

Chapter III

Globalization, integrated international production and the world economy

Introduction

The two preceding chapters, together with earlier *World Investment Reports*, have documented the growing importance of foreign direct investment (FDI) and the central role that transnational corporations (TNCs) have acquired in the world economy. This chapter raises the question whether these developments, as part of a wider globalization process, are beginning to change the character of the world economy.

The world economy can be described along two distinct, but interrelated, dimensions: *market* exchanges and *production* activities that link consumers, producers and suppliers within and across national economies. The extent to which these economic agents engage in cross-border relations varies with market size and location, technological and other domestic economic advantages, and the openness of the policy framework and the links established through markets or production activities can involve many elements, in particular, capital flows, goods, services, people, technology, information and ideas. International integration describes the spread and deepening of these linkages across national boundaries.

These two dimensions encompass different *geographical spaces* — national, regional and global. There has been a persistent historical tendency for the world economy to become more closely integrated across all these spaces. Strong affinities among neighbouring countries — or *regionalization* — often provide the context for initial cross-border linkages and a higher degree of international integration. By extension, *globalization* refers, literally, to the limit of international integration, as a growing number of national economies become mutually interconnected through cross-border flows of goods, services and factors of production. Perhaps more importantly, globalization also describes a qualitative process of governing an increasingly complex pattern of cross-border linkages.

International economic integration is often seen as the spread of market linkages through greater trade and factor flows, and government action to reduce obstacles to these flows is the main stimulus to increased integration. However, this type of *shallow integration* ignores participation in the international division of labour at the level of production. *International production* refers to a firm controlling productive assets in more than one country, whereby control is typically established through FDI, but can also be exercised through various non-equity forms. As such, international production goes beyond arm's length market exchanges by internalising cross-border exchanges related to productive assets located in different countries under the common governance of TNCs. As soon as FDI becomes a chosen vehicle for establishing cross-border linkages, the character of international economic integration changes from shallow to *deep integration*. However, deep integration differs from shallow in ways other than the chosen channel of establishing cross-border activity. Because FDI, unlike market-based exchanges, does not end with the initial transaction, it establishes a more lasting linkage between economic agents located in different countries. Consequently, and this is a central contention of this chapter, the type of strategy adopted by TNCs matters very much to the nature of deep integration and, by implication, to the way in which deep integration and shallow integration interact to establish a wider globalization process. Corporate strategies related to international production initially involve the common governance by TNCs of a limited number of corporate functions, often in the framework of a vertical division of labour, and as more and more functions are included under the common governance — both along vertical and, increasingly, horizontal lines — international production takes on a more *integrated* character.

One difficulty in discussing these developments is that the post-war period has been characterised by a plethora of changes and shocks at the macro- and micro-economic levels, many of which are only tangentially (or not at all) related to the strategies of TNCs. Disentangling all these developments is beyond the scope of this chapter. The focus is rather on the changing role of TNCs within the globalization process from a long-term perspective and, in particular, the qualitative evolution of international production. Section A identifies some of the forces behind globalization and explains why the period 1870-1913 can be regarded as a benchmark of international integration. Section B reviews the conditions, namely, the regulatory frameworks, technological changes and favourable growth environment, behind the rebuilding of international economic integration over the past 50 years. Section C describes the evolution of shallow integration. Section D deals with the growth of international production. Crucially, quantitative changes in international production have been accompanied by changes in the strategies and organization of TNCs that are leading to qualitative changes in international production and, in particular, the emergence of an integrated international production system, discussed in section E. But this process is uneven; Section F argues that, within this gradual process of systemic change, geography and governments still matter and diversity still persists. The final section considers how the development of integrated international production can lead to an internationalization of domestic policy issues — a characteristic feature of globalization.

A. Globalization: a long-term perspective

1. The expansion of markets, the evolution of firms and the process of international integration

In a sense, all economic activity takes place within national boundaries (Krugman, 1994; Kuznets, 1966). More significantly, decisions with a bearing on economic growth and competitiveness — such as the decisions to invest and innovate — have traditionally been discussed as the product of national firms under the auspices of their national States. Accommodating the steady growth of cross-border economic activity has produced considerable disagreement among economists. On the one hand, international trade theorists have assumed a world of complete markets and perfect competition to explore the benefits of shallow integration in the absence of TNCs and FDI, where the choice between flows of factors and goods is essentially arbitrary.¹ On the other hand, industrial organization theorists have assumed a world where firms must constantly choose between trade and FDI in their drive to expand activities across borders, and deeper integration reflects the strategic decision of firms to a world of cross-border market failures with significant transaction costs, in which the control over assets located in different countries certainly matters.

In recent years, these two perspectives have begun to converge on a view of the world economy with porous borders, in which TNCs are catalysts of fundamental change. In particular, the growth and complexity of cross-border economic linkages are embedding the national organization of economic activity within a global system of processes and transactions. However, the extent, nature and implications of this change continue to be strongly contested — indeed, sceptics continue to see the current process of deeper integration as little more than the simple continuation of long-standing trends.² Thus, before describing these changes and assessing their possible consequences for the world economy, it is helpful to approach the globalization process from a longer-term perspective.

The historical outlines of a world economy can be traced to the expanding trade routes of the “long sixteenth century” (Wallerstein, 1979). But its modern form lies in the eighteenth century transition from an agrarian to an industrial world. The early stages of industrialization were confined largely to products manufactured and sold within national economies; but increased specialization and capital accumulation quickly outgrew the limits of domestic markets. A new world economy slowly emerged as the potential gains from innovation and growth at the firm level coincided with and reinforced the growth and spread of markets. The geographical spread of economic activity did not, however, spontaneously create all the necessary links between firms and markets to ensure that globalization would be a smooth and uninterrupted process. In fact, the history of the world economy has been characterized by distinct periods of integration and disintegration (Maddison, 1989; Panic, 1988). Unexpected political and economic events have undoubtedly influenced the uneven globalization of the world economy. Moreover, routine and inertia have inhibited the development of economic activity, including its spatial distribution. But, more importantly, the strength of international economic integration has reflected the extent to which pressures exerted through the interaction of markets and firms have been complemented by an appropriate enabling institutional environment. Many of the institutional conditions enabling firms to integrate their activities across national borders have themselves retained a strong national focus. These include appropriate macroeconomic conditions, technology and innovation systems and various public investments (e.g., in education and infrastructure) that promote long-term competitiveness and capital accumulation. It is also through national institutions that the potential gains (or losses) from increased international economic integration are distributed. Consequently, the globalization process, in addition to involving the interde-

pendence of shallow and deep integration, has also involved a continuous interaction between firms, markets and states.

For much of the nineteenth century, the interplay of these national and international forces created a turbulent world. The unchallenged industrial leadership of the United Kingdom translated into political control across large parts of the world economy. The birth of new nations and the consolidation of older powers was a difficult process, often reinforcing industrial and military ambitions (Polanyi, 1957). But as military conflicts subsided and economic challenges rose, a period of political stability and consolidation coincided with an unprecedented spread of cross-border linkages. The period 1870-1913 has, in particular, been seen as one in which a virtuous circle of rapid economic progress and international integration established a core global economy (Keynes, 1971). Because the period is generally considered as representing a high point of integration, it provides a useful benchmark against which to measure contemporary changes in the world economy (see also Henderson, 1992; Panic, 1992).

2. 1870-1913: a benchmark of international integration

During the half century preceding the First World War, international integration was facilitated by an open regulatory framework (Morgenstern, 1959, p. 17): short- and long-term capital movements were unsupervised; the transfer of profits was unhampered; the gold standard was at its height and encompassed almost all the major industrial countries, as well as most smaller agrarian nations (McKinnon, 1993, p. 3; Maddison, 1989); citizenship was freely granted to immigrants; and domestic institutions exerted minimal influence over the direct allocation of resources. The period 1870-1913 has been described as a "golden age" of international economic integration (Bloomfield, 1968, p. 1):

- In the core economies, exports outgrew domestic output and exports per capita rose not only in these countries, but also in a small number of developing countries (most spectacularly in Latin America).³ Still, the pace of international integration of product markets seems to have been slower than during the preceding fifty years, the combined result of rapid import substitution in industries with a previously high export ratio and rising trade barriers, primarily against textiles.⁴ But weakened trade integration was more than compensated by greater factor flows.
- The international integration of labour markets reached unprecedented levels. Intercontinental migration from the European periphery to the expanding North and South American economies — above all the United States — predominated. Between 1870 and 1915, 36 million people left Europe, two-thirds to the United States. But the process was more widespread. Intra-continental flows were significant in Asia; on one estimate, the number of Chinese and Indian emigrants — predominantly to Burma, Indonesia, Malaysia, Sri Lanka and Thailand — in that period exceeded European emigration (Lewis, 1978, pp. 183-184). Intra-European flows also reached significant levels, with large numbers of migrants from Austria, Hungary and Italy seeking (often, temporary) work in France, Germany and Switzerland (Ferenczi, 1929, pp. 223-227).
- Alongside increased international flows of labour were growing flows of capital. According to one estimate, the total stock of long-term foreign investment had, by 1914, reached \$44 billion; the United Kingdom accounted for the largest share of this investment, more than France and Germany — the second and third largest investors — combined.⁵ Formal restrictions on the flow of capital were almost entirely absent, and the historical evidence points to a considerable integration of financial markets during the period 1870-1913 (Morgenstern, 1959; Zevin, 1988).⁶ Finally, the extent of cross-national ownership of securities (including government and private bonds and stocks) reached a remarkably high

level during that period. For instance, the share of foreign securities traded in London in 1913 was 59 per cent of all traded securities; in France, the corresponding share was 53 per cent in 1908; in some of the smaller European exchanges, that share was even higher (Morgenstern, 1959, pp. 512-528).

But alongside these elements of shallow integration, the period 1870-1913 also witnessed the rise of international production through FDI. That investment was a growing component of long-term capital flows. By 1914, the stock of FDI, by one estimate, had reached \$14 billion, or one-third of world foreign investment. The United Kingdom was the leading home country, accounting for perhaps 45 per cent of the total, with the United States responsible for, perhaps, another 20 per cent (Dunning, 1983). The United States was the single largest host country, but substantial FDI flows went to developing countries in Latin America, China and the less-industrialized regions of Europe; by 1914, the majority of FDI stock was concentrated in developing countries.⁷

Thus, shallow and deep integration were both clearly visible throughout the period 1870-1913. The nature, scope and impact of international economic integration, however, were very much the outcome of national differences, not a sign of their diminishing importance.⁸ During that period, the shift of resources from agriculture into industry accelerated in the group of economies that constituted the core of the world economy. Within industry, the dominant role of traditional sectors (such as textiles, clothing and iron and steel) using long-established technologies was challenged by entirely new industries (such as the emerging engineering industries, steel production and chemicals), characterized by more capital-intensive production techniques. Along with these structural changes came new ways of organizing production (the assembly line), new corporate structures and strategies suited to large-scale production and a new geographical division of labour (Lewis, 1978; Chandler, 1990). Technological advances reinforced these structural changes and accelerated international integration. New modes of transportation and communications (e.g., steamships, railroads, telegraph and cables) simultaneously altered the scale and organization of modern production activities, opened new markets and shrank the world.

These dynamic changes certainly reinforced the trend towards shallow integration. International trade grew even against the backdrop of rising tariff barriers, particularly those on manufactured goods, and the transportation revolution made possible unprecedented movements of labour, although economic circumstances dictated limited destinations. But, their most significant impact was on the growth of long-term investment, arguably, the single most important element of integration during the period 1870-1913:⁹

- The capital intensity of new industries stimulated large international movements of capital to a small group of newly-industrializing countries in North America and Europe where the required resources could not be mobilised internally;¹⁰ in a number of these countries, foreign investments represented a very high share of gross domestic fixed investment.¹¹ These investments were mainly in the form of bonds with very long maturities and were made predominantly in public projects, such as railways, and were often matched by large amounts of government funds (Panic, 1992, p. 97).
- The primary sector accounted for 55 per cent of the total stock of FDI in 1913; 30 per cent was accounted for by transportation, trade and distribution and only 10 per cent by manufacturing (Dunning, 1983, p. 89). Although the geographical spread of FDI was greater than portfolio investment, the expansion of production activities abroad through FDI was also influenced by geographical factors. While the search for primary resources was a global process, the majority of manufacturing FDI was concentrated in Europe and North America.¹²

From this brief description it would appear that shallow and deep integration produced two rather different globalization paths in the period prior to the First World War. On the one hand,

for a large group of countries (and territories), international integration was the result of the expansion of primary exports, which were increasing more rapidly than trade in manufactures (Maizels, 1963). This was facilitated by FDI, labour flows and liberal commercial policies. International production in the primary sector was organized along vertical lines, involving a limited number of corporate functions and integrated through simple corporate strategies. However, FDI in the primary sector was also strongly complemented by investments in transportation and trade. The gains from integration accrued largely to the capital-exporting (commodity-importing) countries. During that period, some of the largest recipients of FDI (such as China and India) experienced a period of "deindustrialization"; other countries, however, such as Russia, those in the Austro-Hungarian Empire, as well as countries in Latin America that were industrializing, in part through FDI, continued to fall behind the core economies (Bairoch, 1982). In many cases, this path was reinforced by colonial governance structures.

On the other hand, in a few core countries where the pre-conditions for rapid industrialization were being successfully established, international economic integration further strengthened this process. Often behind rising tariff barriers for manufactured goods, capital exports (in search of profitable investments) complemented the efforts of these capital-importing countries to pursue industrialization strategies (Panic, 1992, chapter 3; Lewis, 1978, pp. 177-178). Foreign direct investment in manufacturing activities — although more limited than in the primary sector — by adding technological and managerial flows — further reinforced that process (Wilkins, 1994, pp. 37-39). However, and by contrast to international production in the primary sector, foreign manufacturing affiliates were typically stand-alone (Jones, 1993), that is, only very weakly integrated at the production level. Even in those industries — such as machinery and transport equipment — where the new mass production technologies encouraged investment in foreign production facilities, the existing technologies of coordination and supervision allowed only the simplest forms of integration (Chandler, 1986).

B. Rebuilding international economic integration

Between the beginning of the First World War and the end of the Second World War, many of the linkages established across the world economy over the preceding forty years were severed. Wartime controls persisted after 1918 and, although economic growth accelerated in the 1920s, the international financial system was marked by increased instability, outflows of long-term capital from industrial countries slowed dramatically and world trade failed to recover to its pre-war level. The international economic order crumbled in 1929 with the world recession and the insularity of national recovery strategies.¹³

Since the Second World War, during a period of unprecedented growth and macroeconomic stability, these linkages have been gradually rebuilt. Both domestically and internationally, post-war economic development has rested on the successful repair, expansion and regulation of market linkages. A new international economic order has slowly evolved, under which increased cross-border flows of goods, services and factors have reinforced the domestic consensus on economic growth. Two features of this order have been of particular importance to the renewal of the process of international integration: a facilitating international policy framework and technological progress. But, the wider impact of these features on international economic integration has been strongly conditioned by the strength of economic growth and a broad tendency for convergence (in terms of the structures of economic activity and productivity performance) across parts of the world economy over the past fifty years.

1. The new international policy framework

With the turmoil of the 1930s still very much in mind, a new international order to facilitate a more open trading arrangement and stable monetary conditions was an immediate concern of post-war policy makers:

- Initial efforts to create an International Trade Organization as part of the Havana Charter were stillborn. Instead, the promotion of *trade* was based upon a multilateral principle of reciprocity under the General Agreement on Tariffs and Trade (GATT). The successive rounds of GATT negotiations sought a more open trading environment through the steady diminution of border barriers and the removal of intentional discrimination against foreign goods, services and firms. Despite the undoubted increase in non-tariff barriers, notably in industries such as electronics and automobiles, the implementation of a wide range of bilateral and unilateral trade measures, in parallel with GATT rounds, further liberalized world trade. Measured in terms of tariff reductions, progress has been impressive (table III.1). With the conclusion of the Uruguay Round, the average tariff on industrial goods in developed countries will be below 4 per cent.¹⁴ Such measures have proceeded furthest within regional trading blocs (although it is arguable as to whether such developments divert, rather than create, trade). Overall — and especially in light of the conclusion of the Uruguay Round, the establishment of the single European market and the implementation of the North American Free Trade Agreement — it is clear that the current international trading environment is more open than at any time since 1945 and, arguably, than before the First World War.
- A primary objective of the 1944 Bretton Woods agreement was to create a more orderly and stable basis for dealing with balance-of-payments problems and for regulating longer-term financial transactions between countries on the basis of fixed exchange rates pegged to the United States dollar. The aim was to provide the necessary financial lubricant for a reconstructed world economy. In the late 1950s, the restoration of currency convertibility among the leading industrial nations began a long-term trend in the direction of financial liberalization and increased international capital mobility. The Code of Liberalisation of Capital Movements and the Code of Liberalisation of Invisible Operations, adopted by the Organisation for Economic Co-operation and Development (OECD) in 1961, went some way to institutionalize this consensus. A series of regional initiatives, such as the European Community's directives on capital movements, has pressed further in the direction of a complete liberalization of financial markets, particularly since the late 1980s. Although the

Table III.1. Average tariff rates on manufactured products in selected developed countries, 1913, 1950 and 1990
(Weighted average; percentage of value)

Country	1913	1950	1990
France	21	18	5.9
Germany	20	26	5.9
Italy	18	25	5.9
Japan	30	..	5.3
Netherlands	4	11	5.9
Sweden	20	9	4.4
United Kingdom	-	23	5.9
United States	44	14	4.8

Source: Bairoch, 1993, table 3.3.

breakdown of the Bretton Woods system in the early 1970s created a more volatile international financial environment, the general trend has remained one of increasing liberalization of financial markets. Indeed, since the late 1970s, unilateral measures to dismantle barriers to financial flows, coupled with the proliferation of new financial instruments, has transformed the international financial system (UNCTAD, 1991; O'Brien, 1992).

- The international framework governing the flow of *technology* has, in part, been subsumed by other regulatory structures. Laws controlling mergers and acquisition, joint ventures, cooperation agreements and local-content legislation, in so far as they relate to technology transfer, have been liberalized in recent years. However, the flow of proprietary knowledge across borders has evolved separately from those governing other flows. Many of the international rules on intellectual property rights date back to the previous century. In the post-war period, the formation of the World Intellectual Property Organization (WIPO) in 1967 and various regional initiatives in Europe and Africa strengthened the framework on proprietary knowledge (Lesser, 1990, pp. 13-14). The proliferation of domestic legislation and bilateral and multilateral agreements during the 1980s, culminating in the inclusion of intellectual property rights in the Uruguay Round negotiations, anticipates a common system of intellectual property protection consistent with higher standards of protection in more developed countries and covering a wider range of instruments (UN-TCMD, 1993f). Parallel to this trend, much of the legislation — regional and national — introduced in developing countries in the 1960s and 1970s to screen and control the technology-transfer process has been relaxed or dismantled in areas such as royalty payments between parent firms and affiliates, authorization and duration of contracts, and registration procedures.
- The regulatory framework for *foreign direct investment* has evolved more unevenly than that for either trade or financial flows (Fatouros, 1994). A multilateral agreement on global investment principles was discussed in 1947 as part of the draft Havana Charter but failed to gain approval. In the following two decades, multilateral negotiations on the protection of foreign-owned assets were hindered by differences over a government's right to expropriate foreign property, and FDI legislation remained firmly grounded at the national level, with considerable variation in frameworks (Rubin and Wallace, 1994). Efforts to construct a more systematic FDI policy framework began in the mid-1960s, through bilateral investment treaties and expanding regional and multilateral negotiations. Bilateral investment treaties first emerged in the 1960s between European countries and their former colonies (predominantly in Africa). These have steadily grown in number — by January 1994 there were 570 such agreements — and have expanded in geographical scope over the past two decades (chapter VII). In 1976, OECD conducted multilateral negotiations over a broad range of investment issues, the outcome of which was the Declaration on International Investment and Multinational Enterprises. Efforts in the United Nations and the World Bank have pushed further in that direction. So did the Uruguay Round in the area of services and trade-related investment measures. Given the nature of international service transactions, the General Agreement on Trade in Services, in particular, introduces a fledgling FDI regime for the services sector, thus covering more than half of worldwide FDI flows. Regional efforts to construct a more open FDI regime have been organized in the European Union and North America (the United States-Canada Free Trade Agreement and, more recently, NAFTA). All these efforts have been complemented — and in many ways been overtaken — by a rapid liberalization of restrictive national laws since the mid-1980s (chapter VII). As more countries liberalize, convergence to a common FDI framework is occurring in areas such as the right of establishment; national treatment; repatriation rules; and compensation payments.

- In contrast to capital markets, *labour markets* have remained largely closed at the national level. In general, tight controls on international flows of labour were introduced in the traditional migrant-receiving countries during the 1930s. The subsequent removal of these controls (with alternating periods of tightening and relaxing) over the period since the Second World War has been governed by economic conditions, as well as political and cultural legacies. More recently, however, regional initiatives, such as those within the European Union, the European Economic Area and NAFTA have eased restrictions on the mobility of labour, especially business and professional persons, and the Uruguay Round provides incipient rules for the negotiation of progressive liberalization of the temporary movement of persons supplying services.

Unlike the gold standard, this regulatory framework has been established through a purposeful process of institution building beginning at Bretton Woods, but gradually encompassing a growing body of international institutions. Over the past fifty years, this framework has created a more open — although uneven — environment for engaging in cross-border exchanges.

2. The enabling technologies

It is no accident that the major surges in international integration — during the period 1870-1913 and in the period since the Second World War — have been associated with new organizational and technological developments. These developments do not, of themselves, cause international integration, but without the ability to transcend geographical distance in the movement and organization of economic activities, it is clear that greater integration would not be possible (Brooks and Guile, 1987; Dicken, 1992b).

Many of the technological developments of the post-war period have improved existing technologies. The cumulative improvements in transportation technology have continued to reduce the time and cost of moving materials, products and people across space. For example, the evolution of the jet aircraft from turbo-prop to jet propulsion dramatically shrank global distances so that, for example, New York is now closer to Tokyo in terms of travel time than it was to Chicago in the latter half of the last century. Similarly, the advent of satellite technology from the early 1960s expanded the geographical reach of communication technologies. However, a key feature of the period since the Second World War has been the development and (since the late 1960s) the widespread diffusion of new technologies based upon the microelectronics revolution and, in particular, what has come to be seen as the major new generic technology: information technology. This defines a new techno-economic paradigm since the introduction of information technologies has “such pervasive effects on the economy as a whole that they change the style of production and management throughout the system” (Freeman, 1987, p. 130).

Information technology is the outcome of the convergence between two initially distinct technologies: communications technology, which is concerned with the transmission of information, and computer technology, which is concerned with the processing of information. Progress along both fronts has been remarkable. Through the collection, transmission and processing of information, the new telecommunication technologies are establishing truly global electronic highways (Henderson and Castells, 1987), and the reduced cost of transmitting information along these highways is making them accessible to an ever wider network of users. For instance, in the late 1960s the annual cost of an Intelsat telephone circuit was more than \$60,000; twenty years later, it was \$9,000 and in 1994 was under \$5,000. Such developments have enabled companies to bypass national telecommunication systems and assimilate rapidly these technologies for their own use. Similarly, the speed, cost and capacity of computers has changed at a dramatic pace and there is little indication of this slowing down. But it is the combination of the two technologies — exemplified by satellite and optical fibre technologies, facsimile machines, computer-aided design and manufacturing systems — that is most significant for the processes of internationalization and

globalization of economic activities. Although reinforcing the international production of a number of activities that have traditionally contained a large information or knowledge component (such as financial activities), these technologies are transforming the nature and organization of activities which have traditionally given less weight to these components. In particular, these new technologies are increasing the knowledge component of traditional manufacturing activities, enabling firms to redeploy their production activities in a more geographically dispersed fashion, whilst maintaining rigorous quality controls, achieving low transaction and coordinating costs and guaranteeing organizational flexibility to ensure high levels of innovativeness and productivity (Dunning, 1994). As a result, the production process itself is being transformed.

3. Growth and convergence

The underlying causes of the rapid growth after the Second World War are undoubtedly complex, and beyond the scope of this chapter. But of particular importance to the process of international economic integration, rapid economic growth, for much of the past fifty years, has been accompanied by a gradual convergence in economic performance (Abramovitz, 1989; Baumol, 1986; Baumol, et al., 1989; Dowrick and Nguyen, 1989; Rowthorn, 1992). Its most visible manifestation has been a decline in the relative economic strength of the United States and the emergence of Japan as a leading industrial centre. Albeit more circumscribed, there is some evidence that the convergence in economic structures and consumption patterns has not been confined to the core economies alone (Dowrick and Gemmell, 1991; Blomström, et al., 1992).¹⁵ The rise of the South East Asian "miracle" economies has been the most visible indication of a wider convergence "club". But for much of the past fifty years, structural changes across the developing world have evolved in a similar direction; manufacturing is now a more spatially dispersed activity and manufacturing exports dominate the trade and investment profiles of many developing countries (Scott, 1992, p. 15). Furthermore, structural changes have turned most countries into economies in which the services sector is the largest sector — in the case of all developed countries, accounting for over half of domestic output. This structural change has an increasingly important impact on the structure of the world economy and is becoming an increasingly prominent source of international transactions.

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These factors have combined to reestablish the process of international economic integration that was lost during the period between the two world wars. To some extent, this process has been a continuation of trends established during the benchmark period 1870-1913; but it has also introduced important changes in the world economy, particularly in the sphere of international production.

C. Shallow integration

The size and geographical scope of cross-border market exchanges has, over the past fifty years, been strongly influenced by political developments. In particular, for much of this period, the centrally planned economies were integrated only very weakly into the world economy, and many of the newly independent nations of the developing world reacted to the enforced liberalism of the colonial era through more restrictive economic policy regimes. Nevertheless, the period since the Second World War has exhibited a clear trend towards more integrated world markets:

- Beginning in 1950, *international trade* grew rapidly — albeit from a low starting point — and considerably faster than output (although the higher productivity of the tradable-goods sector prevented the share of exports in the value of production from rising in Europe or Japan until the mid-1960s). Unlike the period before 1913, manufacturing exports were the fastest growing element of world trade. Between the early 1950s and the early 1970s, the global output of manufactures quadrupled, whilst world trade in manufacturing expanded eightfold — much of it inter-industry trade (Glyn, et al., 1991, p. 42; Forstner and Ballance, 1990; Lewis, 1980). Although the 1970s and 1980s have seen a return to rates of growth of world trade more similar to those in the period before the First World War (table III.2), still, with very few exceptions, most countries are more closely linked through trade today than they were twenty or fifty years ago, and integration through trade, in many cases, is greater than that reached before the First World War (table III.3). The geography of trade-based linkages is also considerably wider in scope, a reflection of the longer-term trend towards a rising ratio of manufacturing to total exports that accompanies economic development (Maizels, 1963). All developing-country regions have increased their share of total trade going to manufacturing (especially since the early 1970s) and have expanded the share of this trade destined for developed economies. Greater intraregional trade flows have, in part, encouraged this trend. Still, with the exception of Western Europe, extra-regional trade remains predominant (Lawrence, 1993).¹⁶ Trade in services, which has expanded in recent years, has added a further layer of complexity to international trade

Table III.2. Growth of world trade and output, 1870-1990

(Average annual growth rate, percentage)

Item	1870-1913 ^a	1950-1960	1960-1970	1970-1980	1980-1990
World trade	3.9	6.5	8.3	5.2	3.7
World gross domestic product	2.5	4.2	5.3	3.6	2.8
Difference	1.4	2.3	3.0	1.6	0.9

Sources: World Bank, 1991; UNCTAD, 1993a; Maddison, 1991.

^a Includes Australia, Austria, Belgium, Canada, Denmark, France, Finland, Germany, Japan, Italy, Netherlands, Norway, Sweden, Switzerland, United Kingdom and the United States.

Table III.3. Trade integration, selected countries, 1913, 1950, 1973 and 1992

(Exports as a share of gross domestic product, percentage)

Country	1913	1950	1973	1992
France	13.9	10.6	14.4	17.5
Germany	17.5	8.5	19.7	24.0
Japan	12.3	4.7	8.9	9.2
United Kingdom	20.9	14.4	16.4	18.2
United States	6.1	3.6	3.6	7.1
Developing countries ^a	..	16.5 ^b	17.8	19.8

Sources: UNCTAD, *Handbook on Trade and Development Statistics*, various years; OECD, 1994a; Maddison, 1989.

^a As a share of gross national product.

^b 1958.

Table III.4. International financial deepening: international banking in relation to world output, trade and investment, selected years
(Percentage)

Item	1964	1972	1980	1985	1991
As a share of world output					
Net international bank loans	0.7	3.7	8.0	13.2	16.3
Gross size of international banking market	1.2	6.3	16.2	27.8	37.0
As a share of world trade					
Net international bank loans	7.5	31.5	42.6	80.4	104.6
Gross size of international banking market	12.4	53.7	86.3	169.7	215.6
As share of world gross fixed domestic investment					
Net international bank loans	6.2	25.6	51.1	103.7	131.4
Gross size of international banking market	10.3	43.7	103.6	219.2	270.9

Source: Akyuz, 1994.

Table III.5. Integration of financial markets, selected years
(Billions of dollars and percentage)

Category	Early 1970s	1990
Cross-border interbank liabilities		
All countries (Billion dollars)	455	5 560
Share of borrowing banks in industrial countries	70	75
Share of lending banks in industrial countries	68	75
Cross-border bank credit to non-banks		
All countries (Billion dollars)	54	1 708
Share of lending to borrowers in industrial countries	31	58
Share of lending by banks in industrial countries	80	69
Cross-border bank deposits of non-banks		
All countries (Billion dollars)	75	1 695
Share of banks located in industrial countries	81	76
Share by residents of industrial countries	16	50

Source: Bloom and Brender, 1993, table 17.

relations, although it remains highly concentrated among developed economies (UNCTAD, DTCl, 1994e).

- A more liberal policy framework and technological progress have had their most dramatic effects on *financial markets*. The full convertibility of most European currencies in the late 1950s initiated a steady internationalization of financial markets; but it was only with the emergence of the Euromarkets that the process began to accelerate. The resulting internationalization of financial markets over the past two decades has been dramatic (table III.4). For 1992, the size of world financial markets was estimated at \$43,000 billion, nearly a threefold increase over the decade (Akyuz, 1994). International assets (international bank assets, eurobonds, euoroequities etc.) accounted for 18 per cent of the total; in many countries, that share was considerably higher than the share of foreign trade in GDP. For developed economies, the ratio of cross-border bank lending to GDP was 4 per cent in the early 1980s; 10 years later it had reached 44 per cent (OTA, 1993, p. 151). Foreign ownership of Government bonds, foreign participation on national stock markets and daily turnover of foreign-exchange markets have shown equally impressive rates of internationalization over that period. Of perhaps even greater significance, the truly global firm — whose operations are unconstrained by the limitations of time or space — appears to have evolved furthest in financial services, such as securities, insurance and payment services (O'Brien, 1992, pp. 78-82). Although measures of financial integration are more difficult to construct than international trade movements (due to the incompleteness of the data and the unevenness of data collection) and direct comparisons with the period before the First World War are correspondingly difficult to make, the internationalization of capital flows appears to have been accompanied by the increased integration of capital markets,¹⁷ especially among developed countries (table III.5).
- As regards international *labour flows*, the absolute numbers over the past 50 years, though substantial, have been dwarfed by increases in population. Although the new international division of labour has helped to stimulate new movements of workers, in reality, such movements affect only a small proportion of the world's labour force. Labour is still relatively immobile and labour markets are strongly segmented by location, skill or gender (Storper and Walker, 1989). However, there has been a significant shift in labour-receiving countries away from North America and Australia towards Western Europe and the Middle East. Europe is now the largest employer of foreign workers (some 6 million), followed by the United States and the Middle East (5 million each); a growing share of these workers is from developing countries (Widgren, 1990). But unlike the period before the First World War, most of these workers are unlikely to become permanent residents in these countries. Slower economic growth in the developed countries since the early 1970s and the tightening of immigration laws have meant that labour markets remain significantly less international than before the First World War.¹⁸

Since 1945, economic and political forces have combined to open up and reintegrate national economies into the world economy. This process, still in progress, has lasted longer and has involved more countries than before 1914. Together, liberalization, technological progress, economic growth and convergence help to explain the pace and sequence of post-war shallow integration from its initial focus on trade and related financial flows, to the dramatic acceleration of financial integration over the past two decades. With the exception of labour flows, the level of shallow integration appears to have at least reached that established by the beginning of the First World War. These same processes have also increased the scope of international specialization and production and help explain why long-term capital flows — unlike during the period before the First World War — have taken less the form of portfolio flows and more that of FDI and, correspondingly, why deeper integration through TNCs has played a more prominent role in the world economy, and increasingly so over the past two decades.

D. International production

During the inter-war period, FDI was, perhaps, less adversely affected by growing uncertainties than other international activities: between 1914 and 1938, the stock of outward FDI almost doubled, reaching over \$26 billion. More significantly, that period marked the rise of the United States towards becoming the leading home country. Although the United Kingdom was still dominant in 1938, its share of total FDI stock fell from 45 per cent to under 40 per cent during the inter-war period, while that of the United States rose from under 20 per cent to 28 per cent (Dunning, 1983).

United States firms emerged from the Second World War with a clear lead in the technological and organizational assets that were the basis of international competitiveness. This lead stimulated an increase in their level of foreign operations and in the share of foreign operations in the total activity of United States' firms. Only a small number of other countries' firms with a long-standing experience in international production — such as those from the Netherlands, Switzerland and the United Kingdom — could match the international operations of United States TNCs. However, the process of growth and convergence among the advanced countries over the past 50 years, explicit government policies — particularly in Western Europe but also elsewhere — to foster large domestic firms and the gradual liberalization of FDI policy frameworks have given rise to a growing number of TNCs from an increasing number of home bases. These conditions have established an environment for the deeper integration of the world economy. The following developments deserve particular mention:

Table III. 6. The role of foreign direct investment in world economic activity, 1913, 1960, 1975, 1980, 1985 and 1991
(Percentage)

Item	1913	1960	1975	1980	1985	1991
World FDI stock as a share of world output	9.0 ^a	4.4	4.5	4.8	6.4	8.5
World FDI inflows as a share of world output	..	0.3	0.3	0.5	0.5	0.7
World FDI inflows as a share of world gross fixed capital formation	..	1.1	1.4	2.0	1.8	3.5
World sales of foreign affiliates as a share of world exports	..	84 ^b	97 ^c	99 ^d	99 ^d	122

Source: UNCTAD, Division of Transnational Corporations and Investment, based on UNCTAD-DTCI, FDI data base, UN-DESIPA data base; Dunning, 1993a and Bairoch, 1994.

a Estimate.

b 1967 based on United States figures.

c Based on United States and Japanese figures.

d 1982 based on German, Japanese and United States data.

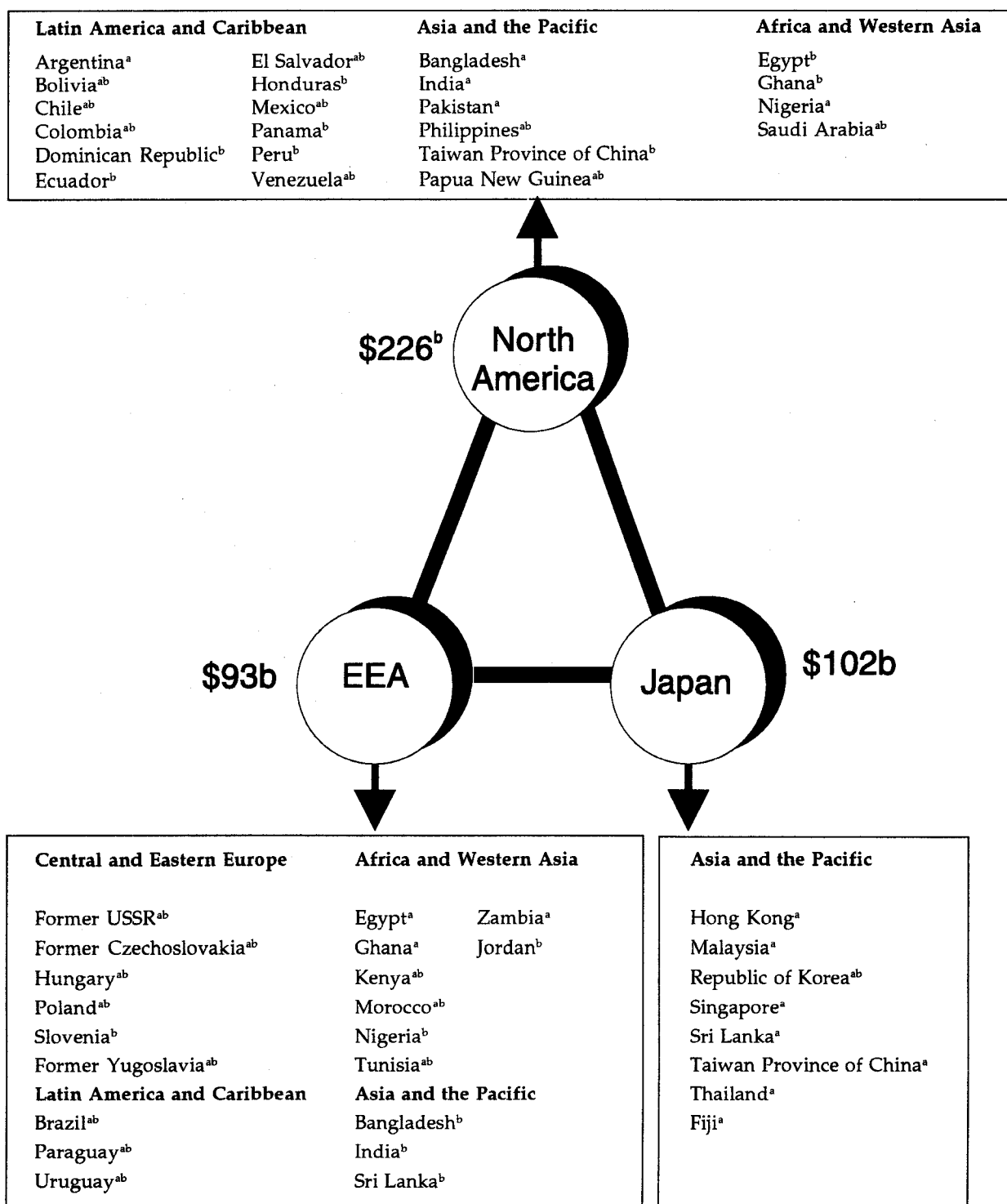
- Foreign-direct-investment flows increased throughout the post-war period, experiencing a particularly sharp up-turn during the mid-1980s. Correspondingly, the stock of FDI rose from \$68 billion in 1960 to \$2.1 trillion in 1993, an annual compound growth rate of 11 per cent. The relative importance of FDI flows in the world economy also increased, particularly as regards trade (table III.6), as well as in relation to domestic economic activity — including domestic investment (see Annex table 5). Since the late 1980s, FDI has grown more rapidly than international financial flows (Akyuz, 1994).
- By the early 1990s, there were some 37,000 TNCs (table I.1). The number of those based in 14 major developed home countries more than tripled during the past two decades, from 7,000 in the late 1960s to nearly 26,000 in the early 1990s. The total number of foreign affiliates stands at some 206,000, a dramatic acceleration over the 3,500 manufacturing affiliates established between 1946-1961 (Dunning, 1983). Most recently, international production by small and medium-sized enterprises and firms from developing countries has further expanded the universe of TNCs (UN-TCMD, 1993c).
- As a result of these developments, the sales of foreign affiliates have surpassed exports as the principal vehicle to deliver goods and services to foreign markets (table III.6). This alone — and even without taking into account the linkages between FDI and trade as well as the dissemination of technology — makes FDI one of the most important mechanisms of international economic integration.
- The accumulation of the global stock of FDI has been accompanied by its changing sectoral composition, with a discernible shift from resource-based and traditional manufacturing to high-technology and service industries. For much of the past 50 years, manufacturing has been the force behind the growth of FDI. However, since the mid-1970s, its share of the outward stock has fallen, and that of services has risen. The increasingly perceived need for an efficient services sector has added impetus to the rapid growth of FDI in that sector since, given the nature of most services, they typically need to be produced when and where they are consumed. Services held the largest share of the outward stock of major home countries in the early 1990s: its share was over 50 per cent for some of these countries (table I.7). This is consistent with patterns of broader structural changes in economic activity, although the match is not perfect (UNCTAD-DTCI, 1993a; Ozawa, 1992).
- Growth and sectoral changes in FDI have coincided with changes in its geographical distribution. Similar to the post-war pattern of international trade flows, FDI flows were initially concentrated in a small number of developed countries. But their sustained increase has coincided with a diversification of home and host countries. The dominance of the United Kingdom and North America as home and host regions that characterized the two decades after the Second World War has gradually diminished and has been replaced

**Table III.7. Share in world outward stock of foreign direct investment,
by selected countries, 1914, 1960, 1978 and 1992**
(Percentage of world total)

Country	1914	1960	1978	1992
France	12.2	6.1	3.8	8.3
Germany	10.5	1.2	7.3	9.2
Japan	0.1	0.7	6.8	13.0
United Kingdom	45.5	16.2	12.9	11.4
United States	18.5	49.2	41.4	25.3

Source: Dunning, 1983; annex table 4.

Figure III.1. The Triad of foreign direct investment and its clusters, 1991



Source: UNCTAD, Division on Transnational Corporations and Investment.

a In terms of average inward FDI flows, 1987-1991.

b In terms of inward FDI stock for 1991.

by a Triad pattern of FDI centred on the European Union, Japan and North America (table III.7 and figure III.1). In contrast to the period of integration before the First World War, developing countries have been far less central to these developments. Indeed, the share of developing countries in world FDI inflows declined steadily over the post-war period, although FDI continued to be a significant component of domestic capital formation in a number of countries and recent signs appear to contain the seeds of a sustainable increase of investment flows to developing countries (chapter I). Furthermore, the absolute increase of FDI stock in developing countries has left few countries untouched and, because of the shift away from investments in the primary sector, the spatial web of FDI is almost certainly more extensive than before the First World War. At the same time, a number of developing countries are clustered around one of the Triad members (figure III.1), that is, firms from one home country region account for the dominant inward FDI share of a given host country. Moreover, the spatial pattern of FDI over the past fifty years appears to have been less closely associated with trade patterns, compared with the period before the First World War. Thus, despite the pressures towards regionalization, FDI is still more idiosyncratic and less regionally concentrated than, for example, trade (UNCTAD-DTCI, 1993a, chapter VII).

Although the particularly rapid increase of FDI during the 1980s reflected a number of one-time and short-term developments, the underlying trend is grounded in longer-term and structural factors (UNCTAD-DTCI, 1993a). Still, FDI data do not capture the full extent of TNC

Table III.8. Exports by Japanese, Swedish and United States manufacturing transnational corporations and foreign affiliates, 1965-1990
(Percentage of world exports of manufactures)

Year	Japan		Sweden		United States	
	Total	Foreign affiliates	Total	Foreign affiliates	Total	Foreign affiliates
1965	..	..	1.6	0.2	15.0	4.8
1970	..	..	2.0	0.2	..	..
1975	11.0	0.8	2.0	0.3	15.4	6.4
1985	22.1	1.9	1.8	0.4	18.1	8.7
1990	14.6	1.7	..	..	16.0	8.7

Source: UNCTAD-DTCI, 1994f, forthcoming.

activity. In many instances they record only the initial entry of a firm into a foreign location; subsequent expansions by foreign affiliates are often not recorded in new FDI inflows. In addition, FDI is only one measure of the internationalization of production; output, sales, employment and assets provide alternative measures. Although reliable and comprehensive longitudinal data on all these measures are scarce, the following appears to be the trend since the Second World War (UNCTAD-DTCI, 1994f):

- International production rose steadily through the late 1970s, but has subsequently appeared to level off. Taking sales by foreign affiliates as a broad measure, TNCs from the United States showed a clear lead from the 1950s. But since the 1960s, firms from other developed countries began to reduce that lead. Indeed, TNCs from those countries, notably Japan, have partly compensated for the recent reduced pace of international production by TNCs originating from the traditional home economies, notably the United States. Thus, over the period 1977-1989, the combined share of affiliate sales by United

States and Japanese TNCs as a percentage of world gross domestic product has been constant (around 10 per cent). The addition of other home countries — such as Germany and Sweden — would, however, suggest a slightly rising trend over this period and, given the rapid rise of FDI flows since the mid-1980s, it could be conjectured that the overall relative importance of international production has begun to rise again. Foreign affiliate sales compared to exports, showed a marked increase in the second half of the 1980s (see table III.6). The importance of international production as a source of world employment is much smaller than that of output — an indication of the higher productivity of TNCs — but the trends are similar. Over the twenty years up to 1977, the share of overseas employment by United States TNCs in world employment rose by over 50 per cent, but declined subsequently. In the meantime, the share of German and Japanese foreign-affiliate employment in world employment, negligible in the 1950s, rose substantially — although, from the late 1970s, not enough to offset the decline in share of employment by United States affiliates (see also chapter IV).

- Despite the declining share of manufacturing FDI in the overall stock of FDI, on other measures manufacturing continues to take a lead role in the spread of international production; if sales of foreign affiliates are taken by themselves, their share in world exports of manufactured goods increased since the mid-1970s (table III.8).

Table III.9. The importance of transnational corporations in the economies of the United States, Netherlands and Japan, 1977, 1982 and 1989
(Percentage of equivalent domestic figure)

United States						
Year	Assets		Employment		Gross product	
	Total	Manu- facturing	Total	Manu- facturing	Total	Manu- facturing
1977	29	..	31	63	37	72
1982	36	..	30	63	38	73
1989	27	..	27	63	32	72
Netherlands						
	Total ^a	Manu- facturing ^a	Total	Manu- facturing	Total	Manu- facturing
1977	..	..	..	..	..	..
1982 ^b	52	59	42	48	46	52
1989 ^c	59	63	40	47	42	48
Japan						
	Total	Manu- facturing	Total	Manu- facturing	Total ^d	Manu- facturing ^d
1977 ^e	21	38	7	16	23	30
1982 ^b	24	38	8	16	24	31
1989	24	37	7	16	24	32

Source: UNCTAD-DTCI, 1993a, and UNCTAD-DTCI, data base.

a Denominator is the consolidated assets of non-financial companies (private companies and cooperative societies with assets exceeding 10 million guilders).

b 1983.

c 1991. d Sales. e 1980.

- Trends in international production are confirmed at the country level, although the influence of size and history takes on greater significance. Smaller countries show a greater

Table III.10. Degree of transnationalization of United States non-bank transnational corporations, by sector, 1983-1991 a

(Percentage accounted for by foreign affiliates in total TNC activities)

Year	Assets			Sales			Employment		
	Primary	Secondary	Tertiary	Primary	Secondary	Tertiary	Primary	Secondary	Tertiary
1991	80.1	22.9	23.7	83.5	31.8	29.3	78.0	30.2	22.4
1988	74.4	21.2	19.5	73.2	29.6	28.1	68.9	29.3	20.2
1985	72.1	18.5	16.8	78.8	23.9	24.9	69.8	28.7	18.8
1983	69.5	19.4	18.1	79.3	25.0	27.0	69.2	28.3	18.7

Source: UNCTAD, Division on Transnational Corporations and Investment, based on United States, Department of Commerce, *U.S. Direct Investment Abroad: Operations of U.S. Parent Companies and their Foreign Affiliates* (Washington, D.C., Government Printing Office), various issues.

a Measured by the share of foreign affiliates in total TNC (parent firms and foreign affiliates) activities.

role for international production than larger ones at a comparable level of development. Of importance for future trends, the take-off in international production is apparent in a number of newly industrializing economies; in some cases, such as the Republic of Korea and Taiwan Province of China, the pace of international production appears to have been particularly rapid during the 1980s.¹⁹

The level of international production reached over the past fifty years is not unprecedented historically, at least in terms of the share of the stock of FDI in world GDP. However, many more countries are now both home and hosts to TNCs, and FDI is playing a more significant role in the economies of most developed and many developing countries.

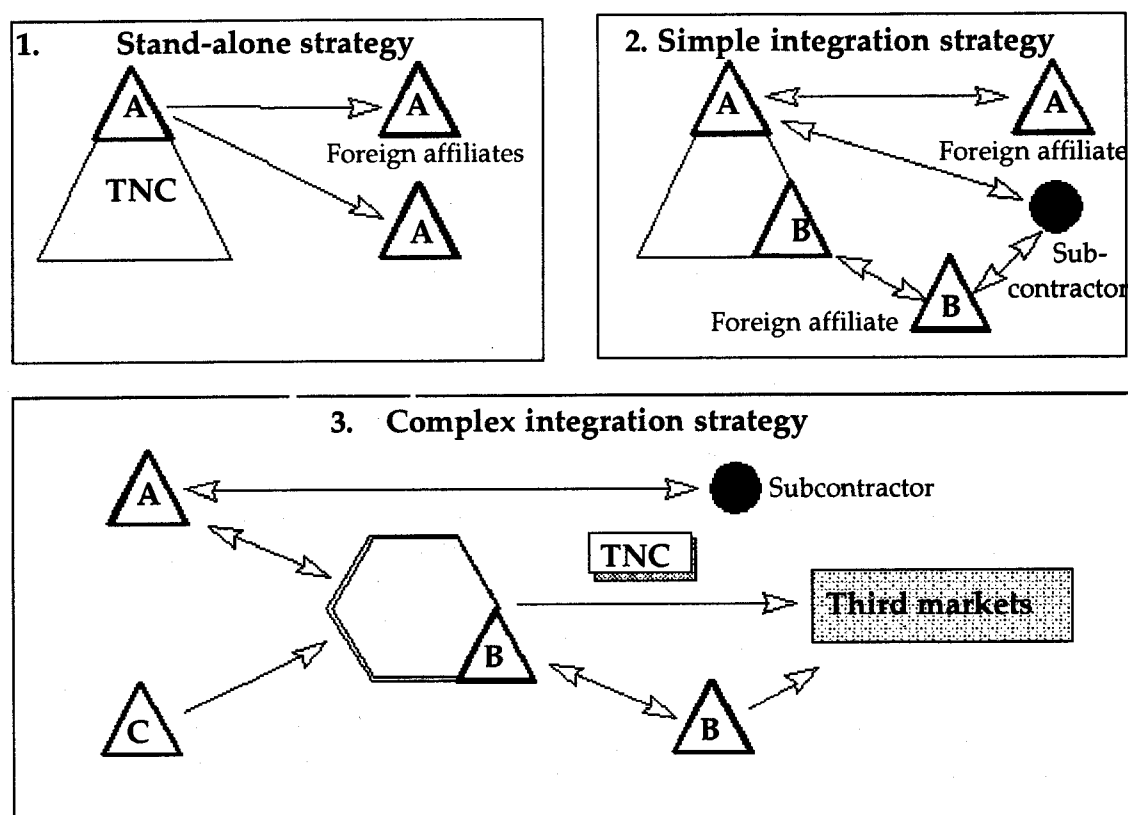
But far more important, because many TNCs in manufacturing and services are also large domestic firms with a significant share of domestic assets, employment and output, is the fact that the overall influence of TNC governance is unprecedented historically. Combining the domestic activities of TNCs in a particular country with the activities of foreign affiliates, gives an indication of this wider scope of international production (table III.9). Overall, as much as one-third of world output may now be under the direct governance of TNCs, with the indirect influence being almost certainly much greater (UNCTAD-DTCI, 1993a). Moreover, as the data for United States non-bank transnational corporations indicate (table III.10), while the share of foreign affiliates in total TNC activities rose considerably between 1983 and 1991 in all sectors, there remains a lot of scope for greater transnationalization in the secondary and tertiary sectors — certainly compared to the primary sector.

However, the influence of TNCs on the process of international economic integration is not only confined to production. Transnational corporations have also changed the nature and scope of shallow integration. The pressures increasing intra-industry trade — product differentiation, technological progress and global economies of scale — have been closely associated with TNC activity, as has the rise of trade in services. The internationalization of financial markets has also been closely associated with the spread of international production (Kregel, 1992). Finally, TNCs have often been the conduits for the transfer of technology and management practices (see chapter VII).

E. Integrated international production

Trends in international production indicate a persistent deepening of international economic integration over the past fifty years. However, they capture only a part of the fundamental changes associated with that process. The fact that the number of TNCs, FDI flows and affiliate employment are rising faster than their domestic counterparts, does not, in itself, indicate a *qualitative* change in international integration. However, it is precisely in this sense of integration that the current period contrasts most markedly with the 1870-1913 period. This qualitative shift

Figure III.2. International production strategies



Source: UNCTAD, Division on Transnational Corporations and Investment.

Note: A, B and C denote different functions/activities.

Table III.11. The strategies and structures of transnational corporations

Strategy	Intra-firm linkages	Foreign affiliate type	Degree of integration	Environment
Stand-alone, e.g., multi-domestic	Ownership, technology, finance; mostly uni-directional	Miniature replica of the parent firm	Weak	Host country accessible to foreign direct investment; trade barriers; costly communications and transportation
Simple integration, e.g., outsourcing	Ownership, technology, markets, finance, other inputs; mostly bi-directional; subcontracting	Rationalized producer of one or a few elements in the value chain	Strong at some points of value chain, weak in others	Open trade and FDI regimes, at least bilaterally; non-equity arrangements permissible
Complex integration at the regional or global levels, e.g., networks	All functions; mostly multi-directional	Product or process specialist; functional specialization	Potentially strong throughout value chain	Open trade, technology FDI and related regimes; use of advanced information technology; convergence in tastes, heightened competition, low communication and transportation costs.

Source: UNCTAD, Division on Transnational Corporations and Investment, based on UNCTAD-DTCL, 1993a, and Hamill, 1993b.

consists of a far greater degree of geographical and organizational integration of production and the emergence of an *integrated international production system* (UNCTAD-DTCL, 1993a). At the heart of this shift are changes in TNC strategies (figure III.2 and table III.11):²⁰

- In the past, the foreign production of national firms was typically characterized by a clear division of tasks between parent companies and foreign affiliates. This division was a reflection of the fact that, in most cases (with the natural-resources sector being an obvious exception), foreign affiliates would follow a *stand-alone strategy*, replicating more or less in total the entire value chain of the parent firm (with the exception, typically, of technology and finance which were imported from parent firms), thus performing all tasks necessary for servicing the host country and/or neighbouring markets. In this respect, the initial acceleration of international production after the Second World War was the extension of corporate strategies already visible in the limited FDI flows in manufacturing during the period 1870-1913.
- However, some of the same pressures driving shallow integration — particularly liberalization and technological progress — steadily altered the way in which international production is being undertaken. The cost-competitiveness of standardized goods, the convergence of consumption patterns and falling transportation and travel costs have expanded the geographical reach of corporate strategy, enabling large oligopolistic firms — in industries such as automobiles, aerospace and electronics — to combine economies

of scale with the organization of low-cost suppliers on a worldwide basis. This has led to the adoption of *simple integration strategies*, where affiliates undertake — typically with technology obtained from the parent firm — a limited range of activities in order to supply their parent firms with specific inputs that they are in a more competitive position to produce. Such strategies have given rise to new forms of cross-border linkages (such as subcontracting relations) and allow for greater two-way flows of information, technology and value-added activities between parent firms and affiliates.

- A feature of both stand-alone and simple integration strategies is that production within a TNC remains quite fragmented and cross-border internalisation of economic activity is rather limited. However, enabled by the liberalization of the frameworks for international economic transactions, the spread of information technology, and driven by competition, TNCs have begun to redefine the way in which they manage and organize their worldwide productive assets. More specifically, as part of *complex integration strategies*, TNCs are turning their geographically dispersed affiliates and fragmented production systems into regionally or globally integrated production and distribution networks.

Since complex integration strategies substantially enlarge the scope of corporate functions being undertaken in an integrated manner across borders — in combination with the fact that TNCs account for a substantial share of world output — they introduce significantly new characteristics into the process of international economic integration.

1. Complex integration strategies and organizational structures

Global economies of scale have reinforced the dynamics of international oligopolistic rivalry already visible in simple integration strategies. On the one hand, concentration of global production has continued in several industries, and TNCs have adapted to this increasingly (but imperfectly) competitive world economy by creating regional and, in some cases, global markets for a particular product range (Levy, 1993). The tendency for consumption patterns to converge — at least in the developed economies — has reinforced the standardization of products across national boundaries. The entry of new firms from developed and developing countries has been facilitated by diminishing market barriers and the increasing technological sophistication of national firms, resulting in an intensification of international competition in many industries. On the other hand, while the entry of new firms and the decline in trade barriers has intensified international competition, many standard products must still be adapted to national and regional tastes. Together, these trends have pushed TNCs to seek new ways of gaining international competitive advantages and have required them to give much closer attention to the way in which different elements of their value chains are combined and coordinated. In particular, adapting to rapid technological progress — such as new information technologies and flexible production systems — has become an integral part of corporate restructuring in a global economy.

New corporate strategies have evolved in response to pressures of global markets and innovation. On the one hand, an almost exclusive emphasis on production costs has been replaced by a growing emphasis on product differentiation, through product quality, design and closer pre- and post-sales relationships. In a number of industries, established corporate advantages and predictable firm behaviour have been replaced by continuous innovation and cooperative agreements among firms in search of complementary assets, increased speed of market entry and risk sharing. This search for innovative assets is also becoming increasingly global in scope, drawing in an ever growing number of industries (Jacquemin, 1991). Under these conditions, firms — regardless of size — place growing emphasis on improving their knowledge base, building an extensive communication network, linking with a sophisticated business infrastructure and achieving the “synergic effects” of combining specialized and complementary knowledge across the value chain (Michalet, 1991, p. 80).

Table III.12. Growth in strategic alliance formation, 1980-1989
(Number and percentage)

Industry/region	1980-1984		1985-1989		Percentage change
	Number	Per cent	Number	Per cent	
Automobiles	26	100	79	100	203
United States-Europe	10	39	24	30	140
United States-Japan	10	39	39	49	290
Europe-Japan	6	23	16	20	167
Biotechnology	108	100	198	100	83
United States-Europe	58	54	124	63	114
United States-Japan	45	42	54	27	20
Europe-Japan	5	4	20	10	300
Information technology	348	100	445	100	28
United States-Europe	158	45	256	58	62
United States-Japan	133	38	132	30	-0.8
Europe-Japan	57	16	57	13	-
New materials	63	100	115	100	83
United States-Europe	32	51	52	45	63
United States-Japan	16	25	40	35	150
Europe-Japan	15	24	23	20	53
Chemicals	103	100	80	100	-22
United States-Europe	54	52	31	39	-43
United States-Japan	28	27	35	44	25
Europe-Japan	21	20	14	17	-33

Source: United States Congress, Office of Technology Assessment, 1993, figure 5.3.

At the same time, TNCs are searching for more effective ways for organizing and governing the range of assets they own in different locations. The shift to a more complex integration at the corporate level requires a breakdown of the value chain into discrete functions — assembly, procurement, finance, research and development etc. — and their location to wherever they can be carried out most effectively in light of the overall needs of the firm as a whole. For example, one unit located in one country may be responsible for research and development for the entire corporate system, another unit in another country for finance and a third unit in yet another country for marketing; all of them then form one corporate system with a unified strategy and a common governance.

As an increasing number of functions are organized within a framework of complex integration strategies, this form of international production requires substantial flows of technology, skills, finance (including royalties, dividends and intra-company funds) and goods and services. With regard to goods, these flows involve increasingly more differentiated products and take place not only between parent firms and their foreign affiliates, but also among affiliates. In fact, to the extent that the individual units of a TNC system assume responsibilities that are clearly defined as part of an intra-firm international division of labour, the distinction between parent firm and affiliates becomes less meaningful. As a result, the firm resembles more a network than a hierarchy. Moreover, such networks are not self-contained, but rather are connected with other corporate networks through a variety of linkages, ranging from subcontracting, to licensing agreements, to consortia and strategic alliances; at times, in fact, it may become difficult to determine the exact boundary of a particular firm. Network relationships — both within and

between firms — are an integral part of complex integration strategies, as such, forming a dynamic mixture of internalized and externalized activities, all of which require more horizontal linkages to ensure effective coordination.

Among these inter-firm linkages, strategic alliances are particularly important because they often bring large and otherwise competing firms together for specific purposes. Although strategic alliances are not a new phenomenon (Kindleberger, 1988), what is new is their increased frequency and their centrality to many firms' strategies. According to one study, cooperative agreements between United States firms and foreign firms outweigh the number of fully owned foreign affiliates by a factor of four (Gugler and Dunning, 1993, p. 124). Alliances are common in many industries, but they are especially prevalent in information technology, biotechnology, automobiles and new materials industries (table III.12). Essentially, these are industries that are characterized by high entry costs, scale economies, rapidly changing technologies and substantial operating risks (Morris and Heigert, 1987). The changing geographical pattern of strategic alliances between the United States and Europe, the United States and Japan and Europe and Japan (table III.12) suggests that there is no single trend of alliances becoming more important between pairs of countries. Thus, one of the most distinctive features of the new pattern of corporate strategies involves the increased use of cooperative arrangements between firms — transnational and domestic, large and small, public and private — to speed up market entry, gain access to technologies and share financial costs and risks. In contrast to FDI (in terms of greenfield investment), joint ventures and mergers and acquisitions, strategic alliances do not necessarily imply equity involvement. Rather, they involve sharing complementary assets between firms, to gain various advantages.

* * *

Complex integration strategies define a new best practice for corporate strategy and organization. Firms following this strategy are no longer merely an agglomeration of discrete units, but rather all individual units are subject to one unified strategy that governs the entire corporate system. Equally crucially, this best practice strategy applies to each corporate function, with the additional possibility that the implementation of each function for the corporation as a whole can be of a vertical or a horizontal nature, depending on what configuration contributes most to the profitability of the entire corporate system. For the same reason, the geographical coverage of each function can vary; some functions can be integrated globally (e.g., finance), others regionally (e.g., production) while again others may remain entirely local (e.g., training of workers). A firm pursuing complex integration strategies needs to be seen, therefore, as consisting of an integrated set of corporate functions, each with (potentially) varied geography. In this strategy, intra-firm transactions of goods and services play, by necessity, an important role. Furthermore, because each element of the production chain is highly dependent upon all other elements within the system, information and coordination requirements are high. In this respect, advances in information technology have played a pivotal role in turning the potential for operating and effectively coordinating spatially dispersed functions into a reality for many TNCs. The resulting product is a complex bundle of inputs, produced in a variety of locations, assembled in host or home countries for sale in those countries or anywhere in the world. To identify such a product with a single country becomes, therefore, less and less meaningful — a fact that may make it increasingly meaningless to identify a product as "Made in [name of country]" but rather requires an identification as "Made by [name of firm]". In a sense, TNCs seem to be in the process of replicating at the international level the degree of integration of production achieved at the national level, especially in their home countries.²¹

Given their highly transnational nature, manufacturing TNCs have often been the first to be re-engineered for complex integration strategies. High volume industries, such as automobiles and chemicals, are replacing the simple outsourcing of parts and components on a regional basis with a more intricate regional or global integration of various elements of their production chain. The contrasting success of the "world car" in the 1970s and the 1990s provides telling evidence of the advance in complex integration strategies (Dicken, 1992b; UNCTAD-DTCI, 1993a). But firms in a number of more traditional industries, such as textiles and furniture, have also begun to reorient themselves in a similar manner. Although slower to take-off (given the inherently limited tradability of many services), a number of service TNCs have advanced their integration strategies further than many manufacturing TNCs. Indeed, the large information component of many services and the strong complementarities between many service functions makes them particularly suitable for this type of integration once the application of computer and information technologies raises their tradability (UNCTAD-DTCI, 1994e; Sauvant, 1986). Financial services are at the forefront of this development, but other services — such as research and development, some legal services, accounting, data entry and software — are following suit. In many respects, the traditional sectoral boundaries are becoming increasingly irrelevant to complex integration strategies. Indeed, most TNCs integrate both service and manufacturing functions, internalizing this traditional division within the value-added chain of the firm (Reich, 1992).

2. Towards an integrated international production system

The discussion so far has dealt with the strategy and organization of individual firms. The aggregation of complex integration strategies across a large number of TNCs brings about the emergence of an integrated international production system. The potential size of this system and its geographical configuration is determined by the size and spread of international production described in the preceding section, and is estimated to account for about one-third of world output. But even though more and more firms pursue complex integration strategies under the pressures of competition, such strategies coexist with stand alone and simple integration strategies. *Integrated* international production encompasses therefore only a part of international production. But, crucially, it reaches deeper into the fabric of international economic relations. As a result, it places economic activities that were previously subject solely to national control also under the common governance of TNCs. As this form of governance becomes more widespread and encompasses a larger share of world output, the nature of the world economy changes: national economies — still subject to domestic governance structures — are no longer linked through markets alone, but rather are increasingly integrated at the level of production, with this production (and attendant transactions) under this governance of TNCs. In addition, the linkages established through the governance are further strengthened by the flow across borders of norms, values and routines (business culture) that are becoming of central importance to international competition in a more integrated world economy.

Naturally, this integration at the level of production finds its expression in intra-firm exchanges of both tangible and intangible assets. Virtually no data exist on exchanges of intangible assets, especially services performed within corporate systems. Data on international technology payments are, however, indicative. To the extent that these are measured by the payment of fees and royalties, data for the United States and the United Kingdom suggest that some 80 per cent of such exchanges are done on an intra-firm basis, that is, within corporate systems, and over 90 per cent in the case of Germany (table III.13). In the case of the United Kingdom, this has been a spectacular rise since the mid-1980s. Even more significantly for the scope of deep integration, in the case of the United Kingdom and United States over 90 per cent of exchanges with developing countries take place between parent firms and affiliates. (As noted earlier, the sharing of technology occurs, to varying degrees, in the framework of all three types of corporate strategies described above.)

Table III.13 Germany, United Kingdom and the United States: technology receipts, 1986-1992

(Millions of national currency units and percentage)

Year	Germany ^a		United Kingdom ^b		United States ^c	
	Total receipts	Receipts from all affiliated enterprises	Receipts from all affiliated enterprises	Percentage in developing countries	Receipts from all affiliated enterprises	Percentage in developing countries
		Percentage in developing countries	Percentage in developing countries	Total receipts	Percentage	Percentage in developing countries
1986	1 698	92.1	54.7	845	75.5	96.3
1987	1 792	90.8	65.6	997	77.0	96.4
1988	1 898	93.2	64.8	1 132	77.6	96.3
1989	2 104	91.0	66.9	1 303	79.3	96.4
1990	2 434	92.3	70.5	1 420	80.2	96.3
1991	2 419	94.3	76.3	1 563	79.9	96.2
1992	..	..	76.3	1 990	79.6	96.2
1993	..	..	79.7	2 077	..	..

Source: UNCTAD, Division on Transnational Corporations and Investment, based on Deutsche Bundesbank, *Monthly Report*, 44, 4 (April 1992), p. 33; United Kingdom, Central Statistical Office (CSO); United States, Department of Commerce, 1993f, tables 4.1 to 4.4 and 1992b, tables 4.1 to 4.3, pp. 94-96.

^a Includes receipts from patents, inventions and processes.

^b Includes receipts of royalties on printed matter, sound recordings or performing rights as well as technological royalties.

^c Includes royalties and licence fees.

Table III.14. United States and Japan: intra-firm trade, 1977, 1982 and 1989*(Percentage of total exports or imports)*

Year	United States		Japan ^a	
	Exports	Imports	Exports	Imports
1977	36	40	24 ^b	32
1982	33	37	31 ^c	18
1989	34	41	33	29

Sources: Bonturi and Fukasaku, 1993; UNCTC, 1988a, p. 92.

^a Refers to Japanese TNCs only.

^b Refers to 1980.

^c Refers to 1983.

As far as the exchange of tangible assets is concerned, some data exist on intra-firm trade, including the changing composition of such trade (Gray, 1993). Apart from the long-established intra-firm trade in natural-resource products (that was already a feature of international firms before 1914), intra-firm trade in intermediate products and services is primarily a phenomenon of the past few decades. In the early 1970s, intra-firm trade was estimated to account for around 20 per cent of world trade; by the early 1990s, that share was around one-third, excluding intra-TNC transactions in services (UNCTAD-DTCI, 1993a, pp. 164-165). In particular, the absolute level of United States intra-firm trade has increased sharply in recent decades (Levy, 1993): the value of United States intra-firm exports increased by nearly two-thirds between 1977 and 1982 and by over 70 per cent between 1982 and 1989. By 1989, intra-firm exports and imports were one-third and over forty per cent, respectively, of all United States trade and one-third of Japanese exports and 29 per cent of imports (table III.14).

Of possibly greater importance to the future direction of international production, there has been a significant change in the product composition of intra-firm trade. The importance of intra-firm trade in natural resource-based commodities has declined (consistent with broader trends in trade) over the past fifty years, and intra-firm trade in manufactured goods grew during the 1970s, particularly in medium and high-technology industries that have undergone rationalization on a world scale (automobiles, household appliances, radio and television equipment, office machinery, instruments and pharmaceuticals). This trend is reflected in the higher level of intra-firm imports for manufactures compared to other products (Levy, 1993, p. 35). This shifting composition is also apparent in the rising share of intermediate products in intra-firm exports from parent companies (table III.15).

The question, nevertheless, remains as to why intra-firm trade in the United States has not continued to increase in relative importance given the emergence of integrated international production. This can be attributed to the externalization of various functions in the value-added chain, which takes many forms, of which international sourcing is the most significant. Outsourcing has become an increasingly important practice in most industries, as TNCs focus more closely on core activities and purchase various intermediate goods and services from other firms. The international sourcing of inputs has grown steadily in all developed countries for which data are available (table III.16). In the case of international sourcing, the principal firm (normally a TNC) coordinates and often controls the relationship with its suppliers. In many industries, the trend

is towards much closer, longer-term relationships between firms and their principal suppliers. The latter are increasingly being given greater responsibility by TNCs for the quality and design of the sourced product, and increasingly committing know-how and resources to ensure that their suppliers have the appropriate technology and capabilities to be effectively integrated within their own value chain (UNCTAD-DTCI, 1994g). Although in industries such as automobiles the

Table III.15. Share of intermediate products in exports from Swedish transnational corporations, by industry, in total exports and to manufacturing affiliates, 1974-1990

(Percentage)

<i>Industry</i>	1974	1978	1986	1990
Chemicals				
Share to affiliates	21	46	55	78
Total exports	4	7	5	17
Metals				
Share to affiliates	35	51	28	23
Total exports	4	7	9	11
Machinery				
Share to affiliates	36	23	20	28
Total exports	7	5	4	5
Electronics				
Share to affiliates	35	34	36	62
Total exports	9	5	7	5
Transportation				
Share to affiliates	72	75	66	95
Total exports	10	18	12	25
Other				
Share to affiliates	26	33	64	39
Total exports	1	2	7	4
All industry				
Share to affiliates	44	45	47	64
Total exports	6	8	8	14

Source: Andersson, et al., 1993.

number of preferred suppliers is being reduced, the relationship between them and TNCs is becoming closer. As a result, a complex, multi-tiered structure of supplier firms and subcontractors is emerging.

3. Conclusions

Transnational corporations are pursuing complex integration strategies in response to competitive pressures in the expectation of greater efficiency. The overall size of the integrated international production system that is emerging as a result is still difficult to gauge, but a number of indications suggests the emergence of TNCs that are visibly global in their operations in industries such as automobiles, microelectronics, consumer electronics, household appliances, office machinery, instruments, pharmaceuticals and financial services. These are industries in which the basic structural indicators of the way production is organized and markets are served

Table III.16. Ratio of imported to domestic sourcing of intermediate inputs, selected countries
(Percentage)

Country	Early 1970s	Mid- and late 1970s	Mid-1980s
Canada	34	37	50
France	21	25	38
Germany	..	21	34
Japan	5	6	7
United Kingdom	16	32	37
United States	7	8	13

Source: Levy, 1993.

point to a systemic global (or regional) form of integration. In these industries, the value-added chain is, in whole or in part, geographically fragmented; but the individual functions of the chain, whether internalized or externalized, remain under the control and coordination of the major TNCs. In these industries, the leading firms have — or strive to have — a direct presence in each of the three Triad members. Within those areas, production and distribution are being rationalized and restructured, particularly where, as in the case of the European Union, internal barriers to the flow of factors, as well as intermediate and final products, are being dismantled.

However, it would be wrong to suggest that it is only in these clear cases of “global” industries that the tendencies towards deeper international integration and an integrated international production system occur. Examples of the same tendencies can be found in other industries that, overall, do not possess the attributes normally identified with global industries. Textiles, apparel and furniture industries each contain elements of integrated international production, even though they have a high degree of organizational fragmentation. Leading textile companies, such as Coats Viyella (United Kingdom), a company that grew through major acquisitions over the past few years, pursue integrated international production strategies. Japanese textile firms and general trading companies (*sogo shosha*) have, since the 1960s, adopted integrated production strategies in textiles and apparel within East and South-East Asia. Levi Strauss (United States) also operates in an integrated manner in an industry in which, for the most part, production is organized in small units geared to specific geographical markets. The furniture industry is probably even less integrated overall than the apparel industry and yet companies like IKEA (Sweden) have created extremely sophisticated integrated international production and distribution systems that incorporate large numbers of small subcontractors (mostly in Central and Eastern Europe).

These developments describe a profound change in the manner in which the integration of the world economy is governed. In the past, common governance has typically referred to an established and recognized macroeconomic framework that organized the process of international economic transactions, specifically, the gold standard before 1913 and the Bretton Woods institutions after the Second World War. In both cases, deep integration was also present, but the strategies adopted by private-sector actors seeking new ways of organizing and governing production activities across national boundaries faced significant constraints as a result of which deep integration was limited and confined mostly to vertical integration within natural-resource firms. Today, the emergence of an integrated international production system is taking place in the context of greater macroeconomic uncertainty and instability. But, conversely, as many of the constraints on deeper integration have been relaxed, firms have taken advantage of the possibilities of cross-border interactions and have strengthened international governance at the production level.

The relative importance of international production in the world economy is reaching that achieved before the First World War. But, unlike the period 1870-1913 when international production was concentrated in the primary sector and based upon simple but strong vertical linkages, international production has its roots in the manufacturing sector and has a potential to be integrated in more complex ways. Beginning in a limited fashion before the First World War, international production in manufacturing was initially less integrated than in the primary sector. However, from these early stand-alone affiliates, integrated international production in the manufacturing and services sector — to the extent that this traditional division can still be used — has begun to evolve along both horizontal as well as vertical divisions, reflecting the functional breakdown of different components of the value chain and implying greater geographical scope. As a result, a substantial share of global output is being reorganized under the common governance of TNCs, leading to an integrated international production system. As part of this reorganization, attendant international economic transactions (especially trade and technology transfers) are being taken out of the market and internalized within TNC networks. Organized by TNCs, deep integration and parts of shallow integration are becoming intertwined in the broader context of globalization. In the process, the nature of the world economy is undergoing a fundamental change: from being a collection of independent national economies linked primarily through markets, the world economy is becoming, for the first time, an international production system, integrated increasingly through numerous parts of the value-added chain of production.

F. The uneven landscape of integrated international production

Despite the operation of powerful forces creating a higher degree of global integration of economic activities, it should not be assumed that there is a smooth, even or inevitable evolution towards a uniform system of integrated international production. Technological developments in transport and communications have not removed the influence of space — geography still matters. Furthermore, TNCs continue to operate on a rough surface of regulatory complexity and uneven factor availability, and do so in a variety of ways — governments still matter. In addition, TNCs originate in specific places and, through the influence of routine and inertia, carry with them some of the attributes acquired there. Consequently, a high level of diversity continues to exist.

1. Geography still matters

To begin with — and notwithstanding their geographical reach — TNCs are still substantially creatures of their domestic environments. Certainly, the argument that TNCs have, in effect, become de-nationalized (Reich 1992; Ohmae 1990) is only a partial interpretation of the real world (Hu, 1992; Krugman, 1994). As has been observed: "However great the global reach of their operations, the national firm does, psychologically and sociologically, 'belong' to its home base. In the last resort, its directors will always heed the wishes and commands of the government which has issued their passports and those of their families" (Stopford and Strange, 1991, p. 233). In fact, the boards of directors of most TNCs continue to be predominantly of home-country origin; TNCs still continue to gain some clear advantages from their long-standing involvement with their "domestic" economies; and "mutual interest" between TNCs and their home-country governments continues to be strong (Hu, 1992; Streeten, 1992).

Equally important, technological changes have not removed the relevance of location for many production activities; in fact, in some cases, rapid technological changes, including organizational innovations, such as lean production, in which trust and reliability are at a premium, appear to reinforce geographical differences (Levy, 1993; Krugman, 1993). Furthermore, local and regional economies of agglomeration have not disappeared. High value-added

functions continue to be attracted to locations with the right mix of complementary industries and skills. Thus, even as capital becomes more mobile, TNCs and their affiliates continue to derive their competitive advantages in part from interacting with the local economy.²² Consequently, "differences in national economic structures, values, cultures, institutions, and histories contribute profoundly to competitive success. The role of the home nation seems to be as strong as or stronger than ever. While globalization of competition might appear to make the nation less important, instead it seems to make it more so" (Porter, 1990, p. 19).

The influence of geography is apparent in FDI flows. Foreign-direct-investment flows are consistent with a more dispersed pattern of production (as more factors come to influence the location of FDI and TNCs can more effectively assess the range of locational options), or a more concentrated pattern (if TNCs are attracted to areas with already established advantages). Most likely both tendencies can occur simultaneously. The concentration of FDI inflows in ten developing countries has already been noted — this trend has, if anything, become even more pronounced with the recovery of FDI flows to developing countries in the past several years; market size — exemplified by the recent increase of FDI into China — remains a significant influence on the concentration of these flows. Nor has the evolving pattern of FDI flows escaped the formation and strengthening of regional economic blocs; countries undertake a disproportionate share of their investment in the economies of their regional partners. Canada, for example, had 71 per cent of its FDI stock in the United States and Latin America in 1990. Italy had 74 per cent of its investment stock in the European Union in 1990 (Petri, 1994). The intraregional share of investment is not quite as high in East Asia as in Europe and North America, but is still high when compared to the region's overall investment relationships. For the regions indicated in table III.17, the share of investment conducted with regional partners is higher than the share of those partners in world investment in general (UNCTAD-DTCI, 1993a).²³

In light of the complex integration strategies pursued by TNCs, the emerging pattern of FDI flows within the European Union, which has advanced furthest — both *de facto* and *de jure* — towards an integrated economic space, provides an important indication of the likely concentration and dispersion of potential benefits. During the 1980s, in part anticipating the completion of the Single Market, inflows into the European Union rose significantly, accounting for over 50 per cent of world inflows and some of the countries, most notably Spain, have been particularly attractive locations. Still, the contribution of FDI to gross domestic capital formation is actually highest in those countries where incomes are already high and some of the poorest countries of the Union were noticeably unsuccessful in attracting a larger share of inflows. Moreover, an analysis of the location of FDI within some of these countries suggests that it is concentrated in wealthier locations (de Vet, 1993). From this brief discussion, it is clear that geography still matters in attracting FDI, and that FDI can act as much to reinforce differences between countries as to reduce those differences.

Table III.17. The intensity of foreign direct investment, by host region, 1990a

Region	North America	Latin America	Europe	Africa	Western Asia	South Asia	East Asia
North America	1.97	1.12	0.84	0.49	0.85	0.32	0.8
Europe	0.98	0.53	1.32	1.16	0.79	1.77	0.56
East Asia	1.28	1.09	0.5	1.10	1.12	0.28	1.94

Source: UNCTAD-DTCI, 1993a.

a The intensity ratio: share of host region in outward investment stock of a given country, divided by share of host region in worldwide FDI stock.

2. Governments still matter

The reshaping of today's world economy, no less than in earlier periods, is an interactive process between firms, markets and states (Dicken 1992b, 1992c, Yoffie 1993; Panic, 1993; Stopford and Strange, 1991). The importance of the state in influencing the strategies, structures and behaviour of TNCs and, therefore, the nature and extent of integrated international production, lies in its dual role as *regulator* of specific activities and as *container* of specific assemblages of political, economic, social, cultural and institutional attributes. But it is this particular assemblage of both components that is likely to mold domestic businesses and affect their international nature (Whitley, 1992a, 1992b): "host governments wield the power to limit the extent of, or even to dismantle, the MNC integrated manufacturing and trade networks with more regulations and restrictions on foreign investments and market access" (Doz, 1986, p. 39).

But governments can, and do, create, modify or even destroy comparative and competitive advantages. In imperfectly competitive markets, first-mover advantages, externalities and spillovers are still seen to require governments to intervene in favour of their domestic firms (Ostry, 1990, p. 60). In some countries, for example, in the United States, this has led to a growing demand for a more strategic policy stance. This shift is particularly evident with regard to high-technology industries that are seen to be at the centre of a country's competitiveness. Within the broad tendency towards greater deregulation, therefore, there are significant differences between individual states. And despite the undoubted changes that have occurred in its autonomy, the State remains a critical actor in the organization of the world economy and a major source of continued unevenness in the extent and form of integrated international production.

Still, the general trend in the national and international regulatory environment has been towards greater deregulation and more openness towards flows of trade and investment. But that does not mean that the regulatory surface has become uniform, even in industries, such as telecommunications, that are quite becoming transnational in nature (Victor and Yoffie, 1993). A level playing field certainly does not yet exist; there are still large differences in regulatory structures and attitudes between nations. From the perspective of integrated international production, the two most critical aspects of state regulatory policy for a TNC are access to markets and/or resources (including human resources) and rules of operation for firms operating within particular national (or supranational) jurisdictions (Reich, 1989). In both of these aspects, continuing liberalization of policy (see chapter VII) exists side-by-side with continuing, or even new, types of restrictiveness.

One of the most important recent developments in the international regulatory environment has been the strengthening of regional economic integration, notably in Europe (the process to complete the Single European Market by the end of 1992 and the subsequent development of the European Union) and North America (the Canada-United States Free Trade Agreement and the North American Free Trade Agreement). Such developments are designed to remove regulatory barriers to trade and factor flows and to harmonize some areas of legislation between member States. But the process is both complex and time-consuming. The move to a new, enlarged scale of regulation is far from straightforward; and, in the transitional period, regulations regarding access and operations often become more complicated. In effect, deregulation can become "reregulation", sometimes, as in the case of regional blocs, on a larger geographical scale. Thus, although the emergence of new, and strengthened, regional blocs greatly alters the nature of the international regulatory surface on which TNCs operate, it does so in complex, and often uncertain, ways. This applies also — and particularly so — in the area of labour markets (see Part Two).

3. Diversity still persists

Thus, despite the trend towards integrated international production, the extent of global integration and its actual form are subject to modification and reshaping by the existence of location specific differences. The geographical and functional integration of corporate activities and the emergence of an integrated international production system are far from uniform, even in the same industry and even in industries that are generally considered to be very integrated internationally (box III.1). Regional integration strategies continue to exert a considerable influence on FDI flows, albeit in complex ways. Indeed, the proliferation of different strategies, including those of the same TNC, is likely to be a characteristic feature of the evolving integrated international production system. Many firm- and industry-specific advantages remain tied to regional, national or sub-national levels, and concentration is still a persistent feature of the geography of production. This is true not only of many traditional industries, but also of high-technology and service industries.

G. Globalization and integrated international production

Globalization is often taken to connote fully integrated markets for final goods and services and for factors of production. This, which has been termed here shallow integration, implies the entry and exit of economic agents into markets, largely unhindered by political boundaries and regardless of their place of origin. Over the past fifty years, economic and political factors have combined to produce a level of shallow integration at least comparable to that reached before the First World War. The result is a considerably more complex pattern of international specialization and exchange than was present when the Bretton Woods institutions were established, a pattern, furthermore, that encompasses virtually all countries in the world.

But — a central theme of this chapter — globalization cannot be divorced from the actual process of producing goods and services. The kind of governance structure required to coordinate such a process across national borders is unlike that required for market exchanges because international production involves the internalization of transactions within TNCs. This process of deep integration includes qualitative changes in the organization of transnational activity leading to the creation of an integrated international production system encompassing a substantial share of world output. There can be no doubt that the strategies and structures leading to integrated international production can bring benefits at the firm level; nor can it be doubted that the higher degree of interdependence between activities located in different countries, organized in a manner to increase the productivity of the entire value chain, widens the geographical network of TNC activity.

These processes of shallow and deep international economic integration are closely linked — indeed the strength of globalization implies strong complementarities between the two processes. However, there is no *a priori* reason to assume that both are moving in the same direction along a more dynamic growth path for the world economy. Most attention has focused on how best to manage the process of shallow integration to facilitate economic growth; but new and difficult policy issues arising from deeper processes of integrated international production have now emerged and deserve the full attention of national governments and the international community.

The structural, technological and organizational changes accompanying integrated international production are likely to be prerequisites for renewed growth and increased employment opportunities at the national and regional levels. More speculatively, cross-national economies of scale, economies of scope and organizational learning certainly hold out the possibility of a new growth dynamic in the world economy (Whadwani and Shah, 1994). But, to date, this remains

Box III.1. The automobile industry

Historically, the geography of automobile production owed a great deal to its early national regulatory structures, especially tariffs. The existence of high tariffs on imported vehicles from the early days of that industry's development led to major investment decisions by the leading producers, notably the United States companies, to build or acquire assembly and manufacturing plants in each major export market. These decisions were reinforced by technical regulations that were highly differentiated between countries. The inheritance of this regulation-driven pattern has been a subsequent lengthy rationalization and restructuring of national operations to reposition firms in regional and global markets. Since the 1970s, however, largely because of the increasingly intensive competition from Japanese producers, the regulatory emphasis has shifted from tariff to non-tariff barriers. Voluntary export restraints have been advocated by the United States and by several European countries for Japanese automobile imports. These have, inevitably, helped to force Japanese automobile manufacturers to establish operations in the United States and Europe. In the European case, the regulatory environment has changed dramatically as part of the programme to complete the Single Market. Physical, technical and fiscal regulatory barriers to internal trade and investment are being removed, and this will certainly benefit those major automobile firms that currently have the most highly integrated European operations. This is because their ability to optimize their in-house and externalized component and vehicle-sourcing strategies will be greatly enhanced by the removal of internal physical and technical barriers.

An important additional regulatory mechanism focuses specifically on Japanese companies. The earlier bilateral "voluntary" agreements to restrict Japanese automobile imports operated by various European Union members have been replaced by a very complex (and contentious) transitional arrangement that freezes Japanese imports until 1999, but allows growth of Japanese production within the European Union. At the same time, the emphasis on local-content levels has been enhanced, even though there is no specific quantitative level embodied in the Treaty of Rome. In the United States, pressure to increase local content has helped to stimulate the arrival of more than 300 Japanese component manufacturers; so far, the same trend has not occurred in Europe.

It might be expected that the common competitive, technological and regulatory environment facing the major automobile producers, especially in Europe, would have led to a common strategic orientation. But this has not happened. Although, in order to compete with the Japanese, United States and European companies have adopted measures to introduce more flexible and lean production methods to rationalize and restructure their production networks and have engaged in strategic alliances, the actual extent of their international operations and degree of global integration varies enormously. In general, United States, European and Japanese automobile manufacturers have evolved substantially different strategies. GM and Ford (United States) are unequivocally moving towards globally (and regionally) integrated companies. The recent announcement by Ford to move to common governance of product, manufacturing, supply and sales activities along global product lines will, undoubtedly, reinforce integrated international production in the automobile industry (Done, 1994). But among the leading European producers, only Volkswagen can be regarded as pursuing a genuinely internationally integrated strategy. The Japanese companies, despite their recent international expansion, are far less global in their operations than the leading United States companies.

Source: Dicken 1992a, 1992c.

only a promise. Realizing the potential inherent in an integrated international production system and ensuring its sustainability will depend upon favourable demand conditions and the wider spread of benefits at local, national and international levels. However, because globalization is understood here as including both shallow and deep integration, it is necessary to take a more encompassing policy approach.

1. The domestic management of the integrated international production system

For the past two decades, globalization has been accompanied by uneven growth in the world economy and by growing economic uncertainty. The globalization of financial markets has led to a significant growth in capital mobility and speculative activity, has dissolved the traditional boundaries between banking and non-bank forms of corporate activity and has weakened the efficacy of traditional tools of macroeconomic management. Global competition has also disrupted the established industrial structures that facilitated unprecedented productivity growth in the 1950s and 1960s. Regional blocs have grown in significance with, still, uncertain consequences for the world economy. Corporate strategies have begun to adapt to these developments through closer linkages at the production level, but systemic vulnerability and uncertainty may limit their more widespread benefits.

Much like earlier periods of structural and organizational change, the transition to an integrated international system, itself, produces considerable uncertainty and disruption; the replacement of traditional skills, corporate down-sizing and plant relocation can all be seen as temporary adjustment problems arising from the establishment of this new system of production (see chapter IV). But even assuming that these adjustments are temporary, the system of integrated international production is particularly vulnerable to micro-economic and macroeconomic imbalances. Not only does integrated international production generate many more linkages, both vertical and horizontal (thus increasing complexity and, consequently, vulnerability to disruption), but also the high degree of specialization in an international division of labour implies that no firm or industry — or indeed national or regional economy — within this system can operate effectively without relying on many other firms and industries in the system. Furthermore, infrastructure and human-resource needs are particularly high under these circumstances; rates of investment may need to be higher than those prevailing under the simpler integration strategies of international production; and there appears to be a premium on maintaining such demanding — because of their intangible nature — institutional supports as trust and cooperation. Moreover, with such a high level of interdependence, shocks or disturbances in one part of the system are likely to be transmitted with considerable rapidity to other parts.

For much of the past fifty years, increased integration and the benefits associated with it were successfully organized and managed by national governments. The result of their efforts can be judged by the fact that, for any individual nation in today's world economy, it is difficult to conceive a reduction in international economic integration without significant welfare losses. It is equally apparent that, as States become more tightly interwoven in a world economy, they lose autonomy in some areas. The difficulties this poses have been apparent with the internationalization of financial markets and the reduction in the unilateral scope of government action to respond effectively to macroeconomic imbalances. International production also poses similar challenges. As a result of increased geographical scope of transnational activity, the higher share of economic activity organized within the boundaries of TNCs and growing interdependence of trade, investment and technology imply that the difficulties of managing the process of international integration can stretch the capacities of most governments.

Integrated international production will almost certainly challenge further the ingenuity of policy makers. Governments in both developed and developing countries have responded, in part, to these changes by focusing on the advantages of FDI and by adopting both a clearer and

a more systemic view of the need to link trade, technology and investment policies (Dunning, 1994). As a result, governments no longer see TNCs as part of the problem, but rather as part of the solution, which helps to make FDI a more effective tool for promoting economic growth and other economic and social goals. Finally, regional integration schemes build on the strong complementarities between investment and trade, reinforcing these linkages at the level of international production. However, any potential advantages from hosting FDI cannot be divorced from the links to other elements of the globalization process. Here, the effects are more uncertain.

Much of the new investment required to compete internationally is in capital-intensive technologies, requires large research-and-development expenditures and involves the simultaneous penetration of many markets to combat shortening product cycles. New investments are also required to modernize the organizational structure and skill profile of firms and industries. All this requires access to sizeable funds and a stable investment climate. But deflationary pressures, exchange-rate volatility and heightened uncertainty accompanying the internationalization of financial markets can adversely influence the long-term investment decisions at the heart of integrated international production by adding to the attractiveness of shorter-term (and often more speculative) investment opportunities and having financing issues assume an unduly large significance in corporate planning (Volcker and Gyóthen, 1992; UNCTAD, 1987, p. 89; Cushman, 1985). Under these circumstances, the potential for misallocating resources may be particularly disruptive to integrated international production.

Thus, whilst desire of many countries to benefit simultaneously from their participation in world markets is perhaps unprecedented, it also gives rise to a *paradox in national policy making*. On the one hand, international linkages and interconnections have created a perception that effective national policies (and their implementation) for adapting to a more interdependent world economy have gained rather than declined in importance (Porter, 1990; Dunning, 1992). On the other hand, these same pressures make the identification and targeting of purely national objectives increasingly complex and have narrowed the scope for independent action. This dilemma touches upon all aspects of economic policy, leading governments to reconsider the way in which they approach economic policy as the achievement of well-defined objectives through a series of mutually separable policy means. Indeed, as a first step to a more coherent policy-framework, capturing the effects of increased economic integration requires making changes to traditional national accounting frameworks for international transactions (box III.2).

The policy paradox becomes all the more challenging because many more policy issues that were previously the responsibility of national governments — including national technological systems, labour-market regulations and competition laws — become open to international concern, the stronger the linkages established through integrated international production. To date, the challenge posed by the internationalization of domestic policy issues has had its most dramatic effect in areas where economic and social assets are closely intertwined, reflecting furthermore the fact that social assets tend to be more rooted in their local or national environments. This is particularly true of labour markets. Although TNCs help to organize the international division of labour and exert considerable influence over national patterns of industrial activity and employment (discussed in chapter IV), their impact on employment and workplace conditions is dependent upon macroeconomic, structural and technological factors that are mediated by domestic policies and organizations. The direct labour-market effects of FDI on employment are thus difficult to quantify. But international economic integration has widened the options available to TNCs in dealing with a dispersed labour force. Cross-border plant relocation is only the most visible — and drastic — option available to firms in their efforts to restructure under pressure from global competition; automation, diversification of product lines, product innovation and subcontracting have all been made easier by labour market deregulation and more decentralised negotiating and bargaining structures. The weakening of traditional

Box III.2. Transnational corporations and the balance of payments: supplementing the traditional framework

The rise of a more integrated international production system poses new challenges to those concerned to document the growing interdependence of economic activity. This is not simply a scholarly exercise. An appropriate accounting system provides one important element of a more effective policy framework.

Balance of payments accounts are designed to record transactions between residents of different countries. Traditionally, they have recorded the cross-border trade of foreign affiliates with their country of ownership and with other foreign countries, but they have not record affiliates' sales or purchases in their country of location. However, as the world economy has become increasingly characterized by integrated international production, there has been growing recognition of the need to supplement the balance of payments accounting framework to obtain a more complete picture of the activities of TNCs and, in particular, of the extent to which the delivery of goods and services to international markets is through sales by locally established affiliates (sometimes termed "establishment trade") rather than through trade in the conventional sense of resident-nonresident transactions (cross-border trade).

In an effort to meet this need, a number of proposals have recently been made for supplementing the standard balance of payments accounts with accounts explicitly incorporating information on sales through foreign affiliates.

The National Academy of Science proposal

A National Academy of Science (NAS) study panel proposed an ownership-based measure of net sales to foreigners (including foreign-owned affiliates) by domestically owned firms (including their affiliates abroad), whether conducted through cross-border trade or through local sales by their affiliates. With respect to data for the United States, which the NAS panel used in illustrating its proposal, the net sales measure can be derived as the sum of three items: net United States cross-border sales to foreigners by domestically owned companies, net sales to foreigners by foreign affiliates of United States companies, and net United States sales to United States affiliates of foreign companies. (Reflecting its ownership-based perspective, the NAS proposal defined "foreigners" to include United States affiliates of foreign companies and to exclude foreign affiliates of United States companies.)

Net United States cross-border sales to foreigners by domestically owned United States companies is computed in three steps. First, United States exports to foreign affiliates of United States companies and exports by United States affiliates of foreign companies are subtracted from total United States exports of goods and services to obtain an estimate of cross-border exports by domestically owned United States companies to foreigners (as defined). Second, imports from foreign affiliates of United States companies and imports by United States affiliates of foreign companies are subtracted from total United States imports to obtain an estimate of cross-border imports by domestically owned United States companies from foreigners. Third, the import measure is subtracted from the export measure to produce net cross-border sales to foreigners by domestically owned United States companies.

Net sales to foreigners by foreign affiliates of United States companies is computed in two steps: sales by foreign affiliates to the United States and to other foreign affiliates of United States companies are first subtracted from their total sales, and then their local (non-United States) purchases of goods and non-factor services are subtracted from the result. Net United States sales to (or if negative, as is the case, purchases from) United States affiliates of foreign companies are computed analogously.

The result of these computations are summarized and compared with balance of payments statistics in table 1. Using the standard balance of payments framework, the United States recorded a \$28 billion deficit in trade on goods and services in 1991. Using the NAS net sales measure, in contrast, the United States had a positive sales balance of \$164 billion, as positive balances on cross-border transactions and on transactions by foreign affiliates of United States companies were only partly offset by a negative balance on transactions by United States affiliates of foreign companies.

The net sales measure is useful for assessing companies' sales performance in global markets and can provide insights into the linkages between international trade and investment activities and the

Table 1. A comparison of United States international economic performance under different frameworks, 1991
(Billions of dollars)

Residency-based frameworks			Ownership-based frameworks	
Item	Gross-border trade in goods and services	Alternative residency-based approach, including both cross-border trade and net sales through affiliates	National Academy of Sciences proposal	Julius proposal
United States sales to foreigners	581	632	816	2 523
United States purchases from foreigners	609	608	652	2 499
Balance	-28	24	164	24

Source: Landefeld, Whichard and Lowe, 1993.

domestic economy. However, because it does not align a country's sales with the use of only those factors of production that are either entirely located in or owned by residents of the country, it may give misleading signals if used to gauge the effect of changes in foreign affiliates' sales on home- or host-country income and employment. (In deriving net sales, purchases of goods and services from foreigners are deducted from sales, but payments to foreign capital and labour are not.)

The Julius proposal

Under another ownership-based approach suggested by DeAnne Julius, a foreign affiliate is treated not as a resident of the host country, as in the standard accounts, but as an extension of the investor country's firm. The affiliate's transactions with the host country are recorded on a gross basis, reflecting the ownership boundary between the firm and the rest of the host economy. Unlike the NAS proposal, local purchases by affiliates are defined to include not only payments for goods and non-factor services purchased from outside vendors, but also payments for labour and other factors of production employed within the firm. This netting of all receipts from foreigners against all payments to foreigners results in a trade balance equal, conceptually, to the balance on goods and services plus the balance on direct investment income in the balance of payments, a result which suggests that one way of viewing the Julius measure is as a more gross variant of the standard accounts. Whereas the balance of payments accounts reflect the net effect of subtracting the affiliate's purchases from its sales—specifically, the parent's share in the affiliate's net income—the estimates constructed by Julius show the purchases and sales separately.

The second respect in which the Julius approach differs from that of the NAS panel is in the recording methodology. Whereas the NAS panel used what is sometimes referred to as "directional" methodology, recording the net of sales and purchase separately for inward and for outward direct investment, Julius suggests recording transactions on what could be termed an "exportimport" basis. On this basis, foreign affiliates' local purchases of goods and services are recorded as a component of sales by foreign affiliates. This approach produces larger gross flows of sales and purchases of goods and services and are recorded as a component of sales by foreigners to the investor country rather than as a deduction

from total sales by foreign affiliates. This approach produces larger gross flows of sales and purchases than does the directional methodology followed by the NAS panel and thus depicts more completely the total magnitude of two-way transactions between United States and foreign-owned entities; however, it makes it harder than under the directional methodology to isolate and analyze the transactions of companies grouped on the basis of ownership. From the standpoint of the overall trade (or sales) balance, it is immaterial which method of recording is selected, for the choice of method alone has no effect on the balance.

Under the Julius method, total United States sales to unaffiliated foreigners (with "foreigners" defined, as before, from an ownership perspective) were \$2,523 billion in 1991, compared with total sales by foreigners to unaffiliated United States persons of \$2,499 billion; thus, the United States had a positive sales balance of \$24 billion in 1991. While this balance equals the sum of the standard balances on goods, services, and direct investment income, it is produced by estimates that provide a considerably more detailed picture of the gross flows that produce the balance and of the channels of delivery that companies use to service international markets.

The alternative residency-based approach

A study by the United States Department of Commerce has suggested that, as an alternative to producing ownership-based estimates, the standard residency-based balance of payments accounts could be reconfigured to provide more information on ownership. In so doing, the varied needs of data users could be met without giving up the standard account's linkage to economic activity in specific economies and integration with broader national accounts. This approach retains the standard measures of cross-border trade in goods and services and of activity by affiliates (i.e., direct investment income). However, it records a number of details that show the data from a new perspective and allows a more complete analysis of ownership relationships and of the scope and importance of intra-firm trade than is allowed by the conventional presentation.

As in the standard balance of payments and in the NAS proposal, the results of affiliates' activities in their countries of location are recorded on a "directional" basis: net receipts by United States companies resulting from the operations of their foreign affiliates are recorded as a component of United States sales (exports) to foreigners, and net receipts by foreign companies resulting from the operations of their affiliates are recorded as a component of United States purchases (import) from foreigners. Although analogous to direct investment income, the "net receipts" terminology used in the presentation to represent the difference between affiliates' sales and purchases (each of which is explicitly shown in the Department of Commerce framework) is more suggestive of the underlying operations that generate the income. By retaining the residency concept, this approach maintains consistency with internationally recognized standards for measuring production and determining its location, and it keeps attention focused on the effects of direct investment activities on the domestic economy. However, it encourages the user of the international accounts to look beyond the information on cross-border trade alone and to recognize that the overseas operations of foreign affiliates constitute an integral part of the nation's economic interaction with the rest of the world.

Under this framework, the United States had exports (broadly defined to include net receipts from sales by affiliates as well as cross-border sales) of \$632 billion, imports of \$608 billion, and a net export, or sales, surplus of \$24 billion in 1991. This is the same balance as produced under the Julius approach, a consequence of the fact that, in determining the balance, both approaches net out *all* payments to foreigners rather than, as in the NAS approach, only payments made outside the firm.

Sources: Landefeld, Whichard and Lowe, 1993; Kester, 1992; Julius, 1990.

institutional representation of labour may also make it easier for firms to respond to increased international competition through the option of rationalizing and reducing direct costs rather than seeking a longer-term — more expensive and riskier — commitment to invest in human capital and other created assets.

Given the nature of the integrated international production system, retraining and an effective welfare programme are as integral to it as to earlier systems. They are also as expensive, particularly at a time when a growing number of firms and industries need to adjust to new competitive pressures and a growing share of the labour force faces poor employment prospects. The widening mobility gap between capital and labour has, in part, contributed to the declining autonomy of national social and labour policies. For instance, taxes to ensure adequate social programmes may encourage the exit of the more mobile factors, further increasing the burden on the least mobile. The destructive potential of this logic lies behind European Union efforts to devise a transnational social policy. More generally, because the systemic interdependence of economic relations occurs across an increasing number of national borders to reach the global level, the governance pressures of integrated international production are likely to be particularly pronounced. But in important respects, existing policy frameworks — because they are still defined by national parameters — are inadequate for dealing with such pressures many of which are now international in character (Panic, 1988; Ostry, 1990).

2. The international management of the integrated international production system

Resolving the paradox facing national policy makers cannot be achieved at the national level. If anything, the increasing internationalization of domestic policy issues is likely to give rise, more than ever, to "system friction" (Ostry, 1992) between different but increasingly interlinked national economies and social systems. To deal with these frictions will require a process of convergence if governments are to refrain from protectionist responses or destructive policy competition.

Achieving convergence in this respect will almost certainly prove difficult and is unlikely to be successful without considerable cooperation. To an increasing extent, this reflects the degree to which new policy challenges accompanying the emergence of integrated international production involve the provision of what has been called "international public goods" (Kindleberger, 1986), that is, goods that require some degree of collective consent (and sometimes payment) at the international level if they are to be supplied at appropriate levels. As in the past, the appropriate provision of these goods will, in the future, depend upon positive leadership, adequate resources and a willingness to forgo some degree of national autonomy for a wider international interest. But in important respects, the challenges to international governance posed by an integrated international production system are even greater than those already experienced with the formation of an international trading and monetary framework. Not only are the issues to be addressed much wider — including labour and environmental standards, investment and technology policies and social provisions — and potentially more difficult to resolve, but in a world economy increasingly shaped by a Triad of regional groupings, where TNCs have increased in number and scope, the traditional place of a leading economy is effectively compromised. Under these circumstances, the dangers accompanying increased economic uncertainty should not be underestimated.

Although many of the new organizational responses within the framework of integrated international production have been responses to increased economic uncertainty and the growing interdependence of economic activities, these have been almost exclusively undertaken at the corporate level. A comparable response at the government level through greater coordination and cooperation efforts at the regional and international levels to address global macroeconomic imbalances, structural changes in the world economy and growing regional inequalities has been

Table III.18. The share of major regions and countries in world production, 1967-1989: gross domestic product at 1980 purchasing power
(Percentage)

Country/region	1967	1973	1980	1986	1989
United States	25.7	22.8	20.9	20.9	20.8
Western Europe	25.9	25.3	23.9	22.4	22.2
Japan	5.6	7.0	7.2	7.5	7.8
South, East and South-East Asia (including China)	11.0	11.8	13.8	17.4	19.3
Latin America	7.1	7.7	8.8	8.0	7.5
Africa (except South Africa)	3.1	3.2	3.4	3.2	3.0
Rest of the world	21.7	22.1	22.2	20.5	19.4

Source: van Liemt, 1992.

Table III.19. Forging ahead and falling behind in the new competition: research and development as a share of gross national product, 1970, 1980 and 1990
(Percentage)

Region	1970	1980	1990
World	2.04	1.85	2.55
Developed countries	2.36	2.22	2.93
Europe	1.70	1.81	2.21
North America	2.59	2.23	3.16
Developing countries	0.32	0.52	0.64
Africa	0.33	0.30	0.29
South, East and South-East Asia	1.02	1.41	2.08
Western Asia	0.31	0.97	0.76
Latin America and the Caribbean	0.30	0.44	0.40

Source: UNESCO, *Statistical Yearbook: Expenditure on Research and Experimental Development*, various years.

slow to materialize (Streeten, 1992; Cornford, 1993; OTA, 1993). In this respect, the real challenge of globalization "is to develop bargaining structures and attitudes conducive to reaching negotiated outcomes that avoid further segmentation, while accepting rapid structural and technological change and the advantages of a more open world economy" (van Liemt, 1992, pp. 468). This issue will be taken up in Parts Two and Three, in the specific context of employment, human resource development and industrial relations.

But the challenge of globalization is compounded by the fact that integrated international production is emerging in a world economy that is also being shaped by strong pressures towards divergence and, possibly, fragmentation. The share of world output produced by the developed countries steadily declined until 1980, with a corresponding increase in the share of all developing country regions and the former centrally planned countries. Over the past decade, this trend has slowed and important aspects have been reversed; stability in the developed countries' share of global output and the rise of South, East and South-East Asia contrasts with the decline of all other regions (table III.18). Similarly, the share of world merchandise exports, between 1982 and 1992, showed a spectacular rise of South, East and South-East Asia, smaller increases for North America,

the European Union and Japan and declines in all other regions of the world (de Jonquières, 1994). Perhaps even more troubling in light of its importance to integrated international production is the growing divergence among regions in expenditures on research and development (table III.19).

* * *

Globalization is ultimately the product of decisions taken by firms. However, the potential gains from increased integration also depend upon cooperation among nations to reduce barriers and ensure smooth management of the integration process. The steady reduction of barriers over the past fifty years has meant that TNCs, as well as domestic firms, have been able to expand across borders through trade and other market-based linkages. But going beyond shallow integration, TNCs, by matching their assets with specific locational advantages elsewhere have, over the same period, furthered deeper integration. Recent changes towards deeper integration appear to be particularly rapid: the growth and spatial reconfiguration of FDI through the tripolar centres of the United States, the European Union and Japan; the growing interdependence of trade, technology and FDI; the emergence of integrated international production and corresponding forms of international corporate governance; and the profound shift in the policy stance of governments towards FDI, all point in the direction of a new force of globalization in the world economy.

However, given that the greatest advances in international economic integration appear to have taken place during periods of prolonged economic prosperity and convergence, when optimistic economic expectations and political security are most assured, the weak and unstable growth path in the world economy should serve to caution against an overly hasty assessment of the future course of globalization. In this case, the danger of exclusion of some countries (or areas within countries) is unlikely to disappear with the emerging integrated international production system, and is a major challenge facing the international community.

Notes

1 Even as international trade theory has relaxed some of its more unrealistic assumptions, it has not adequately accommodated the component of international production (see Hymer and Rowthorn, 1970; Panic, 1988; Lall, 1993b; Robson, 1993b). Consequently, the rise and growing influence of TNCs in the world economy is still, by and large, discussed outside this traditional framework (Dunning, 1993a).

2 See Kindelberger, 1988; Survey on Multinational Corporations, *The Economist*, 27 March 1993; Christopher Lorenz, "The transnational's identity crisis", *Financial Times*, 19 March 1993.

3 It is of some significance to note that, in the case of the United States (which became the world's leading economy during this period) although exports outgrew GDP (4.8 per cent and 3.9 per cent, per annum respectively) for the period 1870-1913 as a whole, this was from a very low base and the trend was reversed in the early twentieth century. See Maddison, 1989, table D-6.

4 Although quantitative restrictions on trade were absent, tariff protection could be considerable, particularly on manufacturing goods; see World Bank, 1991, p. 97. For a discussion of trade policy in this period from an historical and comparative perspective, see Bairoch, 1993.

5 Of this, \$18 billion was held by the United Kingdom, \$9 billion by France, \$6 billion by Germany and \$5.5 billion by Belgium. Of the total, \$14 billion was invested in Europe, \$10.5 billion in the United States and Canada, \$8.5 billion in Latin America and the balance in Asia and Africa.

6 Covariations and correlations in interest rates, exchange rates and stock prices in leading markets were high and appear to have been higher than during any subsequent period. There are, however, serious limitations to the price criterion as a measure of international integration; see Panic, 1988, p. 25.

7 However, using simple GDP per capita figures, the distinction between developed and developing countries should be treated carefully for this period. Thus, Latin America (the largest host region in 1914) included Argentina with a GDP per capita higher than that of some of the Western European core economies, and other countries, such as Chile and Mexico, with levels comparable to some of the industrializing European periphery, such as Czechoslovakia and Hungary. However, the large share of FDI stock in Africa, Asia and some parts of Latin America was clearly located in what, today, are considered developing countries. Moreover, although precise historical data are lacking, the share of FDI in overall foreign investment appears to have been large — one estimate puts that share at anywhere between 44 and 66 per cent of total foreign investment, see Svedberg, 1978.

8 In broad macroeconomic terms, the period avoided sharp shocks or fundamental disequilibria; growth rates were respectable; inflation was persistently low; unemployment moderately high; and the business cycle in most countries showed increasing though manageable fluctuations; see Maddison, 1989.

9 Given the relatively simple technological and organizational conditions characteristic of much economic activity in the late nineteenth and early twentieth centuries, there were inherent limits to the extent of shallow integration (Panic, 1988, pp. 15-17).

10 On one estimate, when the United Kingdom began to industrialize in the early nineteenth century, the required capital per worker was equivalent to 4-5 months wages. By the time Hungary began to industrialize at the end of the century, that figure had reached 42 months wages (Pollard, 1981, p. 221).

11 Between 1880-1890, this share was 50.5 per cent in Australia, 47 per cent in Sweden and 12.6 per cent in Italy; between 1901-1910 it was 26.9 per cent in Norway; and between 1911-1913 it was 46.2 per cent in Canada (Panic, 1992, p. 101).

12 Although the links between FDI and other international flows among the core countries still require further research, it would appear that trade expansion and financial motivations were as important determinants of FDI as the desire to strengthen production linkages. The "free-standing" company was important for a large subset of United Kingdom (and possibly Dutch) TNCs. The free-standing company is not synonymous with the stand-alone affiliate, in that it did not evolve from domestic production activities but from financial activities. As Mira Wilkins described them: "The companies were registered in the United Kingdom and were established typically to do business in a single country abroad.... Their founders hoped to unite the abundant capital of Great Britain with the potentially or actually profitable opportunity abroad. Each had a board of directors in Britain, charged with managing overseas business. The British Headquarters was, however, at least at origin usually limited to the part-time board of directors and possibly one full-time secretary. In short, the head office did not amount to very much", Wilkins, 1988, pp. 29-30. Trading companies figured prominently in Japanese FDI.

13 There was, of course, a major shift in the political and economic balance of the world economy. The developments prior to the First World War hastened the rise of the (more inward-oriented) United States economy, hand in hand with the corresponding fall of the (more outward-oriented) United Kingdom, changing the international equilibrium (see Keynes, 1971; Bloomfield, 1963).

14 GATT, *News of the Uruguay Round of Multilateral Trade Negotiations*, April 1994, p. 10.

15 The possibility that poorer countries will catch up with their wealthier neighbours is a long standing promise of the modern industrial world. The hypothesis simply stated suggests that growth rates vary inversely with the level of productivity and that, consequently, poorer countries will grow faster than richer ones. This potential for rapid growth reflects the investment opportunities of backwardness through the reallocation of resources from low productivity to high productivity sectors and the overall acceleration of productivity growth gained by capturing technological (and other positive economic) spillovers from leading countries. However, the question of which strategies and institutions are most appropriate to bring about a successful catching up, continues to divide researchers on growth and development.

16 The fastest growth in trade in the 1980s occurred between South, East and South-East Asia and North America and between South, East and South-East Asia and Europe (OECD, 1991, p. 10).

17 The full extent of financial integration is still being debated by economists; see Zevin, 1988; Panic, 1988; Roll, 1989; O'Brien, 1992. Unlike the period before the First World War, this increased integration of finance has coincided with a pronounced shift to short-term capital flows — short-term bank flows into the industrial countries rose by 700 per cent (Kregel, 1992) — and has been accompanied by a marked increase in the volatility of markets.

18 Expectations differ considerably regarding the future internationalization of labour markets. It is of some considerable interest to note the findings of the Commission of the European Communities (1993a,

p. 81) that, even within the European Community (arguably the most integrated international labour market in terms of its regulatory structure) "there is...very little movement of labour between Member States". For a contrasting view see Johnston, 1991.

19 Both these economies have become net outward investors sooner than Singapore which has played host to considerably larger amounts of FDI.

20 For an elaboration, see UNCTAD-DTCI, 1993a.

21 There are other signs that these developments are leading to the types of network relationships that have already been established at the local level in certain industrial districts (e.g. Emilia-Romagna in Italy) (see Piore and Sabel, 1984; UNCTAD, 1994b).

22 Wheeler and Mody (1992) found that agglomeration economies were the main locational determinant of outward FDI from the United States to industrialized countries.

23 At the country level, historical and political ties clearly affect investment and trade patterns. It would be difficult to account otherwise, for example, for the United Kingdom's intense trade and investment ties with Kenya and Ghana, or Japan's strong investment linkages with Peru.