

THE WORLD IS “NOT” FLAT: THE INTENSE GEOGRAPHICAL UNEVENNESS OF GLOBALIZATION

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WHAT IN THE WORLD IS GOING ON? GLOBALIZATION AS MYTHOLOGY

Globalization is everywhere—or that is how it seems. A Google search on the topic reveals around 28 million entries! Hardly a day goes by without it being invoked by politicians, by academics, by business or trade union leaders, by journalists, by commentators on radio and television, by consumer and environmental groups, as well as by ordinary individuals. However, although it is a concept whose roots go back at least to the nineteenth century, notably in the ideas of Karl Marx, it has only been in the last twenty five years or so that globalization has entered the popular imagination in a really big way.

The explosion of interest in globalization reflects a pervasive feeling that something fundamental is happening in the world; that there are lots of big issues that are somehow interconnected under the broad umbrella term of globalization. Such feelings of uncertainty are intensified by an increased awareness that what is happening in any one part of the world is deeply—and often very immediately—affected by events happening in other parts of the world. Most recently, for example, a crisis originating in an obscure financial market (the US sub-prime housing market) spread almost instantaneously to far distant places to create the worst global economic crisis for many decades. Nowadays, we hear about events on the other side of the world virtually as they happen—in real time. But also many of the things we use in our daily lives are derived more and more from increasingly complex geographies of production, distribution, and consumption, whose scale has become, if not totally global, at least vastly more extensive, and whose choreography has become increasingly intricate. Many products, indeed, have such complex geographies—with parts being made in different countries and then assembled somewhere else—that labels of origin no longer have much meaning.

Unfortunately, although globalization has become one of the most widely used, it is also one of the most misused and one of the most confused terms in current circulation. Indeed, it has spawned a plethora of universalizing myths about what is supposedly happening. As Strange (1995, 293) argues, it is too often “used by a lot of woolly thinkers who lump together all sorts of superficially converging trends... and call it globalization without trying to distinguish what is important from what is trivial, either in causes or in consequences.” Among the most egregious of the many

globalization myths that continue to circulate are those relating to its geography, in particular, the claims that we are experiencing “the death of distance” and “the end of geography.” According to Friedman (2005) “the world is flat”; according to Ohmae (1990) the world is now “borderless.”

Such claims undoubtedly contain a grain of truth. Technological innovations in transport and communications have, indeed, compressed time-space. But although the world has shrunk in relative terms, such shrinkage has been, and continues to be, highly uneven. While the world’s leading national economies and the world’s major cities are being pulled closer together in relative time or cost terms, others—less industrialized countries or smaller towns and rural areas—are, in effect, being left behind. The time-space surface is highly plastic; some parts shrink whilst other parts become, in effect, extended in relative terms. By no means everywhere benefits from technological innovations in transportation. In that sense, the world is certainly not flat.

The same may be said about developments in communications technologies, arguably the key technologies transforming global economic relationships. Technological developments in satellite and cable technologies have dramatically transformed the relationship between geographical distance and the cost of transmitting and receiving information. However, as in the case of transport innovations, not all places are equally connected and nor are they likely to be. New investments in communications technology, as in transport technology, are primarily market-related; they go to where the returns are likely to be highest. The cumulative effect is to reinforce both certain communications routes at the global scale and to enhance the significance of the nodes (cities/countries) on those routes. Even the Internet has a very uneven geography (Zook 2005). It is certainly not flat.

Similar conclusions need to be drawn about the idea of a “borderless world.” Although there has certainly been a progressive lowering of political barriers to the flows of commodities, products, and finance (though far less to flows of people), national borders remain immensely significant. Not only has there been a major increase in the number of states in the past twenty years but also states themselves continue to be major actors in the global economy: as containers of distinctive institutions, practices, and cultures; as regulators of economic activities within and across their territories; as competitors and collaborators with other states, in the latter case

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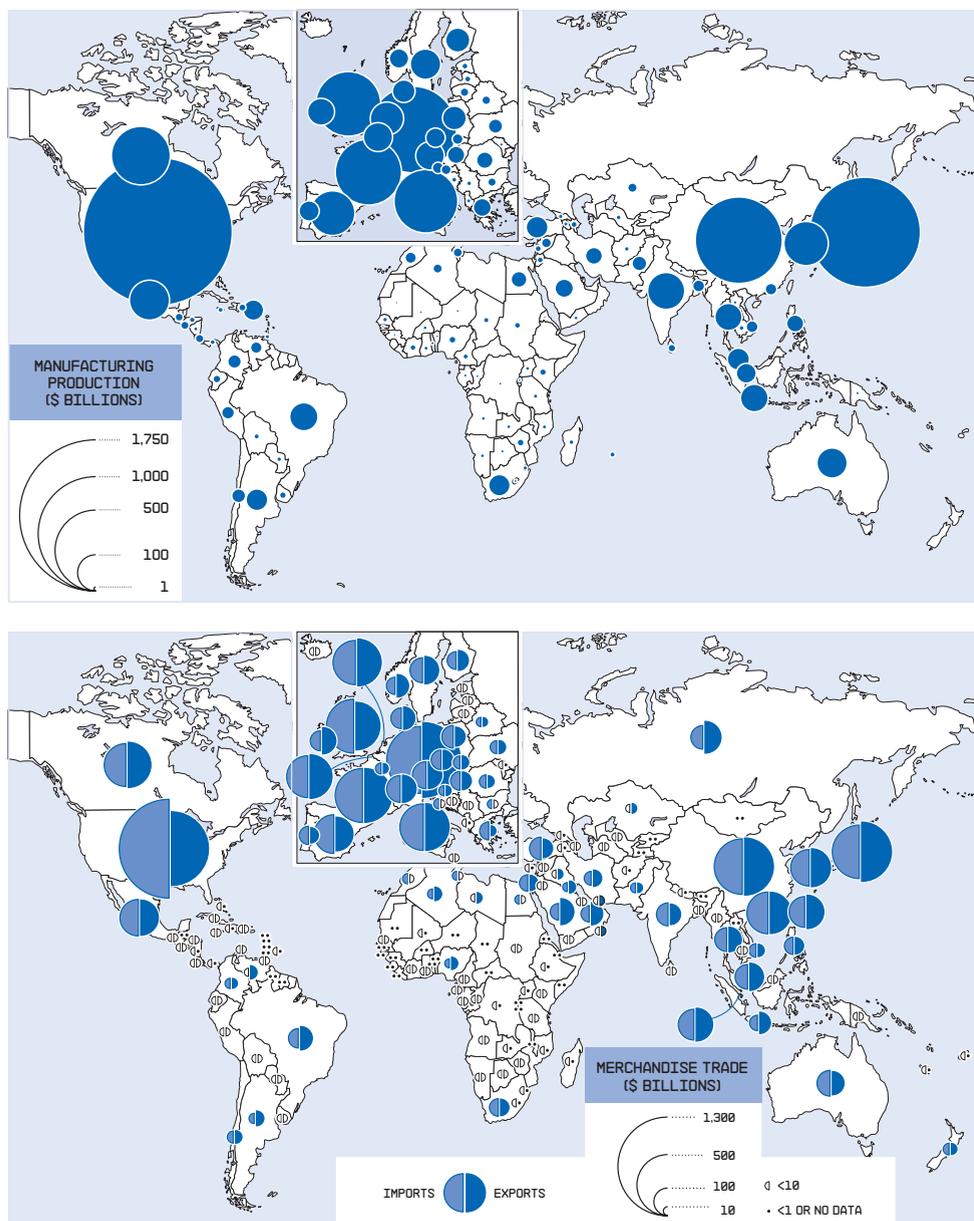


FIGURE 1
The global maps of manufacturing production and trade.
Source: Dicken 2007: Figures 2.6 and 2.12.

within international governance institutions (like the IMF and the WTO) as well as in regional economic groupings like the EU, the NAFTA, and ASEAN. State boundaries, therefore, act as major discontinuities on the global economic map. The world is emphatically not borderless.

Such myths as the flat/borderless world are, therefore, indeed myths. Unfortunately, they represent very powerful discursive images that play a highly influential role in the ways in which key economic and political actors make decisions that affect all our lives. But they are wrong. Globalization does not mean the end of geography. In a very real sense, globalization *is* geography. It consists of a whole syndrome of processes (economic, social, cultural, political) that occur in highly uneven and geographically differentiated

forms. It involves both a stretching and an intensification of processes and relationships across a spectrum of spatial scales, which are, themselves, being continuously reconfigured through processes of spatial switching (at the same geographical scale) and scalar switching (as processes are switched between different spatial scales). Globalization, in fact, is both a product and a creator of multiple geographies of immensely complex and dynamic scalarity (Dicken 2007).

GEOGRAPHIES OF ECONOMIC GLOBALIZATION

I use the term “geographies” deliberately because the map we see depends fundamentally on the geographical lens we use. Taking a long shot, we see the dominance of what has been called the “triad”: the concentration of economic activities in the three world regions of North America, Europe, and East Asia. Taking a close-up shot, we see a highly differentiated mosaic of individual cities and localities. The default scale in most analyses of the global economy is somewhere in between these two because it is only at the national scale that comprehensive data on production, trade, and investment are produced. But there are other intermediate scales at which distinctive geographies can be identified; for example, clusters of economic activity that are aligned with national boundaries and where the scale and type of economic activity is actually defined and created by the existence of the political boundary itself. Examples of such trans-border clusters include the US-Mexico border.

THE NATIONAL SCALE

Figure 1 shows the highly uneven geographical distribution of manufacturing production and trade, while Figure 2 shows an even greater unevenness in foreign direct investment (FDI). Around four-fifths of global manufacturing and services production, and almost two-thirds of world agricultural production, are concentrated in just fifteen countries. Between one-fifth and one-quarter of world trade in goods, services, and agriculture is accounted for by the leading two countries in each sector. The picture is similar in the case of foreign direct investment: almost 90% of outward FDI stock originates from 15 countries; the leading two source countries—the United States and the United Kingdom—account for one-third of the world total. More than half of all the inward FDI in developing countries is concentrated in just five

host countries; almost one-third is concentrated in China (including Hong Kong) alone.

Although the United States remains the dominant presence on the global map, its relative significance has declined markedly as new competitors have emerged. In particular, the United States' share of world merchandise exports has fallen from 17% in 1963 to around 8%. At the same time, its share of world merchandise imports has surged from less than 9% to almost 15%. As a result, the United States has an enormous merchandise trade deficit. Europe, as a region, is the world's biggest trading area. However, despite being the most politically integrated region in the world, the European economy is actually very diverse, experiencing highly uneven rates of economic growth over the past two decades. In recent years Europe's economic geography has become even more complicated—and made far more uneven—by the emergence of the “transitional economies” of Eastern Europe, following the collapse of the Soviet system in 1989.

The United States and Europe made up the core of the global economy for many decades. But their position is clearly under threat. Without any doubt, the most significant global shift in the geography of the world economy during the past forty years has been the resurgence of East Asia. This resurgence reflects several processes: the rise of Japan after World War Two; the rapid growth in the 1980s of the Newly Industrializing Economies of Hong Kong, South Korea, Singa-

pore, and Taiwan, followed by the emergence of a “second tier” of East Asian developing economies.

The most recent—and potentially the biggest—development within East Asia is, without question, the (re-)emergence of China. China has rather suddenly become a hugely significant presence in the global economy. Between 1980 and 2006, China's growth rate (of GDP as a whole and of manufacturing) was the highest in the world: annual average rates of around 10%. Its average annual rate of growth of merchandise exports was 13% in the 1980s and 14% between 1990 and 2006. As a result, China is now the world's fourth largest manufacturing producer, the second largest agricultural producer, the second largest exporter of merchandise (having overtaken Japan) and the world's third largest importer. Despite all the current hype, India lags far behind China in most respects, although it has huge potential for development.

In contrast, the story of Latin America is largely one of unfulfilled potential. Latin American countries are among the most resource-rich in the world. Several also have a long history of industrialization. Some, like Brazil and Mexico are, in population terms, very large indeed. And yet, most of the Latin American economies have not figured very prominently in the redrawing of the global economic map. Certainly, their modest economic performance contrasts markedly with that of East Asia. None of these countries punches its weight as exporters; over the past twenty years,

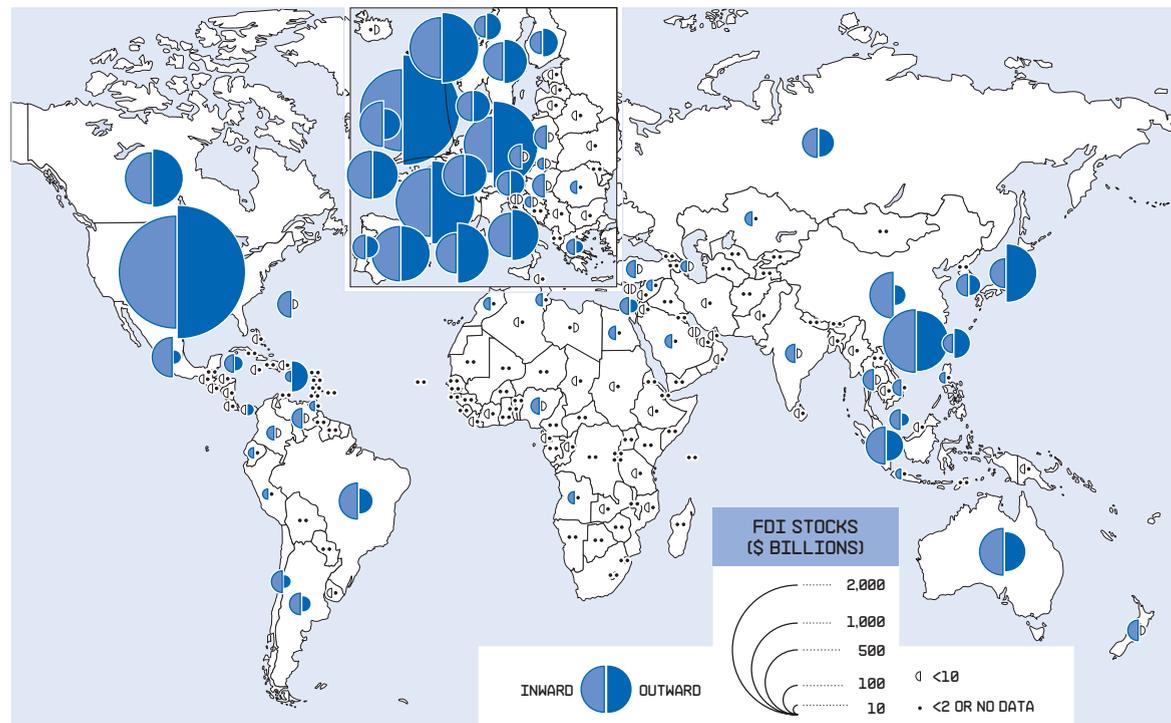


FIGURE 2

The global map of foreign direct investment. Source: Dicken 2007: Figure 2.22.

ALL OF THE MAPS TELL MORE OR LESS THE SAME STORY: MOST OF THE CONTINENT OF AFRICA, PARTS OF ASIA, PARTS OF LATIN AMERICA CONSTITUTE THE “TROUGHES” OF THE GLOBAL ECONOMIC MAP.

their average export growth has been significantly lower than that of the East Asian economies.

Alongside the areas of strong, though differential, economic growth in the global economy—the peaks, as it were—are those parts of the world whose economic growth remains very limited. These are the “persistent peripheries.” All of the maps tell more or less the same story: most of the continent of Africa, parts of Asia, parts of Latin America constitute the “troughs” of the global economic map. Sub-Saharan Africa, as is so often noted, is the largest single area of economic peripherality. These are the parts of the world enmeshed in the deepest poverty and deprivation and whose existence poses one of the biggest social challenges of the twenty-first century. The map of per capita income [Figure 3] shows in stark terms the extreme geographical inequality in the global economy.

THE MICROSCALE: CITIES AS THE FOCI OF ECONOMIC ACTIVITY

If we could observe the Earth from a very high altitude and look at its “economic surface” we certainly would not see the kinds of national economic boxes we have had to use as the basis of our analysis of the global economic map in the preceding discussion. Particularly if we were making the observation at night what we would see are distinctive *clusters*, picked out by the lights of localized agglomerations of activity. Unfortunately, data disaggregated in this way, showing details of production, trade, and investment, are simply not available. But it is vital to stress this most fundamental fact of economic life: *the*

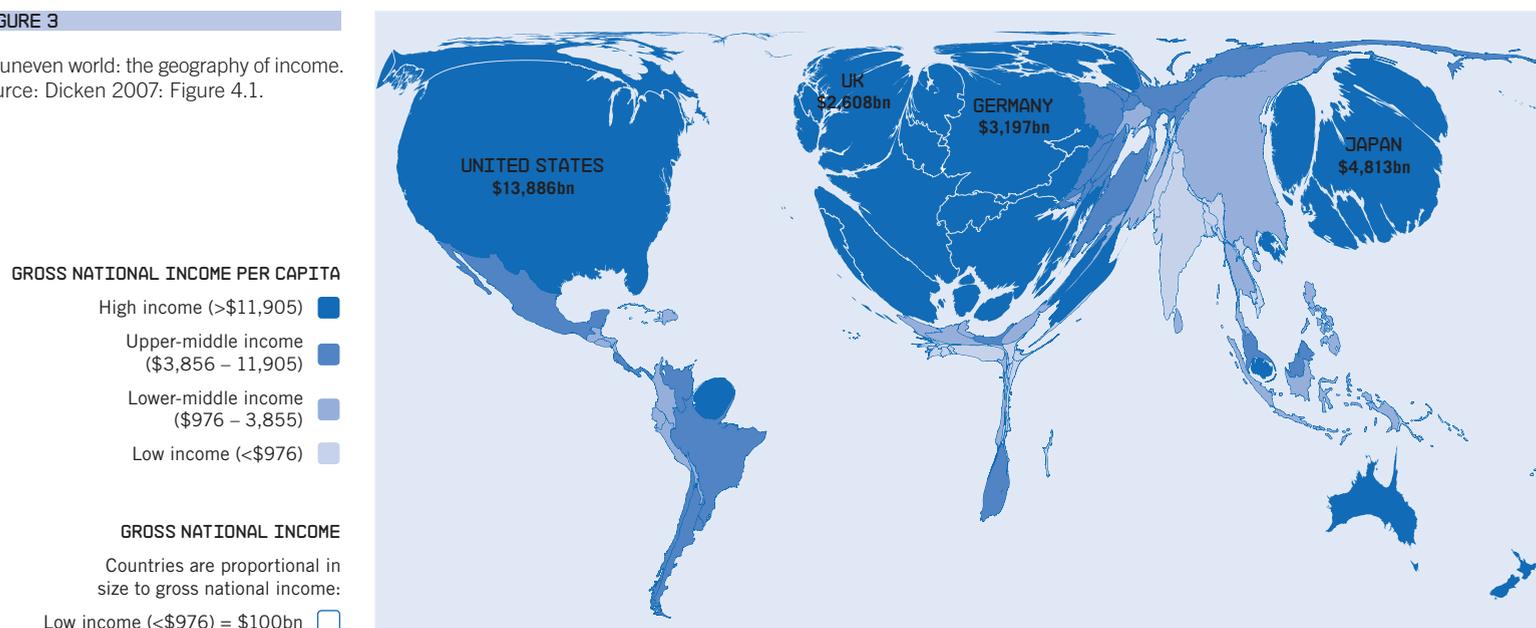
place-specific and clustered nature of most economic activity. The most widely available micro-scale indicator of the localized clustering of economic activity is the map of the world’s cities [Figure 4], as virtually all manufacturing and business service activity is located in urban places.

It is these cities, and their associated local regions, which contain a nation’s economic activity, not some national statistical box. Within any individual country, there will almost certainly be considerable diversity between cities/local regions, not only in terms of their particular economic specializations but also in terms of their growth rates. In most cases, this reflects their specific historical trajectory. In others, however, such differentials may be the outcome of very specific political decisions to develop one particular part of a country rather than another. In some countries, just one, or perhaps two, major cities dominate; in other countries there is a flatter urban hierarchy and a wider spread of activity among more evenly-sized cities.

Increasingly, however, it is necessary to think of cities as being involved in *global networks* that transcend national boundaries. “The city is embedded in a global economy.... All cities today are world cities” (King 1983, 7, 15). Cities differ in importance not only in terms of their population size but also—and more importantly—in terms of the functions they perform and the influence they exert. In particular, observers of world cities (Sassen 2001; Taylor 2004) emphasize the role of high-level service functions (financial and business services, in particular) and their uneven concentration in certain cities,

FIGURE 3

An uneven world: the geography of income. Source: Dicken 2007: Figure 4.1.



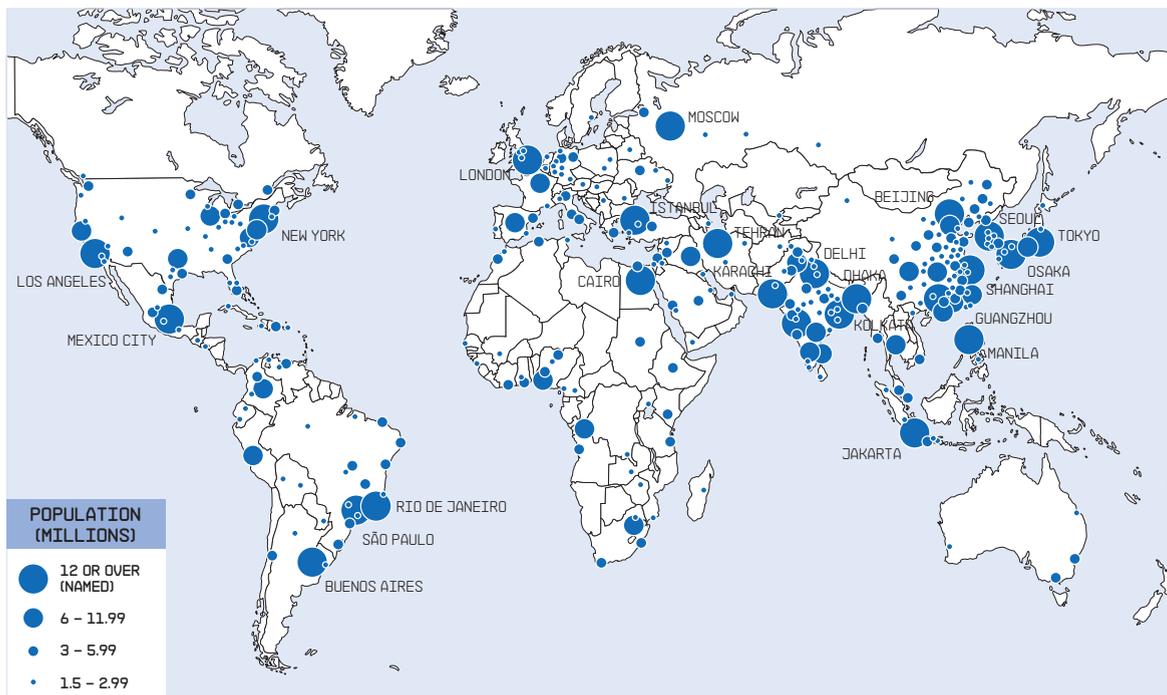


FIGURE 4

The world's major cities by size of population. Source: Dicken 2007: Figure 2.26.

creating a global hierarchical network. At this micro-scale, the world is not just flat; it is positively “spiky” (Florida 2005).

THE IMPRINT OF PAST GEOGRAPHIES

Figures 1 to 4 are merely snapshots at one point in time of what is, of course, a continuously evolving process of shaping and reshaping the global economic map. Old geographies of production, distribution, and consumption are continuously being disrupted; new geographies are continuously being created. But the new does not simply obliterate the old. On the contrary, there are complex processes of path dependency at work. What already exists constitutes the preconditions on which the new develops.

Today's global economic map, therefore, is the outcome of a long period of evolution during which the structures and relationships of one historical period help to shape the structures and relationships of subsequent periods. Traces of earlier patterns of geographical specialization continue to influence what is happening today. Over a period of three hundred years or so—from around the sixteenth century—a global division of labor developed, and intensified with industrialization, in which the newly industrialized economies of the West (led by the “Atlantic” economies, notably Britain, some Western European countries, and later the United States) came to constitute the dominant “core.” Over time, of course, the situation became more complex and more geographically differentiat-

ed. Some core economies experienced a progressive decline to semi-peripheral status and new economies emerged, especially in the late nineteenth and early twentieth centuries.

The broad contours of this core-periphery global economic map persisted until the outbreak of the Second World War in 1939. At that time, manufacturing production remained strongly concentrated in the core: 71% of world manufacturing production was concentrated in just four countries and almost 90% in only eleven countries. Japan produced only 3.5% of the world total. The group of core industrial countries sold two-thirds of its manufactured exports to the periphery and absorbed four-fifths of the periphery's primary products. Since then, there has been a truly fundamental transformation of the world economy. A new geo-economic map has come into being, which, although bearing traces of the contours of the old map, is far more complex than it was even a few decades ago.

Geographically, the global economy has become increasingly *multi-polar*. New centers of production—new geographical divisions of labor—have emerged in parts of what had been, historically, the periphery and semi-periphery of the world economy. The most notable development is, of course, the (re-)emergence of Asia, and especially China, as the world's most dynamic region. In 1700, Asia's share of global GDP had been 62% compared with the West's 23%. By 1950 those positions had been almost exactly reversed: the combined GDP of Western

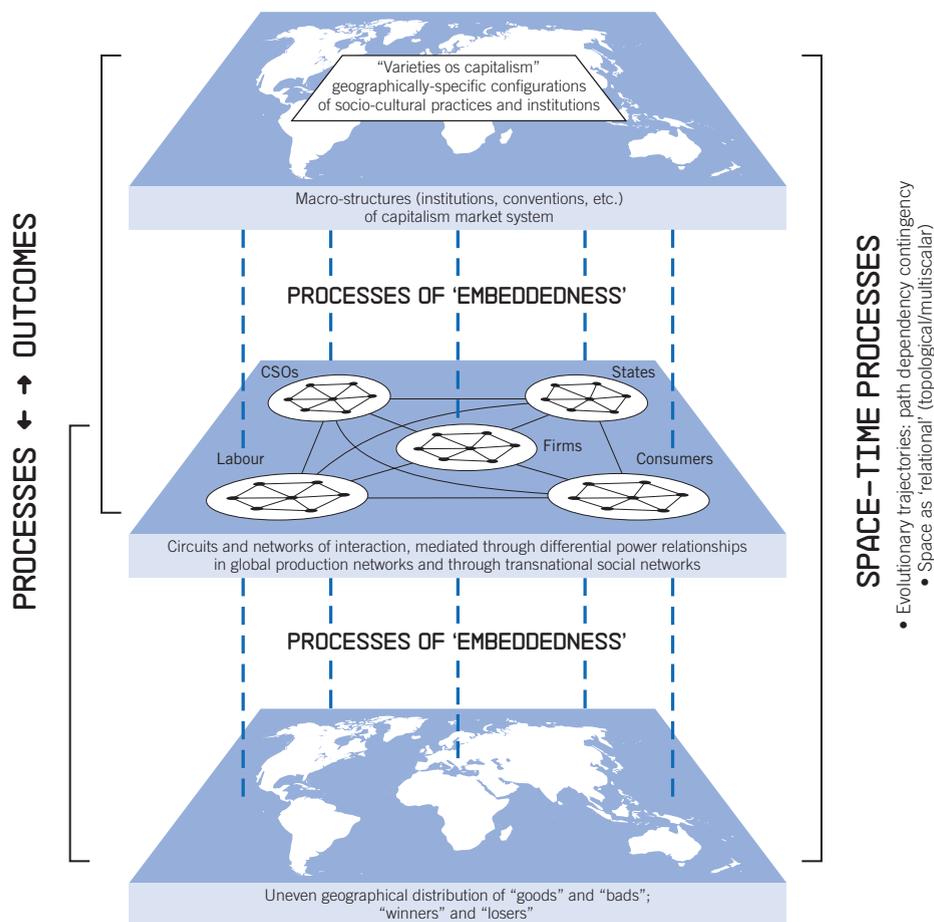


FIGURE 5
A synoptic geographical perspective on globalization actors and processes.
Source: Dicken 2007: Figure 1.3.

economies was almost 60%; that of Asia (including Japan) was a mere 19%. Much of this was due to the relative economic decline of China and India. In 1700, their combined share of global GDP was almost 50%; by 1950, it was only 9%. Today, it is on the way back up again at seemingly breakneck speed. At the same time, many parts of the world remain, to a greater or lesser degree, disarticulated from the engines of economic growth. The contours of the global economic map, therefore, depict a landscape of staggeringly high peaks of affluence and deep troughs of deprivation interspersed with plains of greater or lesser degrees of prosperity. “Not only is the world not flat: in many ways it has been getting less flat” (Stiglitz 2006, 57).

Today’s multi-polar economic map displays two key tendencies. First, we can identify increasing *geographical dispersal*, as new centers of production, trade, and investment have emerged. But the extent of such dispersal remains relatively limited and extremely uneven. Globalization has not resulted in a universal evening out of economic activities. The second tendency, therefore, is the persistence of a high level of *geographical concentration*. Processes of localization of eco-

conomic activities remain very powerful. Indeed, the clustering or geographical concentration of activities not only persists; it is the norm. Even such activities as financial services that, from a purely technological point of view, could be located anywhere, remain highly geographically concentrated in a small number of major global cities.

SHAPING THE MAP: UNRAVELING THE PROCESSES OF ECONOMIC GLOBALIZATION

In the previous section, we explored the changing contours of the global economic map, noting its immense geographical unevenness and temporal volatility. Such dynamic geographies of globalization are the outcome of extremely complex actions and relationships between economic, political, and social institutions and actors, all of which are deeply grounded and embedded in specific geographical structures. The nature of that grounding—the contexts in which they are created—is highly significant in influencing (though not determining) how such processes develop and how actors behave.

Figure 5 provides a synoptic perspective on the major actors and processes involved. It emphasizes the essentially networked nature of the global economy, one that conceives of economic processes (production, distribution, and consumption) in terms of connections of activities, linked through flows of both material and non-material phenomena (like services) into circuits and networks.

INSTITUTIONAL MACRO-STRUCTURES OF THE GLOBAL ECONOMY

Of course, such networks do not exist in isolation. They are embedded within the broader macro-structures of the global economy as well as grounded in the prevailing geographical structures of the real world. The macro-structures of the global economy are the institutions, conventions and rules of the capitalist market system. During the past half-century or so a “thickening web of multilateral agreements, global, and regional institutions and regimes, and transgovernmental policy networks and summits” (Held and McGrew 2007, 137) has emerged. The International Monetary Fund (IMF), the World Trade Organization (WTO), and the World Bank, together with the various “G” meetings (such as the G8, G20), and the many international standard-setting organizations are the most obvious manifestations of such global institutions.

These global governance institutions are, themselves, only a part of the broader socio-cultural matrix of practices, rules, and conventions that shape how the capitalist market economy works on the ground. These rules and conventions relate to, for example, private property, profit-making, resource allocation on the basis of market signals, and the consequent commodification of production inputs (including labor). Such institutions and conventions continue to be manifested in specific configurations in specific places (notably within national-states, but not only at that scale). In other words, they are territorially embedded. The geography of capitalism in the global economy, therefore, is highly *variegated*. It is emphatically not the same everywhere.

GLOBAL PRODUCTION NETWORKS

Within this geographically differentiated macrostructural framework, it is primarily the actions of, and especially, the interactions between, the five actor-centered networks shown in the central section of figure 5 that shape the changing geographical configuration of the global economy at different spatial scales. Such interactions are sometimes conflictual, sometimes collaborative but, overall, the system is one in which power relationships tend to be asymmetrical. Some actors are, without doubt, more influential and powerful than others, notably transnational corporations and states.

The production of any commodity, whether it is a manufactured product or a service, involves an

intricate articulation of individual activities and transactions across space and time. Such production networks—the nexus of interconnected functions and operations through which goods and services are produced and distributed—have become both organizationally and geographically more complex. Figure 6 presents a highly simplified picture of a basic production circuit. Note that it encompasses not only the “goods” of production (the value added at each stage) but also the “bads” of production (the negative values of environmental impacts). Individual production circuits are, themselves, enmeshed in broader *networks* of inter- and intra-firm relationships. Such networks are, in reality, extremely complex structures with intricate links—horizontal, vertical, diagonal—forming multi-dimensional, multi-layered lattices of economic activity. They reflect the fact that many production processes can be fragmented and separated out, either organizationally, geographically, or both.

Global production networks (GPNs) not only connect firms into broader organizational structures (including alliances and customer-supplier relationships) but they also integrate national and local economies into such networks. Such interconnections have huge implications for the economic well-being of particular places. At the same time, the specific characteristics of national and local economies influence the operation and form of larger-scale processes. In that sense “geography matters” a lot. The process is especially complex because, while states and

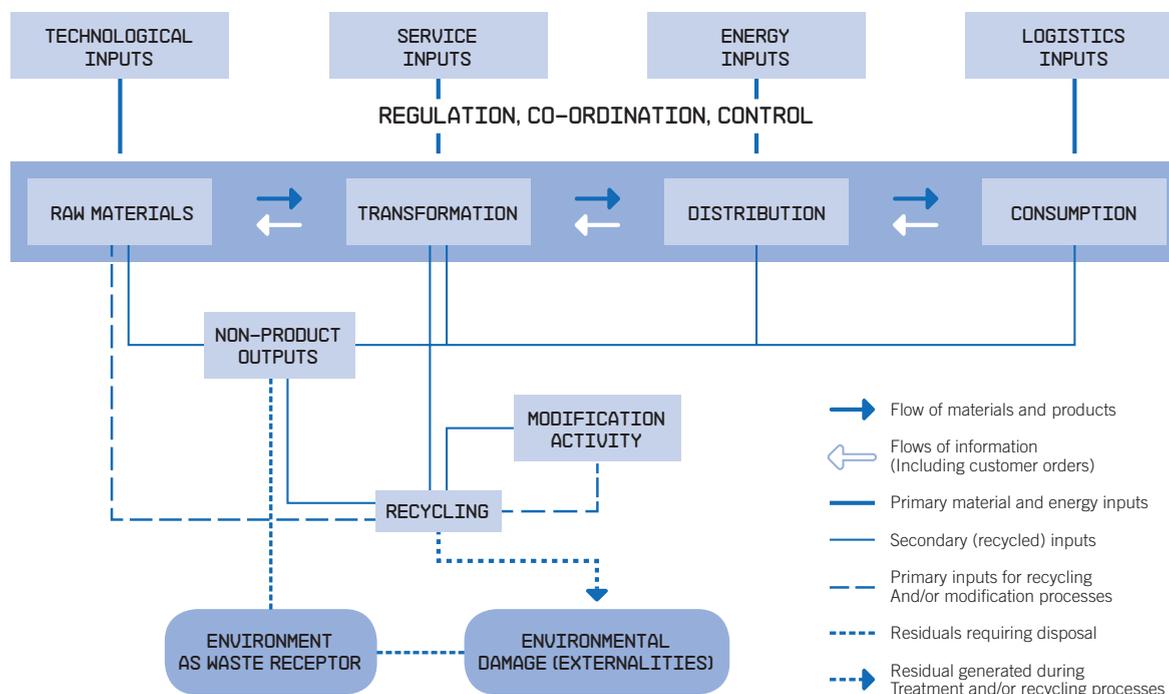


FIGURE 6

Basic elements of a production circuit. Source: based on Dicken 2007: Figures 1.4, 1.9.

local economies are essentially territorially specific, production networks themselves are not. Production networks slice through boundaries in highly differentiated ways, influenced in part by regulatory and non-regulatory barriers and by local socio-cultural conditions, to create structures that are discontinuously territorial. This has major implications for the relative bargaining powers of the actors involved. The geo-economy, therefore, can be pictured as a geographically uneven, highly complex, and dynamic web of production networks, economic spaces, and places connected together through threads of flows. It involves the linking together of two sets of networks: *organizational* (in the form of production circuits and networks) and *geographical* (in the form of localized clusters of economic activity at different geographical scales).

Global production networks are coordinated and regulated primarily by *transnational corporations* (TNCs). These are firms that have the power to coordinate and control operations in more than one country, even if they do not own those assets. In fact, TNCs generally do own such assets but they are also typically involved in intricate and multiple spider's webs of collaborative relationships with other legally independent firms across the globe. Hence, much of the changing geography of the global economy is shaped by TNCs' decisions to invest, or not to invest, in particular geographical locations. It is shaped, too, by the resulting flows—of materials, components, finished products, technological, and organizational expertise, finance—between their geographically dispersed operations. Although the relative importance of TNCs varies considerably—from sector to sector, from country to country, and between different parts of the same country—there are now very few parts of the world in which TNC influence, whether direct or indirect, is not important. In some cases, indeed, TNC influence on an area's economic fortunes can be overwhelming.

The nature of the coordination process within a TNC's production network depends, in part, on where the firm draws the boundary between those functions it *internalizes* (i.e., performs "in-house") and those it *externalizes* (i.e., outsources to other firms). Theoretically, at one extreme, the whole TNC production network may be internalized within the firm as a *vertically-integrated* system crossing national boundaries. In this case, the links consist of a series of *internalized transactions*, organized hierarchically through the firm's internal organizational structure. At the other extreme, each function may be performed

by separate firms. In this case, the links consist of a series of *externalized transactions*, organized either through "the market" or in collaboration with other firms in a kind of "virtual" network.

This dichotomy—between externalized, market-governed transactions and internalized, hierarchically-governed transactions—grossly simplifies the richness and diversity of the governance mechanisms in the contemporary economy. In fact, there is a *spectrum* of different forms of coordination, consisting of networks of interrelationships within and between firms. Such networks increasingly consist of a mix of intra-firm and inter-firm structures. These networks are dynamic and in a continuous state of flux; the boundary between internalization and externalization is continually shifting. They are also affected by the shifting *power relationships* between firms within a GPN. In some cases, one dominant actor calls all the shots; in other cases, power may be more widely dispersed with a greater degree of collaboration involved.

TERRITORIAL EMBEDDEDNESS OF PRODUCTION NETWORKS

Capital, it is often argued, has become hypermobile, freed from the tyranny of distance and no longer tied to place. In other words, economic activity is becoming "deterritorialized" or "disembedded." The sociologist Manuel Castells (1996) argues that the forces of globalization, especially those driven by the new information technologies, are replacing this "space of places" with a "space of flows." Anything can be located anywhere and, if that does not work out, can be moved somewhere else with ease. But such seductive ideas are highly misleading. The world is *both* a space of places *and* a place of flows. Global production networks do not just float freely in a spaceless/placeless world.

Every component in a global production network—every firm, every economic function—is, quite literally, grounded in specific locations. Such grounding is both physical (in the form of the built environment) and also less tangible (in the form of localized social relationships and in distinctive institutions and cultural practices). Hence, the precise nature and articulation of firm-centered production networks are deeply influenced by the concrete socio-political, institutional, and cultural contexts within which they are embedded, produced, and reproduced.

For example, a transnational corporation's country of origin exerts a big influence on how it behaves in different geographical contexts,

although, of course, such firms must also adapt to local conditions. Even so, distinctive differences persist between TNCs from different countries simply because such firms are “produced” through an intricate process of embedding, in which the cognitive, cultural, social, political, and economic characteristics of the national home base continue to play a dominant part. This is not to claim that TNCs from a particular national origin are identical. This is self-evidently not the case. Within any national situation there will be distinctive corporate cultures, arising from each firm’s own specific corporate history, which predispose it to behave strategically in particular ways. But, in general, the similarities between TNCs from one country will be greater than the differences between them (Dicken 2000, 2003).

The *national state* continues to be the most important bounded territorial form in which production networks are embedded. *All* the elements in a GPN are regulated within some kind of political structure, whose basic unit is the national state, but which also includes such supra-national institutions as the IMF and the WTO, regional economic groupings such as the EU or the NAFTA, and “local” states at the sub-national scale. The international institutions themselves exist only because they are sanctioned by national states; sub-national institutions are commonly subservient to the national level, although the situation is more complex in federal political systems. As we have seen, the number of national states has grown markedly in the past twenty years.

Global production networks, by definition, have to operate within *multi-scalar* regulatory systems. They are, therefore, subject to a multiplicity of geographically variable political, social, and cultural influences. On the one hand, TNCs attempt to take advantage of national differences in regulatory regimes whilst, on the other hand, states attempt to minimize such “regulatory arbitrage.” The result is a very complex situation in which firms and states are engaged in various kinds of power play: a triangular nexus of interactions comprising firm-firm, state-state, and firm-state relationships. In other words, the geoeconomy is essentially being structured and restructured not only by the actions of either firms or states alone but also by complex, dynamic interactions between the two sets of institutions.

Of course, TNCs and states are not the only actors involved in the operation of global production networks. They are continuously engaged in relationships with other major actors—labor, consumers, civil society organizations—some of

which also have strong territorial bases. Each of the actors and institutions involved has their own agendas. The extent to which these can be realized depends on the relative power configuration in specific situations. Significant variables in determining relative power are, first, control over key assets (such as capital, technology, knowledge, labor skills, natural resources, consumer markets) and, second, the spatial and territorial range and flexibility of each of the actors. The two are not unconnected. Ability to control access to specific assets is a major bargaining strength. Where such assets are available virtually everywhere, then the power gradient is shallow or even non-existent. But where assets are “localized,” whether geographically, organizationally, or even personally, then the power gradient may be very steep. However, actors able to tap into localized assets across geographical space have a significant advantage over those without such spatial flexibility. Power relationships within global production networks are highly asymmetrical.

But there is a further dimension. Each of the major actors in GPNs is involved in *both* cooperation and collaboration on the one hand, *and* in conflict and competition on the other. Such apparently paradoxical behavior warns us against assuming that relationships between certain actors are always of one kind: for example, that those between, TNCs, or between TNCs and states, or between TNCs and labor, or between TNCs and CSOs are always either conflictual or competitive. Or, conversely, that relationships between groups of workers or labor organizations are always cooperative (in the name of class solidarity). Not so. These various actor-networks are imbued with an ever-changing mixture of both conflict and collaboration. Thus, although power relationships within global production networks are asymmetrical they are not fixed.

So, for example, TNCs in the same industry are fierce competitors but also, invariably, enmeshed in a complex web of collaborative relationships. States compete in cut-throat fashion with other states to entice internationally-mobile investment by TNCs or to find ways to keep out certain types of imports whilst, at the same time, increasingly engaging in preferential trading arrangements, including bilateral and multilateral agreements, often within broader regional groupings. Labor unions in one country engage in competition with labor unions in other countries in the scramble for new, or to protect existing, jobs whilst, at the same time, unions strive to create international alliances with unions in other

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countries, especially those involved in the geographically-dispersed operations of major TNCs. They also increasingly attempt to negotiate international framework agreements with TNCs to protect workers' rights. Civil society organizations, likewise, are not immune from these conflicting actions. In the context of the anti-globalization protests, for example, CSOs have developed collaborations across national boundaries but, at the same time, the goals and values of individual CSOs are not always compatible, to say the least.

CREATING (AND DESTROYING) VALUE IN GLOBAL PRODUCTION NETWORKS

My central argument is that the reshaping of the global economic map is being driven increasingly by the emergence of extremely complex organizational and geographical networks of production, distribution, and consumption. The precise form of such networks—how they are controlled and coordinated, as well as the shape and extent of their specific geographies—varies enormously. A key question, therefore, is the extent to which a place's insertion (or non-insertion) into GPNs affects its developmental prospects.

Each stage in a production circuit [Figure 6] each node in a global production network, *creates* value through the combined application of labor skills, process and product technologies, and the organizational expertise involved in coordinating complex production and logistical processes and in marketing and distribution. But when we turn to *value capture* the situation is far more complicated. "Who" captures the value created within production networks? Who benefits from value creation and enhancement? This raises issues way beyond the narrow confines of firm competitiveness and profitability to encompass all the different *stakeholders* involved in global production networks in different geographical locations. The key issue is the configuration of *power* within GPNs, which, as we have seen already, tends to be highly asymmetrical and subject to complex bargaining processes. One dimension of this is the relationship between capital and labor. In general over the past few decades, there has been a pronounced shift in which capital has gained massively at the expense of labor. This is shown, for example, in the increased unevenness in the distribution of incomes in many developed economies. Another dimension is the relationship between lead firms and their multi-layered tiers of suppliers; the extent to which lead firms are able to squeeze their first-tier suppliers who, in turn,

try to squeeze their suppliers and so on through the entire production network.

The fact that GPNs have become the predominant mode within which production is organized means that it is very difficult indeed for local firms/economies to prosper outside them. Being there—as an insider—is virtually a prerequisite for development. Both the ability of local firms to participate in GPNs and of a local economy's ability to capture value created in those parts of a GPN located there depend, therefore, on far more than just what happens in a firm. The *local context* itself matters enormously. In effect, this means that to participate in a GPN successfully a local economy needs to develop institutions and practices (including training and education, support for local entrepreneurial activities, development of high quality physical infrastructure, etc.) that meet the needs of GPNs.

Of course, this will not guarantee success in capturing GPN value. TNCs have enormous potential flexibility in deciding where to locate their operations or source their inputs. The relative bargaining power of firms versus local economies is critical. This poses a huge dilemma for local economic development in a GPN-dominated world. Not to try to create the "right" conditions to attract GPN activities will, undoubtedly, close off a major avenue for economic development. On the other hand, to try to couple local assets too closely to specific GPNs also has its dangers, not least being left stranded if the local operation is relocated elsewhere, or of becoming too tightly locked in.

The value created at each point within a GPN takes on different forms for different actors: firms make profits, workers are paid wages or salaries. In a developmental context, what matters is how much—and what kinds of—value are "captured" for the benefit of the local community. However, there is another—darker—side to the picture as Figure 6 shows. There are unintentional external effects (*negative externalities* or *spillovers*) involved in all economic activities. In other words, just as production creates value it also has the capacity—albeit unintentionally—to *destroy value*. Three aspects of such environmental damage are especially important:

- over-use of non-renewable and renewable resources (including exploitation of fossil fuels, water resources, clearance of forests)
- over-burdening of natural environmental "sinks" (for example, the increasing concentration of greenhouse gases in the Earth's atmosphere and of heavy materials in the soil)

- destruction of increasing numbers of ecosystems to create space for urban and industrial development.

The key point of all production processes is that what goes in has to come out again, albeit transformed, but without being reduced. Thus, even after all efforts are made to recycle the unused energy and materials involved in production, there will still be leftovers in the form of residual waste and environmental damage. The fundamental laws of thermodynamics cannot be overruled.

Human life is only made possible by a complex, and extremely delicate balance of processes: atmospheric, hydrological, and biological. As the history of the Earth clearly shows, such a critical balance may be disturbed by natural forces. Periods of widespread freezing and glaciation, drought and high temperatures, rises and falls in sea level, are all evident in the Earth's geological record. Until relatively recently, it was generally assumed that human activity would have little effect on natural processes; it was simply too small in relative terms to influence such enormous natural forces. It is now widely accepted that this is not the case. Indeed, the evidence of not only large-scale, but potentially irreversible, damage to the natural environment by human activity is accumulating day by day. By far the most contentious aspect of negative environmental externalities relates to potential *atmospheric damage*, that is, damage to the gaseous membrane that sustains all life on Earth.

The processes of material transformation involve the use of massive quantities of energy, especially of fossil fuels whose combustion products are the major source of damage to the Earth's atmosphere. The problems arise because some of the key gaseous components of the Earth's atmosphere—notably carbon dioxide, methane, and ozone—are becoming excessively concentrated in the atmosphere. The issue is one of balance. Without these, and other, gases the Earth would have a surface temperature like that of the planet Mars; that is, it would be uninhabitable. The Earth's surface remains habitable precisely because of their presence in the atmosphere. In combination, they act like a “greenhouse,” preventing both excessive solar heating and excessive cooling. But it is a very delicate balance. It is now abundantly clear that this balance is dangerously disturbed by human action.

Predicting the precise effects of climate change is, like all predictions of the outcome of highly complex processes, far from easy. However,

it is abundantly clear that the current upward trend in temperatures is potentially catastrophic for many parts of the world. But the effects will be far from geographically evenly spread. Shifting climatic zones will create intensified drought in some areas but higher rainfall and increased frequency of flooding in others. The geography of food production will be very different from that of today. Rising sea levels produced by the melting of polar ice will drastically change the shape of coastlines, with especially serious effects on those cities located on low-lying land. The global economic map will be drastically reshaped.

The highly uneven incidence and impact of climate change and atmospheric pollution, in conjunction with the immense geographical variations in global economic well-being, creates what has been called the “double exposure” problem (O'Brien and Leichenko 2002, 227):

Both climate change and economic globalization are ongoing processes with uneven impacts, and both include implicit winners and losers... Double exposure refers to cases where a particular region, sector, ecosystem, or social group is confronted by the impacts of both climate change and economic globalization. It recognizes that climate impacts are influenced not only by current socioeconomic trends, but also by structural economic changes that are reorganizing economic activities at the global scale... different outcomes emerge when the two processes are considered together.

GEOGRAPHICAL FUTURES IN A GLOBALIZING WORLD

We are rather poor at making predictions. Every year (at least), new books or articles appear claiming to set out what the world will be like in X years time. Most are soon forgotten—usually for the very good reason that what was predicted hasn't actually happened. It is very difficult indeed to identify which contemporary events and circumstances are likely to have long-lasting effects. For example, when the East Asian financial crisis broke with such suddenness in 1997, the literature was full of predictions of doom: the end of the East Asian “miracle” had arrived. The future of the region was dire. Few would make those same predictions today. That should make us wary of making rash predictions about the effect of the current economic and financial crisis on the future shape of the global economy. We are still too close to events.

Similarly, looking a little further back in time, who, from the standpoint of 1960 would have predicted that Japan would soon challenge the United States as an economic power and, in some respects, overtake it to the extent that, in the 1980s, doomsayers in the US were lamenting the demise of the United States as the world's leading economy? Japan bashing became a national pastime (and not only in the US—there were outbreaks in Europe, too, especially in France). Who would have predicted that the Japanese economy itself would then suddenly find itself deep in economic recession lasting for more than a decade and a half? Who would have predicted that South Korea would become one of the world's most dynamic economies within the space of twenty years or so? After all, in 1960 South Korea was one of the poorest countries in the world, with a per capita income comparable with that of Ghana. Which observer in the early 1970s would have predicted that China would open up its economy and become, in a very short time, the most dynamic economy in the world? Or that the command economies of the Soviet Union and Eastern Europe would, by the end of the 1980s, begin to be transformed into capitalist market economies or that Germany would be reunited? Such examples should make us wary of prediction. But we don't learn. Today's big bets are on Chinese world economic dominance within the next few decades. Maybe. However, we tend to be seduced, far too easily, by big numbers based on simplistic projections. We focus too eagerly on the quantitative, rather than the qualitative, dimensions and processes of change.

The big question is: will the tendency towards an increasingly highly interconnected and interdependent global economy intensify? Will the geographical centre of gravity really shift to East Asia? Will the appalling degrees of unevenness in economic well-being be significantly reduced? Is globalization an inexorable and unstoppable force? Not inevitably, as the period between 1919 and 1939 shows. During that time, the unprecedented openness of the world economy that had come into being in the period between 1870 and 1913 was largely reversed through the actions of states responding to recession through increased protectionism. It took several decades to return to a similar degree of openness, by which time the world was a very different place.

Although barriers to trade and investment have fallen dramatically over the past five decades, it is by no means certain that this will continue. Indeed, there are signs of in-

creasing concern that the nature and the degree of liberalization may have gone too far. In the United States, as well as in Europe, falling living standards among middle- and low-income groups are increasingly being seen as arising, at least in part, from the emergence of new geographical centers of production—notably China and India. It is no coincidence that much of the current concern, especially in the United States, is over what is seen as being unfair competition from China (which has become the US *bête noir* in the way that Japan was in the 1980s). At the same time, many developing countries find themselves under increasing pressures to meet the needs of their rapidly growing populations and are concerned about missing out on the fruits of globalization, not least because of what they regard as unfair developed country policies. As recent opinion polls in the United States have shown, the openness of markets—one of the pillars of globalization, as we have seen—is now widely questioned by many people fearful for their livelihoods.

Of course, the interconnections within the global economy are now much deeper—and faster—than in the past because of the ways in which the processes of production and distribution have been transformed. Development of the highly complex, geographically-extensive, transnational production networks epitomizes this. But such increased interdependence may, itself, be a source of vulnerability. Unforeseen damage to one part of the system will inevitably have implications for the other parts. The sources of such potential damage are many and varied, ranging from natural phenomena like earthquakes to the human-made phenomena of geo-political and religious conflicts.

There are also wider geo-political problems, both directly and indirectly related to the economy. In the former case, there is undoubtedly a threat of a trade war between the United States and China. The Doha Round of trade negotiations is in serious trouble and it is unlikely that anything other than a second-best agreement will be achieved. Not least, this is because of deep tensions that cut across the developed/developing country divide. In particular, there is continuing friction between the world's biggest trading areas, the United States and the European Union. Within parts of the EU, notably in France and Italy, as well as in some the new Eastern European member states, there are renewed calls to protect national companies from foreign takeover (even from other EU firms).

In the United States, the bid by the Dubai Port Authority to purchase P&O and its port facilities in the United States in 2006 was withdrawn in the face of intense US opposition, partly fuelled by security fears in a post 9/11 world.

A second major geo-political problem is connected to the rise of China and, more broadly, to political developments in East Asia as whole. Ever since the end of the Second World War in 1945, the United States has been deeply involved in the Asia-Pacific for both security and economic reasons. Until 25 years ago, this was very much in the context of the Cold War. Indeed, the post-1945 economic revitalization of Japan, Korea, Taiwan, and other parts of East Asia was strongly facilitated by US activities and financial aid. With the collapse of the Soviet empire, and the opening up of China economically, the position has changed. Significant geo-political problems remain in what is now the world's most dynamic economic region. The US still sees China as a potential military threat (as well as an economic rival). The question of Taiwan is always there as a source of potential conflict, even though economic relations between China and Taiwan have improved markedly and there is huge Taiwanese investment in China. Relations between Japan and China remain extremely sensitive, not least because of Japan's reluctance to recognize some of the atrocities it perpetrated when it occupied China in the Second World War. More broadly, Japan's own future geo-political intentions within East Asia are far from clear. Lastly, there is the intractable question of relationships between North and South Korea, especially the nuclear issue.

A third big geo-political problem is that of failed, dysfunctional, or inadequate states. Although many of the problems facing developing countries—especially the poorest—arise from their position in the global economy and their very weak power base in international negotiations, other problems are undoubtedly domestic in origin. There are substantial internal problems of governance, corruption, inhuman treatment of minority populations in some developing countries that cannot be ignored. The issue is how the world community deals with these problems to ensure the enhanced welfare of the populations of such failed states and to bring them fully, and effectively, into the world community and economy.

Finally, of course, there is the issue of the environmental costs of continued global integration and dispersal of production. The environmental problems that are inherent in all aspects of production, distribution, and consumption raise serious questions about the future sustainability of the economy and society as we know them. They raise big questions relating to the future of the world's economic and trading system and, indeed, to most aspects of contemporary economic life.

For all kinds of reasons, therefore, the future map of the global economy is far from clear. We should not simply extrapolate from past trends. Most of all, we need to think about the *kind* of world we, and our children, would want to live in. The key question is not so much what the world *might* be like in the future but what it *should* be like. There are choices to be made.

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