporate actors run through national formal law and policy, but are in fact rationales that denationalize state policy (Sassen 2008: ch. 4). This can bring with it a proliferation of rules that begin to assemble into partial, specialized systems of law only partly embedded in national systems, if at all. Here we enter a whole new domain of private authorities—fragmented, specialized, and increasingly formalized but not running through national law per se.

Two sets of interrelated empirical features of these markets capture the rapid transformation since the mid-1980s.[7] One is accelerated growth, partly due to electronic linking of markets—both nationally and globally—and the sharp rise in innovations enabled by both financial economics and digitization. The second is the sharp growth of a particular type of financial instrument—the derivative—a growth evident both in the proliferation of different types of derivatives and in its becoming the leading instrument in financial markets.[8] This diversification and dominance of derivatives has made finance more complex and enabled far higher growth rates than those of other globalized sectors.

## Finance and its orders of magnitude: overtaking whole economies

There are two phases in this short but accelerated history of the new financial phase, one going into the early 1990s and the second one taking off in the late 1990s. During this post-1980s growth, the global capital market became an increasingly necessary component in an expanding range of domains. Thus diverse kinds of government debts began to get financed through the global market—the kinds of debt that were thought to be basically local, such as municipal debt. This has led to a sharp financial deepening in many economies.

Between 1980 and 2000, the total stock of financial assets increased three times faster than the aggregate gross domestic product (GDP) of the 23 highly developed countries that constituted the Organisation for Economic Co-operation and Development (OECD) for much of this period; and the volume of trading in currencies, bonds, and equities increased about five times faster and now surpasses aggregate GDP by far. The worldwide (notional) value of traded derivatives, which came to account for most financial market transactions, was $30 trillion in 1994, $80 trillion by 2000, and $270 trillion by mid-2005, for a 240 percent increase as of 2001, pointing not only to higher levels in values traded but also to an increase in the growth rate (BCBS 2005 21). To put this in perspective it is helpful to compare it to the value of other major components of the global economy at a time of high growth, for example, cross-border trade ($14.4 trillion in 2006) and global foreign direct investment stock ($6 trillion in 2000 and $8.2 trillion in 2003 (WTO 2005: 3; UNCTAD 1998, 2005: 9). Annual foreign exchange transactions were ten times as large as world trade in 1983 but 70 times larger in 2004, even though world trade also grew sharply over this period.[9] In 2001, the average daily turnover in foreign exchange markets was $1.3 trillion and, in 2004, $1.8 trillion (BCBS 2005).[10]

In many ways the international financial market from the late 1800s to the interwar period was as massive as today's if we measure its volume as a share of national economies and in terms of the relative size of international flows. This fact is critical to scholars who argue that globalization is not new (e.g., Hirst and Thompson 1996). The international capital market in the earlier period was large and dynamic, highly internationalized, and backed by a healthy dose of Pax Britannica to keep order. The extent of its internationalization can be seen in the fact that in 1920, for example, Moody's rated the bonds issued by about 50 governments to raise money in the American capital markets (Sinclair 1994; 2008). The depression sharply reduced this internationalization, and it was not until the late 1980s that Moody's was once again rating the bonds of about 50 governments.[11] As late as 1985, only 15 foreign governments were borrowing in the US capital markets.

But in my reading it is not simply a question of volumes: the type of internationalization also matters. Institutional investors are not new (see Sassen 2008: ch. 3); it

is the diversity of the types of funds and the rapid escalation in the value of their assets that is one of the key factors making this global epoch different. In the United States, institutional investors as a group came to manage two-fifths of US households' financial assets by the early 1990s, up from one-fifth in 1980. By 2001 these assets had reached $19.2 trillion, notably in pension funds and insurance companies. Assets of US institutional investors rose from 59 percent of GDP in 1980 to 136.3 percent in 1993.

All these trends continued in the second phase that took off in the 1990s.

The assets of pension funds more than quadrupled in the United States from $1.5 trillion in 1985 to $11 trillion in 2004. The OECD weighted average asset-to-GDP ratio for pension funds increased from 68.0 percent of GDP in 2009 to 71.6 percent of GDP in 2010. The United States saw an increase of 5 percentage points in the value of its asset-to-GDP ratio in 2010, equivalent to a gain of $1 trillion in assets, from $9.6 trillion to $10.6 trillion (OECD 2011a). It should be noted that the weight of pension funds relative to the size of the economy shows sharp variation among the countries covered by OECD data. Thus in 2010, the Netherlands (135 percent), the UK (86.6 percent), and the US (72.6 percent) were among the highest, compared with Germany (5.2 percent) and France (0.2 percent), among the lowest (OECD 2011a: Figure 5).

It is the rise of hedge funds that stands out in this post-1990s phase (Maslakovic 2010; OECD 2011b). Hedge funds, among the most speculative of financial institutions, sidestep certain disclosure and leverage regulations by having a small, private clientele and, frequently, by operating offshore. While they are not new, the growth in their size and their capacity to affect the functioning of markets grew enormously in the 1990s and they emerged as a major force by the late 1990s. According to some estimates they numbered 1,200 with assets of over $150 billion by mid-1998 (BCBS 1999), which exceeded the $122 billion in assets of the total of almost 1,500 equity funds as of October 1997 (UNCTAD 1998). By 2005 they numbered over 9,000 and the global hedge fund industry stood at a reported $1.5 trillion (BCBS 2005b: 79). Both types of funds need to be distinguished from asset management funds, of which the top ten were estimated to have $10 trillion under management by 2006.[12]

By 1996 it is clear that the four main components in the world's financial assets were equities, private debt securities, government debt securities, and bank deposits. From 1996 to 2006, just before the crisis, the first two grew the fastest, at average annual compound rates of over 10 percent, compared to around 7 percent for the other two. In 2006, equities grew by 20 percent—$9 trillion (in constant exchange rates), accounting for "nearly half the total increase in financial assets" in 2006 (McKinsey 2008: 11). Global financial stock has continued to rise since 2008, and reached $212 trillion in 2010 (McKinsey 2011: 2).

To contextualize the meanings of these numbers it helps to compare them to global GDP. The ratio of global financial assets to global GDP was nearly 350 percent in 2006, and after one of the worst financial crisis, was back up to 336 percent in 2010 (World

Bank 2011). The number of countries where financial assets exceed the value of their GNP more than doubled from 33 in 1990 to 72 in 2006. In most highly developed countries, the value of financial assets was up to three times the size of their GDP with a growing number at over four times (the United States, Netherlands, Japan, Singapore, and others). In the United States it was 450 percent to GDP (McKinsey 2008: 11). But we find this trend also in countries at other levels of development: thus China's financial assets are worth three times its GDP. A year before the financial crises began in 2007, the total value of the world's financial assets grew by 17 percent (in nominal terms, 13 percent at constant exchange rates) from 2005 to 2006, reaching $167 trillion, an all-time high, up from $12 trillion in 1980, $94 trillion in 2000, and $142 trillion in 2005. This growth is far higher than that of the other major components of the global economy: trade and foreign direct investment.

While we cannot make a causal link, diverse indications do connect this type of economic system to the rapid growth of inequality that took off in the 1980s (Sassen 2001: pt 3) and reached extreme dimensions after the crisis of 2008 (Mishel 2004, 2007; Sherman and Stone 2010). Figure 1.1 shows the sharp increase in the income ratio of the highest earning decile to the lower earning deciles in the two periods that include the major financial crises of respectively the 1930s and 2008 onward. The Keynesian decades show a decline in the share of the top decile, from 42 percent to 33 percent, which points to the expansion of a middle class. Beginning in the 1980s, the top decile again began to receive an increasingly high share of total income.

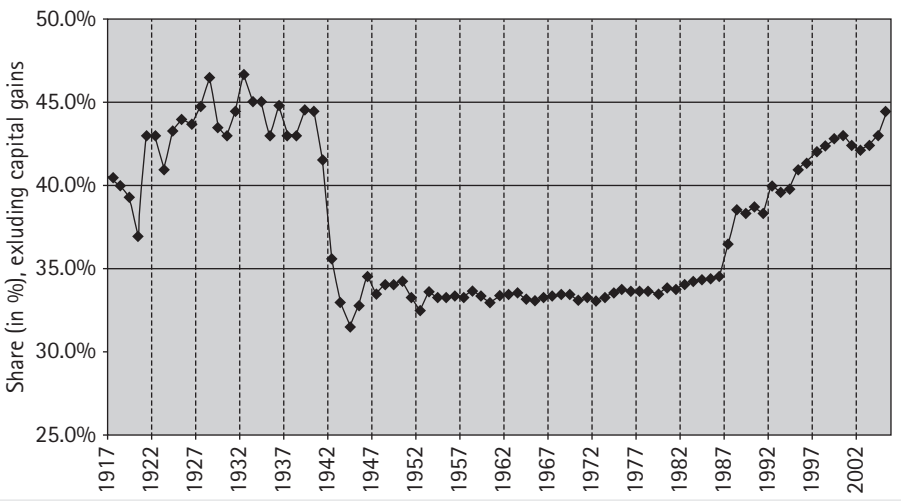


**FIGURE 1.1** US Top Decile Income Share of National Income, 1917–2005

*Income is defined as market income but excludes capital gains

(Source: Mishel 2004)

## Why does global finance need financial centers?

One key element in the larger assemblage of geographies and institutions that constitute the global financial system is financial centers. Given electronic networks and trading, we might have expected the number of centers to fall. Instead, the opposite is true—the number of centers has grown. This can easily be seen as a continuation of the BW era: with few exceptions, all existed by then, and long before. But this isn't the case. In that earlier era, each country's financial center duplicated all core and specialized functions, given relatively closed national economies. Today's centers are globally articulated with each other, tend to specialize in particular sectors, and altogether have eliminated many of the redundancies of functions of the earlier era.

Let me elaborate. The proliferation of such "global" financial centers as strategic spaces is counterintuitive in what is an increasingly electronic and globally integrated financial system: one might expect a few global centers to handle matters in a globally integrated system. Besides growing numbers, today's financial centers have also grown in terms of the diversity of their functions. Thus, over the last decade private closed investment networks run by banks and traders have grown sharply and so has the forming of alliances among exchanges and takeovers of exchanges. In short, the organizational architecture of financial centers increasingly deborders the exchanges that once *were* the financial center.

Finally, and also counterintuitively, financial centers have become increasingly specialized. We might have expected a different pattern given the technological capacities of computer-centered networks along with the possibility of rich firms voting with their feet and locating in a few super-financial centers. Rather than concentrating all necessary functions in a few mega-financial centers, the opposite trend is evident.

Here I examine the elements that contribute toward an explanation of these institutional and spatial features of global finance in the current epoch. In my research I find three constraints that keep today's global and mostly electronic financial system from being the placeless electronically distributed system one might have expected. I develop this at length elsewhere (Sassen 2008: 348–65, ch. 5; 2011: ch.5).

1) *The problem of incomplete knowledge*. Firms have always confronted incomplete knowledge in market economies. When such firms go global, this problem becomes acute. The specific contribution of the financial center vis-à-vis the incomplete knowledge problem, especially for global actors, is that its diverse networks, information loops, professionals coming from diverse parts of the world, together produce a particular type of knowledge capital. I refer to it as urban knowledge capital—a capital that is more than the sum of the knowledge of the professionals and the firms in a city. Analytically, I posit this is a key element in the economic production function of the global city (Sassen 1991/2001: ch. 6; 2011: ch. 5); The proposition I developed to organize

the combination of factors involved is that the more speculative, digitized, subject to speed, and globalized a firm's operations are, the more acute is its incomplete knowledge problem, and hence the more dependent on the financial/business center as a strategic site.

2) *The growing specialization of financial centers*. The global financial system thrives both on standardized products and technical infrastructures, and on specialized differentiation in much of high finance. Each of the leading financial centers has developed its specialized advantages over the last two decades. No two of them are the same. Globalization homogenizes standards, a fact that has led many to interpret this as homogenization of markets and of urban economies. But the homogenizing of standards can coexist with growing specialization. In contrast, in the recent past, each "closed" national economy duplicated all functions necessary for international transactions, and specialization was a somewhat secondary aspect.

3) *Finance is about financializing the nonfinancial*. In the two preceding sections in this chapter I have examined finance as an invasive economic sector. Today's global financial firms are largely geared toward entering the thick specificities of nonfinancial sectors and of national economies not yet fully articulated with the global economy. Financial centers, and even more so global cities, are a bridge, an intermediate space between the globalized part of finance and the thick national and local cultures of investment of a country or a region.

We can think of financial centers as sites for producing knowledge components that address the problem of incomplete knowledge of firms and investors in market economies. The proliferation of secondary financial centers now integrated into the global system also serves this function. This making of knowledge components takes different forms. We can conceive of the advanced corporate services as producers of "organizational commodities" (Sassen 2001: ch. 4). These become increasingly complex and necessary when a firm operates in a globalized space, rather than the more familiar home setting of a closed national economy. This holds for global firms and markets, no matter what the sector—mining, agribusiness, finance, insurance, and so on. It is simply more acute in high finance given the speed and speculative character of trading.

Thus the more digitized, speculative, and globalized the operations of a financial firm, the more acute is its incomplete knowledge problem, and hence the more dependent on knowledge-making firms and centers. 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, which is in a good part specific to each city. Indeed, even in the 1980s when these patterns were merely emergent, I found this global phase needed and stimulated the specialized differences of cities. Thus, already in the 1980s, I found significance in what was then a rather elementary division of functions among New York, London, and Tokyo, at the time the three strategic global cities articulating an emergent new phase of global capitalism: Tokyo as the major exporter of "unrefined" money capital, London the most developed financial entrepot given its old imperial

geography, and New York as the silicon valley of finance. I thus argued that the intensifying problem of incomplete knowledge as globalization expands is partly addressed through a systemic demand for more strategic sites (global cities) and multiplying divisions of functions among such sites.

A second aspect in the making of knowledge concerns the meaning of *information*. There are two types of information in this global financial world of high-speed transactions. One is the datum: At what level did Wall Street close? Did Argentina complete the public sector sale of its water utility? Has Japan declared such-and-such bank insolvent? But there is a far more difficult type of information, akin to a mix of interpretation, evaluation, and judgment. It entails negotiating diverse data sets and interpretations in the hope of producing a higher-order datum. Access to the first kind of information is now global and immediate, thanks to the digital revolution. You can be a broker in the Colorado mountains and have access to this type of information. But the second type of information requires a complicated mixture of elements—the social infrastructure for global connectivity—and it is this that gives major financial centers a leading edge.

One can, in principle, reproduce the technical infrastructure anywhere. Shenzhen, for example, has technical connectivity matching Hong Kong's. But does it have Hong Kong's social connectivity? When the more complex forms of information needed to execute major international deals cannot be gotten from existing databases, no matter what a firm can pay, then that firm needs the social information loop with the associated interpretations and inferences that come with bouncing off information among talented, informed people. The importance of this input has given a whole new weight to credit-rating agencies, for example. Part of the rating has to do with interpreting and inferring the quality of a firm's or government's resources. Credit-rating firms are in the business of producing *authoritative* interpretations and presenting them as information available to all, even though they get it wrong regularly (Sinclair 2008. But firms, especially global firms in finance, need more than what credit-ratings firms sell. They need to build this advanced type of interpretation into their daily work process, and this takes not only talent but also information-rich milieux (Sassen 2008: 346–65, ch. 7). Financial centers, and especially the greater diversity and complexity of global cities, are such milieux.

Each of today's leading financial centers has distinctive strengths, as is well captured in comparing such familiar cases as New York, Paris, Frankfurt, Hong Kong, and so on. Further, this differentiation is also evident inside countries, as is reflected in the familiar pairs of New York and Chicago, and Hong Kong and Shanghai. London and New York, with their enormous concentrations of resources and talent, continue to be the powerhouses in the global network for the most strategic and complex operations for the system as a whole, but they are increasingly dependent on the larger network of centers and no longer have the absolute primacy they had 15 years ago.

This combination of more and more globally integrated centers along with the growing strength of a limited number of those centers is also evident, with its own specifics, inside countries. What stands out is that this pattern toward the consolidation of one or two leading financial centers in a county is a function of rapid growth in the sector, not necessarily of decay in the losing cities. In the United States, for example, New York

concentrates all the leading investment banks with only one other major international financial center, Chicago, in this enormous country. Boston is a strong financial center but has lost market share to New York, as has Philadelphia. Several of the other financial centers in the US have also lost market share even as they may be growing. Sydney and Toronto each took over functions and market share from what were once the major commercial centers in their respective countries, Melbourne and Montreal. So have São Paulo and Mumbai, which gained share and functions from, respectively, Rio de Janeiro in Brazil and New Delhi and Calcutta in India. These are all enormous countries, and one might have thought that they could sustain multiple *major* financial centers. In France, Paris today concentrates larger shares of most financial sectors than it did in the 1970s, and once-important stock markets such as Lyon have become "provincial," even though Lyon is today the hub of a thriving economic region. Milan privatized its exchange in September 1997 and electronically merged Italy's ten regional markets. Frankfurt now concentrates a larger share of the financial market in Germany than it did in the early 1980s, as does Zurich in Switzerland. Further, these processes of growing concentration moved fast. For example, by 1997, Frankfurt's market capitalization was five times greater than all other regional markets in Germany combined, whereas in 1992, it had been only twice as large. These patterns are evident in countries worldwide. It continues today, often under novel formats. Thus the European Union's single-currency Eurozone spells the end of an era in which each country had its full-fledged financial center; a steep hierarchy is very likely, with Frankfurt and Paris at the top and a crisscross of alliances centered in either of these major centers or among centers not included in those alliances.

The dominance of the leading centers rests partly on the fact that one of the ways in which the global financial system grows is by incorporating more and more *national* economies. This is a process that happens through the development of a state-of-the-art financial center in each country—which often evolves into a second- or third-tier global city. Table 1.1 illustrates this proliferation of global financial networks that now include more and more centers, mostly along highly specialized vectors—each center integrated through particular commodities or securities. Here I have selected just some of the many cases to illustrate this juxtaposition of ongoing dominance by a limited number of centers and a proliferation of financial centers integrated into the global system.

The financial centers of a growing number of less powerful countries worldwide are increasingly fulfilling gateway functions for the global financial system. This has facilitated the proliferation of sources of, and destinations for, investment. Gateway functions are their main mechanism for integration into the global financial market rather than, say, the production of innovations to package the capital flowing in and out. The production of innovations tends to remain concentrated in the leading 20 or so centers, as these have not only the specialized talents but also the clout to persuade investors to buy innovative instruments. Further, the complex operations in most second- and third-tier financial centers often are executed by foreign global investment, accounting, and legal services firms through affiliates, branches, or direct imports of those services. These gateways for the global market are also gateways for the dynamics of financial crises:

**Table 1.1 Top five performing broad market indexes last year by major regions, in local currency**

| *Rank* | *Americas* | *% change 2009/2008* |
|---|---|---|
| 1. | Buenos Aires Stock Exchange | 103.6% |
| 2. | Lima Stock Exchange | 101.0% |
| 3. | BM&FBOVESPA | 82.7% |
| 4. | Colombia Stock Exchange | 53.5% |
| 5. | Santiago Stock Exchange | 46.9% |
| *Rank* | *Asia/Pacific* | *% change 2009/2008* |
| 1. | Colombo Stock Exchange | 125.2% |
| 2. | Shenzhen Stock Exchange | 117.1% |
| 3. | Bombay Stock Exchange | 90.2% |
| 4. | National Stock Exchange India | 88.6% |
| 5. | Indonesia Stock Exchange | 87.0% |
| *Rank* | *Europe/Africa/Middle East* | *% change 2009/2008* |
| 1. | Istanbul Stock Exchange | 96.6% |
| 2. | Tel Aviv Stock Exchange | 78.8% |
| 3. | Oslo Bors | 60.1% |
| 4. | Luxembourg Stock Exchange | 54.6% |
| 5. | Warsaw Stock Exchange | 46.9% |

(Source: World Federation of Exchanges 2010)

capital can flow out as easily and quickly as it flows in. And what was once thought of as *national* capital can now as easily join the exodus.

Although electronic networks are growing in number and in scope, they are unlikely to eliminate the need for financial centers. Rather, they are intensifying the networks connecting such centers in strategic or functional alliances among exchanges in different cities. What is important to note is that these alliances and takeovers have a format that distinguishes them from cross-border mergers and acquisitions in other economic sectors, where elimination of plants and offices is often part of the aim. The alliances and takeovers of exchanges aim at keeping the distinctive exchanges—a key purpose for the takeover is precisely that each exchange has its own bridges into a national economy (Sassen 2008: chs 5 and 7; 2011: chs 4 and 5). Ironically, the current wave of alliances and takeovers of financial exchanges contributes to strengthen the combination of two geographies described earlier: growing numbers of globally integrated centers and at the same time ongoing dominance of major centers.

# Conclusion—beyond institutions: a larger ecology

This organizing proposition of this chapter is that the global financial system is an assemblage of diverse components that deborders the narrowly defined institutions of finance—firms and exchanges. I examined three core components of the larger assemblage that is global finance today.

The first is the particularity of the internationalism of our current global financial system. It diverges sharply from the BW-era internationalism. The fact that our current system uses capabilities developed through the BW system has led some to see BW as the origin of the current system. In contrast, I find that this disjuncture is possible because the different organizing logic of the current system can re-mark capabilities of the earlier period. More generally, using the case of the BW international system illuminates the fact that internationalism by itself is too general a condition to explain our current system. Further, it shows that the participation of the state is also too general a notion: the state was an active participant in both, especially through the executive branch, but the character of this participation was very different.

The second core component is the critical role played by the privatizing of norm-making capacities that were once the exclusive domain of national states. The switch into our global system required extensive making of new norms that had little relation to the norms of the BW system. The latter had sought to strengthen national state capacities to confront financial crises and to develop an supranational system that could protect national economies from excessive international fluctuations. These features contrast sharply with the current global financial system and with the privatizing of norm-making in the interest of finance itself rather than national economies.

The third element is the role and the geography of financial centers, part of both the BW era and the current one –and of course, partly also of much earlier eras. But even if present in both eras, their role can vary considerably. In the BW era we saw a recurrence of similar functions in financial centers integrated into the *inter*national financial system. Financial centers were quite routinized. In the current financial system, these centers are strategic production sites for innovations, and benefit from considerable deregulation and privatized norm-making capacities. They are strategic in that they contribute to knowledge-making in a context where incomplete knowledge becomes acute given the speed of trading, the orders of magnitude involved, and the multiplication of specialized financial markets.

## Notes

1. The Bretton Woods conference in 1944 was the last stage of a process initiated by Britain and US Treasury officials working on the rules for a postwar monetary and trade regime, as well as the conditions for countries' participation.

2. We see considerable shifts in the balance between internationalists and nationalists in the postwar years. Thus, in 1948 Congress rejected the International Trade Organization (ITO), which the executive had worked hard to change and negotiate, because it would have undermined state sovereignty. The ITO was not all bad: it gave Less Developed Countries (LDCs) some preferential treatment in the development of finance and commodity agreements, which were not included in the later General Agreement on Tariffs and Trade (GATT); thus after Congress rejected the ITO, the LDCs felt little incentive to join GATT.
3. There was neither strong opposition to free trade nor much serious consideration of it. Viner (1958) notes at the time that no one was addressing the question of free trade or, indeed, even talking about it.
4. The United States insisted that surplus countries not be penalized. Eventually the United States became far less competitive and a massive debtor; nonetheless its hegemonic position allowed it to escape the disciplining of the supranational system and market dynamics that other debtor countries were subjected to (Sassen 1996: ch. 2; 2008a: ch. 4). Paralleling Britain at its time of world dominance, in the postwar period the United States sought an open trading system, while most other countries sought protections under national developmentalist regimes. There is a vast scholarship on the postwar asymmetry between the United States and most other countries that traces in enormous detail the consequences for different actors of having an open trading system under US dominance versus the advantages for development of nationally protected economies; it is quite different from the scholarship that emerges in the 1980s and 1990s. It is impossible to do justice here to that postwar scholarship.
5. Tabb (2004: ch. 5), among others, finds that there is a strong case to be made that the high costs borne by the more vulnerable components of the world community could have been avoided if Keynes's position (that surplus countries had as much responsibility as debtor ones to reestablish equilibrium) had prevailed.
6. Since the Southeast Asian financial crisis there has been a revision of some of the specifics of these standards. For instance, exchange rate parity is now evaluated in less strict terms.
7. There are other factors that are significant, particularly institutional changes, such as the bundle of policies usually grouped under the term deregulation and, on a more theoretical level, the changing scales for capital accumulation. For a full analysis of these issues, see Eichengreen (2003), Eichengreen and Fishlow (1996), Abolafia (2001), Swedberg (2004), and Krippner (2011) on deregulation and re-regulation in the financial markets today; on new scales for capital accumulation, see "Special Issue: Globalization and Crisis" (2010) for some recent developments; for a state of the art examination of the full array of specialized corporate services, see Bryson and Daniels (2009).
8. See Sassen (2008a: 350) for a brief description.
9. The foreign exchange market was the first one to globalize, in the mid-1970s. Today it is the biggest and in many ways the only truly global market. Daily turnover has gone from about $15 billion in the 1970s, to $60 billion in the early 1980s, and $1.8 trillion in 2003. In contrast, the total foreign currency reserves of the rich industrial countries amounted to about $1 trillion in 1999 and $3 trillion in 2004.
10. Other comparisons at high points before the 2008 crisis were the global market capitalization of firms listed on the WFE's 54 member bourses, which was $51 trillion in January 2007 compared with World GDP' $44 trillion (http://www.world-exchanges.org).

11. Switzerland's international banking was, of course, the exception. But this was a very specific type of banking and does not represent a global capital market, particularly given basically closed national financial systems at the time (I have examined this difference in Sassen 1991: ch. 4).
12. In that same period, assets of insurance companies increased by 110 percent (from $1.6 trillion to $3.3 trillion), assets of commercial banks grew by 100 percent (from $3.5 trillion to $7 trillion), and deposits of commercial banks increased by 79 percent (from $2.5 trillion to $4.5 trillion) (Investment Company Institute 2003: 1 2n. 4). The level of concentration is enormous among these funds, partly as a consequence of mergers and acquisitions driven by the need for firms to reach what are the de facto competitive thresholds in the global market today.

## References

Abolafia, M. Y. (2001). *Making Markets: Opportunism and Restraint on Wall Street*. Cambridge, MA: Harvard University Press.

Arrighi, G. (1994). *The Long Twentieth Century: Money, Power, and the Origins of Our Times*. London: Verso.

BCBS (Basel Committee on Banking Supervision). 1999. "Performance of Model-Based Capital Charges for Market Risk: 1 July–December 1998." Basel Committee Publications No. 57. Basel: Bank for International Settlements.

—— 2005. *Triennial Central Bank Survey: Foreign Exchange and Derivatives Market Activity in 2004*. Basel: Bank of International Settlements.

Brilmayer, L. (1989). *Justifying International Acts*. Ithaca: Cornell University Press.

Bryson, J. R. and Daniels, P. W. (eds.) (2009). *The Service Industries Handbook*. Cheltenham: Edward Elgar.

Eichengreen, B. (2003). *Capital Flows and Crises*. Cambridge, MA: MIT Press.

—— and Fishlow, A. (1996). *Contending with Capital Flows: What is Different about the 1990s?* New York: Council of Foreign Relations.

Fisher, M. S. and Downey, G. (eds.) (2006). *Frontiers of Capital: Ethnographic Reflections on the New Economy*. Durham, NC: Duke University Press.

Helleiner, E. N. (1999). "Sovereignty, Territoriality, and the Globalization of Finance," in D. A. Smith, D. J. Solinger, and S. C. Topik (eds.), *States and Sovereignty in the Global Economy*. London: Routledge, 138–57.

Hirst, P. and Thompson, G. (1996). *Globalization in Question*. Cambridge: Polity Press.

Kapstein, E. (1994). *Governing the Global Economy: International Finance and the State*. Cambridge, MA: Harvard University Press.

Knorr Cetina, K. and Preda, A. (eds.). (2004). *The Sociology of Financial Markets*. Oxford: Oxford University Press.

Krippner, G. R. (2011). *Capitalizing on Crisis: The Political Origins of the Rise of Finance*. Cambridge, MA: Harvard University Press.

MacKenzie, D., Muniesa, F., and Siu, L. (eds.) (2007). *Do Economists Make Markets? On the Performativity of Economics*. Princeton, NJ: Princeton University Press.

Maslakovic, M. (2010). "IFSL Hedge Funds 2010." *The Hedge Fund Journal*, May. <http://www.thehedgefundjournal.com/magazine/201005/commentary/ifsl-hedge-funds-2010.php> (accessed September 22, 2011).

McKinsey (2008). "Mapping Global Capital Markets Fourth Annual Report." McKinsey Global Institute, January. <http://www.mckinsey.com/mgi/reports/pdfs/Mapping_Global/MGI_Mapping_Global_full_Report.pdf> (accessed May 16, 2011).

—— (2011). "Mapping Global Capital Markets 2011." McKinsey Global Institute, August. <http://www.mckinsey.com/mgi/reports/freepass_pdfs/Mapping_global_capital_markets/Capital_markets_update_email.pdf> (accessed May 16, 2011).

Mishel, L. (2004). "Unfettered Markets, Income Inequality, and Religious Values." Economic Policy Institute. <www.epi.org/content.cfm/webfeatures_viewpoints_moral_markets_presentation> (accessed July 26, 2008).

—— (2007). "Who's Grabbing All the New Pie?" Economic Policy Institute. <http://www.epi.org/content.cfm/webfeatures_snapshots_20070801> (accessed July 26, 2008).

—— Marphy, Craig N. 1994. International Organization and Industrial Change: Global Governance since 1850. New York: Oxford University Press.

OECD (Organisation for Economic Co-operation and Development) (2011a). "Pension Funds Climb Back to Pre-crisis Level but Full Recovery Still Uncertain." *Pension Markets in Focus*, 8. <http://www.oecd.org/dataoecd/63/61/48438405.pdf> (accessed July 30, 2011).

—— (2011b). "Institutional Investors' Assets." <http://stats.oecd.org/Index.aspx?DataSetCode=7IA> (accessed July 30, 2011).

Picciotto, S. and Mayne, R. (1999). *Regulating International Business: Beyond Liberalization*. London: Macmillan.

Ruggie, J. G. 1998. "Introduction: What Makes the World Hang Together? Neo-utilitarianism and the Social Constructivist Challenge." In Constructing the World Polity: Essays on International Institutions. London: Routledge.

Sassen, S. (1998). *Losing Control? Sovereignty in an Age of Globalization*. New York: Columbia University Press.

—— (2001). *The Global City* (2nd edn). Princeton, NJ: Princeton University Press.

—— (2008). *Territory, Authority, Rights: From Medieval to Global Assemblages*. Princeton, NJ: Princeton University Press.

—— 2009 "When Local Housing Becomes an Electronic Instrument: The Global Circulation of Mortgages – A Research Note." *International Journal of Urban and Regional Research*. Vol. 33, issue 2, pp.411–26.

—— (2010). "Global Inter-City Networks and Commodity Chains: Any Intersections?" *Global Networks* 10/1: 24–37.

—— (2011). *Cities in a World Economy* (4th edn). Thousand Oaks, CA: Sage/Pine Forge.

Sherman, A. and Stone, C. (2010). "Income Gaps Between Very Rich and Everyone Else More than Tripled in Last Three Decades, New Data Show." Center on Budget and Policy Priorities, 25 June. <http://www.cbpp.org/cms/index.cfm?fa=view&id=3220> (accessed September 22, 2011).

Sinclair, T. J. (1994). "Passing Judgment: Credit Rating Processes as Regulatory Mechanisms of Governance in the Emerging World Order." *Review of International Political Economy*, 1: 133–59.

—— 2008. The New Masters of Capital: American Bond Rating Agencies and the Politics of Creditworthiness. Cornell Studies in Political Economy. Ithaca, NY: Cornell University Press.

Stephan, P. B. (2002). "Institutions and Elites: Property, Contract, the State and Rights in Information in the Global Economy." *Cardozo Journal of International and Comparative Law*, 10: 305–17.

Suter, C. (1992). *Debt Cycles in the World Economy: Foreign Loans, Financial Crises, and Debt Settlements, 1820–1986.* Boulder, CO: Westview Press.

Swedberg, R. (2004). "Investors and the Conflicts of Interests in the US Brokerage Industry," in K. Knorr Cetina and A. Preda (eds.), *The Sociology of Financial Markets*. Oxford: Oxford University Press, 187–206.

Tabb, W. K. (2004). *Economic Governance in the Age of Globalization.* New York: Columbia University Press.

UNCTAD (United Nations Conference on Trade and Development) (1998). *World Investment Report 1998: Trends and Determinants.* New York: United Nations.

—— (2010). *World Investment Report 2010: Investing in a Low Carbon Economy,* New York: United Nations.

Viner, J. (1958). *The Long View and the Short: Studies in Economic Theory and Policy*. Glencoe, IL: Free Press.

Walker, R. B. J. (1993). *Inside/Outside: International Relations as Political Theo*ry. Cambridge: Cambridge University Press.

World Bank (2011). "World Development Indicators." <www.siteresources.worldbank.org/DATASTATISTICS/Resources/GDP.pdf > (accessed July 1, 2011).

World Federation of Exchanges (2010). *First Half 2010 Market Highlights*. Paris: World Federation of Exchanges.

WTO (World Trade Organization). 2005. International Trade Statistics 2005. Geneva: WTO.

Zaloom, C. (2006). *Out of the Pits: Traders and Technology from Chicago to London*. Chicago: University of Chicago Press.