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World Investment Report 2001

Promoting Linkages



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Preface

Investment is of decisive importance for the developing world. The only developing countries that really are developing are those that have succeeded in attracting significant amounts of foreign direct investment (FDI), and have mobilized the savings and resources of their own citizens. Unfortunately, that is only a relative handful of countries. The rest of the developing world, and especially the least developed countries, are almost entirely missing out — in spite of the fact that many of them have put in place highly welcoming regulatory frameworks for foreign investment and are carrying out other major economic, financial and political reforms. Often, however, a country lacks the necessary infrastructure, or its market is too small and too isolated to be of interest. For many local markets trying to compete, the global market can be unforgiving.

Part One of the *World Investment Report 2001* focuses on the geography of FDI. Flows of FDI reached unprecedented levels in 2000. Policy makers in developing countries are seeking to increase this volume still further, but more importantly to improve its quality. Towards that end, a new generation of investment promotion strategies is emerging — a more targeted approach that carefully assesses location and other factors for success. These new strategies are being pursued side-by-side with traditional schemes.

The discussion in Part Two of the Report reflects the fact that international production networks span more countries than ever before. There is a need to promote links between foreign affiliates and domestic firms in developing countries, so as to strengthen the domestic enterprise sector. This is the bedrock of economic development, and would go a long way toward giving domestic firms a foothold in international production networks while embedding foreign affiliates more fully in host economies.

Helping the developing-country economies, and in particular those of the least developed countries, to derive more benefits from FDI and from the increasingly integrated global economy remains a crucial goal of the entire United Nations system. The statistics and analysis contained in this thought-provoking Report are meant to contribute to that endeavour, and merit wide readership.

New York, July 2001

Kofi A. Annan
Secretary-General of the United Nations

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OVERVIEW

THE GEOGRAPHY OF INTERNATIONAL PRODUCTION

*FDI flows reached record levels
in 2000...*



oreign direct investment (FDI) continues to expand rapidly, enlarging the role of international production in the world economy. FDI grew by 18 per cent in 2000, faster than other economic aggregates like world production, capital formation and trade, reaching a record \$1.3 trillion. FDI flows are, however, expected to decline in 2001.

The global expansion of investment flows is driven by more than 60,000 transnational corporations (TNCs) with over 800,000 affiliates abroad. *Developed countries* remain the prime destination of FDI, accounting for more than three-quarters of global inflows. Cross-border mergers and acquisitions (M&As) remain the main stimulus behind FDI, and these are still concentrated in the developed countries. As a result, inflows to developed countries increased by 21 per cent and amounted to a little over \$1 trillion. FDI inflows to *developing countries* also rose, reaching \$240 billion. However, their share in world FDI flows declined for the second year in a row, to 19 per cent, compared to the peak of 41 per cent in 1994. The countries in *Central and Eastern Europe*, with inflows of \$27 billion, maintained their share of 2 per cent. The 49 least developed countries (LDCs) remained marginal in terms of attracting FDI, with 0.3 per cent of world inflows in 2000.

Within the developed world, the *Triad* – the European Union (EU), the United States and Japan – accounted for 71 per cent of world inflows and 82 per cent of outflows in 2000. Within the Triad, the *EU* has gained both as a recipient and source of FDI. Record inflows (\$617 billion) were stimulated by further progress in regional integration, while the United States and other Western European countries remain its main partners outside the region. Due to the take-over of Mannesmann by VodafoneAirTouch – the largest cross-border merger deal so far – Germany became, for the first time, the largest recipient of FDI in Europe. The United Kingdom maintained its position as the top source country worldwide for a second year. The *United States* remained the world's largest FDI recipient country as inflows reached \$281 billion. Outflows with \$139 billion decreased by 2 per cent. *Japan* saw its inflows in 2000 drop by 36 per cent from the previous year to \$8 billion, partly due to the prolonged slow-down of the country's economic growth, but also perhaps indicative of the fact that, in spite of its welcoming FDI policies, other factors deter investment inflows. In contrast, outflows from Japan rebounded to \$33 billion, the highest level in ten years. Among *other developed countries*, the most conspicuous events were the unprecedented levels of FDI into and from Canada, reflecting several major M&A deals, in particular with partners in Europe and the United States.

There were major differences in FDI trends among developing countries. In contrast to the experience in most other parts of the world, inflows to *Africa* (including South Africa) declined in 2000 (for the first time since the mid-1990s), from \$10.5 billion to \$9.1 billion. As a result, the share of Africa in total FDI flows fell below 1

per cent. The decline was mainly related to two countries: South Africa and Angola. In the former country, fewer privatization and M&A deals caused the slow-down, while in the latter, inflows in the petroleum sector declined. The Southern African Development Community maintained its position as the most important subregion for FDI inflows in Africa. Its share in total FDI inflows into Africa was 44 per cent, compared to 21 per cent in the first half of the 1990s. The Community's improved attractiveness to FDI may have been principally driven by country-specific factors, but at least some FDI inflows were also motivated by the economic integration of the region.

After tripling during the second half of the 1990s, FDI flows into *Latin America and the Caribbean* also fell in 2000, by 22 per cent, to \$86 billion. This was mainly a correction from 1999 – when FDI inflows into the region were greatly affected by three major cross-border acquisitions of Latin American firms – rather than a shift in the underlying trend. Privatization slowed down in 2000, but continues to be important as a factor driving inward FDI. In terms of sectors, FDI into South America was mainly in services and natural resources, while Mexico continued to receive the largest share of inflows in manufacturing as well as in banking.

In *developing Asia*, FDI inflows reached a record level of \$143 billion in 2000. The greatest increase took place in East Asia; Hong Kong (China), in particular, experienced an unprecedented FDI boom, with inflows amounting to \$64 billion, making it the top FDI recipient in Asia as well as in developing countries. This upsurge in inflows has several explanations. First, it reflects a recovery from the economic turmoil of the recent past. Second, TNCs planning to invest in mainland China have been “parking” funds in Hong Kong (China), in anticipation of China's expected entry into the WTO. Third, the increase reflects a major cross-border M&A in telecommunications, which alone accounted for nearly one-third of the territory's total FDI inflows. Fourth, there is an element of increased “round-tripping” of capital flows into, and out of Hong Kong (China).

FDI flows to China, at \$41 billion, remained fairly stable. In the course of its negotiations for membership in the WTO, China has amended some of its FDI policies. TNCs play an increasingly important role in the Chinese economy; for example, tax contributions by foreign affiliates accounted for 18 per cent (\$27 billion) of the country's total corporate tax revenues in 2000. Inflows to South-East Asia (ASEAN-10) remained below the pre-crisis level. The subregion's share in total FDI flows to developing Asia continued to shrink, and stood in 2000 at 10 per cent, as compared with over 30 per cent in the mid-1990s. This was largely due to rising inflows into other countries in the region and significant divestments in Indonesia since the onset of the financial crisis. South Asia witnessed a drop in FDI inflows by 1 per cent over the previous year. India, the largest recipient in the subcontinent, received \$2 billion. Notwithstanding these mixed trends, the longer-term investment prospects for developing Asia remain bright. In addition to the quality of the underlying determinants for FDI, greater economic integration is likely to boost FDI in the region.

Outward FDI from developing Asia doubled in 2000, to \$85 billion. Hong Kong (China) was the most important source (\$63 billion); more than half of its outward FDI went to China. Outward FDI from China and India also picked up.

FDI inflows into *Central and Eastern Europe* also rose, to an unprecedented \$27 billion. Privatization-related transactions were a key determinant of FDI inflows throughout the region, with the exception of Hungary, where the privatization process has by and large run its course, and the Commonwealth of Independent States, where large-scale privatizations involving foreign investors have yet to begin. Outflows from the region expanded even faster than inflows, in spite of the fact that official data on outward FDI are likely to underestimate the actual outflows. (Some FDI by firms in the Russian Federation go unreported, or are reported under other elements of the balance of payments.)

...but a mapping of the geography of FDI patterns shows that international production is highly concentrated...

A mapping of FDI *inflows* indicates the extent to which host countries are integrating into the globalizing world economy. It also indicates indirectly the distribution of benefits from FDI. The mapping of *outward* FDI shows which countries control the global distribution of this investment. Understanding the pattern of FDI flows and stocks and its driving forces is important for the formulation and implementation of economic strategies and policies.

A comparison of the world maps of inward and outward FDI in 2000 and 1985 reveals that FDI reaches many more countries in a substantial manner than in the past. More than 50 countries (24 of which are developing countries) have an inward stock of more than \$10 billion, compared with only 17 countries 15 years ago (7 of them developing countries). The picture for outward FDI is similar: the number of countries with stocks exceeding \$10 billion rose from 10 to 33 (now including 12 developing countries, compared to 8 in 1985) over the same period. In terms of flows, the number of countries receiving an annual average of more than \$1 billion rose from 17 (6 of which were developing countries) in the mid-1980s to 51 (23 of which were developing countries) at the end of the 1990s. In the case of outflows, 33 countries (11 developing countries) invested more than \$1 billion at the end of the 1990s, compared to 13 countries (only one developing country) in the mid-1980s.

Despite its reach, however, FDI is unevenly distributed. The world's top 30 host countries account for 95 per cent of total world FDI inflows and 90 per cent of stocks. The top 30 home countries account for around 99 per cent of outward FDI flows and stocks, mainly industrialized economies. About 90 of the world's largest 100 non-financial TNCs in terms of foreign assets are headquartered in the Triad. More than half of these companies are in the electrical and electronic equipment, motor vehicle, and

petroleum exploration and distribution industries. These TNCs play an important role in international production: they accounted (in 1999) for approximately 12 per cent, 16 per cent and 15 per cent of the foreign assets, sales and employment, respectively, of the world's 60,000 plus TNCs. General Electric maintained in 1999 its position as the largest TNC in the world. For the first time, three companies from developing countries (Hutchison Whampoa, Petróleos de Venezuela and Cemex) are among the world's 100 largest TNCs. The transnationalization of companies is a phenomenon increasingly observed not only in developed countries but also in the developing world. The top 50 TNCs from developing countries – the largest of which are comparable in size to the smallest of the top 100 worldwide – originate in some 13 newly industrializing economies of Asia and Latin America as well as in South Africa. They congregate in construction, food and beverages, and diversified industries. The largest 25 TNCs from Central and Eastern Europe are somewhat more evenly distributed among nine home countries. Transport, mining, petroleum and gas and chemicals and pharmaceuticals are the most frequently represented industries among these TNCs. The transnationality index for the three groups of TNCs show some divergent patterns. The degree of transnationalization increased for both the top 50 TNCs and the top 25: from 37 per cent in 1998 to 39 per cent in 1999 in the case of the former; and from 26 per cent to 32 per cent in the case of the latter. The transnationality of the top 100 TNCs remained fairly stable at a high level (53 per cent).

The locational patterns of international production differ by country and industry, and they change over time, partly in response to the shifting industrial composition of FDI. During the past ten years, services have become more important in international production because this sector has been liberalized for FDI relatively recently. In 1999, they accounted for more than half of the total stock of inward FDI in developed countries and some one-third of that in developing countries. In many service industries, FDI tends to be spread relatively widely, reflecting the importance

of proximity to customers. The same applies to some manufacturing industries, in which access to the domestic market is the predominant reason for investing abroad. However, the more advanced the level of technology in an industry, the higher the level of concentration tends to be. For example, if one takes six industries representing different technological levels (semiconductors, biotechnology, automobiles, TV and radio receivers, food and beverages, and textiles and clothing), an industrial mapping shows FDI in biotechnology as highly concentrated, followed by semiconductors and televisions and radio receivers. In comparison, the food and beverages industry is more evenly spread among host countries. Foreign affiliates in high-technology industries tend to agglomerate in selected locations in the world. This reflects differences in the industrial distribution of FDI in the manufacturing sector between developed and developing countries. In the developed countries, chemicals is the largest recipient industry, while in developing countries FDI is concentrated in low-technology industries.

At the functional level, geographical patterns of FDI reflect efficiency considerations of TNCs in the light of increasing competitive pressures, coupled with technological advances that enable real-time links across long distances and the liberalization of trade and FDI policies. This encourages a greater spread of all corporate functions. Even such critical corporate functions as design, R&D and financial management are today becoming increasingly internationalized to optimize cost, efficiency and flexibility. Take, for example, the location of regional headquarters. Singapore and Hong Kong (China) have attracted a number of regional headquarters to serve the Asian region, with the first location hosting some 200 regional headquarters, and the second 855 in 2000. In some industries, TNCs have set up integrated international production systems with an intra-firm international division of labour spanning regions (as in automobiles) or continents (as in semiconductors). Within such complex systems, the functions transferred to different locations vary greatly. Less industrialized locations are assigned simpler tasks like assembly and packaging, while more skill- and technology-intensive functions are allocated to industrially more advanced locations.

...with countries varying greatly in terms of their success in attracting FDI, as revealed in the new Inward FDI Index.

The concentration of FDI reflects the concentration of economic activity more generally. Thus, exports, domestic investment and technology payments are also highly concentrated. Richer and more competitive economies naturally receive and send more international direct investment than other economies.

To gauge the underlying attractiveness of a country for international investors, it is useful to take its relative economic size and strength into account. The *Inward FDI Index* captures the ability of countries to attract FDI after taking into account their size and competitiveness. The Index is the average of three ratios, showing each country's share in world FDI relative to its shares in GDP, employment and exports. An index value of "one" would therefore mean that a country's share in world FDI matches its economic position in terms of these three indicators.

The ranking of 112 countries in 1988-1990 and 137 in 1998-2000 shows a large dispersion of index values. For 1998-2000, the value of the Index ranges from 17.3 for the leading economy, Belgium and Luxembourg, to -0.8 for Yemen. Moreover, the rankings have changed significantly over time. Singapore has slipped from first position at the end of the 1980s to thirteenth position a decade later. The fall in its index value reflects a slower growth of FDI (by about a half) than in its GDP and exports which more than doubled between the two periods. The position of Sweden has improved considerably (moving from the twenty-ninth spot to the fourth), partly reflecting a deliberate change in policy during the 1990s in favour of greater openness towards inward FDI.

In 1998-2000, there were five countries with an Inward FDI Index value of one: Costa Rica, El Salvador, Hungary, Malaysia and Slovakia. There were 53 countries with a value higher than one, and 79 with values lower than one. The last group, which "under-performs" in terms of

attracting FDI, includes advanced economies like Japan, Italy and Greece, newly industrializing economies like the Republic of Korea, Taiwan Province of China and Turkey, oil rich economies like Saudi Arabia and a number of low income countries. FDI recipients with high values of the Index include the majority of the developed countries, Hong Kong (China), Singapore and some Central and Eastern European countries.

In both periods, the Index value for developed countries is about twice the world average, while those for developing countries and economies in transition are below the world average. The differences between the three groups of countries reflect mainly the influence of the employment variable: the developed and developing country groups have FDI shares roughly in proportion to their GDP shares, but the former receive far larger shares of world FDI than their shares in world employment, while developing countries and economies in transition receive less. Within the developing world, the Inward FDI Index values for South America and Central Asia exceeded unity in 1998-2000. In the other regions (and for these two regions in the earlier period), the Index value was below one. South Asia, West Asia and North Africa show the lowest values; the reasons for this may have more to do with political factors than economic ones. Sub-Saharan Africa receives FDI in line with its GDP share, but very little in relation to its share in employment; over time its FDI Index value has declined slightly. For the LDC group, the value of the FDI Index doubled between the two periods, mostly due to increases in the FDI to exports and FDI to GDP ratios. In fact, in the second period, the Index value for African LDCs exceeded one; it is now almost twice as high as that for sub-Saharan Africa as a whole. The index value for other LDCs has declined over the decade.

The Index suggests that Africa receives less FDI flows in comparison with the region's relative economic size. The underlying economic reality is that sub-Saharan Africa has lost share in *both* world FDI inflows and other economic aggregates; African LDCs, however, have maintained their share of FDI but have fallen further behind in other economic aggregates.

Interpreting the Inward FDI Index calls for care and the use of evidence on other economic and policy variables. Nonetheless, it can provide a starting point for benchmarking how countries succeed in attracting FDI. Many of the countries at the top of the ranking (with an index value far exceeding unity) are strong economies that are leveraging their economic strength through policies to attract more than their "normal" share of FDI. There are also, however, a few countries with weak economies but strong natural resource endowments that occupy places at the top. A number of countries at the bottom are weak economies in which the influence of other economic factors and policies apparently pulls inward FDI below levels that could be expected on the basis of the elements of economic strength covered by the Index. There are others at the bottom, (such as Japan and the Republic of Korea), however, that have strong economic positions overall but have chosen to restrict FDI (at least until fairly recently).

The expansion of international production is taking place in a new international setting...

The rapidly changing international setting is changing the drivers of FDI. While the main traditional factors driving FDI location – large markets, the possession of natural resources and access to low-cost unskilled or semi-skilled labour – remain relevant, they are diminishing in importance, particularly for the most dynamic industries and functions. As trade barriers come down and regional links grow, the significance of many *national* markets also diminishes. Primary industries account for a shrinking share of industrial activity, and natural resources per se play a smaller role in attracting FDI for many countries. The role of cheap "raw" labour is similar: even labour-intensive activities often need to be combined with new technologies and advanced skills. The location of TNC activity instead increasingly reflects three developments: policy liberalization, technical progress and evolving corporate strategies.

Changes in the international *policy environment* have a strong impact on

locational decisions. Trade and investment liberalization allows TNCs to specialize more and to search for competitive locations. TNCs have greater freedom to choose locations and the functions they transfer. Between 1991 and 2000, a total of 1,185 regulatory changes were introduced in national FDI regimes, of which 1,121 (95 per cent) were in the direction of creating a more favourable environment for FDI. During 2000 alone, 69 countries made 150 regulatory changes, of which 147 (98 per cent) were more favourable to foreign investors.

Technical progress affects the geography of FDI in many ways. Rapid innovation provides the advantages that propel firms into international production. Thus, innovation-intensive industries tend to be increasingly transnational, and TNCs have to be more innovative to maintain their competitiveness. Innovation also leads to changes in the structure of trade and production, with R&D-intensive activities growing faster than less technology-intensive activities. The increased technology intensity of products reduces the importance of primary and simple low-technology activities in FDI, while raising that of skill-intensive activities. New information and communication technologies intensify competition while allowing firms to manage widely dispersed international operations more efficiently. High-technology activities previously out of reach of developing countries can now be placed there because labour-intensive processes within those activities can be economically separated and managed over long distances.

Many activities in integrated production systems are technology-intensive and dynamic; their location in developing countries can rapidly transform the FDI and competitive landscape there. Moreover, the pervasiveness of technical change means that *all* TNC activities have to use new technologies effectively. Location decisions have to be based on the ability of host countries to provide the complementary skills, infrastructure, suppliers and institutions to operate technologies efficiently and flexibly. Technical progress, thus, forces firms involved in international production to differentiate increasingly between the “haves” and “have-nots” in new FDI-

complementing factors when deciding where to undertake different activities.

Managerial and organizational factors strengthen the new locational determinants of FDI. A greater focus on core competencies, with flatter hierarchies and stronger emphasis on networking, steers investments towards locations with advanced factors and institutions, and, where relevant, distinct industrial clusters. New organizational methods (aided by new technologies) allow a more efficient management of global operations, encouraging a greater relocation of functions. Intense competition forces firms to specialize in their core business, inducing TNCs to forge external links at various points along the value chain (from design and innovation to marketing and servicing) and allow other firms (including TNCs) to undertake different functions.

Hence, the changing geography of international production reflects the dynamic interaction of many economic, organizational and policy factors. While many of these factors have long been relevant, their combination today represents new forces influencing TNC location decisions. To cope successfully with globalization and use FDI to their advantage, developing countries must understand these forces. They set the parameters within which policy makers have to act, to attract FDI and to extract the greatest benefits in terms of technology, skills and market access, striking backward linkages and leveraging foreign assets to reach competitive positions in global markets.

...and leads to a concentration at the sub-national level as well...

The growing spread and mobility of TNCs are making local conditions more, not less, important. The increased freedom for factors and functions to move does not mean that international production spreads equally to all locations. Mobile factors only go and “stick” in places where efficient complementary factors exist. Thus, FDI tends to be fairly concentrated geographically within countries, responding to the agglomeration economies that also influence domestic firms. These economies relate to proximity

to markets and factors of production, and the availability of specialized skills, innovatory capabilities, suppliers and institutions. Intensifying competition forces firms to specialize more in their core competencies and rely more heavily on links with external partners (suppliers, buyers or even competitors) than in the past. These networking possibilities often induce TNCs to set up operations in close proximity to (competent) clusters of related firms.

Industrial clusters are playing an increasing role in economic activity, particularly in technology intensive activity. “Clusters” are concentrations of firms in one or a few industries, benefiting from synergies created by a dense network of competitors, buyers and suppliers. Clusters comprise demanding buyers, specialized suppliers, sophisticated human resources, finance and well-developed support institutions. Such concentrations of resources and capabilities can attract “efficiency-seeking” FDI (and more and more FDI is of this type). It also helps to attract “asset-seeking” FDI to the more advanced host countries. In their inexorable search for new competitive advantages, TNCs seek “created assets” such as technology and skilled labour across the globe. Clusters of innovative activity (as in Silicon Valley in California, Silicon Fen in Cambridge (United Kingdom), Wireless Valley in Stockholm or Zhong Guancun, a suburb of Beijing) have a distinct advantage in attracting such (high value) FDI.

These shifts in location factors pose important policy challenges for developing countries. Many countries, in particular the poorer and least industrialized ones, risk becoming even more marginal to the dynamics of international production because they cannot meet the new requirements for attracting high quality FDI. Simply opening an economy is no longer enough. There is a need to develop attractive configurations of locational advantages.

Different configurations of advantages attract different corporate functions and industries. In some high-technology industries like electronics, it may be possible to attract final-stage assembly on the basis of cost-efficient semi-skilled labour and efficient export-processing facilities. In

other activities, production facilities may require well-developed local supply chains, a pool of skilled labour, close interaction with other firms and knowledge-producing institutions in close proximity. Some back-office activities may require specialized skills (e.g. in accounting). High value functions like R&D or regional headquarters are particularly demanding of advanced skills and institutions.

Investors – domestic and foreign alike – seek to take advantage of dynamic clusters. In joining a cluster, they often add to its strength and dynamism. This, in turn, tends to attract new skills and capital, adding further to the dynamism of the location. Where agglomeration economies are significant, the rest of the country might be of little relevance to the locational decisions of firms. Hence, attracting FDI in these activities depends increasingly on the ability to provide efficient clusters. An international bank’s location choice is not so much a choice between the United Kingdom and Germany as between London and Frankfurt.

Just like competitive firms differentiate themselves from their rivals by developing clearly identifiable products with recognizable brand names, some countries, too, can, over time, identify and develop their distinct “investment products”, and market them to foreign investors. For example, Bangalore in India has become a “brand name” for the development of software, with its pool of highly skilled engineers and competitive software companies. Singapore and Hong Kong (China) enjoy a similar status in the area of financial services and regional headquarters in Asia.

...which calls for a new generation of investment promotion policies.

Using and strengthening clusters to attract FDI calls for new approaches, going beyond the first and second generations of investment promotion policies. In the first generation of investment promotion policies, many countries adopt market friendly policies. They liberalize their FDI regimes by reducing barriers to inward FDI, strengthening standards of treatment for foreign investors and giving a greater role

to market forces in resource allocation. Virtually all countries – to varying degrees – have undertaken steps in this direction. Some countries, can go a long way in attracting FDI with these steps, if the basic economic determinants for obtaining FDI are right. In the second generation of investment promotion policies, governments go a step further and actively seek to attract FDI by “marketing” their countries. This approach leads to the setting up of national investment promotion agencies. The World Association of Investment Promotion Agencies, established in 1995, now has over 100 members. Again, of course, the success of proactive efforts depends, in the end, on the quality of the basic economic factors in a host country.

The third generation of investment promotion policies takes the enabling framework for FDI and a proactive approach towards attracting FDI as a starting point. It then proceeds to target foreign investors at the level of industries and firms to meet their specific locational needs at the activity and cluster level, in light of a country’s developmental priorities. Such a strategy, in turn, is greatly helped if a country can nurture specific clusters that build on the country’s competitive advantages, capitalizing on the natural inclination of firms to agglomerate and that eventually acquire a brand name. A critical element of such investment promotion is to improve – and market – particular locations to potential investors in specific activities. Of course, a country’s general economic, political and regulatory features also matter, because they affect the efficiency of the clusters within it. But the key to success of such new investment promotion strategies is that they actually address one of the basic economic FDI determinants while understanding the changing location strategies of TNCs.

However, such a targeted approach, especially the development of locational “brand names”, is difficult and takes time. It requires fairly sophisticated institutional capacities. Third generation promotion is, nevertheless, growing in practice, as witnessed by the proliferation of sub-national agencies (of which a minimum of 240 exist today) and even municipal investment promotion agencies.

This gives rise to another challenge: the need to coordinate policies across various administrative levels in a country. If that is not done, there is a risk that competition among regions within a country leads to “fiscal wars” and results in waste as far as the welfare of the country as a whole is concerned. It also raises the risk that promotion agencies, if they are unable to coordinate other policy-making bodies in the country, will be unable to deliver on their promises to investors.

Regardless of the level at which FDI is promoted – and regardless of the precise mix of the three basic investment strategies that is being pursued – the competitiveness of the domestic enterprise sector and a pool of skilled people are the key to the “product”. Strong local firms attract FDI; the entry of foreign affiliates, in turn, feeds into the competitiveness and dynamism of the domestic enterprise sector. The strongest channel for diffusing skills, knowledge and technology from foreign affiliates is the linkages they strike with local firms and institutions. Such linkages can contribute to the growth of a vibrant domestic enterprise sector, the bedrock of economic development. For developing countries, the formation of backward linkages with foreign affiliates therefore assumes particular importance. The challenge then is how to promote backward linkages – regardless of the type of investment promotion policy a country pursues. This is the topic of Part Two of *WIR01*.

PROMOTING BACKWARD LINKAGES

Backward linkages from foreign affiliates to domestic firms can enhance the benefits from FDI.

Part One of *WIROI* mapped the locational pattern of the extent to which countries attract FDI. A key factor determining the benefits host countries can derive from FDI are the linkages that foreign affiliates strike with domestically owned firms. Backward linkages from foreign affiliates to domestic firms are important channels through which intangible and tangible assets can be passed on from the former to the latter. They can contribute to the upgrading of domestic enterprises and embed foreign affiliates more firmly in host economies. Given the role that backward linkages can play in these respects, *WIROI* analyses how host country governments can best promote efficient backward linkages by foreign affiliates. The approach is pragmatic. It draws on practical experience as to what firms have done to forge linkages, and the measures that governments have adopted to encourage linkages and their deepening. An underlying assumption is that, whatever the current level of backward linkages, linkages can be increased or deepened further, with a view towards strengthening the capabilities and competitiveness of domestic firms.

Linkages offer benefits to foreign affiliates and domestic suppliers, as well as to the economy in which they are forged as a whole. For *foreign affiliates*, local procurement can lower production costs in host economies with lower costs and allow greater specialization and flexibility, with better adaptation of technologies and products to local conditions. The presence of technologically advanced suppliers can provide affiliates with access to external technological and skill resources, feeding into their own innovative efforts. The direct effect of linkages on *domestic suppliers* is generally a rise in their output and employment. Linkages can also transmit

knowledge and skills between the linked firms. A dense network of linkages can promote production efficiency, productivity growth, technological and managerial capabilities and market diversification for the firms involved. Finally, for a *host economy* as a whole, linkages can stimulate economic activity and, where local inputs substitute for imported ones, benefit the balance of payments. The strengthening of suppliers can in turn lead to spillovers to the rest of the host economy and contribute to a vibrant enterprise sector.

Where, as in developed countries, both buyers and suppliers are technologically strong and capable, knowledge flows run in both directions with a focus mainly on new technologies, products and organizational methods. Where, as in most developing countries, suppliers are relatively weak, the flows are likely to be more one-sided, from foreign affiliates (buyers) to domestic firms. They can also be expected to contain more basic technological and managerial knowledge, in that suppliers are likely to lag further behind international best practice frontiers; for this reason, they can be particularly important.

Of course, not all linkages are equally beneficial for host economies. For example, in highly protected regimes, foreign affiliates may strike considerable linkages without much incentive to invest in the upgrading of suppliers' technological capabilities. Instead, such linkages may foster a supplier base that is unable to survive international competition. Linkages developed in competitive environments and accompanied by efforts to enhance suppliers' capabilities are likely to be technologically more beneficial and dynamic. The objective is not to promote linkages for their own sake, but to do so where they are beneficial to the host economy.

The extent to which domestic firms benefit from linkages with foreign affiliates also depends on the nature of their relationship. The intensity of the interaction between buyers and suppliers is affected by the bargaining position of the two parties. A supplier of relatively simple, standardized, low-technology products and services is typically in a weak bargaining position vis-

à-vis its buyer. Such suppliers may be highly vulnerable to market fluctuations, and their linkages with foreign affiliates are unlikely to involve much exchange of information and knowledge. Foreign affiliates only invest resources in building local capabilities when they expect such an effort to yield a positive return.

*TNCs have a self-interest
in forging links with
domestic suppliers,...*

Organizational changes are making supply chain management more critical to the competitiveness of firms, including TNCs. On average, a manufacturing firm spends more than half its revenues on purchased inputs. In some industries, such as electronics and automotive, the proportion is even higher. Some firms are contracting out the entire manufacturing process to independent “contract manufacturers”, keeping only such functions as R&D, design and marketing. In these cases, supply chain management obviously becomes even more important.

A foreign affiliate – like any other firm – has three options for obtaining inputs in a host country: import them; produce them locally in-house; or procure them from a local (foreign- or domestically owned) supplier. The extent to which foreign affiliates forge linkages with domestic suppliers is determined by the balance of costs and benefits, as well as differences in firm-level perceptions and strategies. While the costs and benefits reflect a large number of industry-specific factors, the most important one concerns the local availability of qualified suppliers. Foreign affiliates producing primarily for the domestic market generally procure a larger share of inputs locally than export-oriented ones or those that are part of integrated international production systems. In the latter case, cost and quality considerations are particularly stringent, and affiliates tend to be guided by corporate global sourcing strategies. The lack of efficient domestic suppliers is often the key obstacle to the creation of local linkages. In many demanding activities,

TNCs therefore actively encourage foreign suppliers to establish local facilities or prefer to produce in-house.

Many TNCs have supplier development programmes in host developing countries. Efforts can include finding suppliers and ensuring efficient supply through technology transfer, training, information sharing and the provision of finance. The objective is usually to expand the number of efficient suppliers, and/or to help existing suppliers improve their capabilities in one or several areas. However, supplier development efforts are typically not extended to all suppliers. Foreign affiliates tend to focus on a limited number of suppliers providing the strategically most important inputs. Where supplier development is undertaken, however, TNCs often offer considerable support to suppliers by transferring technology, training suppliers’ staff, providing business-related information and lending financial support. The intensity of knowledge and information exchange in buyer-supplier relationships tends to increase with the level of economic development of host countries, particularly in complex activities, and where technological and managerial gaps with suppliers are not too wide.

*...but governments can play
an important role in
promoting linkages...*

Although foreign affiliates have an interest in creating and strengthening local linkages, their willingness to do so can be influenced by government policies addressing different market failures at different levels in the linkage formation process. For example, TNCs may be unaware of the availability of viable suppliers, or they may find it too costly to use them as sources of inputs. In developing countries, policies may be required to compensate for weak financial markets or weak institutions like vocational schools, training institutes, technology support centres, R&D and testing laboratories and the like. Well-designed government intervention can raise the benefits and reduce the costs of using domestic suppliers.

The role of policy is most significant where there is an “information gap” on the part of both buyers and suppliers about linkage opportunities, a “capability gap” between the requirements of buyers and the supply capacity of suppliers and where the costs and risks for setting up linkages or deepening them can be reduced. The linkage formation process is obviously affected by a host country’s overall policy environment, its economic and institutional framework, the availability of human resources, the quality of infrastructure and political and macroeconomic stability. But the most important host country factor is the availability, costs and quality of domestic suppliers. Indeed, in addition to being a key determinant for the formation of efficient linkages, the technological and managerial capabilities of domestic firms also determine to a large extent the ability of a host economy to absorb and benefit from the knowledge that linkages can transfer. Weak capabilities of domestic firms increase the chances that foreign affiliates source the most sophisticated and complex parts and components either internally or from a preferred (foreign-owned) supplier within or outside a host country. For example, domestic firms in Taiwan Province of China and Singapore supply complex inputs to foreign affiliates, but far fewer do so in Malaysia, Thailand or Mexico.

The international environment is evolving, as a result of globalization and liberalization, as well as changes in the international policy framework, including WTO agreements and other international arrangements. Some policy instruments traditionally used to foster linkages are now considered less relevant or are subject to new multilateral rules, such as the WTO Agreement on Trade-related Investment Measures (TRIMs) or the Agreement on Subsidies and Countervailing Measures. For example, local content requirements have been phased out by most countries. At the same time, FDI and trade liberalization, as well as more intense competition for FDI, have reduced the reliance on other investment performance requirements.

Well-targeted incentives to support the creation and deepening of linkages can have a positive impact on linkages. Thought should be given to render this category of

development-related subsidies non-actionable (i. e. not open to challenge) under WTO rules. On the other hand, preferential trade arrangements – with rules of origin based on the level of domestic value added or local content – can have important effects on FDI and linkage creation by TNCs in preference-receiving countries. In general, these effects are the more significant, the higher the preferential margin associated with rules of origin and the lower the related administrative costs. Linkage effects of rules of origin, however, also depend on local supply capacity.

This new international setting has, thus, changed the scope for national policy options. There is, however, flexibility within the existing international policy framework, e.g. in the form of extension of transition arrangements and differential treatment of countries at different levels of development. While some agreements are subject to further review, the challenge for policy makers is, therefore, to make use of the options allowed within the current framework, as well as other policy measures that are not subject to multilateral rules to integrate FDI more deeply into their national economies and, in particular, benefit from backward linkages.

In this new policy environment, active policy approaches that work with the market are at a premium. Whereas there is no universally established best practice in linkage promotion policy, important lessons can be drawn from past experience. Linkage promotion policies, like other development policies, are often highly context specific and need to be adapted to the specific circumstances prevailing in each host country. They need to be an integral part of broader development strategies, and their success often depends on factors that may not appear in a narrow assessment of linkages policies. Much also depends on how policies are designed, coordinated and implemented in practice.

One approach involves encouraging linkages through various measures to bring domestic suppliers and foreign affiliates together and to strengthen their linkages in the key areas of information, technology,

training and finance. This is a broad approach – it basically improves the enabling framework for linkages formation. A review of the experience of host countries yields a long menu of specific measures that can be taken in this respect. Such measures can include, for example, the provision of information and matchmaking to help domestic firms link up with foreign affiliates; encouraging foreign affiliates to participate in programmes aimed at the upgrading of domestic suppliers' technological capabilities; promoting the establishment of supplier associations or clubs; the joint provision of services (especially training); and various schemes to enhance domestic suppliers' access to finance.

...perhaps best in the framework of a special linkage promotion programme.

Another approach goes further in that it involves the establishment of a specific linkage promotion programme combining a number of the measures just mentioned. This is a proactive approach which is typically focused on a selected number of industries and firms, with a view towards increasing and deepening linkages between foreign affiliates and domestic firms. As with other policies that span a range of productive factors, activities and enterprises, it is advisable for policy makers that choose this approach to “start small” (perhaps with a pilot scheme) and to build policy monitoring, flexibility and learning into the programme. The need for starting small is all the greater when resources are scarce. Moreover, it is essential for any programme to seek close collaboration with the private sector, both foreign affiliates and domestic suppliers, in design and implementation.

Some countries have in fact set up specific linkage programmes involving a combination of different policy measures, and targeting selected industries and firms. Such programmes have been put in place primarily by countries with a large foreign presence and with a (relatively) well-developed base of domestic enterprises. The Czech Republic, Hungary, Ireland, Malaysia, Mexico, Singapore, Thailand and the United Kingdom have all made special efforts of

this kind. Some of the programmes are organized at the national level while others have been implemented as regional or local initiatives. Three elements are common to them: the provision of market and business information; matchmaking; and managerial or technical assistance, training and, occasionally, financial support or incentives. Some programmes have also included FDI promotion activities, to attract foreign investors in targeted industries. In each case, sustainable linkages will only be created if both foreign affiliates and domestic firms can benefit from them.

The general features of a special Linkages Promotion Programme are set out below. Such a programme should be seen more as a set of building blocks that countries might “mix and match” according to their specific circumstances, rather than a ready-made prescription that all countries can apply. Clearly, the choice of measures and the way they are combined must reflect the level of development, policy capabilities, resources and objectives of each country. Even countries at similar levels of development may choose different configurations of policy according to their enterprise and institutional capabilities.

The starting point for an effective linkage programme is a clear vision of how FDI fits into the overall development strategy and, more specifically, a strategy to build production capacity. The vision has to be based on a clear understanding of the strengths and weaknesses of the economy and of the challenges facing it in a globalizing world. A linkage programme should, in particular, address the competitive needs of domestic enterprises and the implications these have for policies, private and public support institutions and support measures (including skills- and technology-upgrading).

1. Setting the policy objectives of a linkage programme

Linkage programmes are at the intersection of two subsets of programmes and policies: those geared towards enterprise development (especially SME development) and those related to FDI promotion. The former are desirable in and by themselves,

as a vibrant enterprise sector is the bedrock of economic growth and development; in the context of the promotion of linkages, the capabilities of local firms are the single most important determinant of success. FDI promotion, in turn, increasingly focuses not only on the quantity of FDI a country attracts, but also on its quality, including linkage opportunities.

Linkage programmes can have two broad objectives: to increase domestic sourcing by foreign affiliates (i.e. create new backward linkages) and to deepen and upgrade existing linkages – both with the ultimate aim of upgrading the capacities of local suppliers to produce higher value-added goods in a competitive environment. These objectives are interdependent: deepening may spin off new linkages, and spreading linkages may change their quality and depth.

A government's objectives should be shared with all principal stakeholders, as their active participation is needed for the success of any programme. Active dialogue and consultations are advisable right from the very beginning. This requires first and foremost:

- Initiating a public-private sector dialogue (perhaps in a “Linkage Forum”) with stakeholders, including foreign affiliates (and especially their procurement officers), supplier industry associations, chambers of commerce, banks, service providers, trade unions and government agencies (such as investment promotion agencies, development corporations, industrial zone authorities, industry development agencies).
- Disseminating “best practice” experiences based on companies’ programmes and actions and experiences of government programmes and measures in other countries.

2. Identifying the targets of the programme

Governments, in cooperation with private sector institutions, need to define the targets of a programme in terms of the industries and, within them, the foreign

affiliates and domestic suppliers to be involved.

- **Industries** can be selected according to:
 - the sectoral development priorities of a country, taking into account the extent of the presence of foreign affiliates and capable domestic firms;
 - the degree of match between local capabilities and the input requirements of foreign affiliates;
 - the nature of international production systems within the industry selected, which partly determines the degree of autonomy of foreign affiliates with respect to local sourcing (foreign affiliates that are part of integrated international production systems are likely to be more dependent on global corporate sourcing policies);
 - the technology content of the activity and the scope for moving up the value-added chain.

Such an analysis is essential for any linkage strategy – without it, a government cannot decide how to allocate scarce resources. It also has to take into account trends in the growth and spread of international production networks and their implications for domestic producers, drawing, among others, on continuous dialogue with key stakeholders.

- **Foreign affiliates** can be selected according to their willingness and potential to establish beneficial linkages. Beyond that – and as part of their FDI promotion – governments can target TNCs that are particularly interested in developing strong supply links with domestic enterprises. The linkage programme may even support local managers of foreign affiliates in lobbying their head offices to allow greater autonomy in sourcing. In-depth consultations with foreign affiliates can then identify their specific linkage needs.
- **Suppliers** can be selected on the basis of their commitment and capabilities (or potential capabilities) to meet the

needs of foreign affiliates. “Commitment” can be tested through certain self-improvement requirements, with some external guidance and minimal support during the initial stage of selection. Other criteria that can be used involve technological benchmarking and skills audits. Specific criteria that have been used include the size of the firm, production capabilities, ISO certification and age. However, one of the most important elements to take into account is the commitment of key managers (and especially the chief executive officer) to the idea of continuous improvement and their willingness to upgrade their operations to meet international standards required for successful linkages. The active cooperation of chambers of commerce, business associations, support centres, service providers and other private sector institutions is very important here, as is the cooperation of SME development programmes, be they local or international. (UNCTAD’s EMPRETEC programme is an example of the latter.) “Linkage Workshops” for representatives of foreign affiliates and local enterprises could provide the mechanism through which eventual programme participants can be narrowed down. Subsequent “Business Clinics” for Linkage Workshop participants could then allow for one-to-one consultations for pairs of linkage partners. Firms prepared to go further could thus undertake operational and management audits to determine the strengths and weaknesses of domestic partners.

3. Identifying specific measures to be adopted

Governments need to be aware of actions already taken by foreign affiliates and domestic firms. Some of these may need to be encouraged and supported. Governments can also act as facilitators and catalysts and ensure that private institutions have the incentives and resources needed. They can be particularly proactive in the following key areas of linkage formation: information and matchmaking; technology

upgrading; training; access to finance. The range of measures that can be taken in each of these areas is wide. Their principal purpose is to encourage and support foreign affiliates and domestic firms to forge and deepen linkages. They are outlined – individually and as contained in programmes – in the main body of *WIR01*. They constitute a menu from which governments can mix and match. Specific choices depend on the results of earlier consultations with existing support institutions and relevant programmes in the public and private sectors, as well as with key stakeholders on the specific needs of an industry or set of firms. The results of the Linkage Forums, Linkage Workshops and Business Clinics mentioned earlier and the identification of promising domestic firms are also of help here. Governments could also encourage participating foreign affiliates to agree to a coaching and mentoring arrangement with promising local firms.

These measures can be underpinned by efforts to strengthen the negotiating position of local firms vis-à-vis foreign affiliates; for instance, by guidelines or making model contracts available. Special informal mechanisms can also help resolve problems and disputes and contribute to more lasting linkage relationships.

The result should be a clear and feasible programme of action. Naturally, at each step of the implementation of a programme, the government needs to have a clear idea about the costs involved and the resources available.

4. Setting up an appropriate institutional and administrative framework to implement and monitor the programme

Governments can choose from a number of options in designing the institutional framework for a linkage programme:

- Make the programme a distinct part of an existing body or even set up a special national-level linkage programme under an independent body to act as the focal point for all relevant

activities by different departments and institutions.

- Leave the design and implementation of the linkage programme to local authorities, with central advice, encouragement and support from the central government. This approach might be preferable in large countries or where resources for linkage programmes are limited, or where regions have distinct combinations of locational advantages to offer.
- Involve the private sector as the main executing agency for the linkage programme. Suppliers, affiliates or their associations may set up such a body. The role of the government would be to act as catalyst and fulfil regulatory and information functions.

The size of a programme depends on the objectives sought and the resources available. Some programmes benefit from external funding through financial assistance provided by donor countries. In the longer term, however, the financial sustainability of linkage programmes if directly run by governments, requires sufficient government funding support. Moreover, cost sharing by participating firms (both buyers and suppliers) is desirable, not only for funding purposes but also for assuring self-commitments of the participants. This is feasible, especially when a programme has demonstrated its usefulness and is recognized for its services. Needless to say, to create trust and credibility among enterprises, a programme must be staffed by professionals with the appropriate private sector-related skills and background.

Linkage programmes can only work if they are networking effectively with efficient intermediate institutions providing support in skill building, technology development, logistics and finance. These include standards and metrology institutes, testing laboratories, R&D centres and other technical extension services, productivity and manager training centres and financial institutions. These can be public or private. It is also important that linkage programmes work closely with relevant private associations – chambers of commerce and

industry, manufacturers' associations, investor associations and so on. Trade unions and various interest groups are other important stakeholders.

Finally, it is important to have a monitoring system in place to evaluate the success of a programme. Often, in a learning-by-doing process, a programme needs to be adjusted and refined as experiences accumulate and situations change. The system could include benchmarks and surveys of users. Criteria could include the following:

- Outreach: the number of companies included in the programme over time.
- Impact: the impact of the programme can be judged by such indicators as the number of suppliers, linked up with foreign affiliates over time; the value of deals and changes in these over time; the share of domestic suppliers in the procurement by foreign affiliates; the extent to which R&D activities are being undertaken by domestic suppliers over time (including those resulting in patents); changes in export volumes; the improvements in productivity or the value added at the firm or industry level; and whether a local supplier establishes itself abroad.
- Cost effectiveness: the cost of the programme in light of the results achieved and the benefits obtained as defined by the objectives laid out at the beginning of the programme.

* * *

It is worth repeating that linkage programmes build on the mutual self-interests of foreign affiliates and domestic firms. Linkages are a stepping stone towards strengthening the competitiveness of domestic firms, giving them a foothold in international production networks and embedding foreign affiliates fully in host economies. At the same time, linkage programmes should be seen as part of a broader set of FDI and SME policies. As networks of viable suppliers often prosper in clusters of firms, attention needs to be

given to the development of such clusters, particularly for knowledge-intensive industries and activities. The third generation of FDI promotion policy – targeting foreign investors at the level of industries and firms and using clusters to attract FDI (and, in

turn, strengthening clusters through it) – has a role to play here. In fact, the more linkage promotion policies that go hand-in-hand with SME development and targeted FDI promotion policies, the more they are likely to be successful.

Geneva, July 2001

Rubens Ricupero
Secretary-General of UNCTAD

PART ONE

**THE GEOGRAPHY OF
INTERNATIONAL PRODUCTION**

INTRODUCTION



International production – activity under the aegis of transnational corporations (TNCs) – continues to grow strongly. The main agent of international production, foreign direct investment (FDI), does not flow evenly across countries. This unevenness persists, and in some cases increases, over time. While this has long been a feature of the international economy, there are significant elements of change (WIR98). The growth of FDI in the past two decades or so has been accompanied by changes in its geographical pattern, indicating shifts in the investment climate in host countries and in the economic factors driving the location of international production. New locations are becoming attractive relative to old ones. The activities relocated across countries by direct investment are changing. Within TNCs, the specific corporate functions undertaken by parent firms and foreign affiliates (ranging from marketing to research and development (R&D)) are changing in scope and depth. Sources of FDI are also increasing and shifting.

These changes have important implications for host (as well as home) countries. The intangible assets that FDI offers (knowledge, technology, skills, management know-how and market access) are becoming increasingly important for economic growth and development as complements to domestic resources in host countries. In the emerging global setting (reviewed below), FDI is becoming an essential link between national economies, as well as a catalyst for the growth of domestic investment and enterprise competitiveness. As determinants of location are changing, countries can change their ability to receive FDI and to alter its contributions. Policy makers need to know the trends: how FDI compares in its locational patterns with other means of transferring

productive assets, where it comes from, where it goes, which activities it affects and which functions it transfers. More importantly, they need to understand why the patterns of FDI are evolving – to help them formulate FDI policies efficiently and realistically.

Part One aims to contribute to answers to these questions by documenting the growth of FDI during the past year and introducing a new index that seeks to capture the attractiveness of host countries for FDI (chapter I). It then proceeds to a “mapping” of FDI inflows and outflows in the aggregate and, to the extent possible, at the industrial and functional levels (chapter II); and to a discussion of the largest TNCs of the world, the developing countries and Central and Eastern Europe (chapter III). Such a mapping shows the origin, destination and concentration of FDI flows and thereby indicates how the tangible and intangible assets that constitute investment flows are spread. Mapping FDI, including over time, highlights the following:

- On the *recipient* side, the mapping shows the extent to which various regions, countries and locations within countries, attract FDI. At the level of aggregate FDI, this indicates whether locations have suitable investment environments and provide the immobile assets and other advantages needed to complement the mobile assets deployed by TNCs. At the industry or functional level, the mapping shows the specific locational advantages of recipients: low wages for semi-skilled labour for simple labour-intensive operations; primary resources for extraction; advanced skills, supplier networks and institutions for advanced technology-intensive activities, and so on. Everything else being equal, this mapping also indicates, indirectly,

the distribution of benefits associated with FDI among recipient regions, countries and sub-national localities, the extent of a host location's integration with the global economy and its ability to cope with the new technologies driving globalization. Mapping FDI patterns over time can show if local assets are being upgraded to attract continuing inward FDI.

- On the *investing* side, the mapping shows the extent to which firms from various regions, countries and sub-national locations make direct investments abroad. It shows the interplay of three factors: competitive advantages of enterprises; location advantages of host countries; and the extent of reliance by firms on transnationalization when exploiting their advantages abroad. Thus, a rise in a country's outward FDI can indicate an increasing competitive advantage on the part of national firms, or that firms, given their competitive advantages, find it strategically necessary to locate their activities abroad. The reasons for their choice of location not only need to reflect the cost of operating at home. They may also embrace strategic considerations like matching moves made by their main competitors, investing in the home markets of their rivals, switching from exports to producing locally,

diversifying sources of supply or seeking to tap new sources of competitive advantage (like innovation). At a disaggregated level, the mapping shows the industrial activities and functions in which this interplay of competitive and location advantages is taking place. Mapping FDI patterns in aggregate terms reveals which countries' firms control the allocation of productive assets within TNC production systems across the globalizing world economy.

In sum, mapping FDI throws light on several significant features of the global economy. It can illuminate the geography of investment flows and of the accompanying intangible asset flows that increasingly drive technology-based growth and competitiveness. It can show which countries lead the internationalization process: the main home countries of the TNCs that exercise a powerful influence on economic life today, controlling the production taking place within their international production systems and partaking of its resulting fruits. It can also show, on the receiving side, where the flows concentrate and so, at least ostensibly, where the benefits of international production accrue. The conclusions then address briefly what the concentration of FDI at the sub-national level means for investment promotion and, most notably, for the third generation of investment promotion strategies.

CHAPTER I. THE GLOBAL PICTURE

A. The geographical dynamics of FDI: the setting

From the perspective of developing countries, the most important aspect of a mapping of international production concerns inward FDI. There are several influences that have been, and always will be, important to FDI inflows. The most basic ones are political and economic stability and a welcoming environment for FDI (and for private enterprise in general). Other important factors are ease of entry and exit, appropriate standards of treatment and dispute settlement, and a predictable and transparent regulatory framework. A typical FDI regime today, for example, has few restrictions on entry and operations, provides general standards of treatment (including guarantees in such areas as the transfer of funds, expropriation and dispute settlement) and ensures a competitive market framework.

The attractiveness of the regime also, increasingly, depends on the effectiveness of FDI promotion. With rising competition for FDI and more discriminating investors, host countries and regions (like individual states in the United States) recognize the need to undertake proactive investment promotion efforts. While many countries promote FDI, the most successful ones do this in a business-like manner, with effective image building, low transaction costs for investors, careful targeting, direct interaction with investors and good support and follow-up services.

These general requirements of investment attraction are taken for granted here in order to focus on the *economic factors* driving FDI.¹ The main traditional factors in FDI location are large domestic markets (historically often reinforced by import tariff protection), the possession of natural resources and the presence of cheap (unskilled or semi-skilled) labour. While these remain relevant, they are of diminishing importance, particularly for the most dynamic end of international production. Large markets remain attractive to investors

where local presence is important for competitive advantage, but as trade barriers are removed, the level of protection is declining. Moreover, as trade blocs and regional links grow, the significance of *national* markets as such diminishes. Primary resources will always draw some FDI, but with new contractual extraction and marketing arrangements led by national firms (*WIR98*), and given the diminishing role of primary products in industrial activity, it is unlikely to be a dynamic draw. The role of cheap “raw” labour is similar: it will attract a small number of investors, but even in simple labour-intensive activities the need to use new technologies and skills for production suited to sophisticated and demanding markets will reduce the draw of low wages.

The new determinants of location reflect three developments: policy liberalization, rapid technical progress (particularly in transport, communications and information) and new management and organizational techniques (*WIR99*). These are briefly taken up in turn.

Policy liberalization alters many parameters of international location. *Trade liberalization* reduces the need for FDI to jump tariff barriers and intensifies competition in existing activities. It also increases the size of accessible markets, including for export activities. Both can lead to changes in the factors determining location. All enterprises have to raise technical efficiency and be more responsive to market forces to stay in business, not just in tradable activities but also in services and infrastructure. TNCs have to restructure their activities and deploy their assets to achieve “best practice” levels, reducing their presence where competitiveness is difficult to achieve and raising it where it is possible. This involves shifting production and marketing sites in line with costs, logistics and reliability factors. It also involves relocating such functions as R&D, financial management, procurement and strategic decision-making between countries so as to maximize corporate efficiency.

Trade liberalization can have centripetal effects (making for greater centralization) or centrifugal ones (making for greater dispersion),

depending on the industry and corporate function. Take the automobile industry. Its R&D, which relies on advanced skills and has various linkage needs, tends to be located in a few advanced economies (including some newly industrializing economies) that have the necessary trained personnel, related suppliers and technology services. Its production processes, involving large scale economies, are located in a larger number of facilities serving regional or global markets; however, these are now far fewer than during the heyday of import substitution when most countries had some assembly or manufacturing activity. Its marketing and servicing facilities are more widely dispersed to meet customer needs. In other industries, with different configurations of technical, skill and market needs, the tendencies may be quite different. The mapping exercise shows this in chapter II below.

The liberalization of *FDI regimes* and the strengthening of international standards for the treatment of foreign investors (box I.1) allow firms greater freedom in making international location decisions and in choosing the mode for serving each market and meeting functional needs. TNCs can increasingly fine-tune and differentiate their combinations of internationalization modes (trade, majority- or wholly owned subsidiaries, joint ventures, non-equity alliances, licensing and so on) to suit each activity and location. In conjunction with privatization, this opens up new areas of international production, allowing new activities to “go transnational” in ways inconceivable a few years ago: the emergence of previously home-bound infrastructure providers as international investors is a recent example. The spread of FDI in services, in turn, encourages manufacturing firms to cluster in locations in which service TNCs have set up facilities.

Box I.1. FDI regimes in 2000

FDI liberalization continues. Between 1991 and 2000, a total of 1,185 regulatory changes were introduced in national FDI regimes, of which 1,121 were in the direction of creating a more favourable environment for FDI (box table I.1.1). During 2000 alone, a total of 150 regulatory changes were made by 69 countries. Of these, 147 (98 per cent) were more favourable to foreign investors (box figure I.1.1). At the international level, treaty making continues, complementing and reinforcing trends at the national level. The number of bilateral investment treaties (BITs) quintupled during the 1990s and, by end-2000, had reached a total of 1,941. During 2000 alone, 78 countries concluded 84 BITs. The single greatest number of the new treaties was between developing countries (36), 43 per cent of the total (box figure I.1.2). The number of bilateral treaties for the avoidance of

Box table I.1.1. National regulatory changes, 1991-2000

Item	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Number of countries that introduced changes in their investment regimes	35	43	57	49	64	65	76	60	63	69
Number of regulatory changes of which:	82	79	102	110	112	114	151	145	140	150
More favourable to FDI ^a	80	79	101	108	106	98	135	136	131	147
Less favourable to FDI ^b	2	-	1	2	6	16	16	9	9	3

Source: UNCTAD, based on national sources.

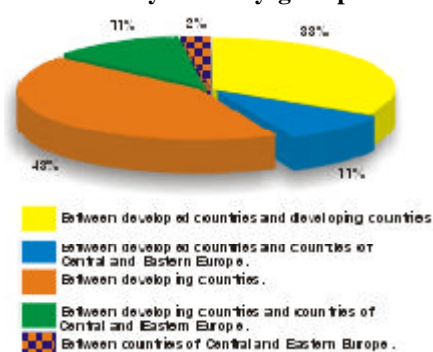
^a Including liberalizing changes or changes aimed at strengthening market functioning, as well as increased incentives.

^b Including changes aimed at increasing control as well as reducing incentives.

Box figure I.1.1. Types of changes in FDI laws and regulations, 2000



Box figure I.1.2. BITs concluded in 2000, by country group



The increased freedom for factors and functions to move within the international production systems of TNCs does not, as already noted, necessarily mean that international production spreads equally to all locations. Mobile factors only go to and “stick” in those places where efficient complementary factors exist. One increasingly important factor is the presence of other firms (TNCs and local firms) providing inputs, information and services in clusters – concentrations of firms in one or a few industries – benefiting from synergies created by a dense network of competitors, buyers and suppliers.² To the extent that TNCs are able to provide leading edge inputs and services, the geography of international production comes to reflect the cumulative effects of past FDI location.

Intensifying competition also forces firms to specialize in their core competencies. This induces TNCs to forge closer external links at various points along the value chain (from design and innovation to marketing and servicing) and allows other firms (including TNCs) to undertake different functions.³ Linkages can be established with suppliers, buyers and even competitors, and they can reach across the world. They can involve other foreign affiliates or local (i.e. domestically owned) firms. This growing network surrounds and supports international production proper (under the direct control of TNCs). These networking possibilities can affect FDI location

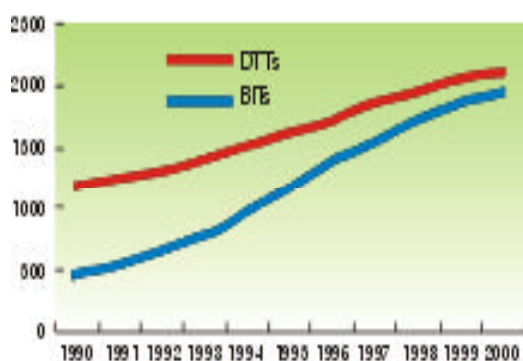
in different ways. On the one hand, they can induce TNCs to set up operations in close proximity to (competent) clusters of related firms and so increase FDI. On the other hand, they can allow TNCs to concentrate their facilities in established locations where their needs are met efficiently, while relating to networks over long distances. This can lead to a reduction in FDI by those firms.

The trend towards greater networking can have important implications for firms in developing countries. It can open up new avenues for competent developing country firms to link up with global production systems as TNCs scan the globe for efficient and reliable suppliers and subcontractors. Backward linkages from foreign affiliates to local firms, in particular, can become important channels through which intangible and tangible assets can be passed on from the former to the latter, contributing to an upgrading of the local enterprise population and “embedding” and “grounding” foreign affiliates more in their host economies. Given the role that backward linkages can play in these respects (chapters IV and V of this report address the question of how more backward linkages by foreign affiliates can be created, and existing ones deepened), competent local firms can eventually even “leverage” their linkages with TNCs to become global suppliers and sometimes competitors. However, the new international regulatory framework restricts the use of some

Box I.1. FDI regimes in 2000 (concluded)

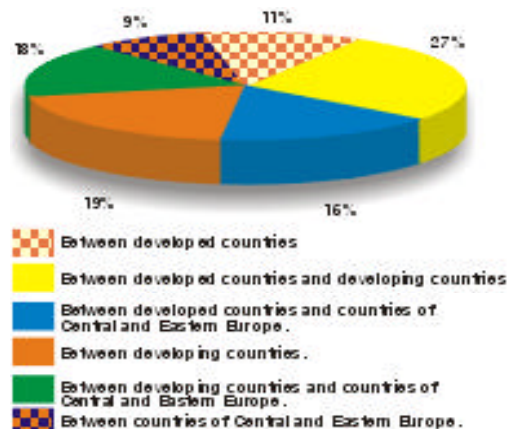
double taxation (DTTs) also increased, reaching a total of 2,118 at the end of 2000 (box figure I.1.3). During 2000, 57 DTTs were concluded by 59 countries (box figure I.1.4). At the regional and interregional levels, the number of investment-related instruments continues to grow, especially in the form of free trade and investment agreements (annex table A.I.1).

Box figure I.1.3. Cumulative number of BITs and DTTs, 1990-2000



Source: UNCTAD.

Box figure I.1.4. DTTs concluded in 2000, by country group



of the tools used by governments in the past to strengthen the positions of local firms as suppliers. The Agreement on Trade-related Investment Measures (TRIMs), for example, prohibits the use of local content requirements. The stricter application of intellectual property rights under the Agreement on Trade-related Aspects of Intellectual Property Rights (TRIPS) may make it more difficult and expensive for local firms to access foreign technology. At the same time, competition for FDI has increased considerably (WIR98), creating additional parameters as to what host countries can or cannot do to attract FDI and benefit from it.

Technical change affects the geography of FDI in many ways. In fact, the dynamics of international production today largely reflect the nature, speed and pervasiveness of technical progress. Rapid innovation provides the advantages that propel firms into international production; thus, innovation-intensive industries especially tend to be increasingly transnational, and TNCs have to be more innovative to maintain their competitiveness. Innovation also leads to changes in the structure of trade and production, with R&D-intensive activities growing faster than less technology-based activities (WIR99). The move up the technology scale furthermore reduces the importance of primary and simple low-technology activities in FDI, while raising that of skill-intensive activities. The growing role of skills means that low wages per se are increasingly insufficient as a determinant of FDI.

New transport, communication and information technologies intensify competition while allowing firms to spread and manage international operations more efficiently. The rising cost of innovation leads firms (among other options, including strategic alliances) to internalize their technological advantages rather than sell them at arm's length, raising the role of FDI in technology transfer. These trends are manifested most clearly in globally integrated production systems, in which different steps in the production process are located (under TNC control) in different places to optimize cost-efficiencies and logistics. High-technology activities previously beyond the reach of developing countries can now be placed there because labour-intensive processes can be economically separated and managed over long distances. Many activities in integrated

production systems are technology-intensive and dynamic; their location in developing countries can rapidly transform the prevailing FDI and competitive landscape.⁴

It is not just the emergence of high-technology integrated production systems that alters the geography of FDI. The pervasiveness of technical change means that *all* TNC activities have to use new technologies effectively. The speed of change means, moreover, that TNCs continuously have to upgrade technologies to retain competitiveness, and the increasingly information-based nature of technology means that new sets of skills and infrastructure are needed to utilize new technologies. Thus, location decisions have to be based on the ability of host countries to provide the complementary skills, infrastructure, suppliers and institutions to operate technologies efficiently and flexibly. Technological progress, in other words, forces firms involved in international production increasingly to differentiate between the "haves" and "have-nots" in new FDI-complementing factors when deciding on where to undertake different activities.

One FDI-complementing factor of growing significance is the presence of *geographical clusters* of economic activity, technical and skills inputs, specialized suppliers and demanding buyers, support institutions, finance and so on. Such an agglomeration of resources and capabilities attracts "efficiency-seeking" FDI (and more and more FDI is of this type) in all economies. It also helps to attract "asset-seeking" FDI (Dunning, 1993, 2000) to the more advanced host countries. In their inexorable search for new competitive advantages, TNCs seek "created assets" like technology across the globe. Clusters of innovative activity (as in Silicon Valley in California, Silicon Fen in Cambridge (England), Wireless Valley in Stockholm or Zhong Guancun, a suburb of Beijing) have a distinct advantage in attracting such high level FDI.

Managerial and organizational factors strengthen the new locational determinants of FDI. A greater focus on core competencies, with flatter hierarchies and stronger emphasis on networking, steers investments towards locations with advanced factors and institutions and, where relevant, distinct clusters. New organizational techniques (aided by new technologies) stimulate a more

efficient management of global operations, encouraging a greater relocation of functions. “Complex” integration strategies of international production (*WIR93*) can succeed only if firms are able to adopt these new techniques efficiently.

In sum, the changing geography of international production reflects the dynamic interaction of many economic, organizational and policy factors. While many of these factors have long been relevant, their combination today reflects new forces influencing TNC location decisions. To cope successfully with globalization and benefit from FDI, developing countries must understand these forces. They set the parameters within which policy makers have to act to attract FDI, and to extract the greatest benefits from it in terms of technology, skills and market access, striking backward linkages and leveraging foreign assets to reach competitive positions in global markets. The following brief review of the growth of FDI in 2000 and especially the subsequent mapping of international production and the discussion of the patterns it shows is an attempt to help in this understanding. It indicates emerging as well as declining opportunities by location. It points to new sources of FDI, in developing as well as developed countries, and to small firms as to large ones as international investors.⁵

B. The growth of FDI in 2000

FDI inflows continued their strong recent growth to reach \$1.3 trillion in 2000, though the pace was slightly slower than in the previous two years (table I.1). In 2001, they are expected to decline.⁶ By all measures (assets, sales, trade and employment of foreign affiliates), FDI rose more rapidly in 1999 and 2000 than such other aggregates as gross domestic product (GDP), domestic investment, licensing payments and trade. It is noteworthy, in particular, that TNC activities have risen rapidly in 1999 (as well as during the preceding three years) when world trade was stagnant, testifying to the growing role of FDI as the main force in international economic integration. The ratio of foreign affiliates’ sales to global GDP was almost 50 per cent, with the sales value being over twice as high as the value of world exports of goods and services. Over 60,000 TNCs now own more than 820,000 affiliates abroad, with some 55 countries hosting

more than 1,000 foreign affiliates (figure I.1 and annex table A.I.2), and with a value of FDI stock of over \$6 trillion.

Looking at the recent past, as many as 65 countries experienced an annual average growth rate of 30 per cent or more between 1986 and 2000 (table I.2); another 29 countries had FDI growth rates of 20-29 per cent. In terms of broad country groups, the *developed world* continued to attract over three-quarters of global FDI inflows in the past two years. Its share has risen in recent years largely because of intense cross-border M&A activity. In 1999, the share of *developing countries* fell by 6 percentage points, to 21 per cent; in 2000 it declined yet further to 19 per cent. This was the lowest share since 1990, and it was well below the 1990s peak of 41 per cent in 1994. It was also lower than the shares of developing countries in world exports as well as imports, and total world domestic investment. The 49 least developed countries (LDCs) as a group remained marginal in attracting FDI; however, FDI flows into that group are on the rise, as is the role of FDI in their economies. *Central and Eastern Europe* maintained its share of about 2 per cent in 2000 in terms of world inflows.

1. Developed countries

The “*Triad*” – Japan, the European Union (EU) and the United States – has long accounted for the bulk of international production, providing and receiving most of global FDI. During 1998-2000, the Triad accounted for three-quarters of global FDI inflows and 85 per cent of outflows, and for 59 per cent of inward and 78 per cent of outward FDI stocks. By the late 1990s it was home to nearly 50,000 TNCs and host to nearly 100,000 foreign affiliates (figure I.1 and annex table A.I.2).⁷ Compared with the mid-1980s, the Triad’s share in world inward FDI stock has risen, while that in outward FDI stock has decreased (figure I.2). The EU’s shares of stocks and flows, inward as well as outward, increased.⁸ Those of the United States and Japan have declined, with those of Japan remaining relatively small. The rise in EU shares is largely due to cross-border M&As. The structure of FDI within the Triad has also changed. Largely as a result of its prolonged economic slowdown, and later the Asian financial crisis, Japan has become somewhat more important as a destination for FDI and

Table I.1. Selected indicators of FDI and international production, 1982-2000
(Billions of dollars and percentage)

Item	Value at current prices (Billions of dollars)			Annual growth rate (Per cent)					
	1982	1990	2000	1986-1990	1991-1995	1996-1999	1998	1999	2000
FDI inflows	57	202	1 271	23.0	20.8	40.8	44.9	55.2	18.2
FDI outflows	37	235	1 150	26.2	16.3	37.0	52.8	41.3	14.3
FDI inward stock	719	1 889	6 314	16.2	9.3	18.4	19.8	22.3	21.5
FDI outward stock	568	1 717	5 976	20.5	10.8	16.4	20.9	19.5	19.4
Cross border M&As ^a	..	151	1 144	26.4 ^b	23.3	50.0	74.4	44.1	49.3
Sales of foreign affiliates	2 465	5 467	15 680 ^c	15.6	10.5	10.4	18.2	17.2 ^c	18.0 ^c
Gross product of foreign affiliates	565	1 420	3 167 ^d	16.4	7.2	11.0	3.2	27.2 ^d	16.5 ^d
Total assets of foreign affiliates	1 888	5 744	21 102 ^e	18.2	13.9	15.9	23.4	14.8 ^e	19.8 ^e
Export of foreign affiliates	637	1 166	3 572 ^f	13.2	14.0	11.0	11.8	16.1 ^f	17.9 ^f
Employment of foreign affiliates (thousands)	17 454	23 721	45 587 ^g	5.7	5.3	7.8	16.8	5.3 ^g	12.7 ^g
GDP at factor cost	10 612	21 475	31 895	11.7	6.3	0.7	-0.9	3.4	6.1
Gross fixed capital formation	2 236	4 501	6 466 ^h	12.2	6.6	0.6	-0.6	4.3	..
Royalties and Licence fees receipts	9	27	66 ^h	22.1	14.1	4.0	6.1	1.1	..
Export of goods and non-factor services	2 124	4 381	7 036 ^h	15.4	8.6	1.9	-1.5	3.9	..

Source: UNCTAD, based on FDI/TNC database and UNCTAD estimates.

^a Data are only available from 1987 onward.

^b 1987-1990 only

^c Based on the following regression result of sales against FDI inward stock for the period 1982-1998: Sales=967+2.462*FDI inward stock.

^d Based on the following regression result of gross product against FDI inward stock for the period 1982-1998: Gross product=412+0.461*FDI inward stock.

^e Based on the following regression result of assets against FDI inward stock for the period 1982-1998: Assets= -376+3.594*FDI inward stock.

^f Based on the following regression result of exports against FDI inward stock for the period 1982-1998: Exports=231+0.559*FDI inward stock.

^g Based on the following regression result of employment against FDI inward stock for the period 1982-1998: Employment=13 925+5.298*FDI inward stock.

^h Data are for 1999.

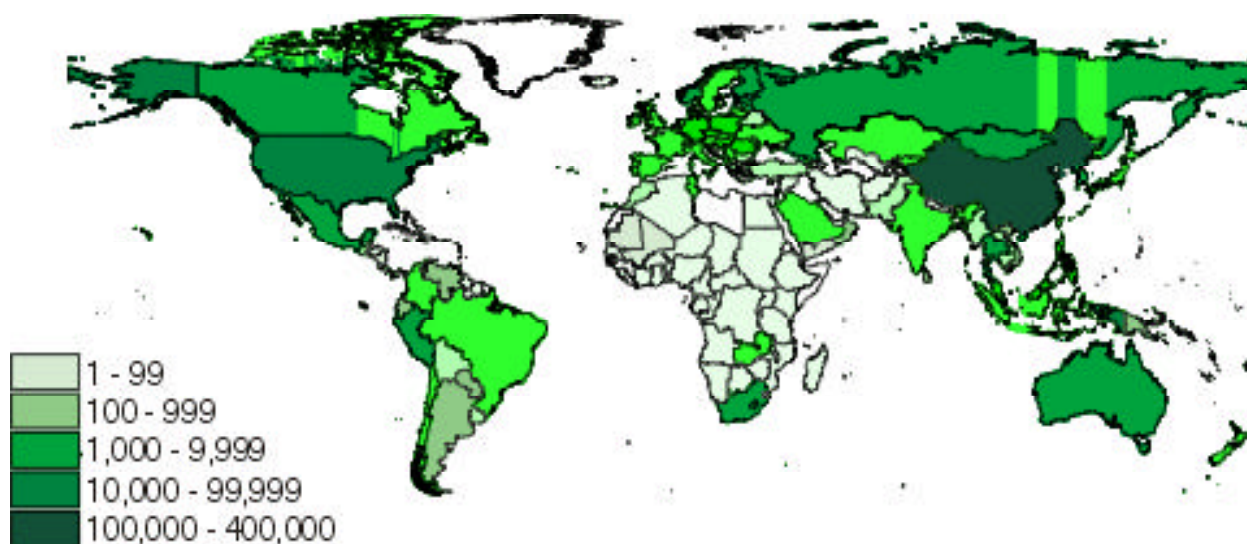
Note: Not included in this table are the value of worldwide sales by foreign affiliates associated with their parent firms through non-equity relationships and the sales of the parent firms themselves. Worldwide sales, gross product, total assets, exports and employment of foreign affiliates are estimated by extrapolating the worldwide data of foreign affiliates of TNCs from France, Germany, Italy, Japan and the United States (for sales and employment) and those from Japan and the United States (for exports), those from the United States (for gross product), and those from Germany and the United States (for assets) on the basis of the shares of those countries in the worldwide outward FDI stock.

Table I.2. Annual average FDI growth rate, 1986-2000
(Percentage)

Growth rate	Economy
More than 30%	Afghanistan; Armenia; Azerbaijan; Bahamas; Bahrain; Bangladesh; Belarus; Bermuda; Bhutan; Bolivia; Brazil; Bulgaria; Cameroon; Cape Verde; Cayman Islands; China; Comoros; Croatia; Cuba; Czech Republic; Denmark; Djibouti; Eritrea; Ethiopia; Finland; Georgia; Germany; Guyana; Hungary; India; Ireland; Japan; Jordan; Kuwait; Lao People's Democratic Republic; Latvia; Lesotho; Lithuania; Macau; China; Malawi; Mongolia; Morocco; Mozambique; Myanmar; Netherlands Antilles; Nicaragua; Norway; Paraguay; Poland; Qatar; Romania; Samoa; São Tomé and Príncipe; Senegal; Slovenia; South Africa; Sweden; TFYR Macedonia; Tonga; Tuvalu; Uganda; United Republic of Tanzania; Venezuela; Viet Nam; and Virgin Islands
20-29.9%	Anguilla; Argentina; Austria; Belgium and Luxembourg; Benin; Chad; Chile; Dominican Republic; Gabon; Ghana; Hong Kong, China; Islamic Republic of Iran; Israel; Kazakhstan; Republic of Korea; Lebanon; Malta; Republic of Moldova; Nepal; Netherlands; Panama; Peru; Russian Federation; Saint Vincent and the Grenadines; Slovakia; Sudan; Togo; Trinidad and Tobago; and Ukraine
10-19.9%	Angola; Burkina Faso; Cambodia; Canada; Colombia; Democratic Republic of Congo; Costa Rica; Côte d'Ivoire; Ecuador; Equatorial Guinea; Estonia; France; Gambia; Grenada; Guinea; Guinea-Bissau; Honduras; Iceland; Jamaica; Kiribati; Malaysia; Maldives; Mali; Mauritius; Mexico; New Caledonia; Pakistan; Philippines; Portugal; Saint Lucia; Saudi Arabia; Seychelles; Somalia; Sri Lanka; Switzerland; Tajikistan; Thailand; Tunisia; Turkey; United Kingdom; United States; Uruguay; Uzbekistan; Vanuatu; Yemen; Zambia; and Zimbabwe
0-9.9%	Albania; Algeria; Antigua and Barbuda; Aruba; Australia; Barbados; Belize; Botswana; Dominica; Egypt; El Salvador; Greece; Guatemala; Italy; Kenya; Kyrgyzstan; Madagascar; Namibia; New Zealand; Nigeria; Papua New Guinea; Saint Kitts and Nevis; Sierra Leone; Singapore; Solomon Islands; Spain; Swaziland; Syrian Arab Republic; and Taiwan Province of China
Decline	Brunei Darussalam; Burundi; Central African Republic; Congo; Cyprus; Fiji; Gibraltar; Haiti; Indonesia; Iraq; Democratic People's Republic of Korea; Liberia; Libyan Arab Jamahiriya; Mauritania; Montserrat; Niger; Oman; Rwanda; Turkmenistan; United Arab Emirates; and Yugoslavia

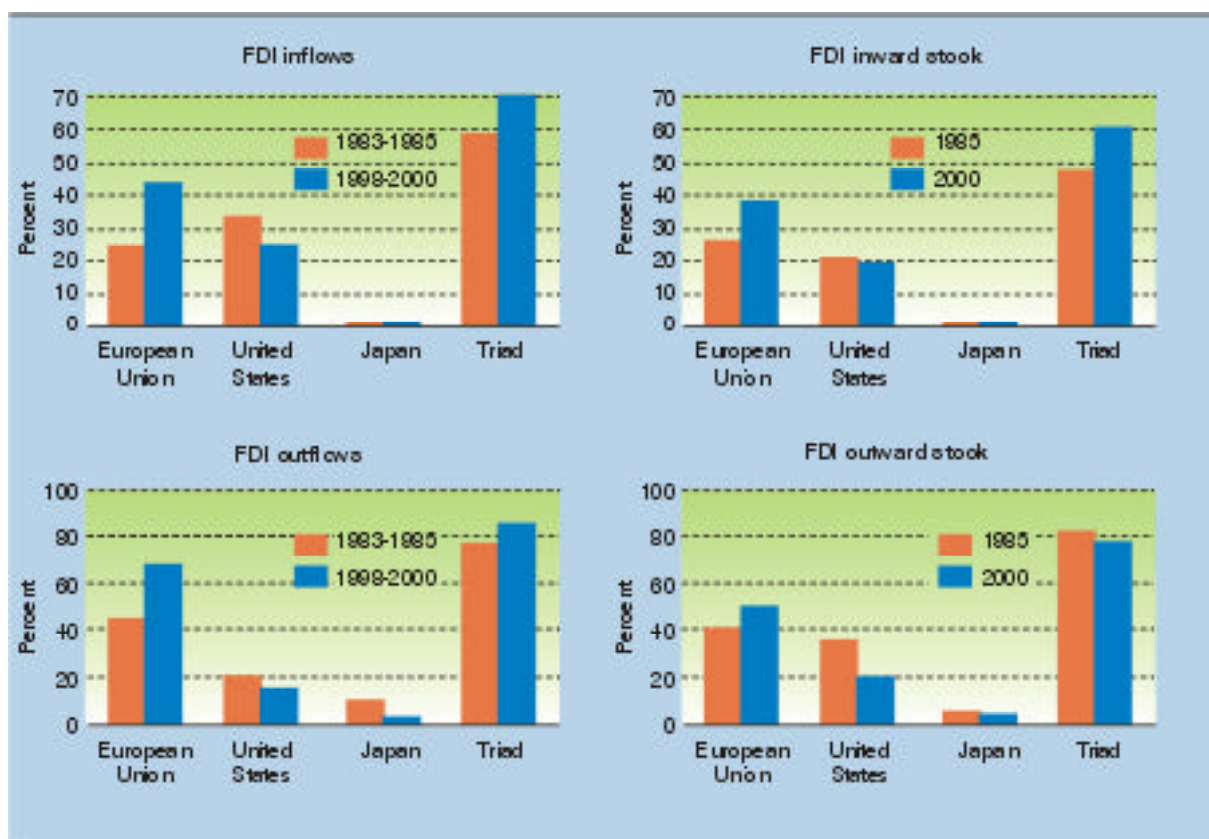
Source: UNCTAD, FDI/TNC database.

Figure I.1. Geographical distribution of foreign affiliates, 1999
(Number)



Source: Annex table A.1.2 in this report.

Figure I.2. The share of the Triad in world FDI flows and stocks, 1985 and 2000



Source: UNCTAD, FDI/TNC database.

less important as a source, although the country's significance as an outward investor is still much greater than that as a FDI recipient. The United States continues to be the single largest host country for FDI, while its role as largest outward investor has been taken over by the United Kingdom since 1999 and, also, France for the first time in 2000. The EU as a group remains dominant as both investor and recipient. As a result, intra-Triad stocks account for the bulk of the Triad's FDI stocks. Flows between the Triad members are rising, with 40 per cent of total outward FDI stock being located in other Triad members in 1999, as compared to one-third in 1985 (figure I.3). The number of host countries in which the Triad dominates increased for Japan and the EU, but decreased for the United States between 1985 and 1999 (figure I.3).

More specifically, this is how the individual members of the Triad fared in 2000:

a. United States

Although slightly below the 1999 record high, FDI in 2000 both from and to the United States reached high levels (\$139 billion in outflows and \$281 billion in inflows), mainly as a result of several large acquisitions that took place in particular by and of firms based in the EU. The country was the third largest outward investor in 2000 (figure I.4).

United States FDI *outflows* in 2000 continued to be driven by cross-border M&As involving companies based in EU. Overall, the EU as a destination for United States outward FDI accounted for nearly half of the total (figure I.5). Almost half of the country's outward stock is located in EU countries. As a result, the economic impact of United States investment is substantial in some EU countries. For example, United States affiliates accounted for more than half of the total of employment and value added in Ireland in 1997 (Eurostat, 2000a). United States investment in the Asia-Pacific region picked up recently and returned to levels close to those prior to the financial crisis, with particularly strong growth in electronics. Overall, the share of services in United States outward FDI increased, mainly due to large acquisitions undertaken by financial institutions. The shares of the automobile and electronics equipment industries picked up too, while chemicals and pharmaceuticals – mainly

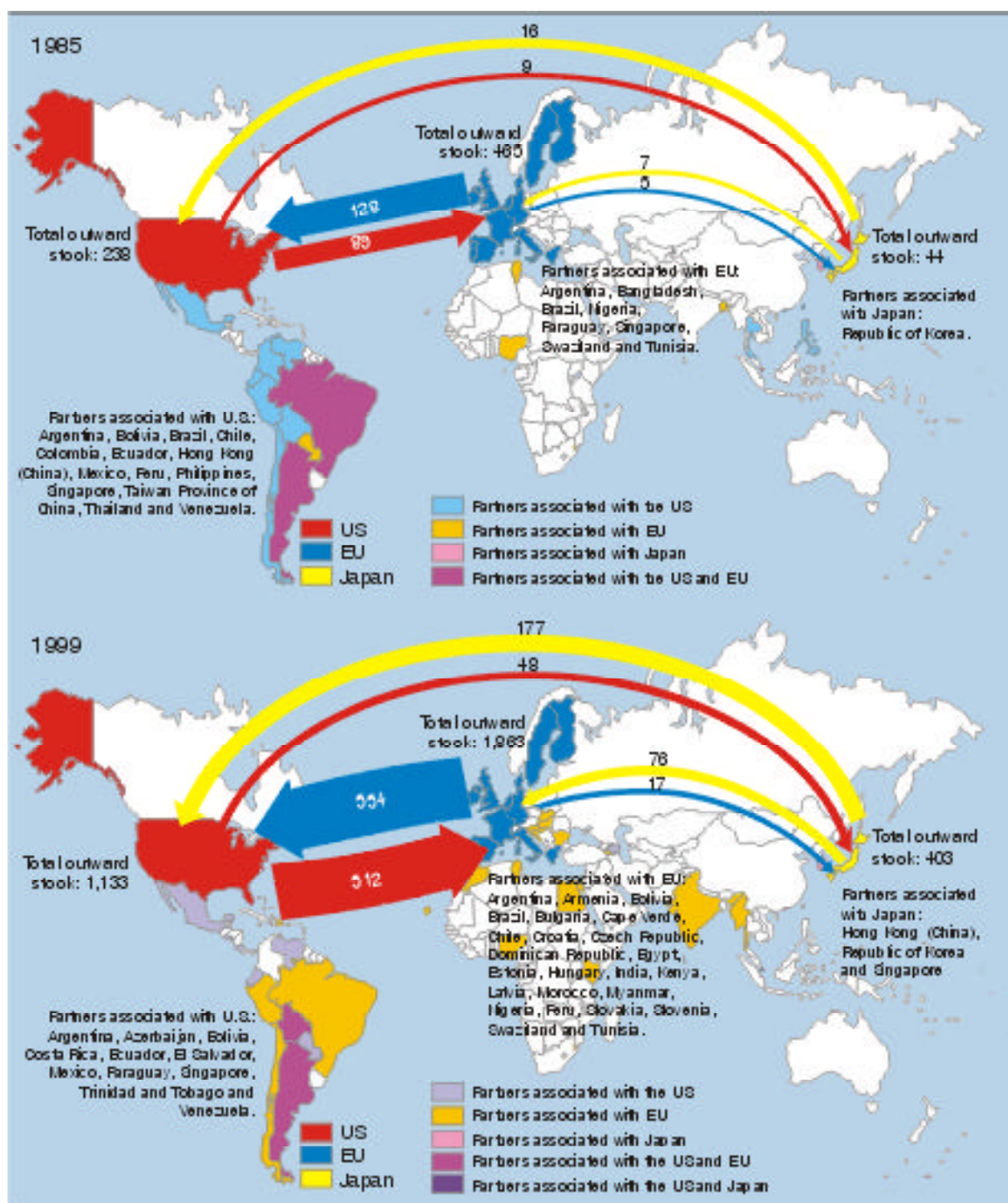
boosted in 1999 by large acquisitions linked to the need for global consolidation in the industry and undertaken with a view to gain access to production technologies and R&D – lost dynamics. While the share of United States FDI going to developing countries slightly decreased from 27 per cent in 1999 to 25 per cent in 2000, it might revive again in response to regulatory changes already undertaken or currently under discussion. For example, the African Growth and Opportunity Act improves market access for African exports at favourable terms; and negotiations with Chile are under way concerning that country's membership in NAFTA.

Inflows into the United States in 2000 were much more concentrated by source than were outflows by destination. Traditionally, the United Kingdom continues to be the most important home country for the United States, followed by France; however, the share of FDI from the EU declined from 80 per cent in 1999 to 72 per cent in 2000. Inflows took place overwhelmingly through acquisitions rather than greenfield investments, undertaken by already established foreign affiliates and increasingly financed through reinvested earnings (Howenstine, 2001). Although in recent years the United States had experienced net FDI inflows, in 2000 inflows were more than twice the amount of outflows, mainly due to increases in equity investments and intra-company loans (figure I.6). The industries with the largest increases in 2000 were petroleum, computers and electronics, as well as telecommunications and financial services. The United States is a large host and home country in absolute terms, but in terms of FDI flows as a share of domestic investment (gross fixed capital formation), this country ranks almost in the middle among all developed countries (figure I.7).

b. European Union

Within Western Europe, the European Union (EU) accounts for more than 90 per cent of both inward and outward FDI stocks. While record *inflows* into the EU were stimulated by progress in regional integration, extra-EU flows were dominated by the United States. Rising FDI flows between EU and European Free Trade Association (EFTA) were the main stimulus for FDI into other Western European countries, reflecting also closer relationships on other levels of international relations.

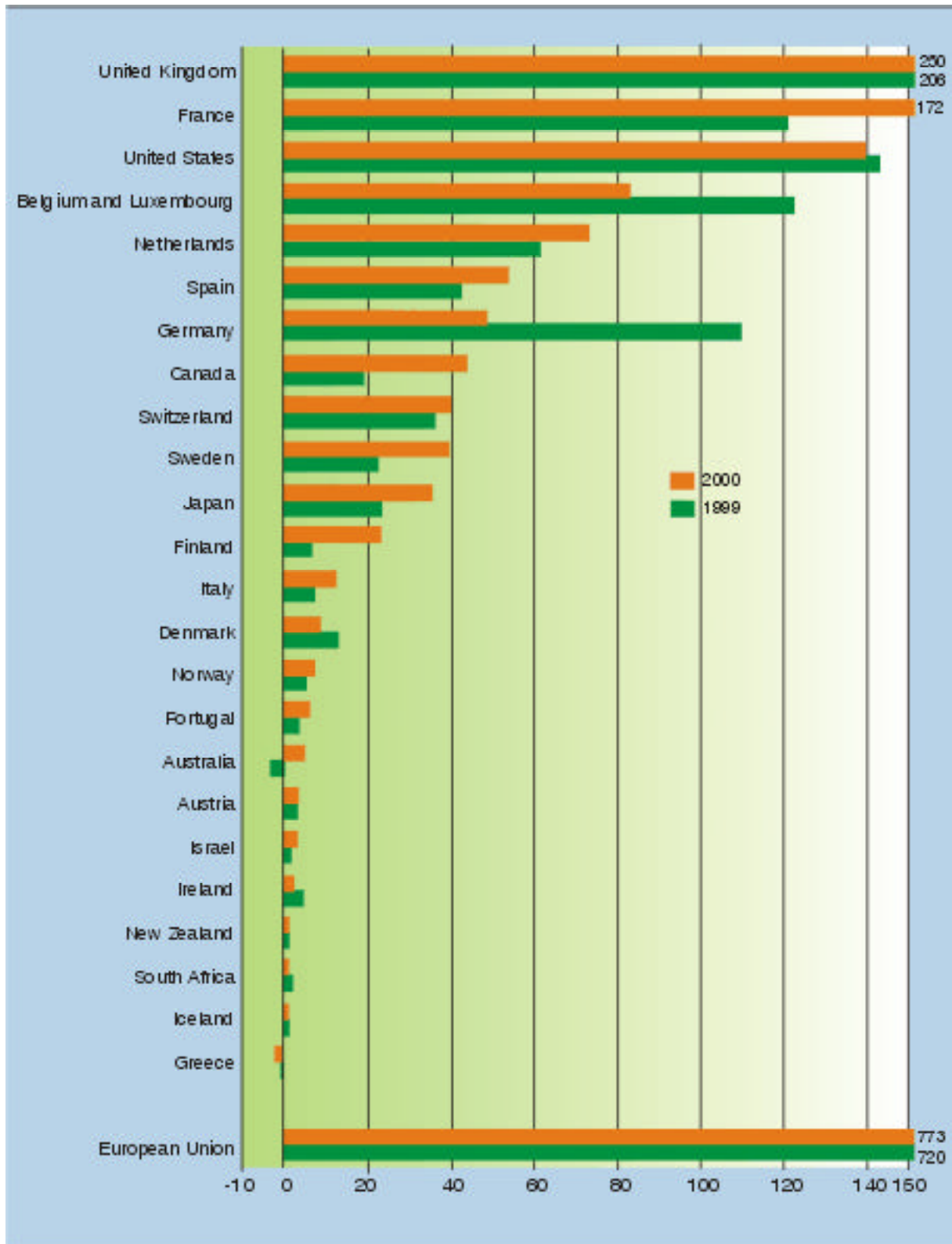
Figure I.3. FDI stocks among the Triad and economies in which FDI from the Triad dominates, 1985 and 1999
(Billions of dollars)



Source: UNCTAD, FDI/TNC database.

Notes: Associate partners are the host economies in which the Triad members account for at least 30 per cent of the total FDI inward stocks or of the total FDI inward flows within a 3-year average. Approval data were used for the following economies: Bangladesh, Bulgaria, Cambodia, Egypt, Kenya, Lao People's Dem. Rep., Mexico, Mongolia, Myanmar and Taiwan Province of China. Data may not necessarily be available for each economy during both years 1985 and 1999. The EU includes Austria (1990 instead of 1985 and 1998 instead of 1999), Denmark (1991 instead of 1985 and 1998 instead of 1999), Finland (1991 instead of 1985 and 1998 instead of 1999), France (1989 instead of 1985 and 1998 instead of 1999), Germany (1998 instead of 1999), Italy (1994 instead of 1985 and 1998 instead of 1999), Netherlands (1998 instead of 1999), Sweden (1986 instead of 1985) and the United Kingdom (1987 instead of 1985) that account for about 90 per cent of the EU outward stock. Japan's outward stocks are cumulative flows on a balance-of-payments basis since 1968.

Figure I.4. Developed countries: FDI outflows, 1999 and 2000^a
(Billions of dollars)



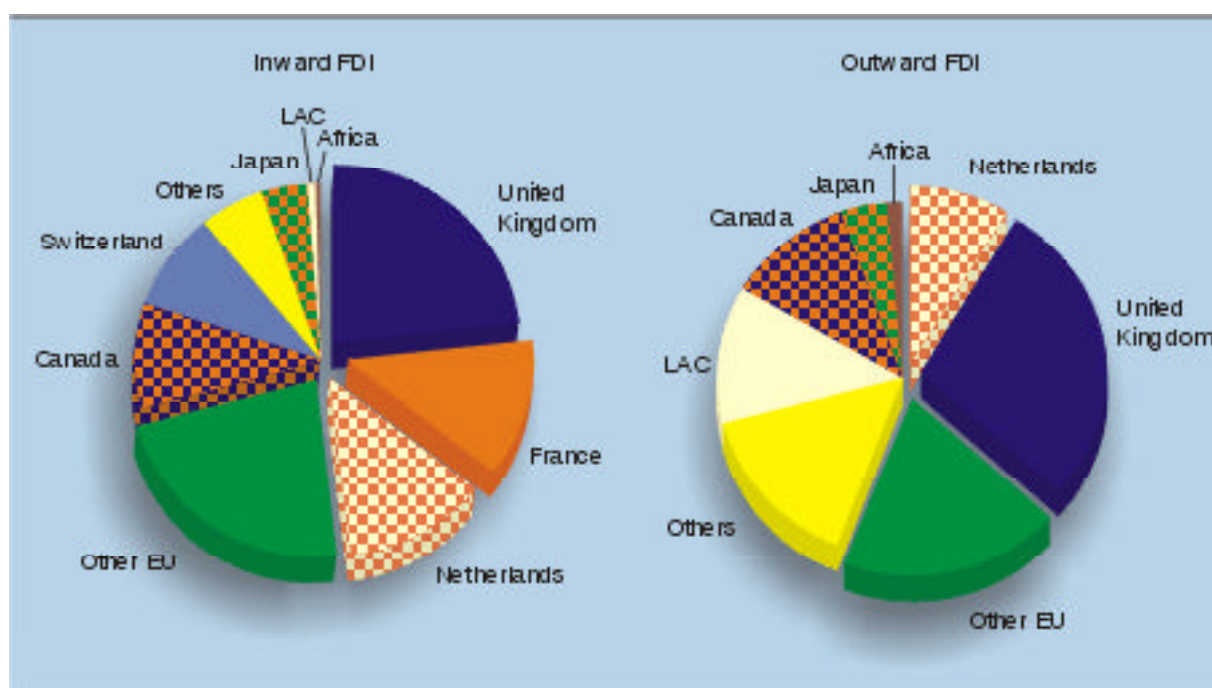
Source: UNCTAD, FDI/TNC database.

^a Ranked on the basis of the magnitude of 2000 FDI outflows.

FDI inflows into the EU also reached record levels in 2000 (\$617 billion). As in the recent past, cross-border M&As explain this growth. Deepened regional integration during the 1990s, in addition to political stability, market size and good infrastructure, are principal drawing assets; further integration, as well as the introduction of the Euro, are expected to accentuate this trend. Within the EU, the United Kingdom was the largest outward investor in 2000 and, at the same time, the largest investor worldwide for a second consecutive year (figure I.4), mainly due to major cross-border M&As: the largest deal in 2000 (indeed, the largest deal ever worldwide), the acquisition of Mannesmann by VodafoneAirTouch, also drove up FDI flows into the target country – Germany. As a result, Germany became the most important FDI recipient in the region (figure I.6). In a similar vein, FDI flows to Belgium were significantly influenced by post-merger restructuring activities, which took place during the fourth quarter of 1999 and had led to retroactive adjustments of both inward and outward flows; inflows into Belgium in 2000 were considerably lower but continued the upward trend that had been observed up to 1998 (annex tables B.1 and B.2).

Cross-border M&As were particularly important in the area of telecommunications, as well as in the automobile industry. Although a tendency towards consolidation and concentration can also be observed in the banking industry, it seems that Western European banks seek profits rather by expansion into emerging markets (ECB, 2000). However, the formation of regional financial groups also took place, such as the creation of Nordea, the result of mergers between Merita Bank (Finland), Nordbanken (Sweden), Unidanmark (Denmark) and Christiania Bank og Kreditkasse. With few exceptions, about half of the EU countries' FDI took place within the region. One exception is Austria, where FDI flows were remarkably dynamic and reached record levels in 2000, with more than two-thirds of the outflows directed towards the neighbouring countries of Central and Eastern Europe. Inflows into Austria were dominated by the merger of Bank Austria with HypoVereinsbank, and Germany therefore accounted for about four-fifths of total inflows. FDI flows into Greece reached unprecedented levels in 2000, and the country's accession to the EMU in 2001 is expected to further assure investors' confidence. Swedish outward

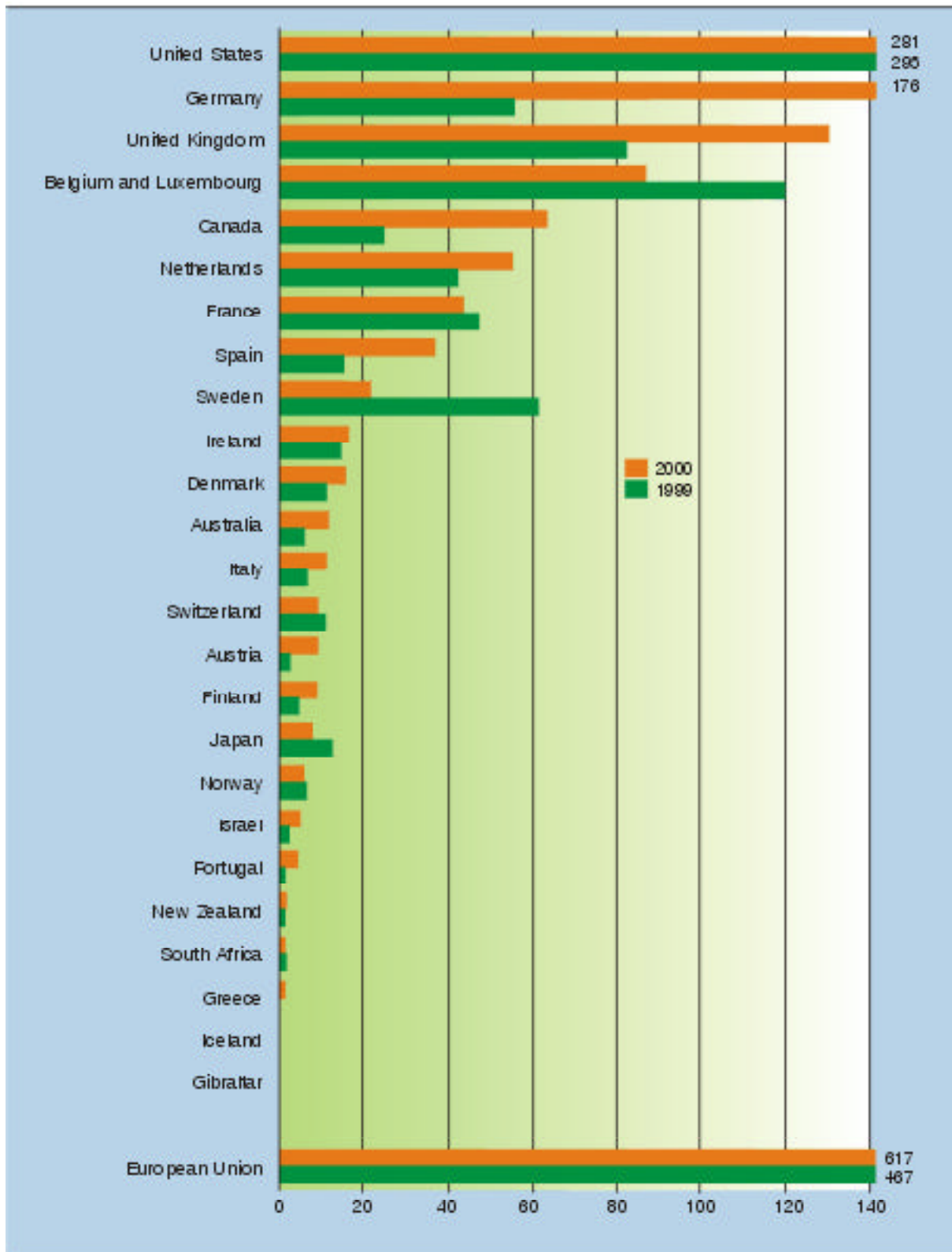
Figure I.5. Destination and sources of United States FDI flows, 2000
(Percentage)



Source: UNCTAD, based on the U.S. Dept. of Commerce, Bureau of Economic Analysis (BEA), International Investment data, www.bea.doc.gov, data retrieved in March 2001.

Notes: Africa includes South Africa. LAC stands for Latin America and the Caribbean.

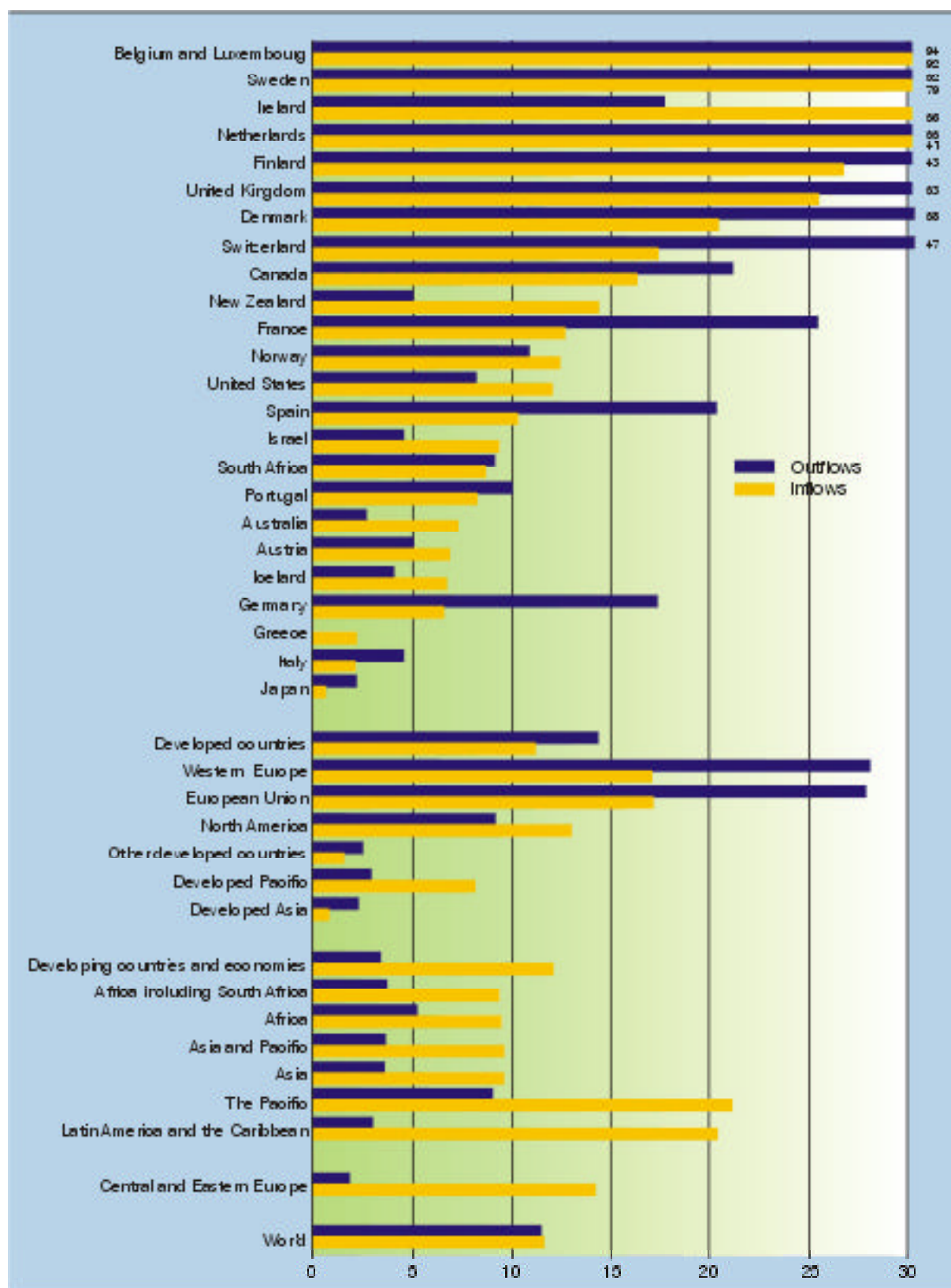
Figure I.6. Developed countries: FDI inflows, 1999 and 2000^a
(Billions of dollars)



Source: UNCTAD, FDI/TNC database.

^a Ranked on the basis of the magnitude of 2000 FDI inflows.

Figure I.7. Developed countries: FDI flows as a percentage of gross fixed capital formation, 1997-1999^a
(Percentage)



Source: UNCTAD, FDI/TNC database.

^a Ranked on the basis of the magnitude of 1997-1999 FDI inflows as a percentage of gross fixed capital formation.

investment almost doubled, mainly due to investments in EU markets; inflows decreased over the previous year (when FDI was significantly influenced by the merger between Astra and Zeneca), but were still considerably above their 1998 level. Similarly, the increase in outflows from France was largely attributed to the acquisition of Orange Plc by France Telecom in 2000, becoming the second largest outward investor worldwide.

Inflows from outside the EU are dominated by the United States but were of less importance in 1999 than before. They were outperformed by intra-EU flows (figure I.8).

Outward FDI of the EU is increasingly directed towards countries in Central and Eastern Europe, in pursuit of favourable business opportunities in the EU candidate countries,⁹ and driven by privatization.

Other Western European countries experienced increasing FDI *outflows* in 2000, with Switzerland being the most important player in both directions. While Swiss firms continue to direct about half of their investment to the EU (flows to EU countries in 1999 doubled), an increasing share goes to Central and Eastern Europe, the United States and Latin America. Already in 1997, Switzerland was among the five most important foreign investors in the EU (Eurostat, 2000b). FDI *inflows* to this country slightly declined to \$9.3 billion from

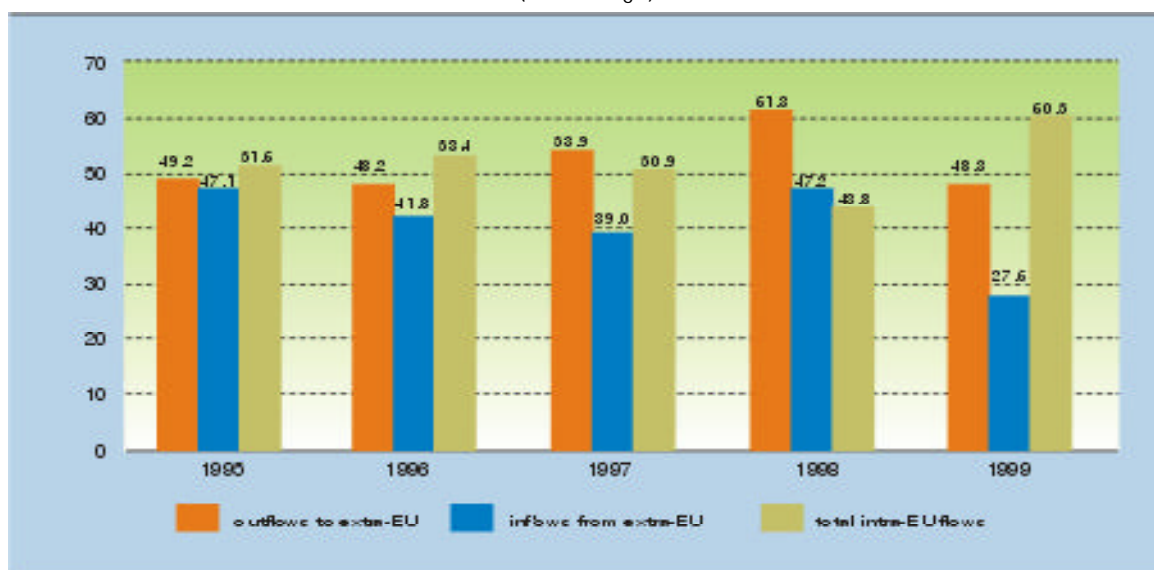
the record level in 1999 (\$11 billion). Norway's outward FDI flows continued their steep upward trend, with more than half of them directed to EU markets, while inflows in 2000 did not reach the record level of the previous year, when inflows were significantly boosted by reinvested earnings. While inflows into Iceland were about the same level as in 1998, outflows in 2000 almost doubled, due to several large acquisitions, in particular, by Ossur, which became the second largest manufacturer of prosthetics worldwide, as well as in the financial sector (i.e., by Landsbanki and Islandsbanki).

c. Japan

While Japan's economy continued to be sluggish, FDI *outflows* from the country rebounded after two consecutive years of decline, reaching in 2000 their highest level in 10 years (\$33 billion), driven by cross-border M&As in telecommunications.¹⁰ FDI *inflows* into Japan, on the other hand, dropped by 36 per cent to \$8.2 billion, from the 1999 record high, reflecting a decline in FDI in the manufacturing sector,¹¹ although the trend of attracting relatively high FDI inflows is likely to continue, prompted by both internal and external factors.

Cross-border M&As played a role in the interaction of these factors. The global consolidation through cross-border M&As between United States and European

Figure I.8. Intra- and extra-EU FDI flows, 1995-1999
(Percentage)



Source: Eurostat, 2000b.

Note: Intra-EU figures represent the average of inward and outward flows as declared by Member States.

companies extends now to Japan in some industries (e.g. automobiles), fuelling increased FDI into Japan. In addition, the structural changes in leading Japanese industries (e.g. banking) stimulate FDI inflows into Japan, which, in turn, accelerate the speed of the country's structural changes, and so on (*WIR00*, chapter II). Thus – and in spite of declining FDI inflows in 2000 – the general FDI trend has been upward during the past few years, driven by cross-border M&As in the finance, machinery and telecommunications industries. Greenfield investments in the retail, service and software industries are also rising (JETRO, 2001).

d. Other developed countries

In other developed countries, cross-border M&As with partners based in Europe and the United States explain the surge in Canadian FDI, which reached unprecedented levels in both directions (\$44 billion in outflows and \$63 billion in inflows in 2000). Recent inflows into Australia and New Zealand were closely linked to developments in the Asia-Pacific region, and further constrained by unfavourable exchange rate developments. Being largely commodity-based economies and partly linked to economic developments in Japan, Australia and New Zealand have not experienced significant FDI inflows in the 1990s. Inflows in Australia in 2001 might be significantly influenced by the planned merger between Billiton of the United Kingdom and BHP of Australia, which (if it should take place) would create the second largest mining group in the world.¹² Outflows from Australia in 2000 were \$5 billion, a turnaround compared to the previous year and significantly above the

average inflows during the period of 1990-1999. The services sector above accounted for more than half of the outflow.

Record FDI inflows into Canada in 2000 (two and a half times greater than in the previous year) mainly reflected one large acquisition. At the same time, outward FDI, increasing by more than twice, was also significantly stimulated by cross-border M&As. For FDI in both directions, the most important partners were the United States and European countries. The most important industries were food processing, machinery and transport equipment (inflows) and electrical and electronic equipment, energy and metals (outflows).

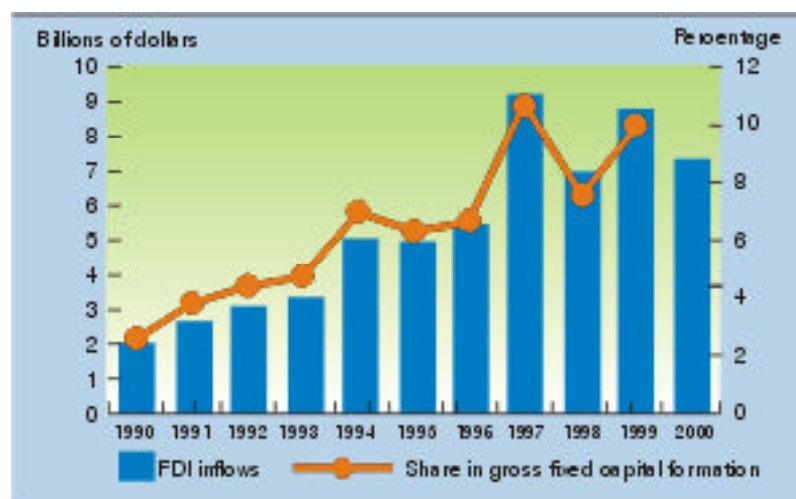
2. Developing countries

Each region of the developing world experienced different FDI developments during 2000.

a. Africa

FDI inflows into Africa (including South Africa) declined from \$10.5 billion in 1999 to \$9.1 billion in 2000, after an increase of \$2 billion during the previous year (figure I.9). Consequently, the share of Africa in world FDI inflows – already low – became even smaller, falling below 1 per cent in 2000. Inflows to major recipients such as Angola, Morocco and South Africa halved. However, FDI flows into these countries – as well as to Africa as a whole – are still much higher than those at the beginning of the 1990s, mainly due to the sustained efforts of many governments to create a more business-friendly environment after

Figure I.9. FDI inflows and their share in gross fixed capital formation in Africa,^a 1990-2000



Source: UNCTAD, FDI/TNC database.

^a Including South Africa.

turbulent and (in some countries) lost decades in the 1970s and 1980s. However, a number of African countries continue to rank high when FDI inflows are placed in relation to their gross fixed capital formation (figure I.10). FDI *outflows* from African countries continued to be marginal, except for those from South Africa.

On a subregional basis, the year 2000 saw some changes as compared to the year before as far as *inflows* were concerned:

- FDI flows to *North Africa* remained almost at the same level as in the previous year (\$ 2.6 billion). Flows declined into Morocco – where FDI inflows have been particularly volatile over the past few years – and Algeria. FDI flows to Sudan (where FDI is concentrated in petroleum exploration activities) increased somewhat from \$370 million to \$392 million (figure I.11). Egypt remained the most important recipient of FDI flows in North Africa, with slightly increasing inflows (\$1.2 billion compared to \$1 billion in 1999).
- FDI flows to *sub-Saharan Africa* decreased from \$8 billion in 1999 to \$6.5 billion in 2000. Although 22 countries experienced lower inflows in 2000 as compared to 1999, most of the reductions were rather small. The overall decline in FDI inflows into sub-Saharan Africa was caused by a sharp drop of inflows into two countries: Angola and South Africa. In Angola, inflows to the country's petroleum industry took a pause from the dynamic development in previous years, while in South Africa reduced M&A activity played a role in the downturn of inflows. The list of major recipients in sub-Sahara remained largely unchanged, with oil-producers such as Angola, Egypt and Nigeria topping the list, followed by South Africa.
- Due to the decline in Angola, FDI flows into the 34 *LDCs* in *Africa* dropped from \$4.8 billion in 1999 to \$3.9 billion in 2000. Leaving Angola aside, however, the group maintained almost the same level as in the previous year. FDI inflows to the United Republic of Tanzania were almost unchanged from \$183 million to \$193 million. When classified by regions, the group of African LDCs was, in fact, the only regional grouping of LDCs that managed to increase inflows over recent years. The share of

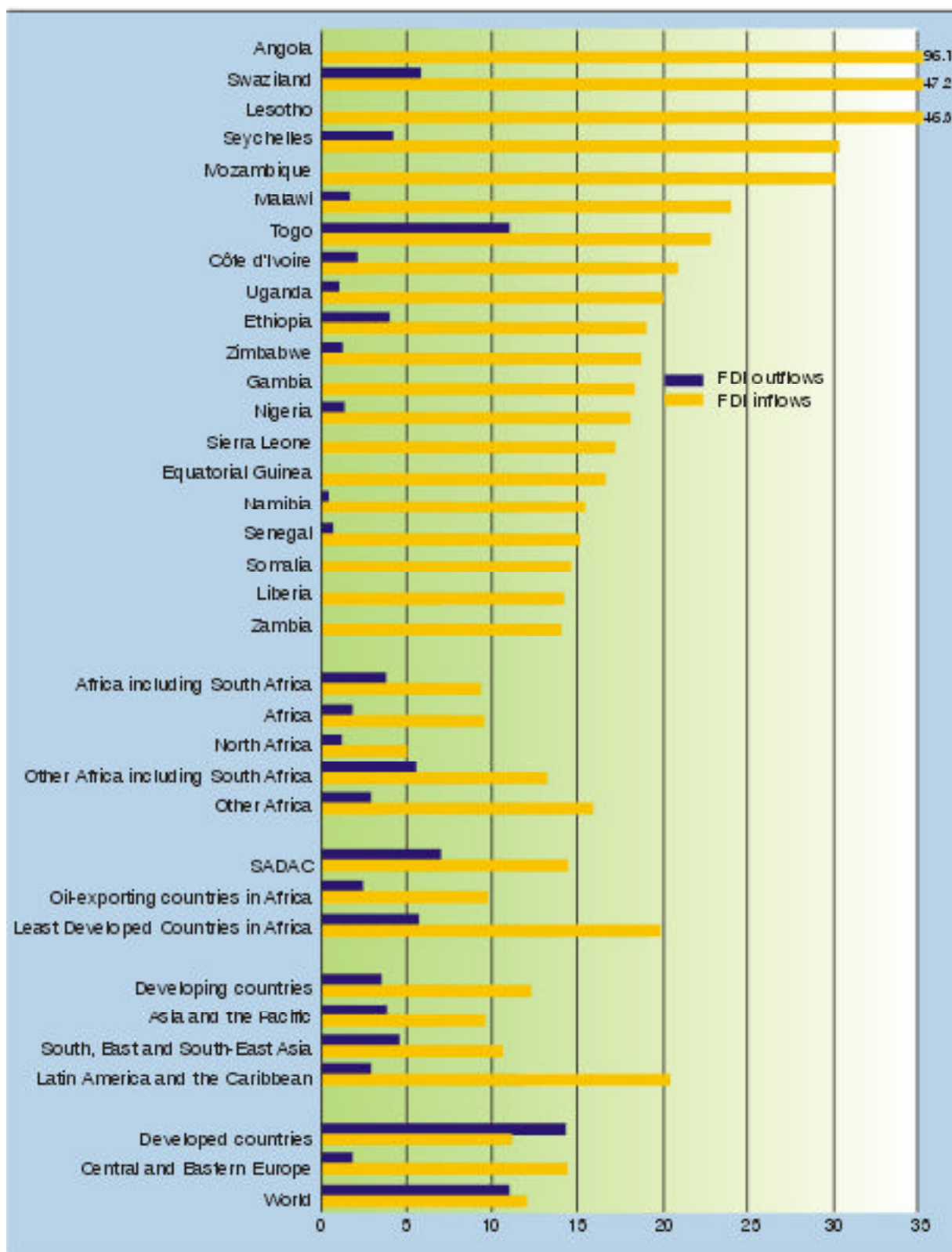
African LDCs in total FDI inflows into all LDCs stood at 90 per cent in 1999-2000, increasing from 70 per cent as the average for the period 1990-1998.

Within sub-Saharan Africa, the Southern Africa Development Community (SADC) has shown (in absolute as well as in relative terms) the most significant increases since the early 1990s. While FDI inflows into this grouping – due to the developments in Angola and South Africa – dropped from \$5.3 billion in 1999 to \$3.9 billion in 2000, this is still substantially above the average level of FDI inflows of approximately \$3.0 billion that today's SADC members received during 1994-1998. While countries such as Lesotho and Mauritius showed strong increases, FDI flows to other SADC countries declined: for example, Zimbabwe experienced a significant drop in inflows from \$444 million in 1998 to \$ 59 million in 1999 and only \$30 million in 2000.

The overall outlook for FDI into Africa has not changed much as compared to last year when a joint UNCTAD/ICC survey among almost 300 TNCs yielded the result that 43 per cent of the responding companies saw the investment conditions in Africa improving in the period 2000-2003, while 46 per cent saw the investment climate stay unchanged and only 11 per cent expected a deterioration. As in the past, much will depend on sustained efforts on the part of African governments to improve further the prospects of political stability and economic growth.

On the FDI *outflow* side, South Africa accounted for 40 per cent of the region's total of \$1.3 billion FDI outflows in 2000 (figure I.12); this made South Africa by far the continent's most important source of FDI. The country has seen a major restructuring of its industry long dominated under the apartheid regime by quasi-monopolistic conglomerates with interests in a wide range of industries and little investments abroad (Goldstein, 2000). For big South African companies, the end of apartheid also meant the beginning of a new era of intensified competition, forcing them to concentrate on core businesses and to divest from fringe activities. At the same time, companies such as South African Breweries or Sappi in the paper industry realized that an internationalization strategy including acquisitions of companies abroad (table I.3)

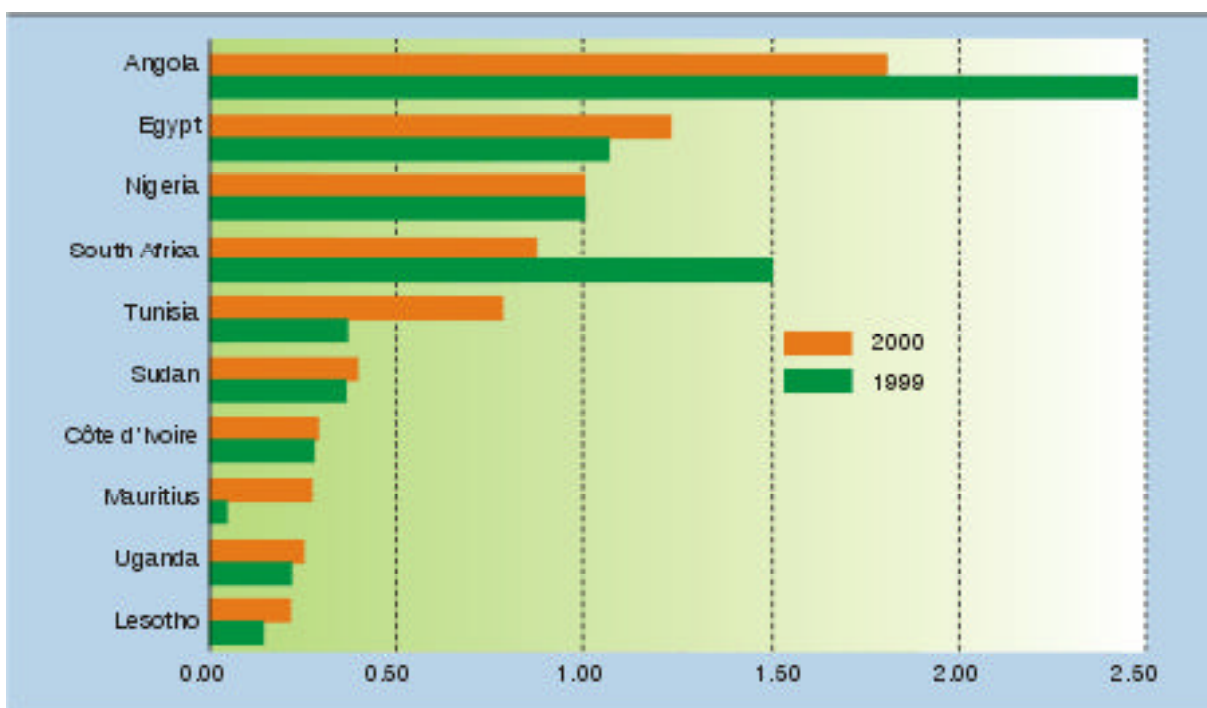
Figure I.10. Africa: FDI flows as a percentage of gross fixed capital formation, top 20 countries, 1997-1999^a
(Percentage)



Source: UNCTAD, FDI/TNC database.

^a Ranked on the basis of the magnitude of 1997-1999 FDI inflows as a percentage of gross fixed capital formation.

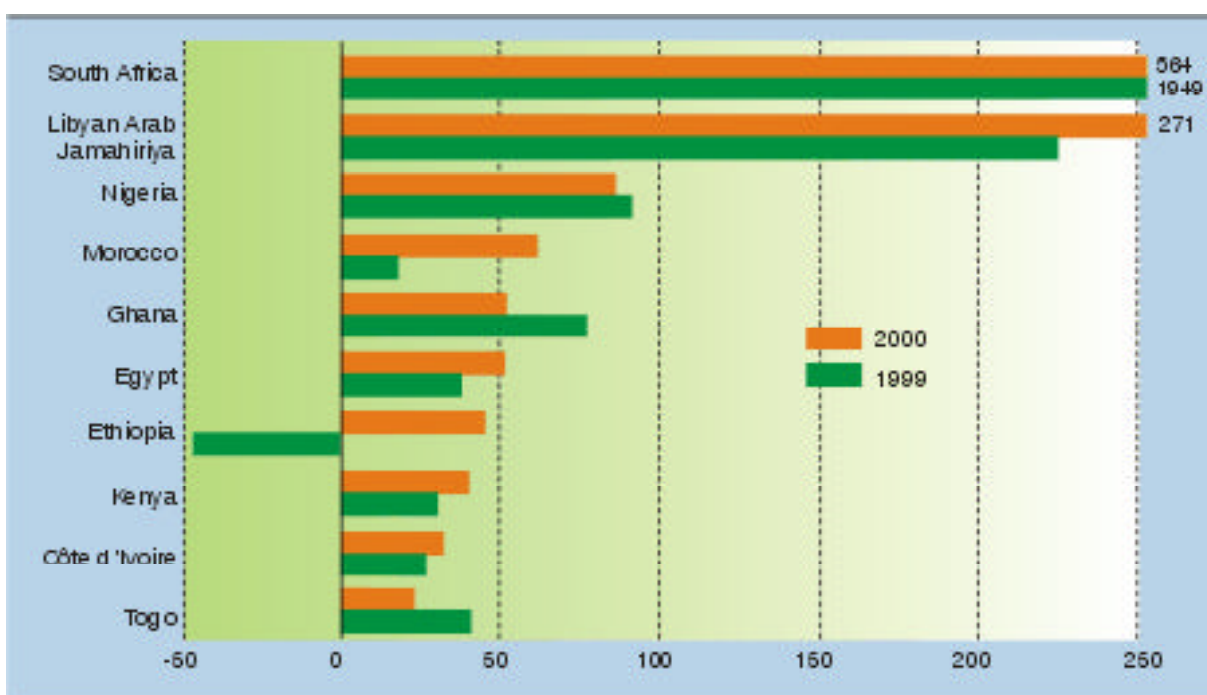
Figure I.11. Africa: FDI inflows, top 10 countries, 1999 and 2000^a
(Billions of dollars)



Source: UNCTAD, FDI/TNC database.

^a Ranked on the basis of the magnitude of 2000 FDI inflows.

Figure I.12. Africa: FDI outflows, top 10 countries, 1999 and 2000^a
(Millions of dollars)



Source: UNCTAD, FDI/TNC database.

^a Ranked on the basis of the magnitude of 2000 FDI outflows.

to explore new markets, and listing on foreign stock exchanges (most notably in London) to tap into foreign capital sources, was essential for survival in the new climate of global competition.¹³

b. Developing Asia

FDI inflows into developing Asia reached a record level of \$143 billion in 2000 (figure I.13). The 44 per cent increase over 1999 was primarily due to an unprecedented FDI boom in Hong Kong, China (box I.2). The wave of M&As in the financial-crisis-hit countries has now tapered off, reflecting both a slow-down in the rate of asset disposals and reduced pressure for further corporate restructuring. FDI flows into China, \$41 billion in 2000, remained at a level similar to that of the previous year (box I.3). Overall, the role of FDI in Asian economies, as measured by its share in total investment, varies greatly from country to country (figure I.14).

The 2000 Asia FDI boom (figure I.13) masks considerable sub-regional variations:

- *North-East Asia* has become the brightest spot for FDI in the developing world. Inflows to the three economies (Hong Kong, China; the Republic of Korea; and Taiwan Province of China) reached \$80 billion in 2000. Their share of total FDI in developing Asia increased from an annual average of 16 per cent during the first half of the 1990s to over 55 per cent in 2000. With \$64 billion of inflows, Hong Kong, China (box I.2) overtook China as the single largest FDI recipient in Asia (figure I.15).
- FDI inflows into *China* rose by 12 per cent during the first four months of 2001 (\$11 billion), compared to the corresponding period in 2000. It is noteworthy that tax contributions by foreign affiliates accounted for 18 per cent of the country's total corporate tax revenues in 2000 (\$27 billion) harvesting some of the benefits created by some \$15 billion of annual average FDI inflows during the first half of the 1990s. It is also noteworthy that the portfolio of FDI in China has been broadening over the past years (box I.3). In its effort to become a member of WTO, China is considering to adopt a number of new policy measures relating to FDI. China is also in the process of formulating policies to encourage cross-border M&As.
- Inflows into *South-East Asia* (ASEAN-10) remained below the pre-crisis level. The subregion's share in total FDI in developing Asia continued to shrink, from over 30 per cent in the mid-1990s to 10 per cent in 2000. This was largely due to significant divestments in Indonesia since the onset of the financial crisis.
- FDI inflows into *South Asia* remained almost the same in 2000, still below the 1997 peak level. India, the largest recipient in the subcontinent, received \$2.3 billion.
- Inflows into the *least developed countries* of the region, which traditionally depend

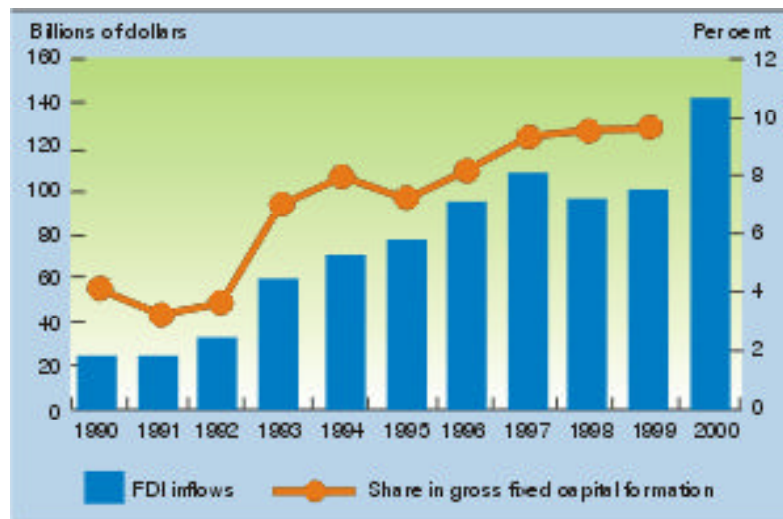
Table I.3. The ten largest cross-border M&A purchases by South African firms, 1987-2000

Company	Year	Acquired company	Country	Value in million dollars
Anglo American Corp of SA Ltd .	1999	Minorco SA	Luxembourg	2 137
Institutional Investors	1994	SD Warren(Scott Paper Co.)	United States	1 600
Old Mutual PLC	2000	United Asset Management Corp.	United States	1 456
Dimension Data Holdings PLC	2000	Comparex-Eur Networking Ops	Germany	1 347
Sappi Ltd.	1997	KNP Leykam(KNP BT)	Austria	1 313
Gencor	1994	Cerro Matoso SA(Royal Dutch)	Colombia	1 200
Gencor	1994	Billiton Intl-Certain Assets	Australia	1 144
Shareholders ^a	1999	Liberty International PLC	United Kingdom	920
Old Mutual PLC	2000	Gerrard Group PLC	United Kingdom	855
Shareholders ^a	1999	Liberty International Holdings	United Kingdom	831

Source: UNCTAD, cross-border M&A database.

^a A group of shareholders residing in South Africa who purchased this company.

Figure I.13. FDI inflows and their share in gross fixed capital formation in developing Asia, 1990-2000



Source: UNCTAD, FDI/TNC database.

heavily on FDI from their neighbours, remained at a very low level.

Outward FDI from the region doubled in 2000, to a record level of \$85 billion. Hong Kong (China), with \$63 billion outflows, continued to be the single largest investor of the region (box I.2). But FDI from China and India is also rising.

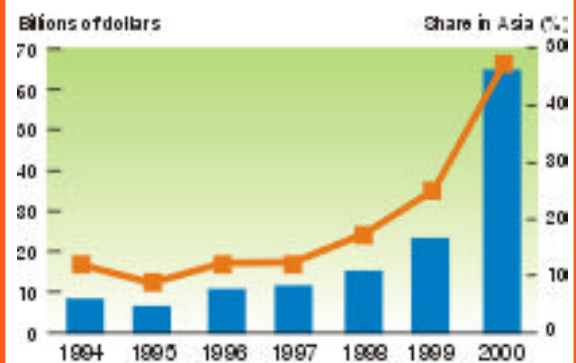
A new pattern of flows in terms of source and destination countries is emerging. TNCs from Hong Kong (China), Singapore and Taiwan Province of China have been very active over the last two years, but with their investments mainly focused on North-East Asia. Other Asian TNCs, particularly those based in the Republic of Korea and Malaysia, are gradually resuming their overseas business operations. In the meantime, outward investment from China and India is gaining momentum. Faced with growing protection against its exports and excess productive capacity in low value-added but export competitive industries (box I.3), Chinese TNCs engaged in “barrier-hopping” outward investment, usually in the form of “investment in kind”.¹⁴ Furthermore, the deepening economic integration of Hong Kong (China) and Mainland China led to a significant increase of outward investment from the Mainland to Hong Kong over the past two years, accounting for about 20 per cent of the total FDI inflows to Hong Kong.¹⁵ Most recently, Indian TNCs began asset-seeking investment via cross-border M&As, particularly in the software industry in countries such as the United Kingdom and the United States.

The longer-term investment prospects for developing Asia remain bright. In addition to the quality of the underlying determinants for FDI, the intensified efforts of further economic integration in various dimensions is likely to boost FDI in the region.

Box I.2. FDI boom in Hong Kong, China: what's behind the numbers?

Hong Kong (China) has enjoyed an unprecedented FDI boom over the past two years. Inflows in 2000 skyrocketed to \$64 billion, four times the inflows to ASEAN and well above those into mainland China – traditionally the single largest FDI recipient in the developing world. The territory's share of total Asia FDI rose from an annual average of 11 per cent during the first half of 1990s to 45 per cent in 2000 (box figure I.2.1). The boom in inflows was accompanied by a tripling of FDI outflows (\$63 billion).

Box figure 1.2.1. Trends of FDI inflows into Hong Kong, China, 1994-2000



Source: UNCTAD.

/...

Box I.2. FDI boom in Hong Kong, China: what's behind the numbers? (concluded)

The upsurge in inflows by \$40 billion over 1999 was underpinned in part by a general improvement in the local business environment following the strong recovery of the economy over the past two years. A marked growth in reinvested earnings was related to the improved profit position of foreign affiliates in the economy. The advantageous geographical location, sound infrastructure and a low tax regime continue to position Hong Kong (China) as a bright spot for high value-added FDI and as a business hub in the region.

China's imminent accession to WTO has been another driving force for attracting FDI into Hong Kong (China). TNCs planning to invest on the mainland have been "parking" funds there (e.g. can be in the form of long-term loans to their affiliates in Hong Kong – one type of FDI), in anticipation of emerging business opportunities in the mainland. This was indirectly confirmed by the findings of a recent survey of over 3,000 foreign TNCs' regional headquarters and representative offices in Hong Kong (Hong Kong, China, Census and Statistics Department, 2001a): 45 per cent of the surveyed firms planned to increase their investment in the mainland, and 93 per cent considered the investment climate in China to be favourable or very favourable over the next five years.

The dramatic increase in FDI flows was also boosted by a prominent cross-border M&A deal in the telecommunication sector. According to public announcements, China Mobile (Hong Kong) Ltd. acquired in November 2000 seven mobile networks in the mainland, with a deal value of \$33 billion.^a As the deal was partly financed by capital raised through new shares issued to its parent company in the British Virgin Islands, FDI inflows of \$23 billion into China Mobile (Hong Kong) was recorded in parallel. This acquisition alone accounted for over one-third of the territory's total FDI inflows and more than half of total outflows in 2000. Independently of this deal, both FDI inflows and outflows relating to Hong Kong (China) still surged by 68 per cent (\$17 billion) and

57 per cent (\$11 billion), respectively.

The above cases demonstrate Hong Kong's predominant role as a funding hub for business in the region. Indeed, a considerable part of the investment flows into and out of Hong Kong (China) is related to business ventures in other parts of the region, particularly in the mainland. The issue is further complicated by the "round-tripping" phenomenon, i.e. capital inflows and outflows relating to Hong Kong (China) in the form of FDI via tax haven economies. Statistics shows that tax haven economies were both one of the largest recipients and sources of FDI related to Hong Kong (China) during 1998-2000. For example, more than half of the territory's outward FDI is routed to such offshore financial centres as the British Virgin Islands, the Cayman Islands and Bermuda. However, the actual destination of the majority of these funds is elsewhere. Some of the funds are channelled to mainland China; others to elsewhere in the world; and a sizeable portion even goes back to Hong Kong (China) or through the territory to the mainland. Perhaps as much as 40 per cent of total FDI inflows to Hong Kong (China) in 1998 was "Hong Kong-tax haven routing". Indeed, the British Virgin Islands became the fourth largest source of FDI in China during 1999-2000, whereas Hong Kong's outward FDI directly to the mainland decreased since 1998. The "Hong Kong-tax haven routing" is now interwoven with the "mainland-Hong Kong round-tripping" (Zhan, 1995), sometimes involving fund-raising in the Hong Kong stock market. Such a phenomenon, which can be better termed as "transit FDI" (Zhan, 2001), has manifested the dynamics of corporate finance in the region's financial centre.

It should be mentioned that FDI statistics of Hong Kong (China) are compiled in accordance with international standards stipulated in the Balance of Payments Manual published by the IMF and the Benchmark Definition of FDI published by the OECD. Nevertheless, like other aggregates, FDI data hardly reflect the complexity of corporate finance.

Source: UNCTAD, partly based on Hong Kong, China, Census and Statistics Department 2001a and 2001b.

^a This acquisition was, however, not recorded by the Government of China as an FDI inflow into China.

Box I.3. The evolving profile of FDI in China

The portfolio of FDI in China has been evolving over the past two decades. Inflows used to concentrate in labour-intensive industries during the 1980s and then moved towards capital-intensive ones during the early 1990s. In recent years, technology-intensive industries have been attracting more and more FDI. The old image of the so-called “flying-geese formation”, with China at the low level of the value-chain (i.e. mainly spillover from newly industrializing economies to China), is giving way to that of a rising competitive location for technology-intensive activities for TNCs.

Today, nearly 400 of the Fortune 500 firms have invested in over 2,000 projects in China. The world's leading manufacturers of computers, electronics, telecommunication equipment, pharmaceuticals, petrochemicals, and power-generating equipment have extended their production networks to that country.

Most recently, even R&D activities have emerged as a bright spot for FDI, with over 100 R&D centres established by TNCs. Microsoft, Motorola, GM, GE, JVC, Lucent-Bell, Samsung, Nortel, IBM, Intel, Du Pont, P&G, Ericsson, Nokia, Panasonic, Mitsubishi, AT&T, Siemens, to name a few, all have R&D facilities in China. Motorola, for example, has established R&D centres in the area of electronics, based on \$200 million in investment and 650 research personnel. Microsoft invested \$80 million in a Chinese research institute and has announced the investment of a further \$50 million to create a Microsoft Asian Technology Center in Shanghai. The need for the adaptation of technology to the huge local market has been one of the push factors for TNCs to locate some of their R&D activities in the country. The availability of extensive hard and soft R&D infrastructure (particularly well-educated and hardworking researchers at low costs, including many graduates returned from abroad) is the main pull factor. Furthermore, the Government has introduced policy measures to reform the nationwide science and technology system, promoting self-sustained and market-oriented research institutions. As a result, Chinese R&D institutions are becoming proactive in seeking partnerships with TNCs.

Source: UNCTAD.

The prominence of FDI in technology-intensive industries is also manifested in China's foreign trade. Exports of high and new technology products by foreign affiliates increased from \$4.5 billion in 1996 to \$29.8 billion in 2000 (box table I.3.1). They accounted for one-fourth of the total exports by foreign affiliates, and 81 per cent of the country's total exports in high-technology products. Since the second half of the 1990s, China has significantly reduced its imports of complete sets of advanced equipment and is now relying more and more on FDI to acquire foreign technology. In fact, FDI has become the engine of growth of China's high-technology exports and an essential means of inward technology transfer.

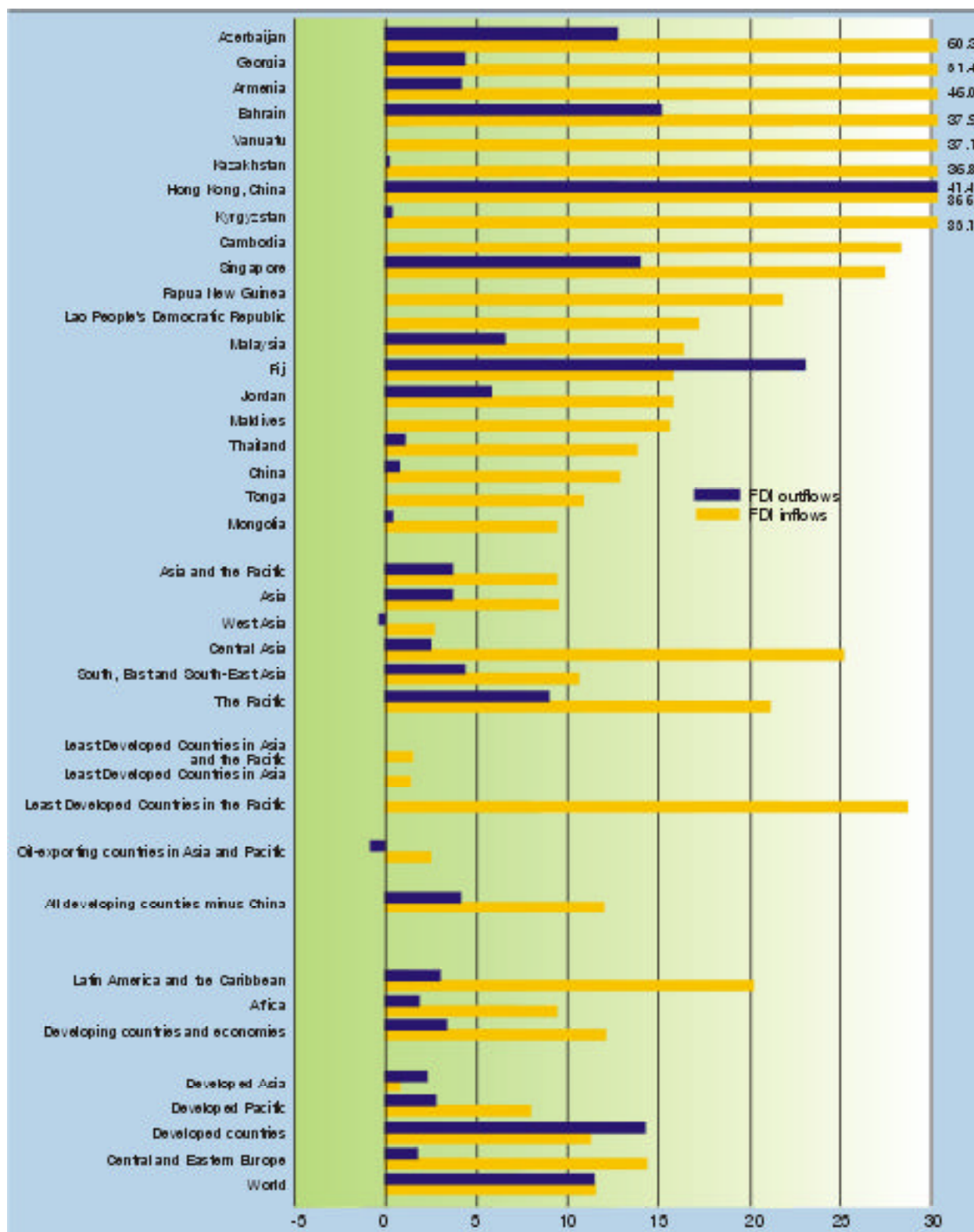
Box table I.3.1. Exports of high-technology products from China by ownership of production, 1996-2000

Year	Total (Million dollars)	State-owned enterprises (Per cent)	Foreign affiliates (Per cent)
1996	7 681	39	59
1997	16 310	..	..
1998	20 251	25	74
1999	24 704	23	76
2000	37 040	18	81

Source: UNCTAD, based on China, Ministry of Science and Technology.

In parallel with the above trends, the share of FDI flows into those industries in which FDI traditionally concentrated (e.g. footwear and travel goods, toys, bicycles and electrical appliances) has been declining. Moreover, driven by the excess productive capacity in the country and encouraged by their increased competitiveness in exports, Chinese firms in those industries are now expanding to set up processing or assembly plants overseas. The Government promotes those outward investments by providing such incentives as loans at preferential terms and tax rebates. Special guarantees and financial support through official development assistance are also granted to the investments in those countries that are identified as high-risk locations.

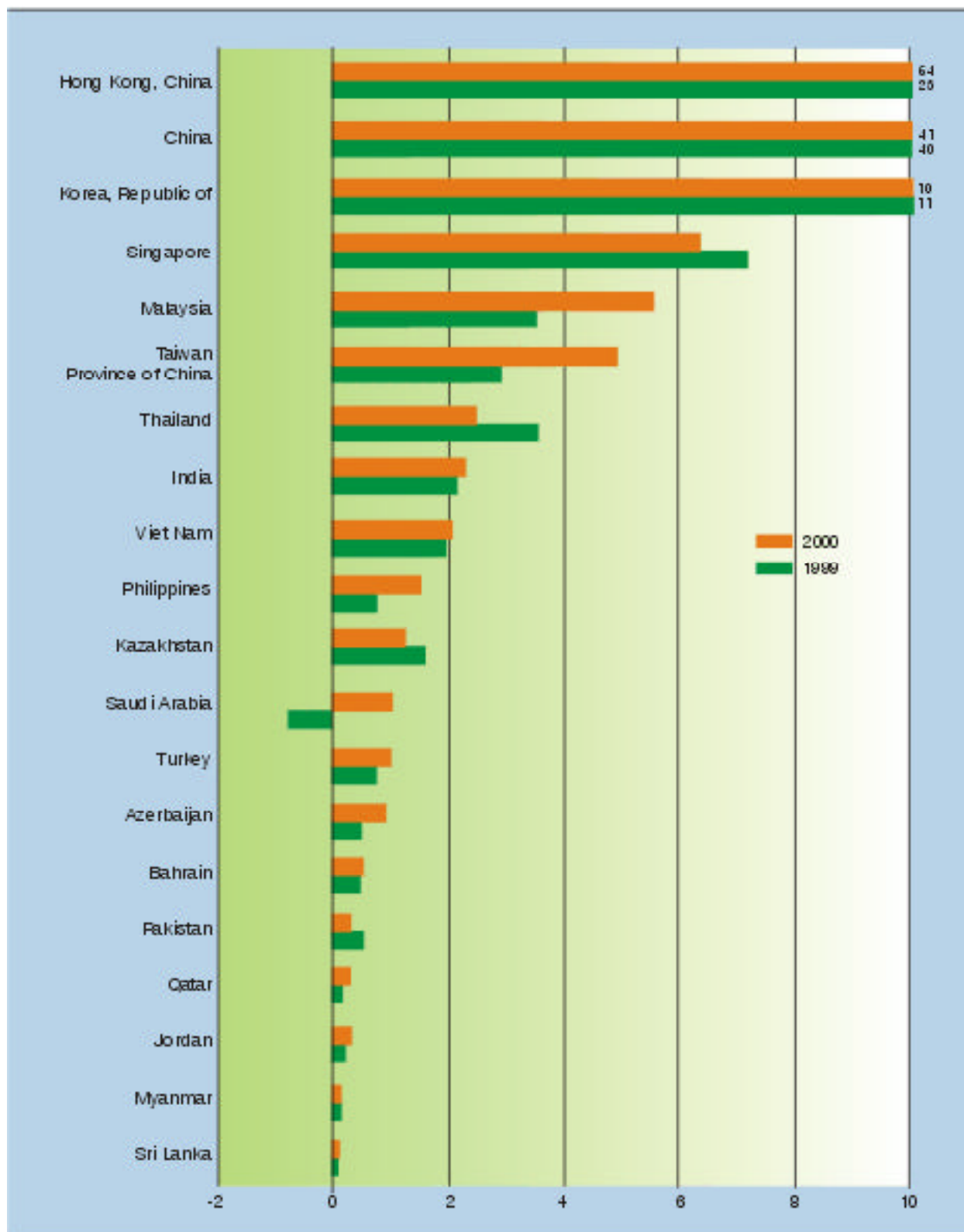
Figure I.14. FDI flows as a percentage of gross fixed capital formation in developing Asia and the Pacific, 1990-1999^a
(Percentage)



Source: UNCTAD, FDI/TNC database.

^a Ranked on the basis of the magnitude of 1997-1999 FDI inflows as a percentage of gross fixed capital formation.

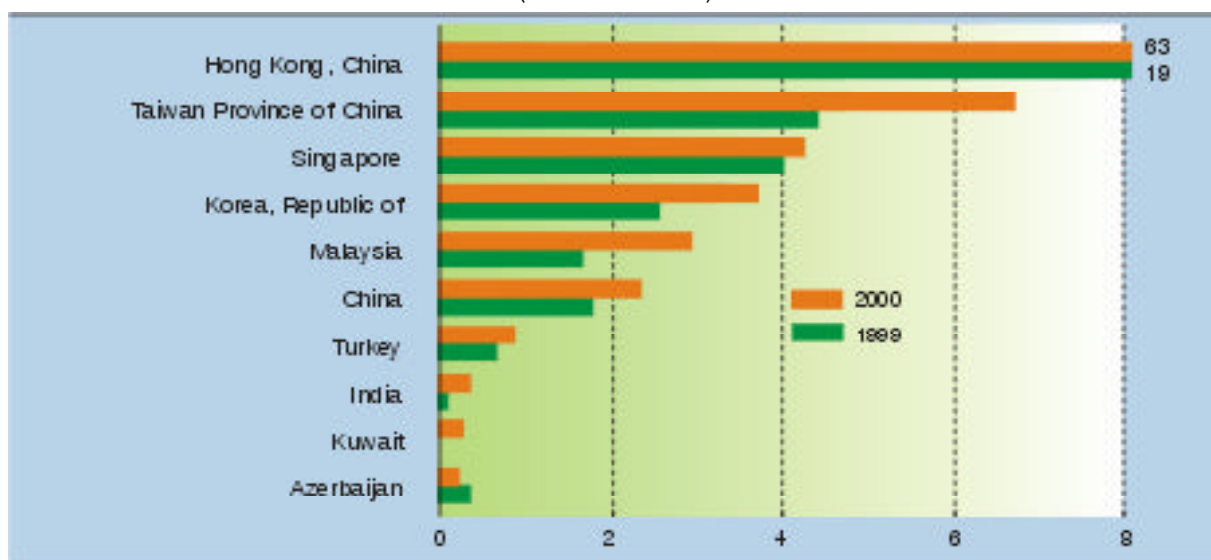
Figure I.15. Developing Asia and the Pacific: FDI inflows, top 20 economies, 1999-2000^a
(Billions of dollars)



Source: UNCTAD, FDI/TNC database.

^a Ranked on the basis of the magnitude of 2000 FDI inflows.

Figure I.16. Developing Asia: FDI outflows, top 10 economies, 1999-2000^a
(Billions of dollars)



Source: UNCTAD, FDI/TNC database.

^a Ranked on the basis of the magnitude of 2000 FDI outflows.

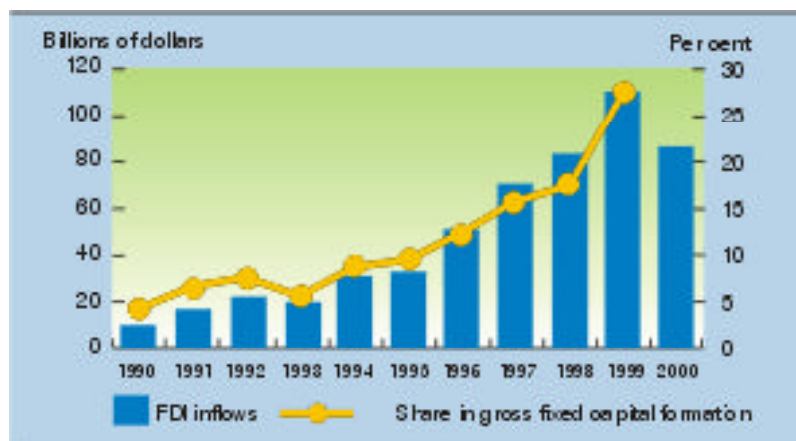
c. Latin America and the Caribbean

After tripling during the second half of the 1990s, annual FDI *inflows* into Latin America and the Caribbean fell during the first year of the new century (figure I.17).¹⁶ The \$86 billion in inflows represent a decline of 22 per cent over the previous year. However, this decline does not signal a shifting trend as it reflects an adjustment to the particularly large flows in 1999 due to the acquisition of three large Latin American firms by foreign ones that had taken place that year. Moreover, patterns differ by subregion. Although the current volume of FDI represents an amount

unthinkable only a decade ago, there are differences by country in the industries in which TNCs invest, as well as FDI prospects.

More specifically, with inward FDI flows of \$34 billion (figure I.18), Brazil continued to be the region's largest host country in 2000, with most FDI going into the services sector. The pace of privatization slowed, but remained important, accounting perhaps for up to 22 per cent of total inflows, down from 28 per cent in 1999. The single largest privatization deal was the sale of the controlling stake of the bank Banespa to the Spanish BSCH for \$3.6 billion. Mexico, with \$13 billion, was the second largest recipient, a 10 per cent increase

Figure I.17. FDI inflows and their share in gross fixed capital formation in Latin America and the Caribbean, 1990-2000



Source: UNCTAD, FDI/TNC database.

from the previous year. The manufacturing sector continued to attract half of the inflows, but the share of financial services jumped to 31 per cent of total inflows from a 10 per cent average in the previous five years. This was the result of take-overs by Spanish banks that were triggered (with some lag) by the lifting of the remaining restrictions on foreign ownership of banks in 1999. BSCH acquired Serfin for \$1.6 billion; its rival BBVA merged with Bancomer with a capital injection of \$1.9 billion. The trend continued into 2001 with the acquisition of Banamex by Citicorp in May for \$12.5 billion, the biggest M&A deal in Mexican history.

Argentina and Chile suffered significant declines in their FDI inflows, partly because 1999 had seen three major M&As (Repsol's purchase of YPF in Argentina; and Endesa España's purchase of Endesa and Enersis in Chile). Inflows into some Andean countries, such as Colombia and Peru, were lower than those in the previous years, reflecting recent political and economic instability, while inflows into Venezuela rose, due to significant purchases in the services sector. These changes are also reflected in FDI inflows in relation to the size of domestic investment (figure I.19).

M&As continued to be important in 2000, and were mainly directed to the services sector. The largest transactions included the so-called *Operación Verónica*, during which Telefónica de España increased its stakes in its affiliates in Argentina, Brazil and Peru to almost 100 per cent, and acquisitions by Spanish banks in Mexico and Brazil. In the electrical industry, there were important purchases by the AES Corporation (United States) in Brazil, Chile and Venezuela, amounting to \$3.6 billion.

On the *outflow* side, Chile was the largest investor, with outflows of almost \$5 billion (figure I.20) – an amount higher than inflows. However, a good part of the investments abroad are undertaken by foreign affiliates in Chile, such as Enersis (the electricity company owned by the Spanish group Endesa) and Entel (the former public telephone monopoly now controlled by Telecom Italia). The single most important investment abroad by a Latin American company was the acquisition by Cemex from Mexico of Southdown in the United States for \$2.8 billion, which makes Cemex the third largest cement company in the world and one of the 100 largest TNCs in the world (chapter III).

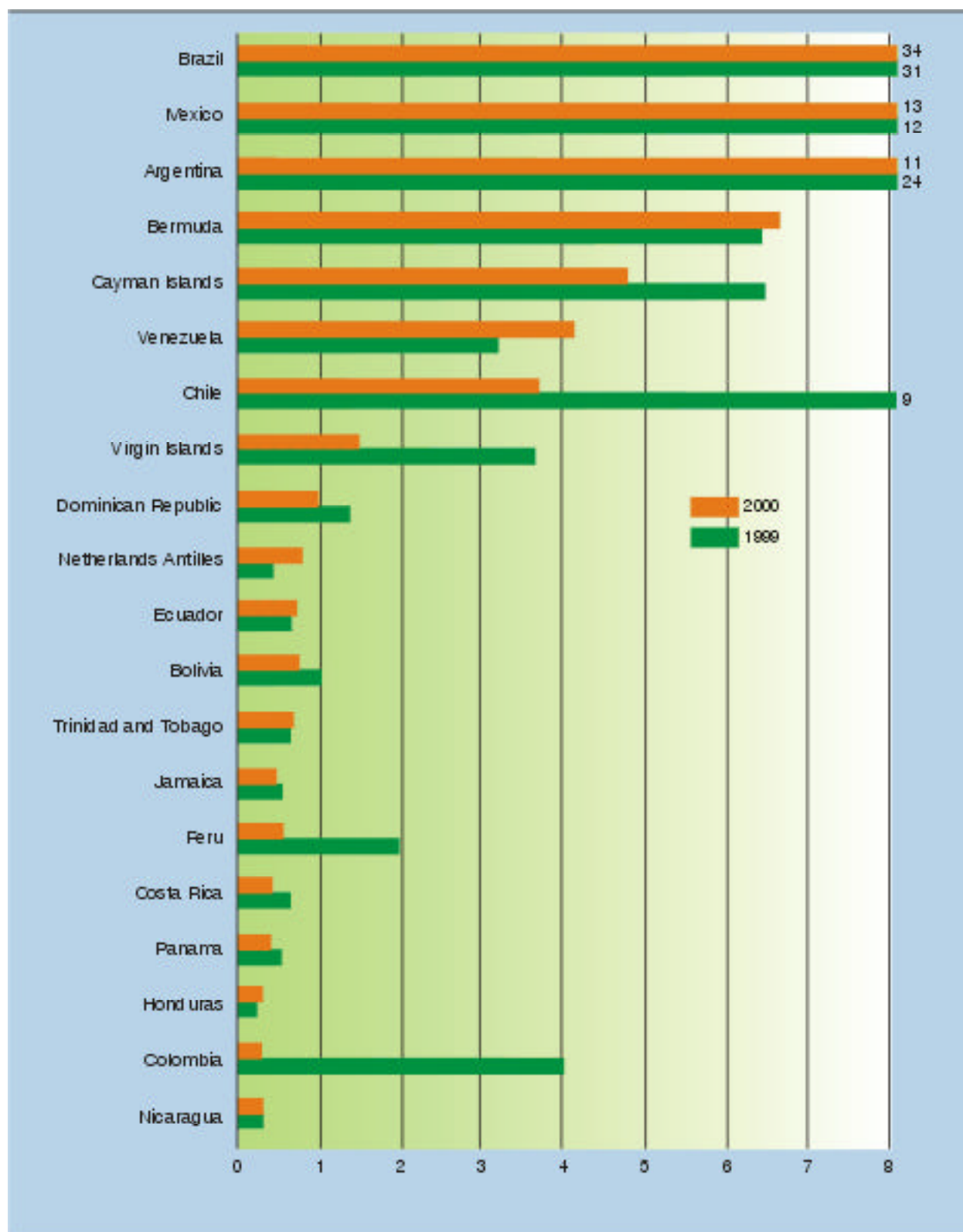
d. The least developed countries

The 49 LDCs – countries with an average annual per capita GDP under \$900 and low levels of capital, human and technological development – account for nearly a quarter of the world in terms of the number of countries and more than one-tenth in terms of population. Meanwhile, their share of annual world GDP is less than 1 per cent. To improve this situation, and to achieve sustainable poverty-reducing growth and development, domestic efforts and resources must be reinforced by external resources. Official development assistance (ODA) constitutes, of course, an essential component in this regard. During 1998-1999, ODA represented about two-thirds of total capital flows to LDCs. Given the structural characteristics of LDCs, ODA will remain the most important source of external finance for these countries. The declining ODA trend therefore needs to be reversed. At the same time, it is important to see how official aid can be complemented by other sources of external finance. FDI is of particular importance in this respect as it can bring not only much needed additional capital but also access to technology and know-how, as well as access to international markets. Of course, FDI cannot substitute for ODA; in fact, ODA can help to create the conditions to make a country more attractive for FDI, e.g. when infrastructure is upgraded.

The data show that FDI, and the importance of FDI, in the world's 49 poorest countries is on the rise:¹⁷

- FDI to LDCs increased from \$0.6 billion in 1990 to \$4.4 billion in 2000. This growth was broadly based: 24 LDCs experienced an average annual growth rate of more than 20 per cent and another 15 of them between 10 and 20 per cent during 1986-2000 (annex table A.I.3). Among these, African countries were particularly successful in recent years, as noted above.
- Although the LDCs' share of global FDI is a mere 0.5 per cent, this amount is important for them: as a percentage of total investment in these countries, FDI rose from 4 per cent in 1988-1990 to 7 per cent in 1997-1999. More than 90 per cent of these flows was through greenfield investment, rather than cross-border M&As. Privatizations involving FDI

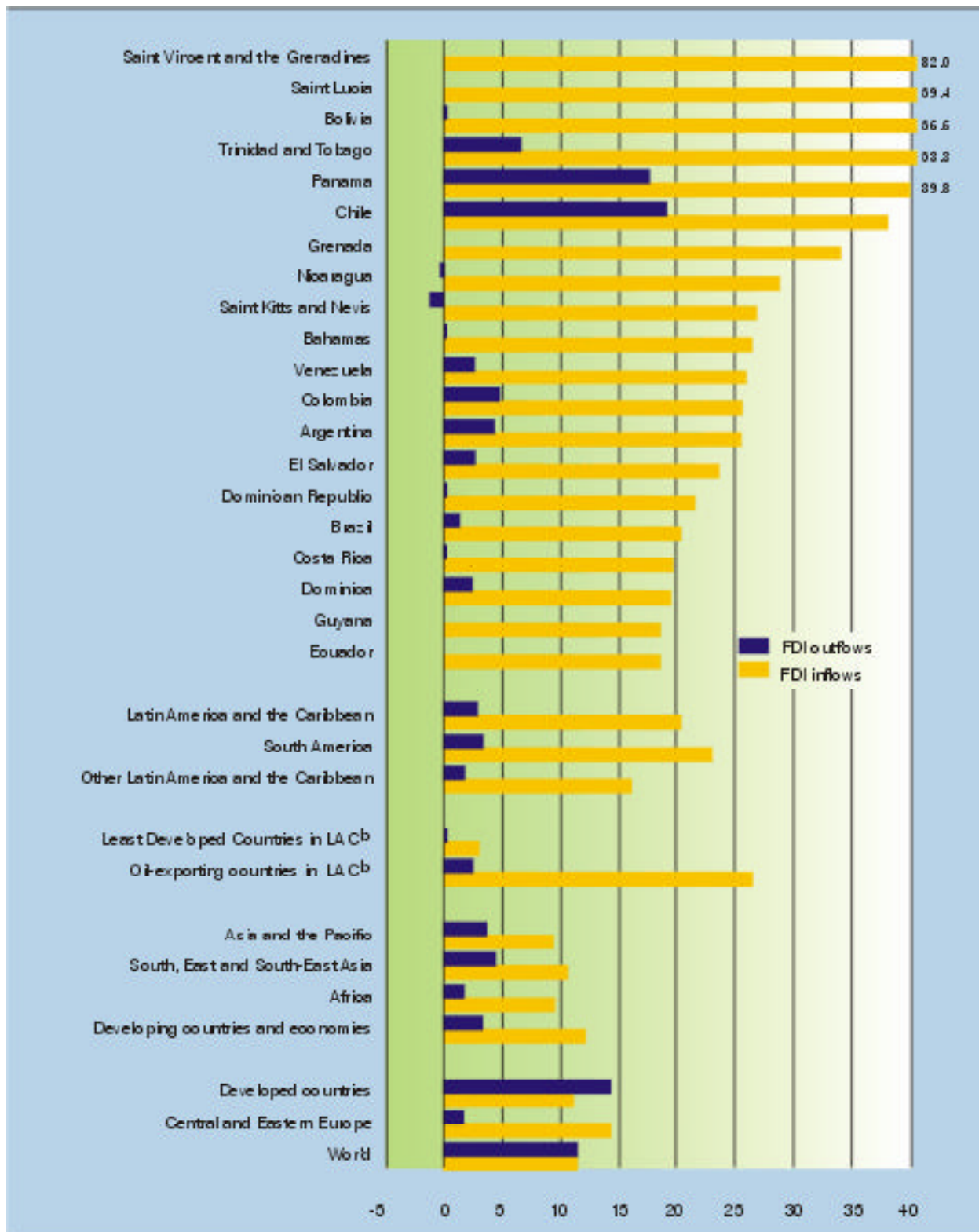
Figure I.18. Latin America and the Caribbean: FDI inflows, top 20 economies, 1999 and 2000^a
(Billions of dollars)



Source: UNCTAD, FDI/TNC database.

^a Ranked on the basis of the magnitude of 2000 FDI inflows.

Figure I.19. Latin America and the Caribbean: FDI flows as a percentage of gross fixed capital formation, top 20 economies, 1997-1999^a
(Percentage)



Source: UNCTAD, FDI/TNC database.

^a Ranked on the basis of the magnitude of 1997-1999 FDI inflows as a percentage of gross fixed capital formation.

^b Latin America and the Caribbean.

accounted for only 2 per cent of all FDI in the LDCs in the 1990s. But privatizations involving foreign investments can be important for individual LDCs, as the case of the privatization of copper mines in Zambia shows.

- There is a growing need to complement ODA with private finance. ODA to LDCs declined from \$16.7 billion in 1990 to \$11.6 billion in 1999. Bilateral ODA also declined, from \$9.9 billion to \$7.2 billion (annex figure A.I.1). In fact, 29 LDCs simultaneously experienced increases in FDI and decreases in bilateral ODA during the 1990s (annex figure A.I.2).

The geographical origin of FDI in LDCs is quite varied. France and the United Kingdom are the principal sources of FDI in African LDCs, where Europe for a long time has played a more important role than the United States. Most (three-quarters) of Japan's FDI in African LDCs consists of flag-of-convenience investments in Liberia. In Asian LDCs, intraregional FDI is substantial, and firms from Malaysia, Singapore and Thailand are major investors.

Despite the obvious constraints of limited purchasing power and scarce technological and human resources, investment opportunities do exist in many areas. Investment in the LDCs takes place in many industries. One of the challenges is therefore to ensure that existing opportunities are adequately communicated to the business community.¹⁸ In fact, as of 1999, 44 of the *Fortune 500* firms had responded to such opportunities and had invested in 31 LDCs (UNCTAD, 2001a).

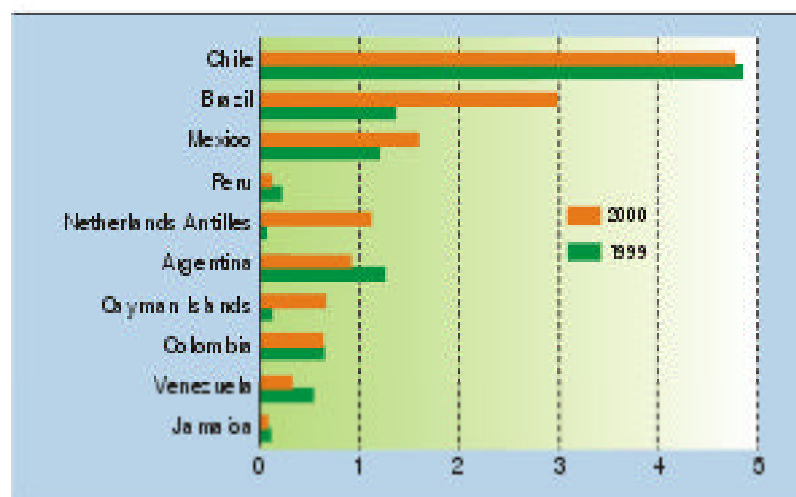
Major efforts have been undertaken by LDCs to improve their investment climates.¹⁹ At the national level, legislation in most LDCs now offers a wide range of guarantees, non-discrimination between foreign and domestic investors, protection against expropriation, and permission for foreign affiliates to repatriate profits. Moreover, some leading industries have been liberalized and are now open to foreign investors.

The LDCs themselves have also been actively promoting their countries to foreign investors; investment promotion agencies have been established in 37 LDCs, 25 of which have joined the World Association of Investment Promotion Agencies (WAIPA, 2001).

At the *bilateral* level, as of 1 January 2001 the 49 LDCs had concluded a total of 241 BITs, more than 52 per cent of them during the 1990s alone. Other important measures include the conclusion of 133 DTTs. Finally, a growing number of LDCs are now signatories of relevant *multilateral* agreements. For example, as of April 2001, 18 LDCs had acceded to the Convention on the Recognition and Enforcement of Foreign Arbitral Awards; 33 had ratified the Convention on the Settlement of Investment Disputes between States and Nationals of other States; 40 were members of the Multilateral Investment Guarantee Agency; and 32 were members of the World Trade Organization.

As this discussion shows, LDCs are not unattractive to TNCs, and they have made substantial efforts for this purpose. Although FDI inflows have responded, however, much more needs to be done to advance the development of this group of countries.

Figure I.20. Latin America and the Caribbean: FDI outflows, top 10 economies, 1999 and 2000^a
(Billions of dollars)



Source: UNCTAD, FDI/TNC database.

^a Ranked on the basis of the magnitude of 2000 FDI outflows.

3. Central and Eastern Europe

FDI *inflows* into Central and Eastern Europe increased in 2000 to a new record level of \$27 billion (figure I.21).²⁰ Continuing the pattern of previous years, Western European countries dominated these inflows, with member countries of the EU accounting for the bulk of the flows (annex table A.I.5). But inflows continued to be uneven, with three countries

(Poland, Czech Republic and Russian Federation, in that order) absorbing two-thirds of the region's total inflows.

The overall surge of inflows into Central and Eastern Europe in 2000 masks diverging trends in individual countries. In Poland and Hungary, FDI rose (in the latter slightly), while in the Russian Federation and the Czech Republic it declined, in the latter despite a continued increase of greenfield investment (figure 1.22).²¹ The most dramatic surge in FDI inflows

Figure I.21. FDI inflows and their share in gross fixed capital formation in Central and Eastern Europe,^a 1990-2000

Source: UNCTAD, FDI/TNC database.

^a Composed of countries in Central and Eastern Europe and developing Europe excluding Malta.

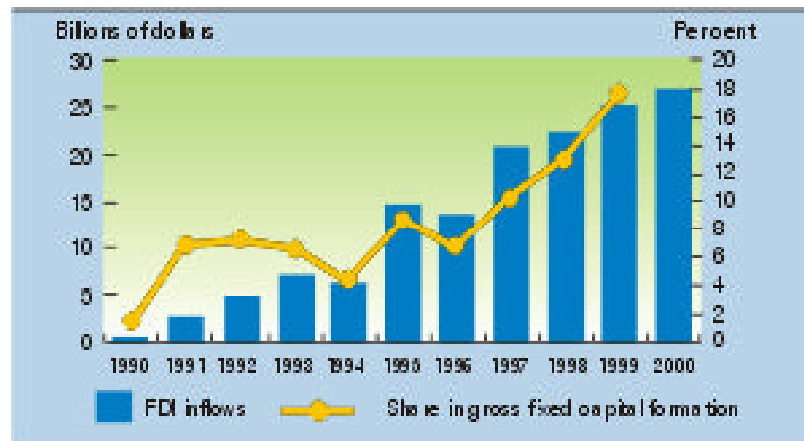
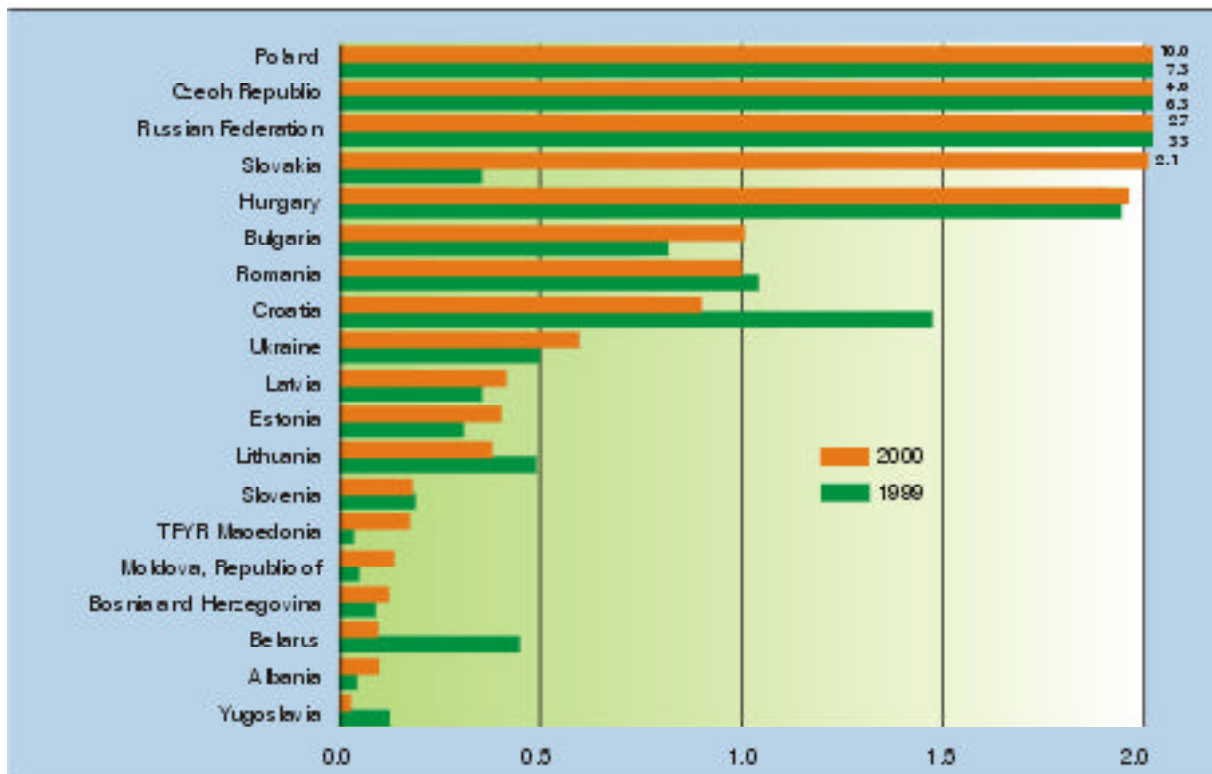


Figure I.22. Central and Eastern Europe: FDI inflows, 1999 and 2000^a
(Billions of dollars)



Source: UNCTAD, FDI/TNC database.

^a Ranked on the basis of the magnitude of 2000 FDI inflows.

– a sixfold increase – was registered by Slovakia where the volume of inflows in 2000 (\$2.1 billion) was almost as high as the cumulative inflows of the preceding nine years, reflecting a series of major FDI deals realized in 2000.²² For the first time, inflows into Yugoslavia (which had not been reported in previous years) are included in the FDI statistics; they showed inflows of \$29 million in 2000 (box I.4). The three Baltic countries

(Latvia, Estonia and Lithuania, in that order) ranked high in terms of FDI inflows as a percentage of gross fixed capital formation (figure I.23).

Privatization-related FDI transactions were a key determinant of FDI inflows, with the exception of Hungary, where the privatization process has by and large been completed, and the Commonwealth of Independent States,

Box I.4. FDI in Yugoslavia

Since 1992, the National Bank of Yugoslavia has registered FDI inflows in the balance of payments of Yugoslavia in two years: 1997 (\$740 million) and 1998 (\$113 million). Additionally, the Federal Ministry for Foreign Economic Relations has reported the value of foreign investment contracts concluded and registered under the Law on Foreign Investments since 1992.^a The latter has included the domestic part of the mixed-company and joint venture projects, which – except in 1997 – has accounted for one-third to one-half of those figures. Taking 50 per cent of those values registered by the Federal Ministry for Foreign Economic Relations as an indication of FDI inflows, the following estimates can be established for the period 1992 to 1999 (box table 1.4.1).

Box table I.4.1. FDI inflows into Yugoslavia, 1992-2000

Item	1992	1993	1994	1995	1996	1997	1998	1999	2000
FDI contracts registered ^a (\$ million)	251	192	125	90	203	1 122	165	247	58
Estimated FDI inflows (\$ million)	126	9.6	63	45	102	740	113	124	29
FDI inflows/GFCF (%)	5.7	3.9	2.6	1.5	5.2	31.3	5.9	5.3	..
FDI stock/GDP (%)	0.7	1.7	2.1	2.2	2.8	6.0	7.8	8.6	..

Source: UNCTAD FDI/TNC database, based on information provided by the Federal Ministry for Foreign Economic Relations and the Yugoslav Chamber of Commerce and Industry.

^a Including the domestic part of the mixed-company and joint venture projects.

In 1996-2000, the Netherlands, Greece and Luxembourg were the most important source countries for FDI inflows (box table 1.4.2).

In terms of the number of FDI contracts registered, trade, transport services and food production were the three main target industries of FDI in 1995-1998 (box table 1.4.3). In terms of value, Telecom Italia (through its affiliate Stet International Netherlands N.V) and the Hellenic Telecommunications Organization (OTE) were the top two investors in Yugoslavia.

Box table I.4.2. Countries of origin of FDI inflows^a into Yugoslavia, 1996-2000

(Million of dollars)

Country	Country	Country	Country
Netherlands	560	Bulgaria	10
Greece	481	Italy	10
Luxembourg	102	United States	8
Cyprus	82	Austria	8
Bahamas	14	Hungary	4

Source: UNCTAD, based on data provided by the Federal Ministry for Foreign Economic Relations.

^a Approval basis.

Box table I.4.3. Number of FDI projects in Yugoslavia, by industry, 1995-2000

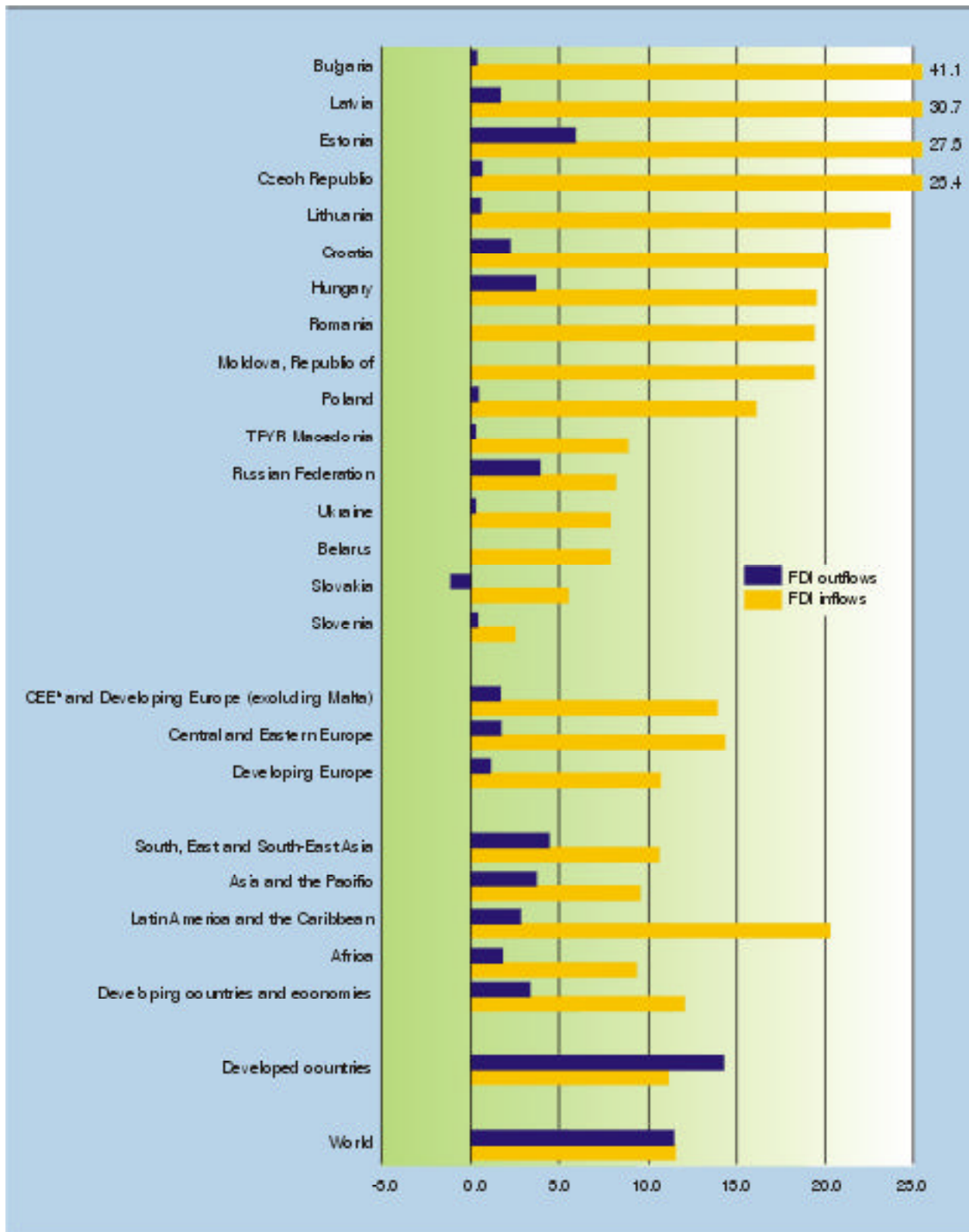
Industry	Number of projects	Of which 100% foreign-owned
Trade	2 156	725
Transport services	758	233
Food	462	123
Engineering	427	155
Textile	225	50
Road transport	208	44
Tourism	151	38
Other services	132	31

Source: UNCTAD, based on information provided by the Federal Ministry for Foreign Economic Relations and the Yugoslav Chamber of Commerce and Industry.

Source: UNCTAD, based on information provided by the Federal Ministry for Foreign Economic Relations and the Yugoslav Chamber of Commerce and Industry.

^a The Law on Foreign Investments and its amendments have been published in the Official Gazette of the Federal Republic of Yugoslavia, Nos. 79/1994, 15/1996 and 29/1996.

Figure I.23. Central and Eastern Europe: FDI flows as a percentage of gross fixed capital formation, 1997-1999^a
(Percentage)



Source: UNCTAD, FDI/TNC database.

^a Ranked on the basis of the magnitude of 1997-1999 FDI inflows as a percentage of gross fixed capital formation.

^b Central and Eastern Europe.

where large-scale privatizations involving foreign investors have not yet begun.²³ The purchase of a majority share in Telekomunikacja Polska (Poland) by France Telecom for \$4 billion carried out in 2000 was the region's largest privatization and largest FDI transaction to date.

In the immediate future, privatization will continue to lead FDI inflows into the region. After 2002, however, most of the privatization process is expected to be completed in some economies that are far advanced in the transition process (especially the Czech Republic and Poland), and FDI patterns there may well come to resemble the picture in Hungary now, where FDI inflows are driven by additional greenfield investments and, increasingly, by private cross-border M&As (annex table A.I.6).

FDI *outflows* from the region grew even faster than FDI inflows in 2000 in spite of the fact that some of the transactions carried out by firms in the Russian Federation with the intention of establishing control over companies abroad go unreported, or are reported under other elements of the balance of payments. If these outflows are estimated, the Russian Federation probably becomes a major capital exporter. In Hungary, the second

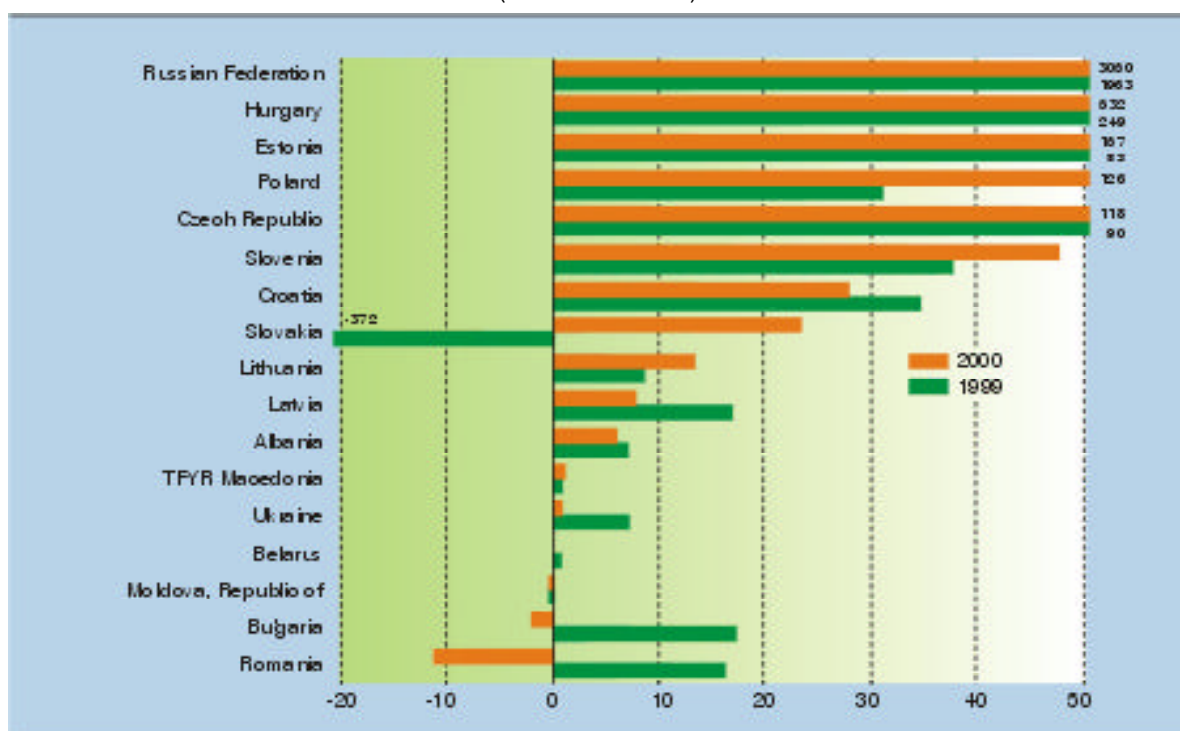
largest outward investor in the region (figure I.24), the Government provides assistance to the country's outward investors (box I.5). The bulk of these flows take place within the region (annex table A.1.7).

Box I.5. Government support for investors from Hungary

Government-owned Corvinus International Investment Ltd., established in 1997, provides both finance (participation in share capital, loans and guarantees) and advisory services to potential outward investors. The typical clients of Corvinus are medium-sized Hungarian manufacturing enterprises, although the scheme is open, in principle, to all firms and industries. Corvinus has undertaken its largest equity investments into a Romanian bakery, a Romanian electrical engines and spare-parts production plant, a Slovakian dairy factory, a Chinese fruit processing plant, a Slovakian timber firm, and a Romanian timber firm. (*Heti Világgazdaság*, 27 February 1999, No. 8, p. 12; 13 May 2000, No. 19, p. 14; and 24 March 2001, No. 12, p. 12).

Source: UNCTAD, based on information provided by Corvinus International Investment Ltd.

Figure I.24. Central and Eastern Europe: FDI outflows, 1999 and 2000^a
(Millions of dollars)



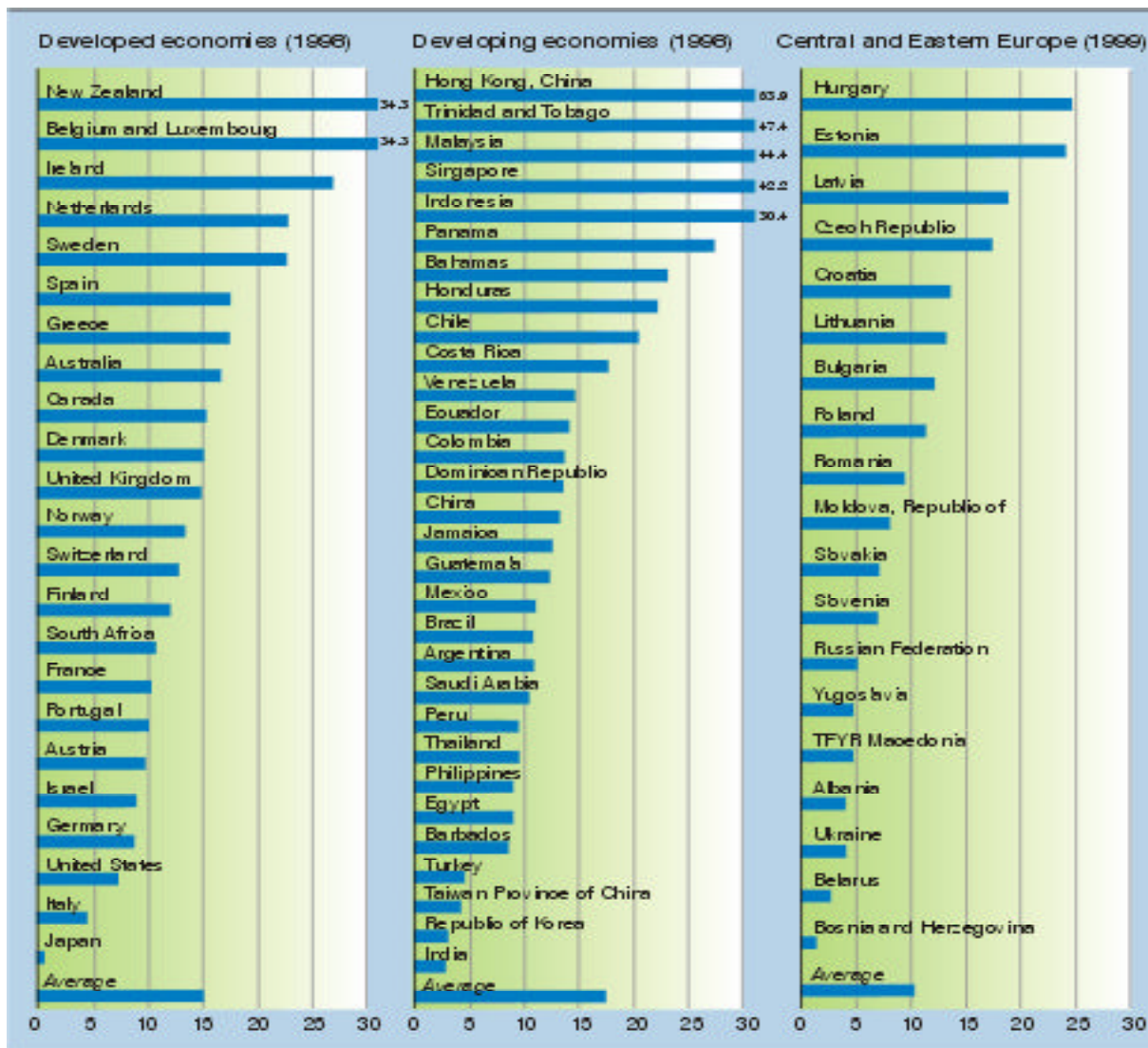
Source: UNCTAD, FDI/TNC database.

^a Ranked on the basis of the magnitude of 2000 FDI outflows.

The above review shows that FDI – and international production – has grown faster than domestic investment and production. However, trends in FDI flows and the growth of international production differs by region and country. Thus, the relative significance of FDI in an economy varies among host countries. This is measured by the

transnationality index of host countries, which is calculated as the average of the following four shares: FDI inflows as a percentage of gross fixed capital formation; FDI inward stock as a percentage of GDP; value added of foreign affiliates as a percentage of GDP; and employment of foreign affiliates as a percentage of total employment. For the 30 developing countries for which this index is estimated, it ranges between 3 and 54 in 1998 (figure I.25).

Figure I.25. Transnationality index^a of host economies^b
(Percentage)



Source: UNCTAD estimates.

^a Average of the four shares: FDI inflows as a percentage of gross fixed capital formation for the past three years (1996-1998 and 1997-1999 for CEE); FDI inward stocks as a percentage of GDP in 1998 (1999 for CEE); value added of foreign affiliates as a percentage of GDP in 1998 (1999 for CEE); and employment of foreign affiliates as a percentage of total employment in 1998 (1999 for CEE).

^b Data cover selected economies. Data on value added are available only for Finland, Italy (1997), Norway, Portugal (1996), United States (1997), China (1997), India (1995) and Malaysia (1995). For other economies, data were estimated by applying the ratio of value added of United States affiliates to United States outward FDI stock to total inward FDI stock of the country. Data on employment are available only for Austria, Denmark (1996), Finland, Germany, Ireland, Italy (1997), Portugal (1996), United States (1997), Hong Kong (China) (1997) and Indonesia (1996). For other countries, data were estimated by applying the ratio of employment of Finnish, German, Swiss and United States affiliates to Finnish, German, Swiss and United States outward FDI stock to total inward FDI stock of the economy. For Albania, Belarus, Bosnia and Herzegovina, Croatia, Estonia, Lithuania, the Republic of Moldova, Poland, Ukraine and Yugoslavia, the employment impact of foreign owned affiliates was estimated on the basis of their per capita inward FDI stocks. For the benchmark data, see annex table A.I.5. With the exception of the Czech Republic, Hungary and Slovenia, the value added of foreign owned firms was estimated on the basis of the per capita inward FDI stocks. For the benchmark data, see annex table A.I.6.

The most transnationalized host country economy was Hong Kong, China, replacing Trinidad and Tobago. In the developed world, New Zealand held that position. There are seven countries (two developed and five developing countries) whose index value exceeds 30 per cent. In general, the transnationality is higher in developing countries than in developed countries. In Central and Eastern Europe the transnationality index – prepared for the first time – surpassed 10 per cent on average, although it was still lower than the averages for both developed or developing countries (figure I.25). In Estonia and Hungary, the ratio was close to 25 per cent, and in the Czech Republic and Latvia it exceeded 15 per cent, indicating a high degree of internationalization. On the other hand, it was below 5 per cent in one-third of the countries covered.

C. The Inward FDI Index

The absolute FDI data used in the preceding sections show a substantial concentration of FDI flows. This, in turn, reflects the distribution of world economic activity and international transactions more generally (see chapter II). For instance, exports, domestic investments and technology payments are also highly concentrated: the shares of the top 10, 30 or 50 countries in these aggregates are not very different from their shares in FDI (table I.4).²⁴ This is to be expected. As a market-driven activity, FDI is similar in its pattern to the patterns of trade, investment, technology and industrial production among countries.

Richer, more competitive and more advanced economies naturally receive and make more international direct investment than other economies. The marginalization of poor countries from FDI flows is a part of their marginalization in economic activity generally, particularly in the modern industries in which most TNCs tend to operate.

This does not mean, however, that the distribution of FDI inflows to countries or regions exactly match that of other economic aggregates. Clearly they do not – a number of location factors not directly related to economic conditions influence FDI. Such things as political risk, government policy, international perceptions and the regional “image” can affect FDI differently from – sometimes more intensely than – other aggregates. Thus, there can be significant variations in national abilities to attract inward FDI, given such factors as economic size or international exposure.

It is interesting, therefore, to examine the relative performance of countries in terms of attracting FDI, taking into account their relative economic strengths or positions in the global economy. Policy makers, in particular, are interested in comparing how well their countries are doing in attracting FDI relative to others. For this purpose, this report introduces a new index to facilitate such comparisons at the national and regional levels. The *Inward FDI Index* is the unweighted average of three ratios reflecting the propensity to attract FDI after adjusting for the relative economic size and strength of a host economy in the world.

Table I.4. Concentration ratios of FDI, trade, domestic investment and technology payments, 1985 and 2000
(Percentages)

Item	Inward FDI		Outward FDI		Exports ^b	Domestic investment ^c	Technology payments
	Flows ^a	Stock	Flows ^a	Stock			
top 10 countries							
1985	70.0	70.4	85.0	89.8	58.9	70.7	81.7
2000	73.0	67.7	83.2	81.2	56.2	73.7	80.4
top 30 countries							
1985	94.5	92.6	99.3	98.9	82.2	89.9	99.3
2000	93.0	89.2	98.9	98.1	83.6	91.0	98.8
top 50 countries							
1985	98.9	97.7	100.1 ^d	99.8	91.5	96.6	99.99
2000	97.6	96.2	100.0	99.8	91.5	96.7	99.95

Source: UNCTAD, FDI/TNC database.

^a The 1983-1985 average for 1985 and the 1998-2000 average for 2000.

^b Export of goods and non-factor services. 1999 data for 2000.

^c Gross fixed capital formation. 1999 data for 2000.

^d Due to negative flows for some countries, the share is more than 100 per cent.

The three ratios take a country's share in world FDI inflows and divide it by its share in each of three global aggregates:²⁵ GDP, employment and exports. This provides a benchmark of a country's international position as a destination for FDI. The Index simply indicates relative performance in attracting FDI; it does not measure the factors that account for such performance.

Higher GDP indicates larger markets, always a magnet for market-seeking FDI; it may also reflect a larger resource base, again a magnet for certain forms of FDI. Employment is very similar, indicating the size of the labour force and potential market size. Higher exports indicate greater openness to international markets and greater competitiveness in trade. Thus, *ceteris paribus*, a country with higher shares of these global aggregates may be expected to have larger shares of FDI inflows. Countries that receive more FDI than predicted by these aggregates – for whom the Index takes a value greater than one – can be presumed to have certain other advantages.

For instance, in comparison with similar countries, they may offer a more conducive regime for international investors (or they may be tax havens). They may have highly skilled labour, strong domestic research capabilities or excellent infrastructure. They may have strong local firms that can become efficient suppliers to TNCs. Or they may, in the perception of the international investment community, face good growth prospects. Similarly, countries with Index values of below one may restrict FDI inflows, have competitive weaknesses or poor growth prospects.

In a world where the determinants of FDI are changing (see above), the Index indicates – in a preliminary form – whether or not host countries have some of the essential ingredients for attracting new investment flows. It is, in other words, a measure of “revealed competitive advantage” in attracting FDI after discounting for size factors and export activity.

The Index covers 112 countries in 1988-1990 and 137 in 1998-2000, with all the values taken as averages for three years to avoid year-by-year variations. The results are interesting. There is a large dispersion around unity (figure I.26 and annex table A.I.10): clearly, countries vary greatly in their

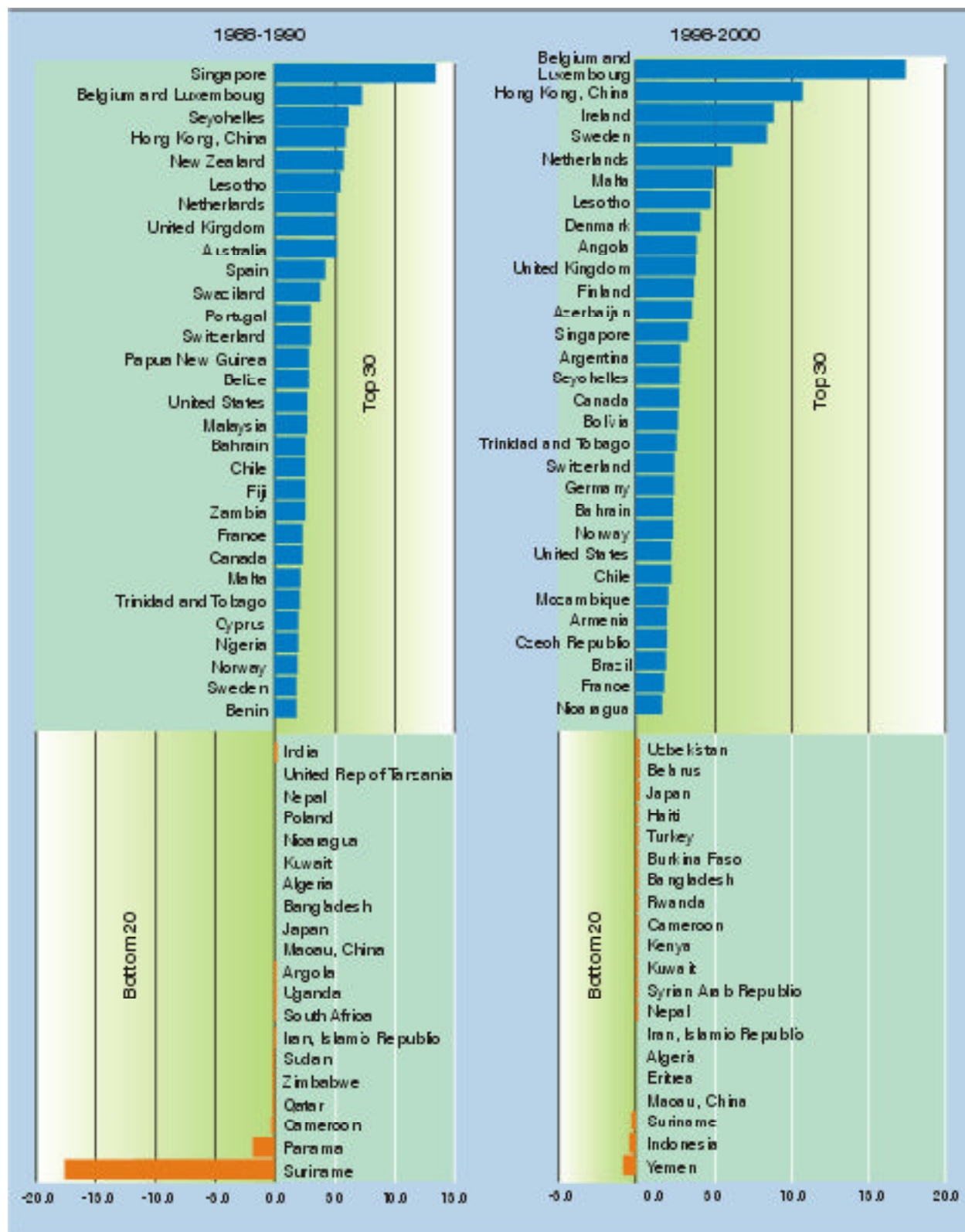
attractiveness to TNCs after taking account of their size and export activity.

For 1998-2000, the value of the Index ranges from 17.3 for the highest ranked economy, Belgium and Luxembourg to -0.8 for Yemen. Moreover, the rankings have changed significantly over time. For example, Singapore has slipped from first position at the end of the 1980s to thirteenth position a decade later. This reflects relatively slow inward FDI growth between the two periods, together with a rapid increase (more than doubling) of both GDP and exports. (The relatively slow growth of FDI may reflect the indirect effects of the Asian financial crisis.) The index for Brazil, by contrast, rose from 0.5 to 2.0 (annex table A.I.10), mainly as a result of a rise in the FDI share relative to the export share, reflecting the domestic market orientation of a good part of recent FDI inflows (into privatized infrastructure).

In 1998-2000, there were five countries with an Inward FDI Index of one, with their shares of FDI inflows exactly matching their average shares of world GDP, employment and exports (annex table A.I.10). These “balanced” countries include Costa Rica, El Salvador, Hungary, Malaysia and Slovakia. In ten more countries, the index was close to one (between 0.9 and 1.1). This group comprised only one developed country (Australia), six developing countries (including China) and three Central and Eastern European countries. There are 53 countries with a ratio higher than one and 79 with ratios lower than one. The last group, which “under-performs” in terms of attracting FDI, includes advanced economies like Japan, Italy and Greece, newly industrializing economies like the Republic of Korea, Taiwan Province of China and Turkey, oil rich economies like Saudi Arabia and a number of low-income countries. FDI recipients with high values of the Index (the “over-performers”) include the majority of the developed countries, Hong Kong (China), Singapore, and some Central and Eastern European countries.

Interpreting the Index calls for care and the use of evidence on other economic and policy variables. A high value of the Index, for instance, need not always be a good economic sign. For instance, it may reflect transitory factors (like large one-off transactions, say large M&As). It may also

Figure I.26. The Inward FDI Index, by host economy: the top 30 and the bottom 20, 1988-1990 and 1998-2000



Source: UNCTAD, FDI/TNC database.

reflect a relative decline in a deflator of the index, i.e. in GDP, employment or international competitiveness, to which FDI inflows have not responded (in the period considered). Similarly, a country's Index may fall because a temporary crisis affects its FDI inflows differently from its effects on other economic aggregates.

Nonetheless, the Inward FDI Index can provide a starting point for benchmarking the extent to which countries succeed in attracting FDI. In general, countries with relatively strong and open economies are at the top of the ranking by the Index. These countries are leveraging their economic strength through policies to attract more than their "normal" share of FDI. There are also a few countries with weak economies but strong natural resource endowments that occupy places at the top of the Index ranking. These include LDCs like Angola and Mozambique. A number of countries at the bottom of the Index ranking are weak economies in which the influence of other economic factors and policies apparently pulls inward FDI below levels that could be expected on the basis of the elements of economic strength embodied in the Index. There are also others ranked at the bottom of the Index (such as Japan and the Republic of Korea), that have strong economic positions overall but have chosen to restrict inward FDI (at least until fairly recently).

Many of the changes in the Index over time are in line with changes in economic performance and policy factors affecting FDI. Take, for example, Ireland, the most dynamic country in the developed world in terms of recent growth and competitive performance. Ireland has targeted and attracted FDI to upgrade its technological and export structure, in combination with enhancing its human resources. It has succeeded in transforming a backward low-productivity economy into a centre of technology-intensive manufacturing and software activity. Its Inward FDI Index shows that it has moved in its ranking from the forty-sixth position in 1988-1990 to third position in 1998-2000, gaining in all the three ratios making up the Index – the increase in the ratio with respect to employment share is particularly striking. Similarly, Sweden's rise on the Index (from twenty-ninth to fourth position) reflects partly a deliberate policy change during the 1990s towards greater

openness to inward FDI (*WIR99*). The increase in the number of EU member countries in the top 20 over the decade reflects, among other factors, the large and increasing influence of regional integration on FDI flows.²⁶ Large countries with more stable economic performance and stable FDI-related policies have tended to retain approximately their same position: the United Kingdom and United States are good examples. An economically stable country that becomes more open or attractive for cross-border M&As can rapidly increase its attractiveness for FDI: Germany has moved from seventy-second place to the twentieth over the decade. And so on.

Now consider the Index at the regional level (table I.5). In both periods, the Index value for developed countries is about twice the world average, while the Index values for developing countries and Central and Eastern Europe are below the world average. However, in the latter group, the Index value increased rapidly between the two periods. The main difference between the three groups of countries arises, not surprisingly, from the employment variable. Both developed and developing countries attract FDI roughly in proportion to their shares in world GDP, but developed countries receive far larger shares of FDI than their shares of employment, while developing countries and economies in transition receive less.

Within the developing world, the Inward FDI Index for South America and Central Asia, as well as developing Europe exceeded unity in 1998-2000. In the other regions (and for South America in the other period), the Index value was below 1. West Asia, South Asia and North Africa show the lowest values for the Index; the reasons for this may have more to do with political factors than economic ones. "Other" (sub-Saharan) Africa receives FDI in line with its GDP share but very little in relation to its share in employment; over time its FDI index value has declined slightly. For the LDC group as a whole, the FDI index value doubled between the two periods, mostly due to increases in the FDI-per-exports and FDI-per-GDP ratios. In fact, in the second period, the Index value for African LDCs exceeded 1; their Index value is now almost twice as high as that for sub-Saharan Africa as a whole. The index value for other LDCs has declined over the decade.

The Inward FDI Index suggests that Africa receives less FDI flows than the region's relative economic size. The underlying economic reality is that sub-Saharan Africa has lost its share in *both* world FDI inflows and other economic aggregates (annex table A.I.11); African LDCs have, however, maintained their share of FDI but have fallen further behind in other economic aggregates.

In conclusion, the Inward FDI Index is a useful addition to the analytical database on FDI flows. Carefully used, it can help policy-makers to benchmark their economies' performance with respect to competitors and "role models", and provide information for strategy formulation. The present Index is a first attempt, and will be refined over time.

Table I.5. The Inward FDI Index, by region, 1988-1990 and 1998-2000

Region	1988-1990				1998-2000			
	FDI share/ GDP share ^a	FDI share/ employment share ^b	FDI share/ export share ^c	FDI inward index	FDI share/ GDP share ^a	FDI share/ employment share ^b	FDI share/ export share ^c	FDI inward index
World	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Developed economies	1.0	4.0	1.1	2.0	1.0	4.4	1.1	2.2
Western Europe	1.3	4.9	0.9	2.4	1.6	6.3	1.1	3.0
European Union	1.3	4.8	1.0	2.4	1.6	6.4	1.1	3.0
Other Western Europe	1.1	5.7	0.6	2.5	1.1	5.5	0.6	2.4
North America	1.1	4.7	2.0	2.6	0.9	4.4	1.6	2.3
Other developed economies	0.3	1.1	0.5	0.6	0.1	0.5	0.2	0.3
Developing economies	1.0	0.2	0.7	0.6	1.0	0.3	0.7	0.7
Africa	1.0	0.2	0.7	0.6	0.7	0.1	0.6	0.4
North Africa	0.8	0.4	0.7	0.6	0.4	0.2	0.4	0.3
Other Africa	1.2	0.2	0.8	0.7	1.0	0.1	0.7	0.6
Latin America and the Caribbean	0.8	0.6	1.0	0.8	1.1	1.0	1.6	1.2
South America	0.7	0.5	1.0	0.7	1.2	1.1	2.6	1.6
Other Latin America and the Caribbean	1.2	0.8	1.1	1.0	0.9	0.7	0.6	0.7
Asia and the Pacific	1.1	0.2	0.6	0.6	0.9	0.2	0.6	0.6
Asia	1.1	0.2	0.6	0.6	0.9	0.2	0.6	0.6
West Asia	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.2
Central Asia	..	..	..	..	1.7	0.3	1.3	1.1
South, East and South-East Asia	1.3	0.2	0.7	0.7	1.1	0.2	0.6	0.6
South Asia	0.1	-	0.3	0.1	0.2	-	0.3	0.2
Pacific	4.5	1.6	1.9	2.7	1.2	0.3	0.5	0.7
Developing Europe	2.2	3.4	0.5	2.1	1.2	1.5	0.6	1.1
Central and Eastern Europe	0.2	0.1	0.2	0.1	0.9	0.4	0.6	0.6
<i>Memorandum: least developed countries^d</i>								
LDCs: total	0.3	-	0.6	0.3	0.6	0.1	1.0	0.6
African LDCs	0.5	0.1	0.6	0.4	1.6	0.1	1.7	1.1
Latin America and the Caribbean LDCs	0.3	-	0.4	0.3	0.1	-	0.2	0.1
Asian and Pacific LDCs	0.1	-	0.5	0.2	0.1	-	0.2	0.1
Asian LDCs	0.1	-	0.5	0.2	0.1	-	0.2	0.1
West Asian LDCs	..	..	..	..	-1.3	-0.2	-0.9	-0.8
South and South-East Asian LDCs	0.1	-	0.5	0.2	0.2	-	0.5	0.2
Pacific LDCs	..	..	..	..	..	..	..	..

Source: UNCTAD.

^a The ratio of the region's share of world FDI inflows to the region's share of world GDP.

^b The ratio of the region's share of world FDI inflows to the region's share of world employment. The data are from the ILO's LABSTA database and the World Bank's *World Development Indicators*, 2001.

^c The ratio of the region's share of world FDI inflows to the region's share of world exports of goods and non-factor services.

^d LDCs as defined by the United Nations.

Note: The indexes for some regions are based on incomplete coverage of countries in the region, due to lack of data on one or more variables. Also, the indexes for Central Asia, Developing Europe and Central and Eastern Europe are not strictly comparable between the two periods because the number of countries included in each differed substantially between the two periods. The increase in the number of countries covered by the Index for developing economies in the second period (from 86 to 100) can cause a moderate upward bias in that grouping's Index in the second period.

Notes

- ¹ WIR98 reviewed the economic and policy determinants of inward FDI and analysed them statistically, drawing a distinction between traditional and new determinants of location. It found that traditional variables continue to exercise a significant impact on the geographical pattern of inward FDI; domestic market size and growth, in particular, were important in explaining FDI flows in developing countries – but new influences were also very important.
- ² The presence of good infrastructure (e.g. telecommunications, business services, utilities) is also a precondition.
- ³ In fact, in some technology-intensive industries like electronics, some firms choose to specialize entirely in innovation and marketing, leaving the whole production chain to contract manufacturers. See Sturgeon, 1997.
- ⁴ The changing geography of world industry and the role of international production systems are explored in UNIDO, 2001.
- ⁵ The overwhelming majority of the 62,000 or so TNCs operating today are small and medium-sized enterprises (SMEs) (Fujita, 1998; UNCTAD, 1998a). SME TNCs tend to remain small even after going international, and many, as those from Japan, prefer to invest in neighbouring countries. They have a preference for joint ventures and greenfield investments. They also tend to have stronger backward linkages in host economies. However, SME investors face high information costs, and special efforts need to be made by host countries to attract them.
- ⁶ Cross-border M&As for the first six months of 2001 declined by 17 per cent, to \$300 billion, compared with the corresponding period of the previous year. This amount accounts for only one-quarter of the total cross-border M&As in 2000. Therefore, considering the fact that M&As constitute a substantial share of FDI (chapter II), FDI flows are likely to decline in 2001.
- ⁷ The number of foreign affiliates is probably a substantial underestimation, among other reasons because governments have a cut-off point in assets, sales or net income (in the case of the United States, e.g. it is \$3 million for either one) or in the equity share held by foreign firms (in the case of Japan, e.g. it is more than one-third), below which foreign affiliates are not recorded in official statistics.
- ⁸ Irrespective of years, “EU” refers to the current composition of the member states (15 countries) throughout this report.
- ⁹ According to a survey of the Deutscher Industrie- und Handelstag (DIHT), among 9,000 German manufacturing companies, more than half of the respondents intending to undertake FDI in 2001 (and about 40 per cent of all respondents planned to do so) are planning to invest in one or more of the candidate countries, mainly motivated by cost- or market access considerations, as well as to establish sales representative offices. This suggests that German investors are already preparing for the enlargement of the EU (DIHT, 2000).
- ¹⁰ Three of the five mega cross-border M&As concluded by Japanese firms in 2000 involved the NTT Group (annex table A.I.4). The \$9.8 billion acquisition of AT&T Wireless by NTT Docomo in 2000 (which is to be paid out in 2001) was the largest FDI ever made by a Japanese company.
- ¹¹ Interestingly, on an *ex post facto* (or prior notice) basis, FDI trends in 2000 showed the complete opposite trend. While FDI outflows on this basis declined by 23 per cent in fiscal year 2000 to \$50 billion, FDI inflows reached record levels of \$29 billion with a growth rate of 38 per cent. This asymmetric picture of FDI flows in 2000 between actual flows (on a balance-of-payments basis) and notified flows (on an *ex post facto* basis) reveals well-known statistical problems (e.g. different timing of the recording of FDI, net basis recording for the former statistics, and inclusion of the cancellation of FDI projects in the latter statistics).
- ¹² *Financial Times*, 19 March 2001, p. 23.
- ¹³ *Financial Times*, 6 June 2001.
- ¹⁴ That is, Chinese investors use manufacturing equipment as equity to form joint ventures with local partners (who usually provide land and infrastructure) in other developing countries.
- ¹⁵ It should be noted that part of China’s outward investment in Hong Kong (China) is round-tripping.
- ¹⁶ FDI inflows into Latin American during the 1990s can be divided into two different patterns. In Mexico and the Caribbean Basin, manufacturing TNCs (especially in automobiles, electronics and clothing) sought greater efficiency by integrating local production facilities into their regional systems, targeting the United States market. In South America, however, foreign investors focused on traditional activities based on natural resources and manufactured goods produced for local markets or services. As a result, FDI did not generate significant improvements in the international competitiveness of those countries. However, as significant amounts of FDI have flowed into services, the long-term overall competitiveness of these economies should

- be affected positively. See ECLAC, 2001 for a further discussion of these and related issues.
- ¹⁷ For details, see UNCTAD, 2001a.
- ¹⁸ For this purpose, UNCTAD and the International Chamber of Commerce prepare and publish investment guides for LDCs; see UNCTAD-ICC, 2000a, 2000b, 2001a, 2001b and forthcoming.
- ¹⁹ UNCTAD, upon the request of countries, undertakes in-depth Investment Policy Reviews for developing countries; for LDCs, see UNCTAD, 2000d and UNCTAD forthcoming c.
- ²⁰ Central and Eastern Europe includes in this section Albania, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, the Former Yugoslav Republic of Macedonia, the Republic of Moldova, Poland, Romania, the Russian Federation, Slovakia, Slovenia, Ukraine, and the Federal Republic of Yugoslavia (Serbia including Kosovo and Montenegro).
- ²¹ According to CzechInvest, the value of greenfield projects mediated by the agency rose from \$523 million in 1999 to \$1.1 billion in 2000; see “CzechInvest in numbers”, <http://www.czechinvest.org/>.
- ²² FDI transactions in 2000 included Deutsche Telekom’s (Germany) investment into Slovak Telecommunications (\$936 million), MOL’s (Hungary) share increase in the Slovnaft refinery (\$160 million), Neusiedler’s (Austria) investment into SCP Ruzomberok (pulp and paper, \$80 million) and U.S. Steel’s investment in VSZ Kosice (\$60 million). Information provided by the Ministry of Economic Affairs of Slovakia.
- ²³ In the Russian Federation, for example, foreign investors acquired not more than 3 per cent of potentially privatizable assets (until end-1998) (Kalotay and Hunya, 2000, p. 41).
- ²⁴ Other economic aggregates also show similar patterns: the leading 10 countries accounted for 76 per cent of world manufacturing value added in 1998, 65 per cent of manufactured exports and 91 per cent of industry-financed R&D (UNIDO, 2001).
- ²⁵ It may have been possible to use other indicators of relative economic size and strength, but the three used here have the broadest base and are the most comparable across countries.
- ²⁶ On the other hand, the fall in, and the low level of the Index value for Greece indicates that the positive influence of regional integration is probably conditioned by other competitiveness-related factors.

CHAPTER II.

MAPPING INTERNATIONAL PRODUCTION

The preceding chapter has reviewed the setting within which international production is evolving, documented the *growth* of FDI in 2000 and examined the performance of countries in terms of the extent to which they have succeeded in attracting FDI. This chapter turns to the *spread* of FDI and, in particular, examines it at the global, regional, national and sub-national levels and also for a few industries and corporate functions. As the mapping in this chapter shows, FDI patterns are not uniform. International production is spatially concentrated.

A. Global patterns

1. FDI patterns

Comparing the world maps for inward and outward FDI in 2000 with those prevailing in 1985 shows that the number of countries receiving or investing sizeable amounts of FDI increased significantly between these two years (figures II.1 and II.2). Thus, by the end of 2000, 51 countries reported inward FDI stocks of more than \$10 billion, compared with 17 countries in 1985 (figure II.1).¹ Similarly, in terms of outward stocks, 10 countries had invested more than \$10 billion abroad in 1985; this number had risen to 33 by 2000 (figure II.2). The maps clearly show the growth in the number of countries that have become major recipients or sources of FDI. Among them, the number of developing economies had risen from 7 in 1985 to 24 in 2000 in the case of inward FDI stocks, and from zero to 12 in the case of outward stocks. Some newly industrializing economies – led by Hong Kong (China), Singapore and Taiwan Province of China – have emerged as important hosts and home economies for TNCs. As a result, the share of developing countries as a group in world outward FDI flows rose from 5 per cent at the beginning of the 1980s, to 9 per cent in 2000 (figure

II.3). For some developing economies, the share of outward FDI in gross fixed capital formation is in fact higher than (or comparable to) that share for many developed countries (figure II.4).

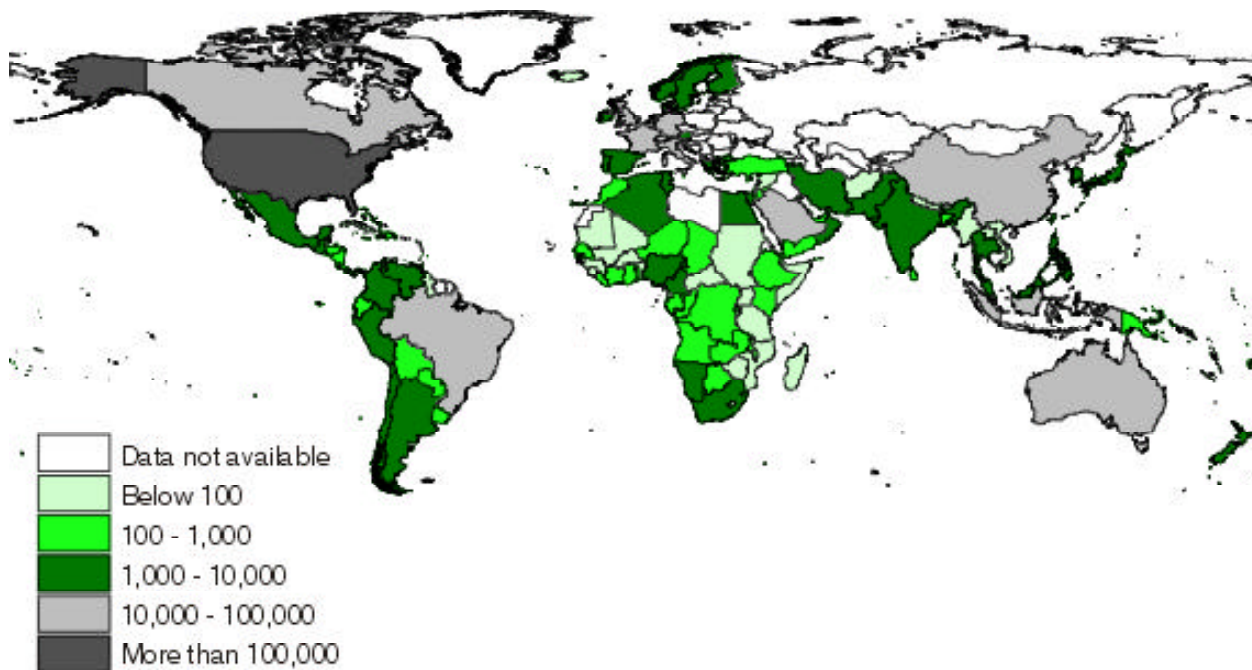
But what does the spread of FDI look like if the size of economies is subjected to adjustment? Two measures – GDP and population – can be used for such adjustment. Their use reveals different patterns (figures II.5 and II.6). In terms of FDI as a share of GDP, several developing countries are large host countries (figure II.5) – many more than those that are large in terms of absolute values of FDI. Of the 141 countries in the world hosting more than \$100 of stock per \$1,000 GDP in 1999, 106 are developing countries.² However, in terms of FDI per capita, large recipients in absolute terms such as China, Indonesia, Mexico and Venezuela appear fairly small (figure II.6).

While international production has spread more widely than ever before the share of the largest investor or recipient countries has increased or stayed constant over the past 15 years. The share of the largest ten host and home countries, for example, has risen from 70 per cent to 73 per cent for inward FDI flows over 1985-2000, and remained at 83-85 per cent in the case of outward FDI flows (table II.1). In the developing world, the share of the largest ten host economies has remained stable at 77 per cent over this period (table II.2). The level of concentration has declined marginally for FDI flows at the 30- and 50-country level. Outward FDI is more concentrated at every level – for flows as well as stocks – than inward FDI.

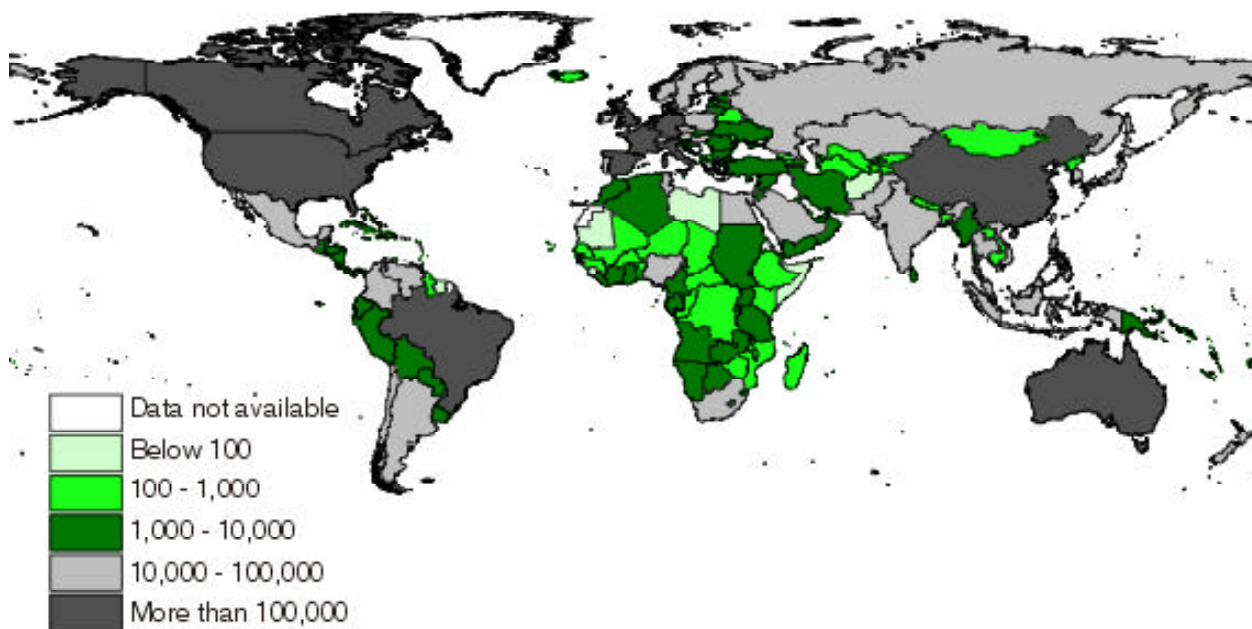
Concentration also characterizes the number of firms that are important players: even though there are over 60,000 TNCs, only a handful of them accounted, in the major home countries, for the bulk of outward FDI (table II.3). This makes it important to track the internationalization

Figure II.1. Inward FDI stock, 1985 and 2000
(Millions of dollars)

a) 1985



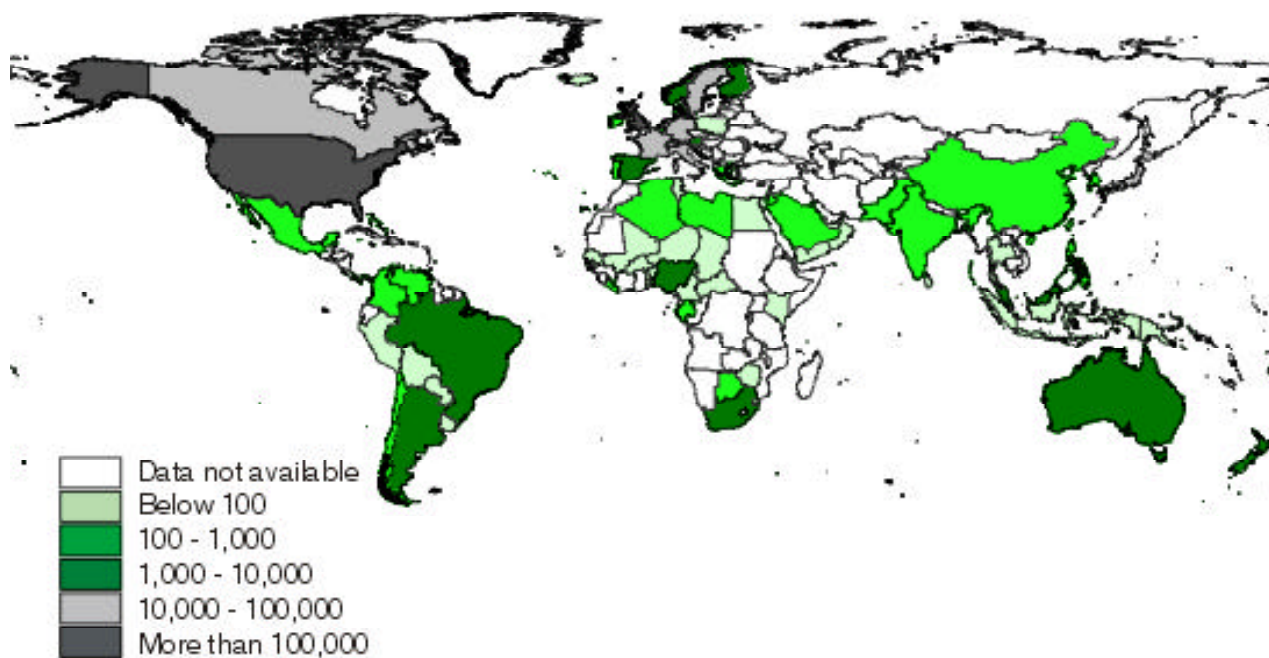
b) 2000



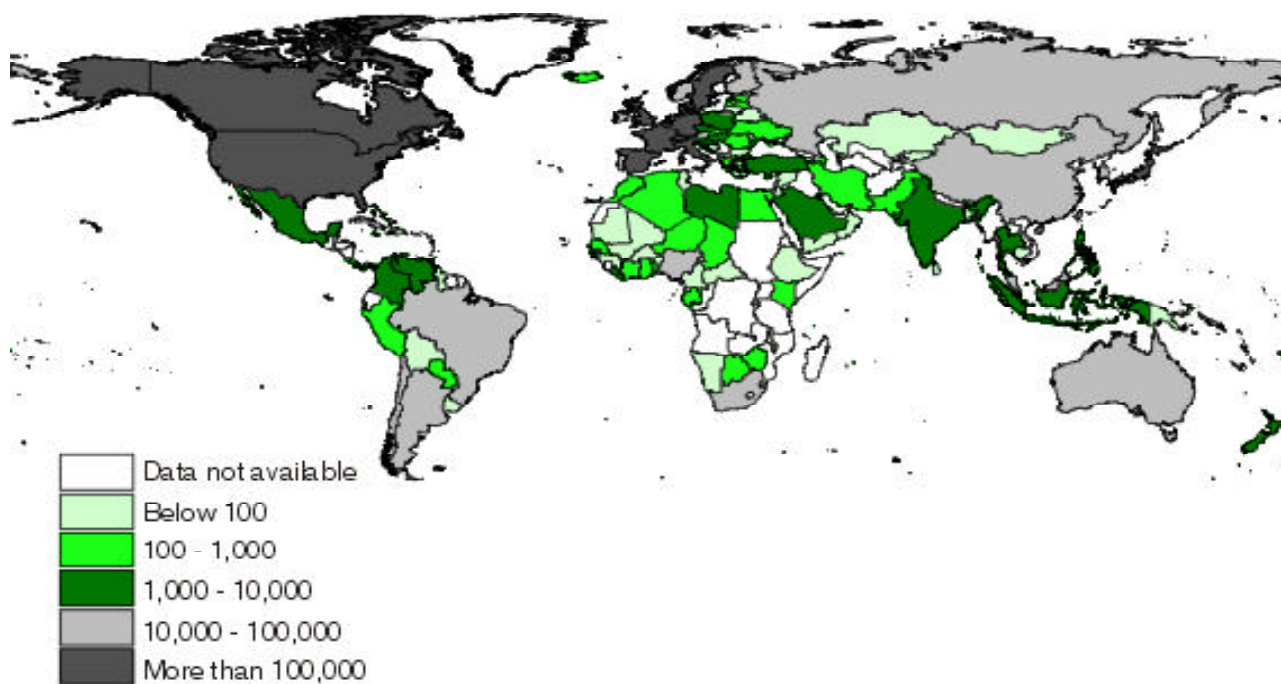
Source: UNCTAD, FDI/TNC database.

Figure II.2. Outward FDI stock, 1985 and 2000
(Millions of dollars)

a) 1985

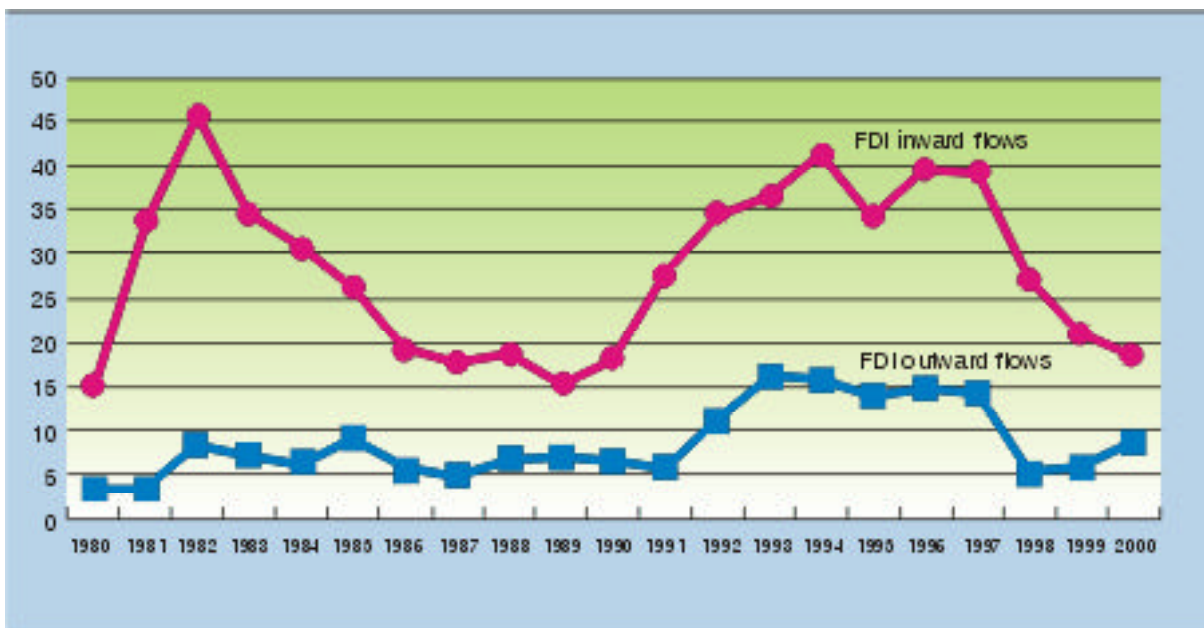


b) 2000



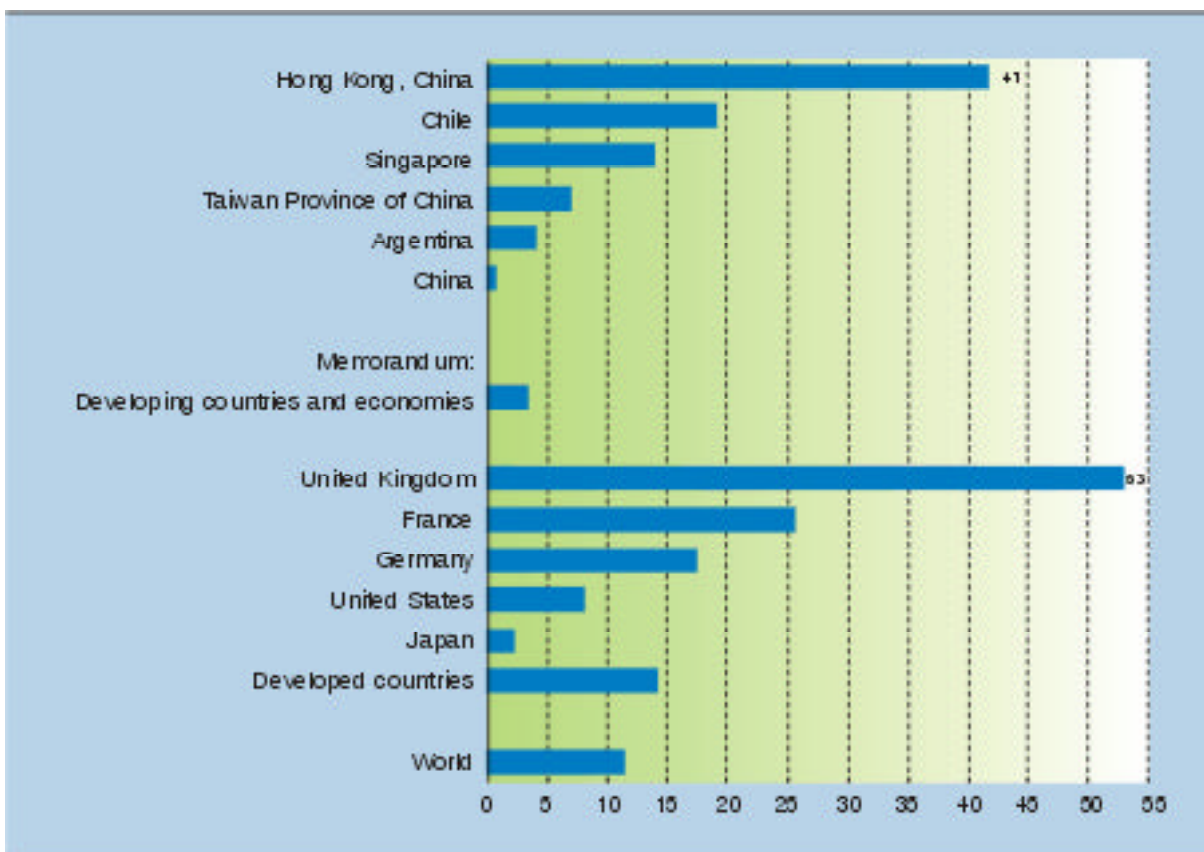
Source: UNCTAD, FDI/TNC database.

Figure II.3. Share of developing countries in world FDI flows, 1980-2000
(Percentage)



Source: UNCTAD, FDI/TNC database.

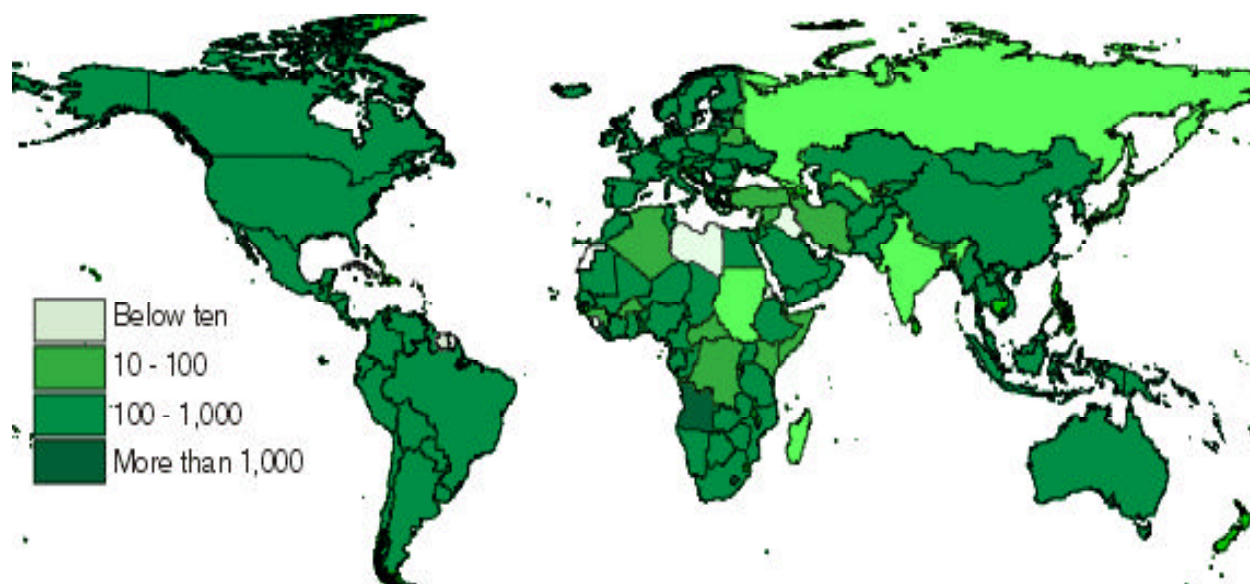
Figure II.4. Relative importance of FDI outflows from selected developing economies,^a 1997-1999
(Percentage)



Source: UNCTAD, FDI/TNC database.

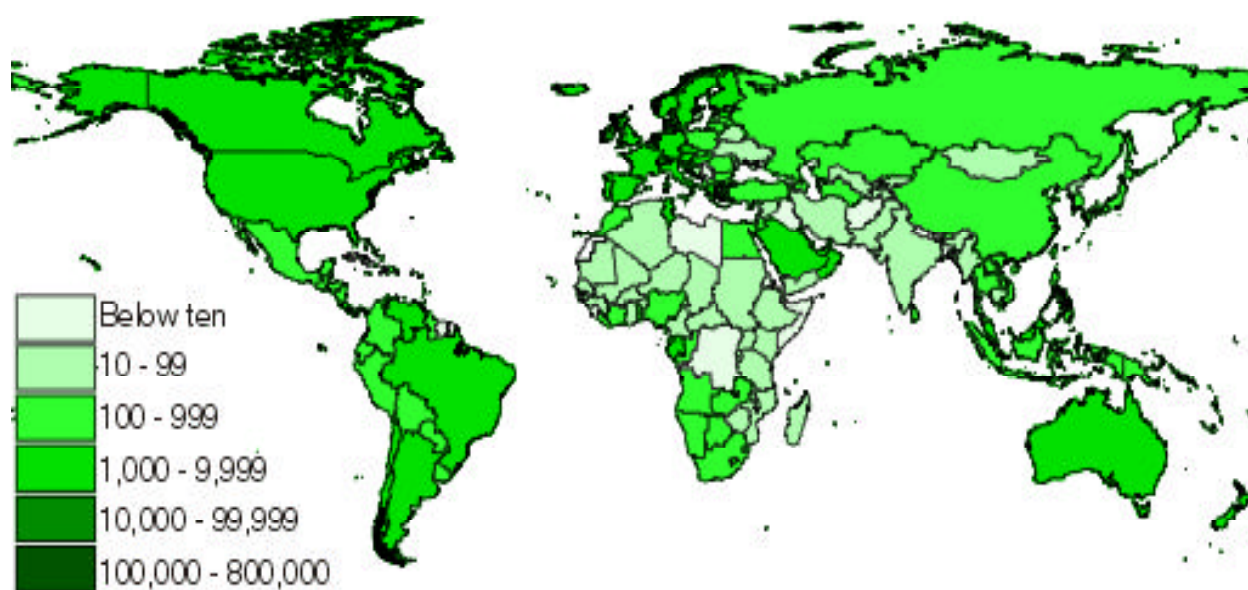
^a FDI outflows as a percentage of gross fixed capital formation.

Figure II.5. Inward FDI stock per \$1,000 GDP, 1999
(Dollars)



Source: UNCTAD, FDI/TNC database.

Figure II.6. Inward FDI stock per capita, 2000
(Dollars)



Source: UNCTAD, FDI/TNC database.

of the world's top 100 TNCs, as well as the 50 largest TNCs from developing countries and the 25 largest from Central and Eastern Europe – and this is done below in chapter III.

Table II.1. Share of the largest ten countries in world FDI flows, 1985 and 2000
(Percentage)

	1985 ^a		2000 ^b
<i>Inward FDI</i>			
United States	33.2	United States	25.1
United Kingdom	6.2	United Kingdom	9.3
Saudi Arabia	6.2	Germany	8.4
Canada	4.9	Belgium and Luxembourg	7.5
France	4.0	Netherlands	4.4
Mexico	3.4	China	4.1
Australia	3.3	France	4.0
Spain	3.2	Canada	3.6
Brazil	2.8	Hong Kong, China	3.4
Netherlands	2.8	Sweden	3.3
Top 10 total	70.0		73.1
<i>Outward FDI</i>			
United States	20.9	United Kingdom	20.1
United Kingdom	15.8	United States	14.6
Japan	10.5	France	11.8
Germany	8.9	Germany	8.6
Netherlands	7.4	Belgium and Luxembourg	8.1
Canada	6.6	Netherlands	6.0
Switzerland	4.1	Spain	4.0
France	4.0	Hong Kong, China	3.5
Italy	3.7	Canada	3.4
Sweden	3.1	Switzerland	3.3
Top 10 total	85.0		83.4

Source: UNCTAD, FDI/TNC database.

^a Average 1983-1985.

^b Average 1998-2000.

Table II.2. Share of the largest recipients of FDI flows among developing economies, 1985 and 2000
(Percentage)

Economy	1985 ^a	Economy	2000 ^b
Saudi Arabia	20.4	China	19.2
Mexico	11.3	Hong Kong, China	16.0
Brazil	9.2	Brazil	14.4
China	7.0	Argentina	6.5
Singapore	6.9	Mexico	5.6
Malaysia	5.5	Korea, Republic of	4.0
Egypt	4.7	Singapore	3.1
Bermuda	4.6	Bermuda	2.8
Hong Kong, China	4.3	Chile	2.7
Argentina	2.7	Cayman Islands	2.4
Top 10 total	76.6		76.7

Source: UNCTAD, FDI/TNC database.

^a Average 1983-1985.

^b Average 1998-2000.

The geography of international production, especially in the developed world, is substantially determined by cross-border M&As. The completed value of such transactions maintained its momentum in 2000, growing by 49 per cent to reach more than \$1.1 trillion (box II.1 and annex tables B.7-10),³ a figure that corresponds to 3.6 per cent of world GDP (figure II.7). This significant increase in M&As was the stimulus in the 18 per cent growth rate of FDI inflows in 2000. Cross-border M&As have thus become a decisive factor in determining the level as well as direction of FDI flows. Moreover, the number of mega-deals (M&As worth more than \$1 billion) increased from 114 in 1999 to 175 in 2000 (and their share in the total value increased from 68 per cent to 76 per cent (table II.4), such mega-deals can have a major impact on FDI statistics of individual countries.

M&A patterns are different from those of FDI per se. Indeed, the concentration of cross-border M&As in developed countries is higher than of FDI flows in these countries (figures II.8 and II.9). But this picture is changing too: in 2000, there were 37 developing countries that received more than \$100 million of investment through M&As; in 1987, this number was negligible. Still developed countries continue to be the major players both in terms of both sales and purchases, and developing countries are practically non-existent as large acquirers (figure II.9).

Table II.3. The share of top TNCs in outward FDI stock, selected countries, latest available year
(Percentage)

Country	Year	Top 5	Top 10	Top 15	Top 25	Top 50
Australia	1996	45.0	57.0	66.0	80.0	96.0
Austria	1998	25.0	35.0	41.0	50.0	63.0
Canada	1995	22.6	33.5	40.1	50.1	64.4
Finland	1995	33.0	47.0	56.0	69.0	84.0
France	1995	14.0	23.0	31.0	42.0	59.0
Germany	1999	20.1	29.6	36.2	44.0	55.5
Norway	1997	61.7	74.5	80.5	86.1	92.6
Sweden	1999	25.2	41.2	51.2	64.6	80.7
Switzerland	1999	32.0	47.0	56.0	67.0	81.0
United Kingdom	1999	36.0	48.7	55.8	65.3	79.0
United States	1999	13.9	22.6	28.7	37.9	52.1

Source: UNCTAD, based on information provided by governments and WIR97, p. 34.

Box II.1. Cross-border M&As in 2000

Countries with large acquisitions by or of their firms are also large home and host countries for FDI. Thus, the United States and Germany were also the first and the second largest “target” countries (annex table B.7), while the United Kingdom and France were the first and the second largest “acquiring” countries (annex table B.8). Among developed countries, Belgium is a noteworthy country in which M&A activity by both acquirers and sellers increased dramatically in 2000, as shown by a number of mega-deals involving firms located in that country (annex table A.I.4).

While the world economy has been growing at a somewhat slower pace – partly because of the performance of information technology-related industries – the growth of cross-border M&As has been led by these industries. This seemingly contradictory phenomenon is due to the fact that cross-border M&As are motivated by a combination of various factors (*WIR00*), among which the movement of the business cycle is only one. Thus, these industries (included partly under the transport, storage and communications industry and partly under the electrical and electronic equipment industry) constituted the largest target as well as acquiring sector in 2000 (annex tables B.9 and B.10). While cross-border M&As in pharmaceuticals (included in the chemical industry) more than halved in 2000 while M&A activity in automobiles remained high (annex tables B.9 and B.10). Financial firms accounted for more than 20 per cent of the total cross-border M&A sales and purchases in 2000.

Source: UNCTAD.

2. Some comparative patterns

There are interesting differences between patterns of FDI and other major macroeconomic variables at the regional level. The most obvious one emerges from comparing the inward *FDI* and *technology payments* pattern: it is entirely dominated by the developed countries which receive some 86 per cent of such payments while they account for “only” 76 per cent of the world’s FDI inflows and 68 per cent of its exports (table II.5).

Comparing *FDI* and *domestic investment* patterns⁴ reveals that the developed world and Central and Eastern Europe account for higher shares of world FDI flows than world domestic investment (table II.5). For the developing world, the picture is the reverse (table II.5). However, at least until the financial crisis in 1997-1998, developing countries had received increasing shares of world FDI compared with their shares of world domestic investment, reflecting significant increases in their international investment inflows relative to those in other countries, while domestic investment in these economies apparently kept pace with that elsewhere. Thus, the share of developing countries in world FDI stock is still somewhat higher than that in domestic investment (table II.5).

There are important differences within the developing world. The financial crisis in Asia reduced the share of South, East and South-East Asia in FDI inflows, pulling it below its share in world domestic investment. However, in terms of FDI stocks – which reflect long-term trends – the region performed better: its share in world FDI stock in 1999 was higher than its share in world domestic investment. Latin America and the Caribbean received relatively high levels of FDI in relation to its share of domestic investment in both flow and stock terms. FDI in Africa matches its (low) domestic investment rates, confirming the findings of the Inward FDI Index discussed in chapter I. In West Asia, the share of domestic investment far exceeds its share of FDI (table II.5).

The geographical patterns of *FDI* and *trade* exhibit important similarities. In particular, recent data on FDI stocks and

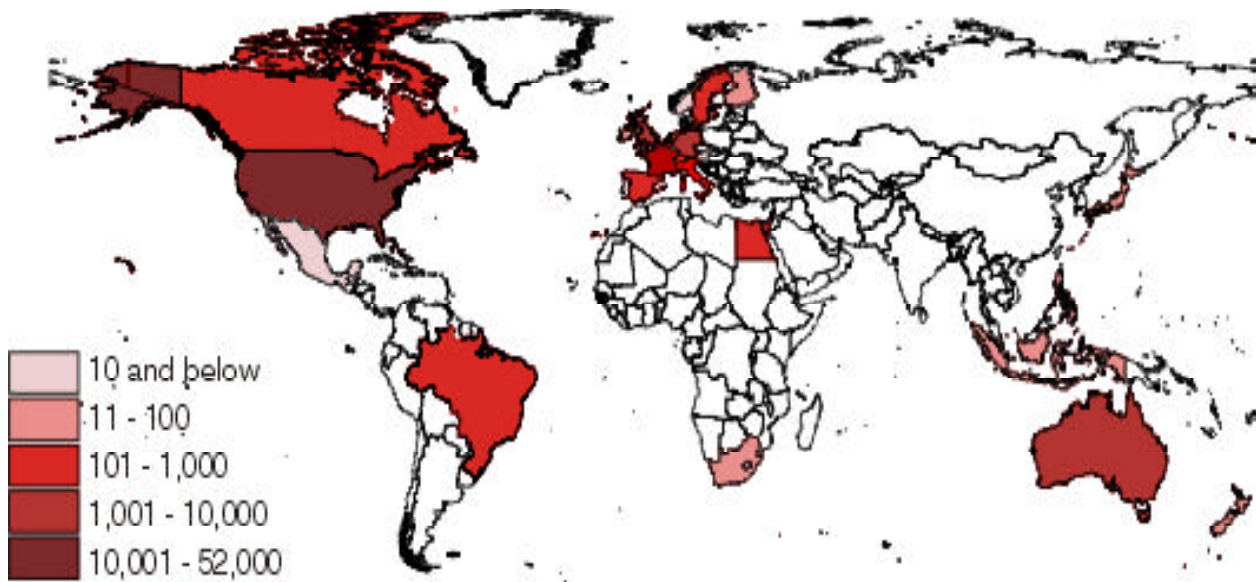
Figure II.7. Value of cross-border M&As and its share in world GDP, 1987-2000



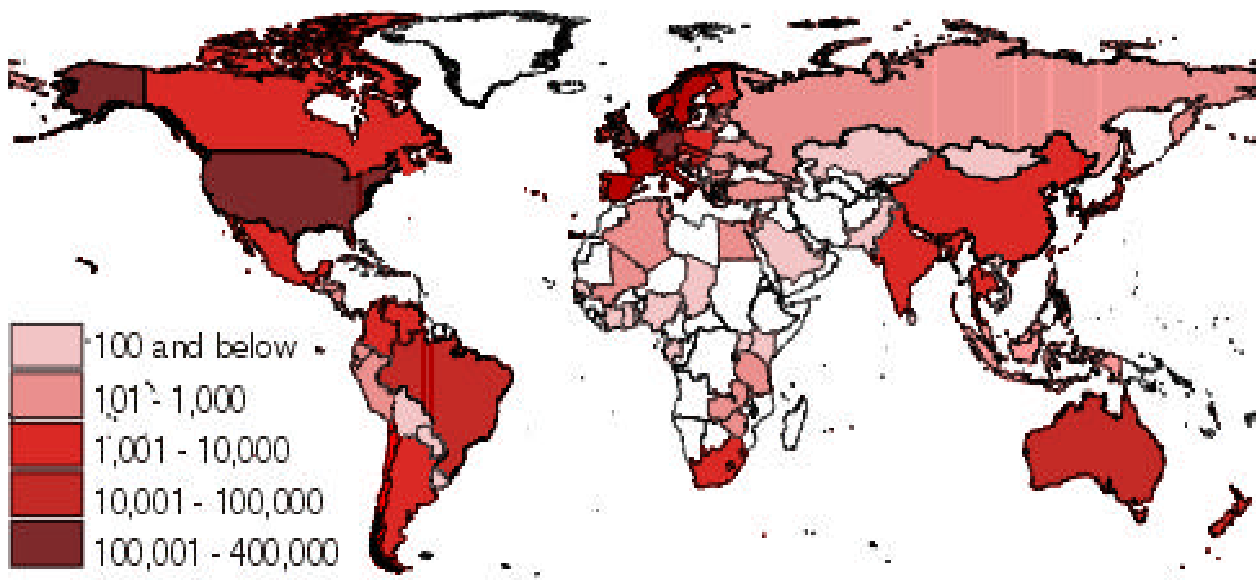
Source: UNCTAD, FDI/TNC and cross-border M&A databases.

Figure II.8. Cross-border M&A sales, 1987 and 2000
(Millions of dollars)

a) 1987



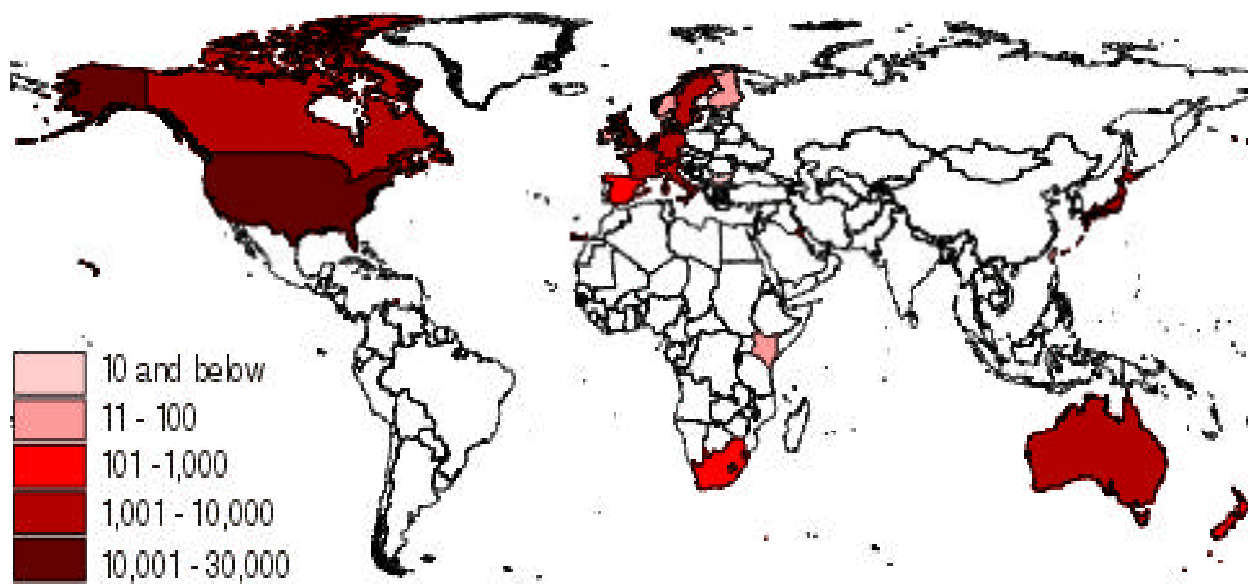
b) 2000



Source: UNCTAD, cross-border M&A database.

Figure II.9. Cross-border M&A purchases, 1987 and 2000
(Millions of dollars)

a) 1987



b) 2000

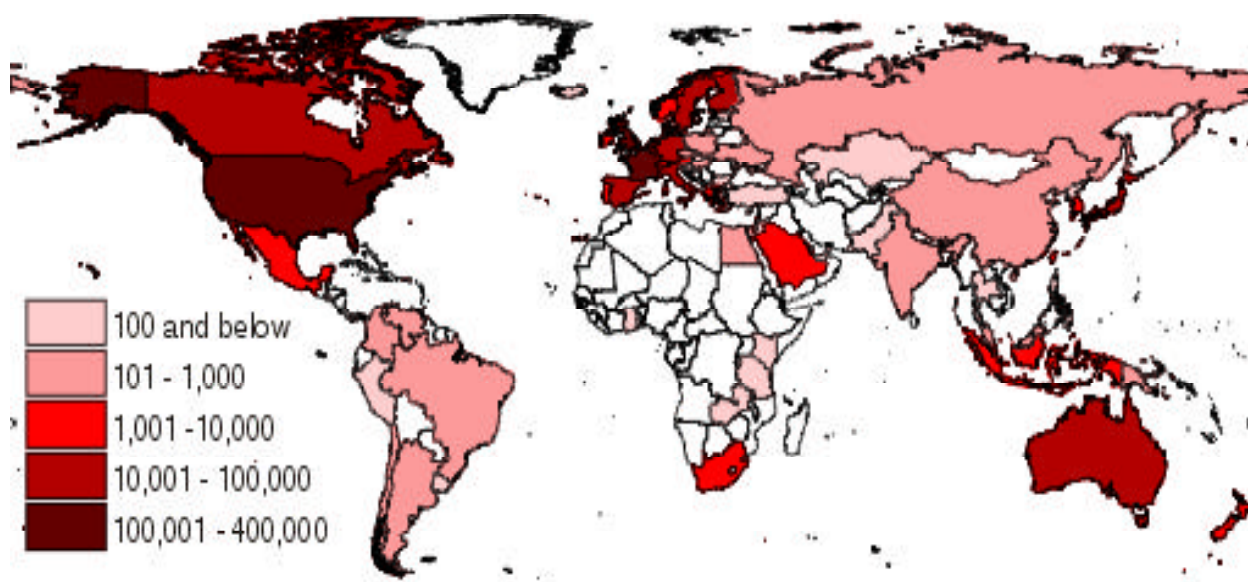


Table II.4. Cross-border M&As with values of over \$1 billion, 1987-2000

Year	Number of deals	Percentage of total	Value (billion dollars)	Percentage of total
1987	14	1.6	30.0	40.3
1988	22	1.5	49.6	42.9
1989	26	1.2	59.5	42.4
1990	33	1.3	60.9	40.4
1991	7	0.2	20.4	25.2
1992	10	0.4	21.3	26.8
1993	14	0.5	23.5	28.3
1994	24	0.7	50.9	40.1
1995	36	0.8	80.4	43.1
1996	43	0.9	94.0	41.4
1997	64	1.3	129.2	42.4
1998	86	1.5	329.7	62.0
1999	114	1.6	522.0	68.1
2000	175	2.2	866.2	75.7

Source: UNCTAD, cross-border M&A database.

exports show broadly similar patterns (table II.5), not unexpectedly since the factors affecting them overlap a great deal. Thus, advanced countries tend to both trade more and engage more in FDI than developing countries. Economic liberalization promotes both trade and FDI. Moreover, TNCs increasingly shape trade patterns, accounting for about two-thirds of world trade. About

one-third of total trade (or half of the TNC trade) is intra-firm. Thus, the direction of trade is directly affected by the location strategies and decisions of TNCs (WIR96).

Regional patterns of trade and FDI, however, do differ: during the middle of the 1980s (as well as at the beginning of the 1990s (Petri, 1994)), FDI outflows were more concentrated than exports. This is exemplified by the concentration ratios of trade (and FDI) by the top 10, 30 and 50 countries, as noted in chapter I (table I.4). A decade and a half later, this overall situation had not changed much (table I.3). However, *trade intensity*⁵ had declined with respect to most of the partner regions of North America and Asia during the 1990s (figure II.10). At the same time *FDI intensity*⁶ increased with respect to most of the partner regions of North America, the EU and Asia (figure II.10). The intensity of both intraregional FDI and intraregional trade has grown for the EU, but has declined somewhat for North America. Intraregional FDI has intensified significantly in Asia, but not intraregional trade. It is also noteworthy that, although North America retains strong FDI and trade links with Latin America and the Caribbean, after one decade, their

Table II.5. Geographical distribution of FDI flows, trade, domestic investment and technology payments, 1998-2000
(Annual average, percentage)

Region/country	FDI inflows	FDI outflows	Exports ^a	Imports ^a	Domestic investments ^b	Technology payments	Memorandum:	
	1998-2000		1998-1999				FDI inward stock	FDI outward stock
							2000	
Developed countries	76.3	92.9	68.4	69.7	74.5	85.6	66.7	87.8
Western Europe	45.8	71.5	41.8	40.4	27.9	46.0	39.6	56.7
European Union	44.3	67.9	39.4	38.2	26.5	45.7	37.6	52.1
Japan	0.8	2.8	6.3	5.5	17.1	14.2	0.9	4.7
United States	24.7	14.4	14.2	17.5	25.3	18.9	19.6	20.8
Other developed countries	5.0	4.0	6.1	6.2	4.2	6.5	6.6	5.6
Developing countries and economies	21.4	6.8	27.5	26.2	23.3	13.1	31.3	11.9
Africa	0.8	0.1	1.6	1.5	1.4	0.8	1.5	0.3
Latin America and the Caribbean	9.2	1.5	5.1	5.7	5.9	3.8	9.6	1.9
Asia and the Pacific	11.2	5.2	20.4	18.5	15.8	0.1	20.0	9.7
Asia	11.2	5.2	20.4	18.5	15.8	8.4	20.0	9.7
West Asia	0.4	-	2.9	2.8	2.6	-	1.0	0.1
Central Asia	0.3	-	0.2	0.2	0.2	-	0.3	-
South, East and South-East Asia	10.5	5.2	17.2	15.5	13.0	8.4	18.8	9.5
The Pacific	-	-	0.1	-	-	-	0.1	-
Central and Eastern Europe	2.3	0.3	4.1	4.2	2.2	1.3	2.0	0.3
World	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: UNCTAD, FDI/TNC database.

^a Export and import of goods and non-factor services.

^b Gross fixed capital formation.

Figure II.10. FDI and trade intensities, by region,^a 1990 and 1999



Source: UNCTAD, based on data from the United Nations Statistical Division, UNCTAD, *Handbook of Statistics 2000* and other international and national sources.

^a Calculated as follows : $q_{ab} = \frac{lab/la^*}{I^*b/I^{**}}$

where q_{ab} = intensity of region a's FDI in, or trade with region b,
 lab = FDI by region a (home) in partner region b(host), or trade between region a and region b,
 I^* = World FDI stock or trade.

^b Asia as a region is composed of China, Japan, Malaysia, Pakistan, Republic of Korea, Singapore, Taiwan Province of China and Thailand.

intensity has declined somewhat. The EU has strengthened its links with Central and Eastern Europe in both FDI and trade. EU links with North America are much stronger in FDI than in trade. Overall, however, the concentration of both FDI and trade within regions and neighbouring regions (reflecting historical, cultural or political ties, as well as geographic proximity) remains a distinguishing feature. Moreover, within each region, trade links are somewhat stronger than FDI links.

Different types of FDI may affect trade patterns in different ways. Resource-seeking FDI is likely to reinforce existing export patterns of host economies where it exploits the same set of competitive advantages as local firms. It can change export patterns where it exploits different resources or changes the level of local processing. Export-oriented manufacturing FDI can, again, reinforce existing advantages (say, in low-cost labour for clothing exports), or change them by introducing technologies, skills, brand names and networks not available to local firms.⁷ Moreover, the rise of integrated international production systems provides striking examples of how FDI can alter trade patterns rapidly. Many developing countries – like Malaysia, Thailand, Philippines and Mexico – have entered areas of technology-intensive export activity previously out of their reach by attracting the labour-intensive end of high-technology TNC manufacturing. In fact, such TNC activity is the main driver of the most dynamic export growth in recent years in the developing world (Lall, 2001; UNIDO, 2001).

Domestic market-oriented FDI is, by its very nature, unlikely to affect export patterns much, at least in the short term (though it may raise import propensities where new technologies are introduced calling for inputs not available in the host economy); and, of course, it can replace imports. In the long term, however, domestic market-oriented affiliates may enter export markets once they have reaped the benefits of scale, scope and learning economies. They may also indirectly affect trade, as in the case of producer and infrastructure services affecting exports. Recent changes in trade regimes in the developing world have led

to rationalization and the upgrading of foreign affiliates, followed by the growth of new exports.⁸ In many cases, such upgrading has been outside the reach of local enterprises.

With the growing mobility of productive resources and trade liberalization, the old debate on whether FDI leads to trade or trade to FDI becomes increasingly irrelevant (*WIR96*). The real issue now is where firms choose to locate operations and how they coordinate flows of products (or services) between various locations. If they locate them at home and serve a foreign market through exports, it shows up as trade in one direction; if they locate them abroad and serve the domestic market by imports, it shows up as FDI and trade in another direction. Over time, as economies become more integrated (as within the EU), the distinction between domestic investment and FDI on the one hand and FDI and international trade on the other will become less relevant for analysis and especially for policies. The important point for policy will be which locations offer competitive conditions for economic activity.

As economies integrate, moreover, clusters of competitive activity spill over national borders. Thus, a country may have a stagnant cluster of activities in one region within its boundaries and a dynamic one that spreads over a border with a neighbour. With free factor movement, this is more and more likely as synergies develop across borders between similar activities. A quite different pattern of international cluster formation is also emerging, where countries with different factor costs form special economic zones to take advantage of these differences. The Singapore, Johor and Riau (SIJORI) “growth triangle” set up by Singapore and neighbouring provinces in Indonesia and Malaysia is an example in South-East Asia (Thant and Tang, 1996). Singapore has high wages and land costs, in contrast to its neighbours, but it is better endowed with capital, skills and contacts with international investors. Setting aside a designated area without trade, labour and investment barriers is a good way to exploit such complementarities.

B. Sub-national patterns

Economic activities have always had a tendency to cluster geographically. Firms have been attracted to sites where other firms are located to take advantage of existing external economies – markets, factors of production, specialized skills and suppliers, institutions and, especially, innovative capabilities (which were originally identified as the essence of economic clusters by Alfred Marshall, 1936). Natural clusters can be deliberately strengthened by their members to overcome common difficulties or, where the firms concerned are small, to realize scale economies. Clusters can be promoted by policies to raise locational advantages, by setting up advanced infrastructure, knowledge or skill creation facilities. While new information and communication technologies have reduced certain forces making for proximity, others continue to exist and affect location. In fact, with growing networking among firms as a means to innovate and achieve competitive advantage, the advantages of certain types of clusters have grown.

As a result, policy and research interest in clusters and industrial districts has also grown in recent years.⁹ It has been spurred by evidence on the dynamism of SMEs located in industrial districts (in the “Third Italy” as well as in many developing countries), the growth of high-technology clusters in developed countries and the use of clustering as a tool of industrial strategy. It is therefore to be expected that the location of TNCs in home and host economies reflects agglomeration forces. The following paragraphs focus on such sub-national FDI location patterns.

Home countries. The location of the headquarters of the largest TNCs indicates where global corporate power is concentrated (figure III.1). Most of the largest 100 TNCs – they account for one-third of the assets of the world’s foreign affiliates (WIR99) – are headquartered in a few countries (United States, Japan, United Kingdom, France, Germany, Switzerland). There, they congregate in a few areas. For example, among these 100 largest TNCs, 10 of the 11 largest French TNCs are

headquartered in Paris; 6 of the 7 United Kingdom TNCs in London; and the headquarters of 5 of the 18 Japanese have the same address of Chiyoda-ku, Tokyo. In fact, more than a half of the 23,000 Japanese foreign affiliates are owned by TNCs based in Tokyo (Toyo Keizai, 1998). In Austria, 45 per cent of the country’s 1,617 TNCs were based in Vienna in 1994 (ONB, 1996). Two-thirds of the headquarters of major Swedish TNCs included in a recent survey are located in Stockholm; and this share has increased over time (ISA, 1999). The geographical concentration of headquarters in certain locations is also observed for the largest TNCs based in developing countries as well as in Central and Eastern Europe (figure III.1).

The reasons for such agglomerations are not difficult to find. They relate to the economies of being close to centres of corporate, political and financial decision-making, high levels of income, access to technology and, especially, innovative activities, universities, institutions and modern infrastructure (including easy access to international air transport) and quality of life. Of course, there are also diseconomies of agglomeration as costs, congestion and social problems rise, leading to some dispersal of headquarter functions away from the major centres.

Host countries. There are similar patterns in the location of foreign affiliates. Clusters of competitive domestic firms tend to attract foreign firms to their proximity, enhancing geographical concentration and specialization. In Austria, a half of all foreign affiliates are located in Vienna (figure II.11); they accounted for 57 per cent of the capital and 51 per cent of the employees of all foreign affiliates in this country. The Tokyo metropolitan area hosts four-fifths of all foreign affiliates operating in Japan, and these accounted for some 90 per cent of total sales by all foreign affiliates (figure II.12). Ile-de-France, with 15 per cent of total FDI flows in this country in 1997, is the largest of the 22 regions of France in terms of FDI inflows (figure II.13). Three counties in Sweden – Stockholm, Västra Götaland and Skåne – accounted for over 60 per cent of employees of all foreign affiliates in Sweden in 1999 (figure II.14). In the United States, California, New York,

Figure II.11. Location of foreign affiliates in Austria, by region, 1994



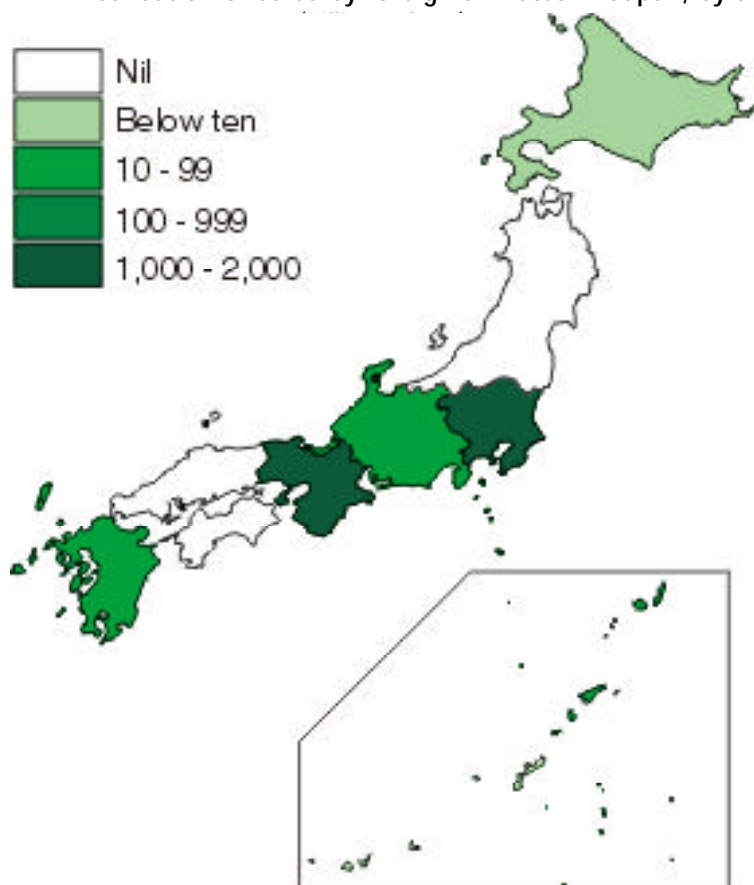
Source: UNCTAD, based on ONB, 1996.

Texas, Illinois and New Jersey are the principal magnets; these five states alone account for a half of the production of foreign affiliates (figure II.15). Similar examples can be found in other developed countries, and in developing and transition economies (box II.2).

Since clusters are clearly important for TNC location, it is necessary to analyse

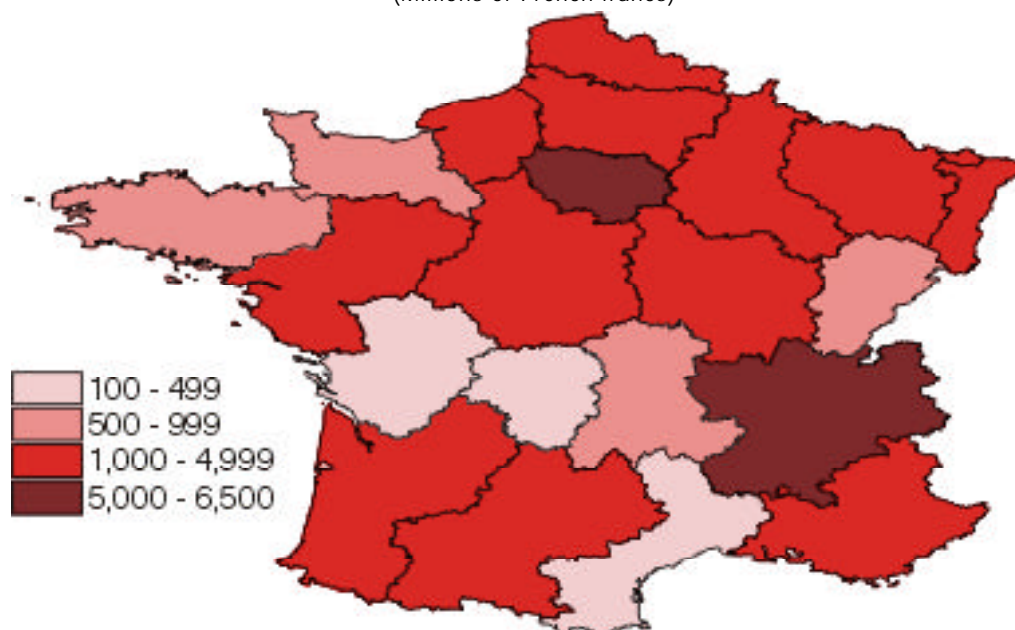
FDI at local levels to formulate relevant policies to attract it. National level factors continue to be important in certain respects, but the cluster-based drivers of investment operate at lower levels. If international investors look for agglomeration advantages when making location decisions, policy makers must fully understand this. The next section takes up these issues at greater length.

Figure II.12. Distribution of sales by foreign affiliates in Japan, by area, 1997



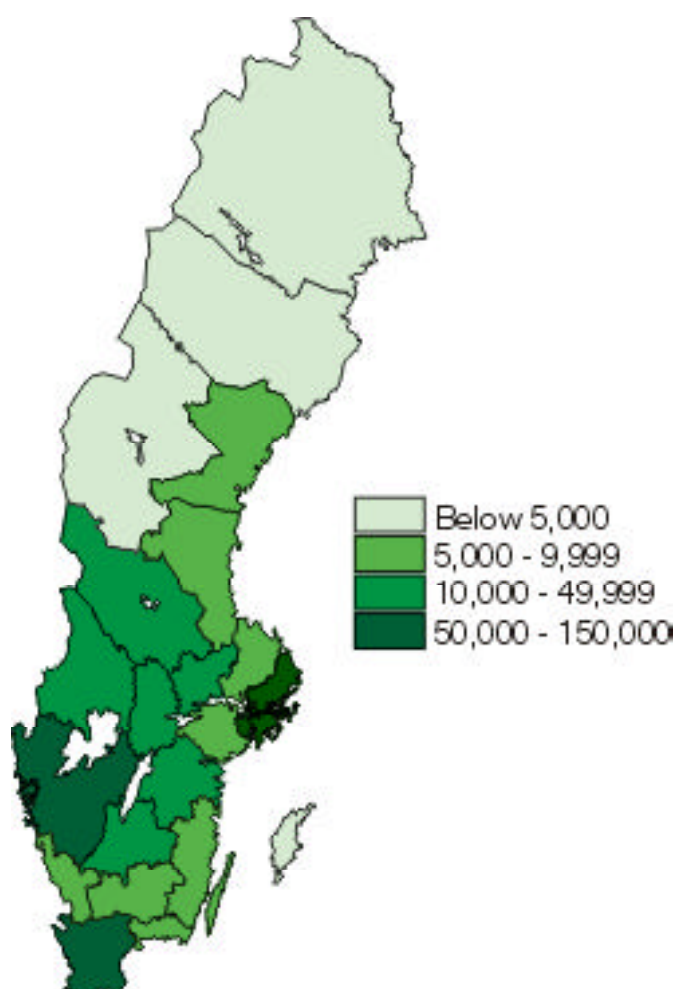
Source: UNCTAD, based on Japan, Ministry of International Trade and Industry, 2000.

Figure II.13. Distribution of FDI flows in France, by region, 1997
(Millions of French francs)



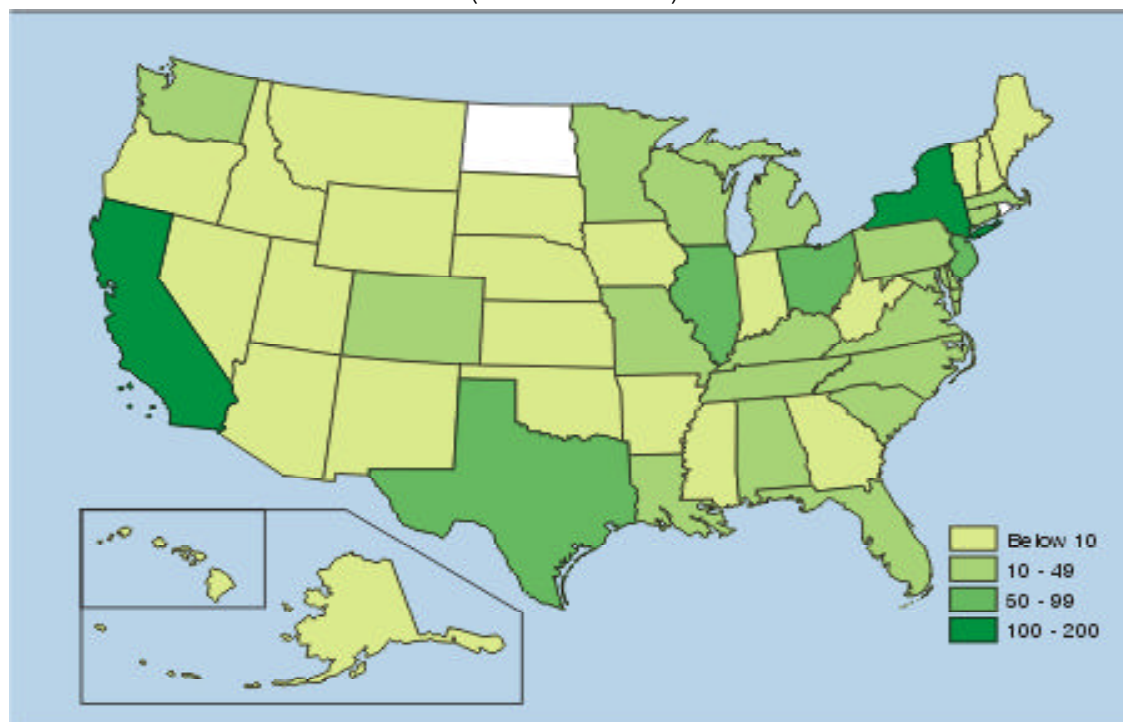
Source: UNCTAD, based on information from France, Ministère de l'Economie des Finances et de l'Industrie, 1999.

Figure II.14. Distribution of employees of foreign affiliates in Sweden, by county, 1999



Source: NUTEK, 2000.

Figure II.15. Distribution of production of foreign affiliates in the United States, by state, 1992
(Trillions of dollars)



Source: UNCTAD, based on United States, Department of Commerce, 1997.

Box II.2. Inward FDI at the sub-national level: some examples

There have been some attempts to identify the factors affecting location decisions of foreign affiliates within particular countries and to explain the uneven distribution of intra-country FDI. The focus of this research has been on developed countries, in particular the United States (Bagchi-Sen and Wheeler, 1989; Coughlin et al., 1991; Friedman, Gerlowski and Silberman, 1992; Glickman and Woodward, 1988; Head et al., 1995, 1999; Nachum, 2000; Smith and Florida, 1994; Wheeler and Mody, 1992). In the United States, foreign affiliates (compared to domestic firms) appear to favour coastal states and states with low unionization rates, low wage rates and the absence of right-to-work legislation. At the same time, however, several other characteristics of states influence the location of United States and foreign-owned establishments. These include gross state product, corporate taxes, per capita income and state budget on international activity (Shaver, 1998). Agglomeration economies (proxied by infrastructure quality, degree of industrialization and stock of existing FDI) exhibit a high degree of statistical significance and have a large and positive impact on the location of FDI (Wheeler and Mody, 1992). For a particular nationality, for example, the location decisions of Japanese TNCs in the United States were made to benefit from economies of agglomeration rather than in line with inter-state differences in endowments of natural resources, labour and infrastructure (Head et al., 1995).

Evidence on the sub-national distribution of FDI in developing countries and Central and Eastern Europe is scarce. Nevertheless, information for a few countries shows some interesting features.

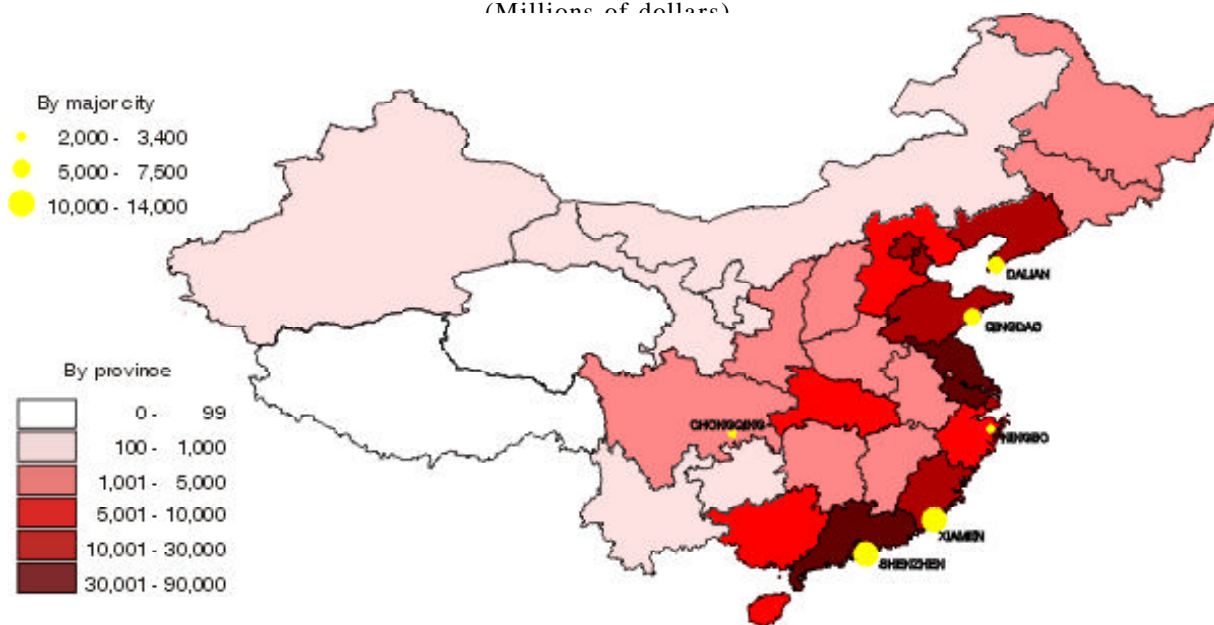
In China, coastal provinces and cities account for the bulk of FDI (box figure II.2.1). About 87 per cent of the FDI stock in 1999 was concentrated in 12 coastal regions. Guangdong is the largest region; it held 29 per cent of all FDI stock that year. Agglomerated cities (proxied by an accessibility index – the sum of the population of the city concerned divided by the square of the distance between the city and each of the other major Chinese cities) have been observed

/...

Box II.2. Inward FDI at the sub-national level: some examples (continued)

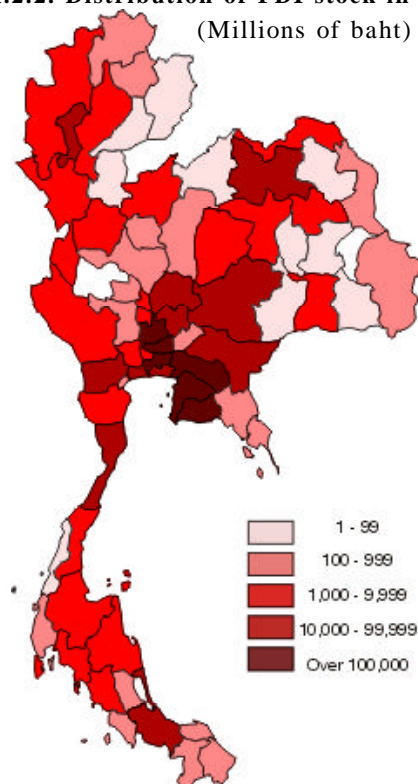
to have a better chance of attracting FDI than widely separated cities (Wei et al., 1998; Gong, 1995). In Thailand, among 68 provinces, Rayong accounted for 31 per cent of total approved FDI during 1987-2000, followed by Krung Thep (Bangkok province) (12 per cent) and Chon Buri (11 per cent) (box figure II.2.2).

Box figure II.2.1. Distribution of FDI stock in China, by province and major city, 1999
(Millions of dollars)



Source: UNCTAD, based on China, MOFTEC, 2000.

Box figure II.2.2. Distribution of FDI stock in Thailand, by province, 2000^a
(Millions of baht)



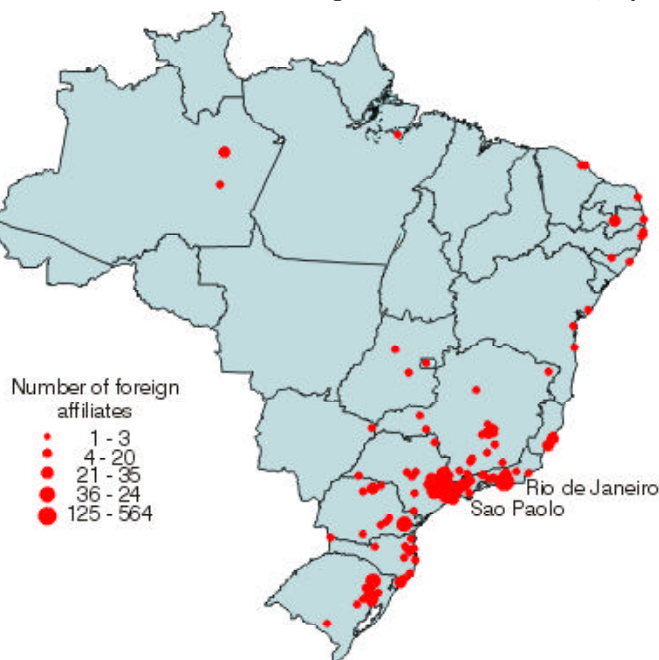
Source: UNCTAD, based on Board of Investment (BOI), unpublished data.

^a Data refer to BOI-approved investment for the years 1987-2000.

Box II.2. Inward FDI at the sub-national level: some examples (continued)

In Latin America, there is a higher concentration of foreign affiliates in Brazil (around Rio de Janeiro and São Paulo) than in Mexico (box figures II.2.3 and II.2.4). In Mexico, cities in Chihuahua, other border states with the United States and central states absorb almost all FDI (box figure II.2.4). Within the interior, Guadalajara has become the main city for the electronics industry, an industry that was started by TNCs and has remained almost exclusively foreign-owned (UNCTAD, 2000b).

Box figure II.2.3. Location of foreign affiliates in Brazil, by city, 1999^a



Source: UNCTAD, FDI/TNC database on the basis of *Who Owns Whom CD-ROM 2000* (Dun and Bradstreet).

^a On the basis of 1,285 majority-owned foreign affiliates identified.

Box figure II.2.4. Location of foreign affiliates in Mexico, by city, 1999^a



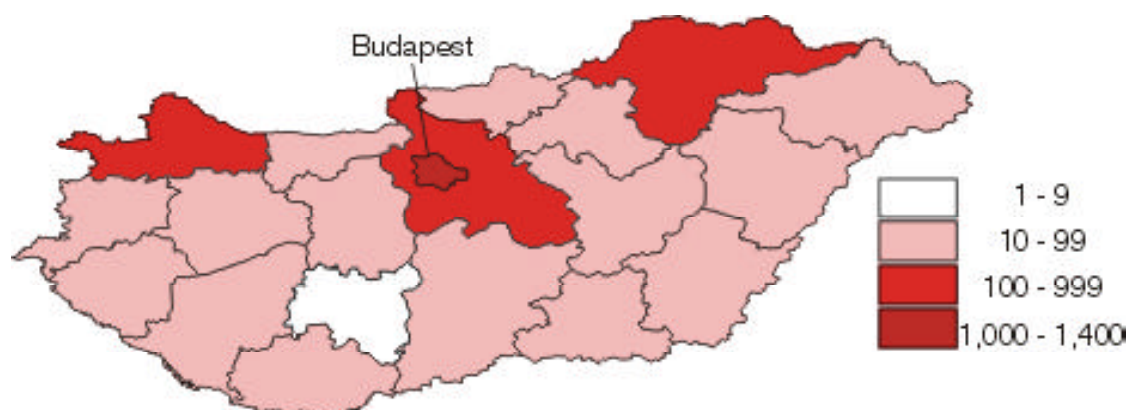
Source: UNCTAD, FDI/TNC database on the basis of *Who Owns Whom CD-ROM 2000* (Dun and Bradstreet).

^a On the basis of 1,476 majority-owned foreign affiliates identified.

Box II.2. Inward FDI at the sub-national level: some examples (concluded)

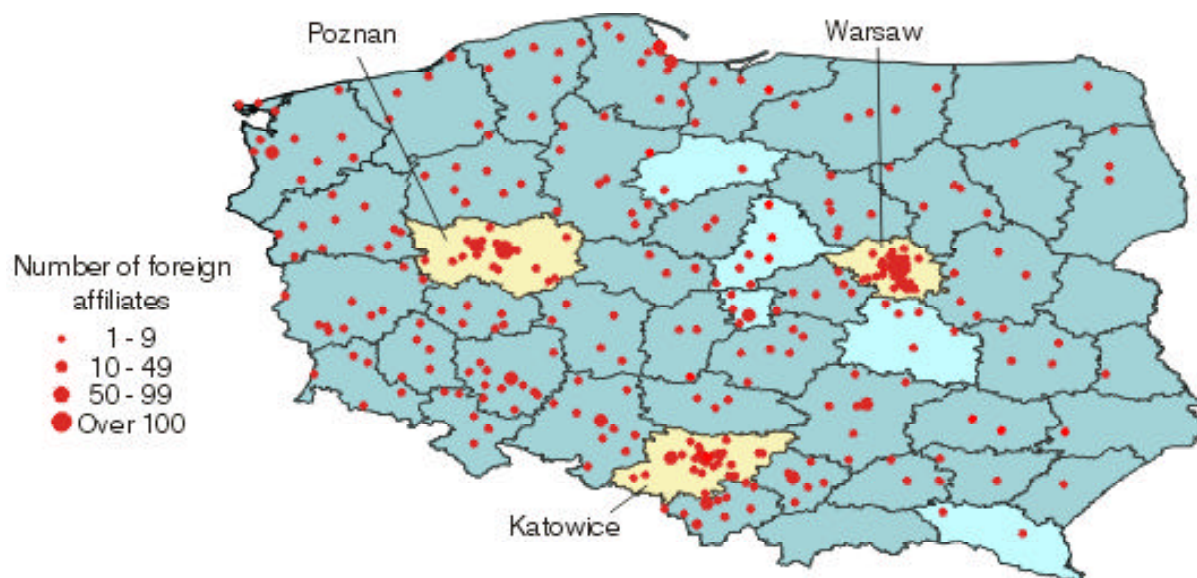
In Central and Eastern Europe, in Hungary, both foreign and total economic activity are highly concentrated in the Budapest area (box figure II.2.5); but the share of foreign activity concentrated there is almost double the share of total economic activity. * In Poland, too, foreign investors prefer a limited number of large urban agglomerations, especially Warsaw, Katowice and Poznan, though there is some spread of investment into other areas as well (box figure II.2.6).

Box figure II.2.5. Distribution of FDI flows in Hungary, by region, 1998
(Billions of Forint)



Source: UNCTAD, based on data provided by the Hungarian Statistical Office.

Box figure II.2.6 Location of foreign affiliates in Poland, by city, 1999^a



Source: UNCTAD, FDI/TNC database on the basis of *Who Owns Whom CD-ROM 2000* (Dun and Bradstreet).
^a On the basis of 1,517 majority-owned foreign affiliates identified.

These intra-country maps show with some exceptions that affiliates engaged in different economic activities tend to agglomerate in the same areas. TNCs invest there to access location advantages that are common to any activities (e.g. infrastructure, availability of efficient and effective production factors). There is a high geographic concentration in specific countries and in specific areas within the countries.

Source: UNCTAD.

* Data provided by the Hungarian Statistical Office.

C. Industrial and functional patterns

As TNCs become more dependent on other firms for a myriad of functions related to their own operations, and on external sources of knowledge for innovation, the location decisions of different firms become more interdependent. In fact, as core competencies become more knowledge-intensive, the choice of location for the production, organization and use of these assets emerge as an important competitive advantage for firms (Porter, 1994, 1998; Enright, 1995). Moreover, as the liberalization of investment and trade policy allows TNCs greater freedom to choose sites and modes of operation, TNCs are increasingly able to specialize their operations at the level of each corporate function on a global scale. And as new technologies make it possible to manage far-flung operations economically and efficiently, it also becomes technically feasible to implement such location strategies in practical terms. The following sections explore these factors at the industrial and functional levels, with some attention to the role of local clusters.

1. Industrial location and the role of clusters

Many location factors tend to be industry specific (Moomaw, 1998), though, within each industry, TNCs can and do vary in their strategies. Many of the differences in patterns of location, concentration or decentralization of investment can be traced to industry- and firm-specific conditions and perceptions. Several issues arise here. How and why do the geographical patterns of activities vary in different industries? Why is there an uneven geographical distribution of FDI by industry? What explains geographical shifts of FDI in particular industries over time?

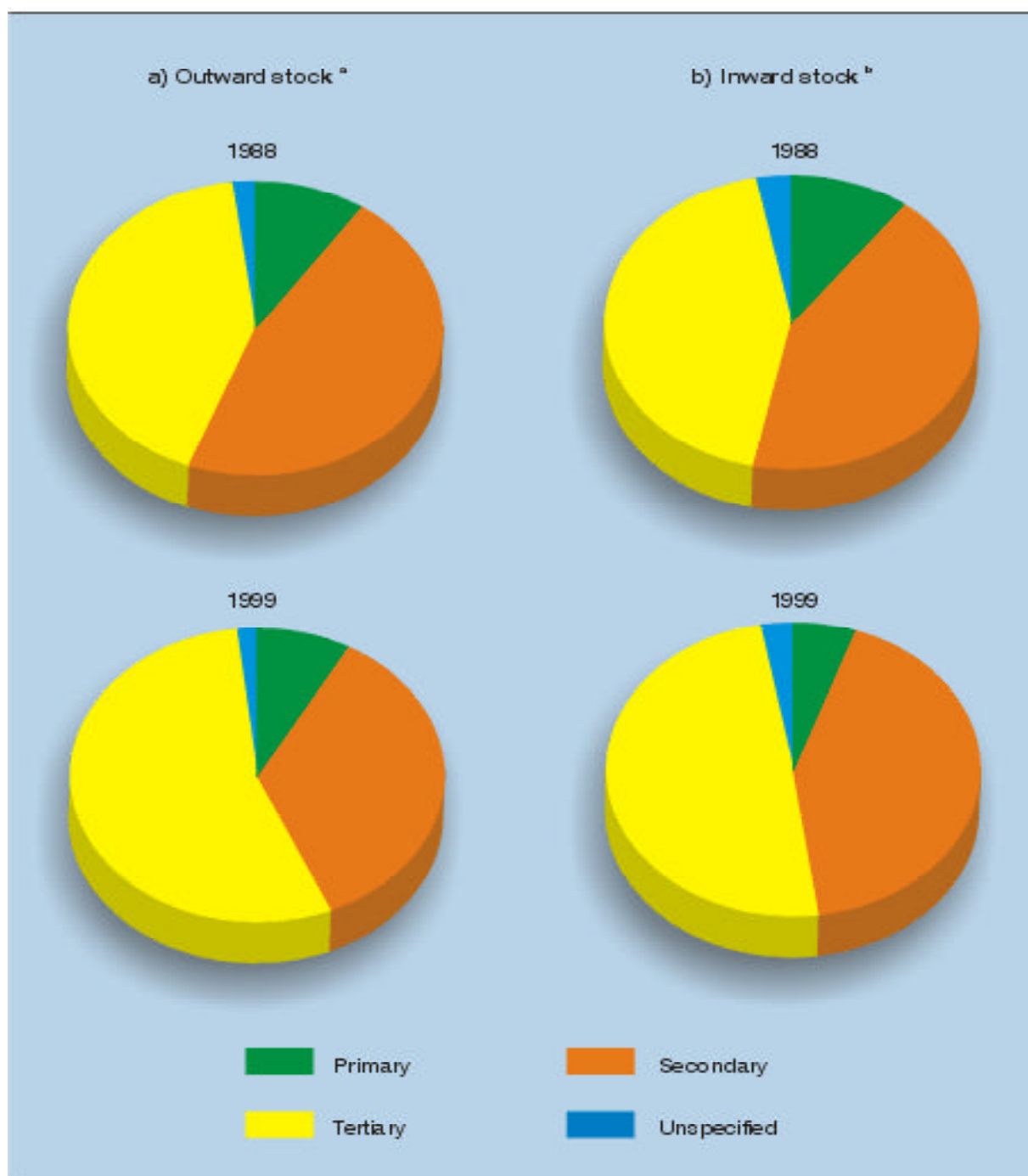
At the broad sectoral level, the share of services in FDI has risen significantly between 1988 and 1999, now accounting for about half of inward FDI stock in the world (figure II.16; for details see annex tables A.II.1-A.II.4). In developing countries alone, it accounted for some one-third of their total

inward FDI stock. The shares of the manufacturing and primary sectors in the world had fallen correspondingly, to 42 per cent and 6 per cent, respectively, by the end of the 1990s: in developing countries these shares were 55 per cent and 5 per cent, respectively (annex table A.II.4). This is a significant change from the late 1980s, when manufacturing accounted for about two-thirds of FDI in developing countries.

Several reasons explain this shift. The services sector has been liberalized for FDI participation relatively recently; in most countries the process is still under way. This has stimulated large flows of investment in activities like financial services, telecommunications and utilities, including in the context of privatization. The trend also reflects the fact that the role of the services sector in economic life has grown. Several new services (e.g. software, back-office services, call centres, data entry) are emerging in which there is considerable scope for international trade and the location of facilities. Thus, the rise in the relative importance of services FDI reflects both a "stock adjustment" to liberalization and the emergence of new services, particularly those that are tradable. This rise is likely to continue in the foreseeable future.

Within manufacturing, only two industries – chemicals and motor vehicles – have experienced a rise in their shares in total FDI. The level of geographic concentration varies by industry. Taking six industries representing different technological levels: semiconductors and biotechnology in high technology; automobiles and TV and radio receivers in medium-technology; and food and beverages and textiles and clothing in low technology; a cursory examination of the number of foreign affiliates and host countries suggests that, the more advanced the technology, the higher the level of concentration. Thus, biotechnology is the most concentrated,¹⁰ followed by semiconductors and TV and radio receivers. The food and beverage industry is the least concentrated (table II.6). Foreign affiliates in semiconductors are located in 31 countries, while those in food and beverages operate in 101 countries.¹¹ The location of foreign affiliates in these industries shows considerable geographical variation (figures

Figure II.16. Industrial distribution of world FDI stock, 1988 and 1999
(Shares in total FDI)



Source : UNCTAD, FDI/TNC database and annex tables A.II.1-A.II.4.

^a Data cover 24 countries in 1988 and 28 countries in 1999, accounting, respectively, for 83 and 79 per cent of world outward stock. Totals in 1988 do not include the countries in Central and Eastern Europe.

^b Data cover 47 countries in 1988 and 57 countries in 1999, accounting, respectively, for 82 and 81 per cent of world inward stock. Totals in 1988 do not include the countries in Central and Eastern Europe.

Note: In order to represent as many countries as possible for each year, whenever data for the given years were not available, those for the latest year available close to 1988 and 1999, respectively, were chosen. Furthermore, in the absence of actual data, approval data were used for some countries.

Table II.6. Geographical concentration of foreign affiliates in selected manufacturing industries,^a by technological intensity, 1999
(Share of total number of affiliates)

Share of industry total	High technology		Medium technology		Low technology	
	Semiconductors	Biotechnology	Automobile	TV and radio receivers	Food and beverages	Textile
Top 3 host countries	0.496	0.627	0.294	0.356	0.237	0.287
Top 5 host countries	0.629	0.710	0.440	0.502	0.353	0.401
Top 10 host countries	0.787	0.852	0.710	0.696	0.561	0.601
Top 20 host countries	0.945	0.953	0.884	0.893	0.747	0.795
<i>Memorandum:</i>						
Total number of foreign affiliates ^b	272	169	1296	253	2250	1445
Total number of host countries	31	28	55	36	101	77

Source: UNCTAD, FDI/TNC database on the basis of *Who Owns Whom CD-ROM* (Dun and Bradstreet).

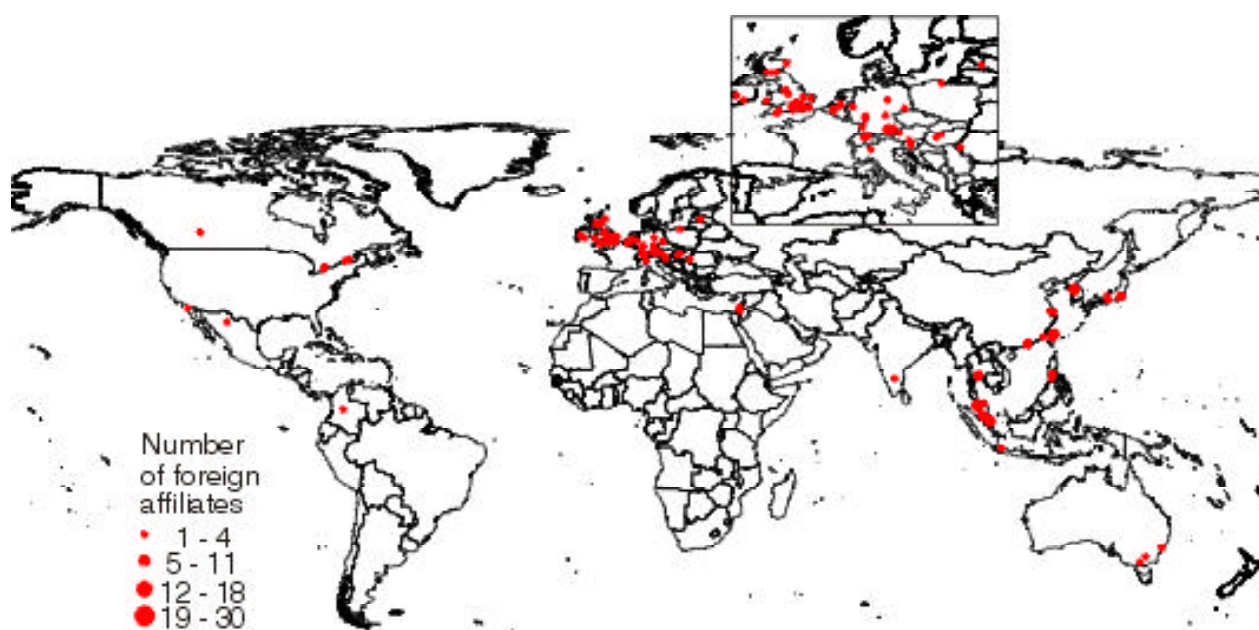
^a Calculated as the share of the number of foreign affiliates in total foreign affiliates in the world in each specific industry.

^b Identified majority-owned foreign affiliates only.

II.17-22). In high-technology industries, affiliates tend to agglomerate in selected locations in the world (figures II.17 and II.18), while foreign affiliates in the food and beverage industry are geographically more evenly spread over the globe (figure II.22).

The different degree of concentration of FDI by industry reveals that the distribution of FDI by industry at the regional and at the national levels is uneven. Within countries the locations hosting a significant number of affiliates in high-technology industries are also limited. This

Figure II.17. The distribution of foreign affiliates in the semiconductor industry, 1999^a



Source: UNCTAD, FDI/TNC database, on the basis of *Who Owns Whom CD-Rom 2000* (Dun and Bradstreet).

^a On the basis of 272 majority-owned foreign affiliates identified.

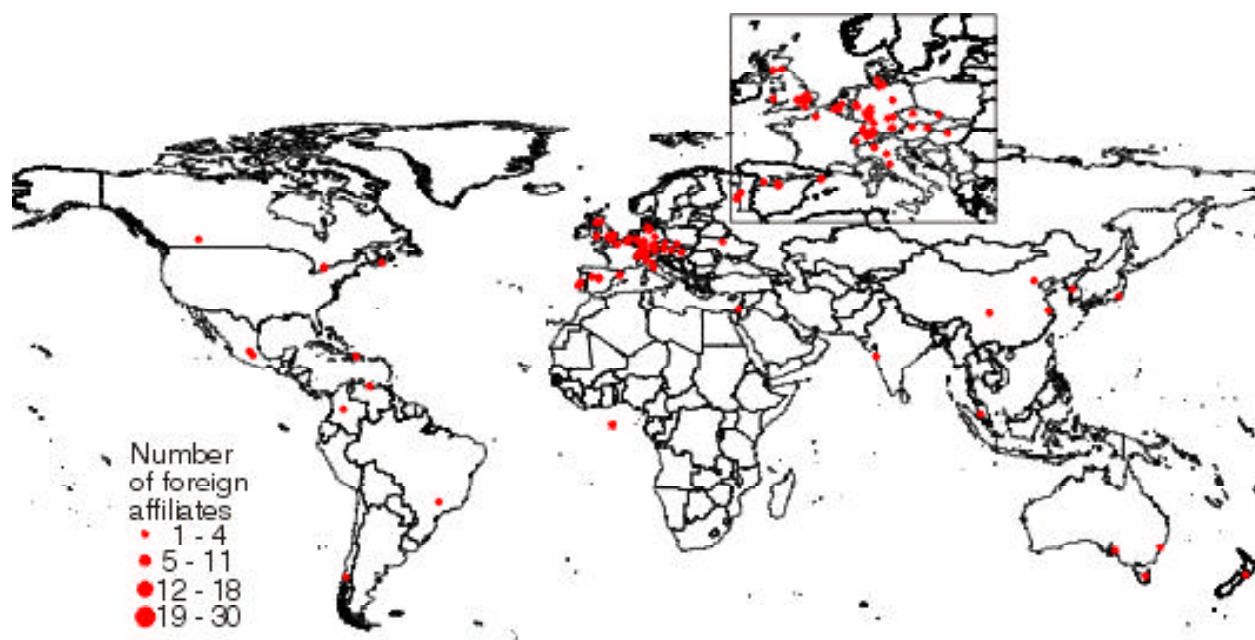
suggests that concentration at the sub-national level is relatively high in high-technology industries. These observations confirm that only locations with technological capabilities can receive high-technology FDI, and this has not changed over the years: the mapping of foreign affiliates in 1985 show patterns similar to those in 1999 (annex figure A.II.1-II.2). On the other hand, in the case of low-technology industries, foreign affiliates were already quite spread out over the globe in 1985, more so than those in medium- or high-technology industries (annex figure A.II.3-II.6). This spread, however, is not as pronounced today.

Industrial patterns of FDI location are changing over time. The concentration of outward FDI within the Triad has remained stable over time across industries and sectors. However, there has been a large increase of outward FDI in manufacturing from developing countries between 1988 and 1999 (annex tables A.II.1 and A.II.2). Interestingly, resource-rich developing countries only account for a small share of outward FDI in the extractive sector,

suggesting that the availability of natural resources is not by itself sufficient to lead to the development of internationally competitive firms.

The dominance of developed countries as destinations for FDI has been accentuated between 1988 and 1999 in most industries (annex tables A.II.3 and A.II.4). In electrical and electronic equipment and in motor vehicles and transport equipment, developing countries accounted for about 25 and 37 per cent of world inward FDI stocks, respectively, in 1988, and for 36 and 12 per cent in 1999. This may reflect the diminishing role played by the low cost of unskilled labour and by protected markets in attracting new FDI in these industries in developing countries. It does not mean, however, that established TNC bases in the developing world in electronics or automobiles are being closed. It may also reflect M&As in these industries (particularly automobiles) aiming to rationalize and cut back capacity rather than to expand facilities.

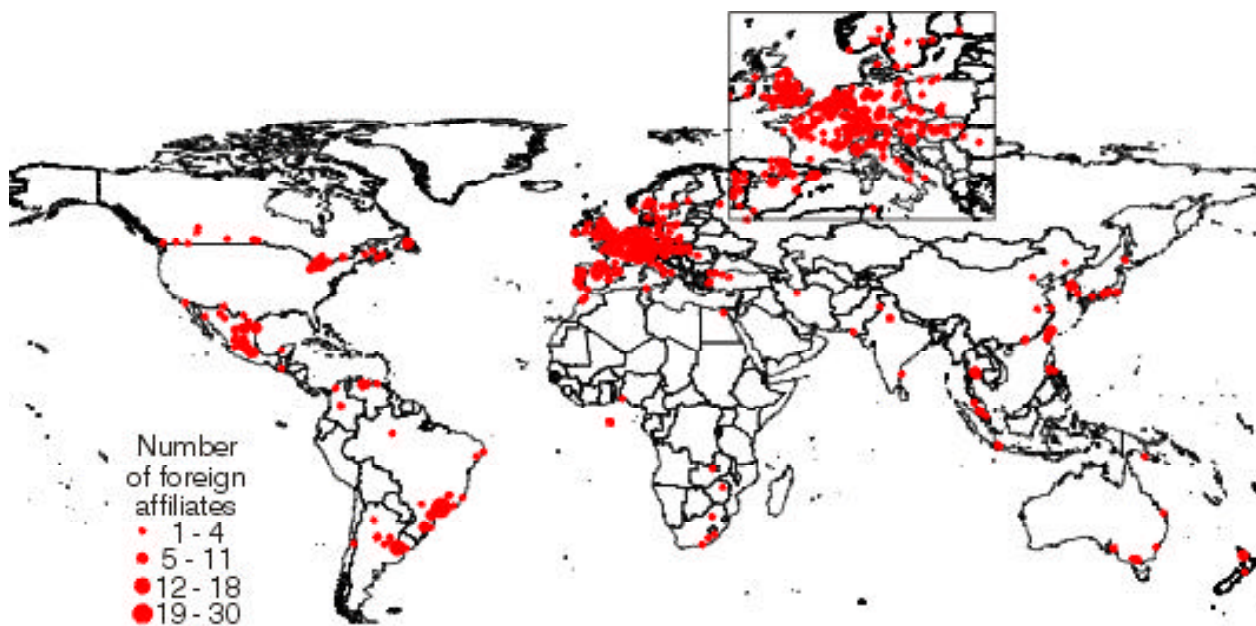
Figure II.18. The distribution of foreign affiliates in the biotechnology industry, 1999^a



Source: UNCTAD, FDI/TNC database, on the basis of *Who Owns Whom CD-Rom 2000* (Dun and Bradstreet).

^a On the basis of 169 majority-owned foreign affiliates identified.

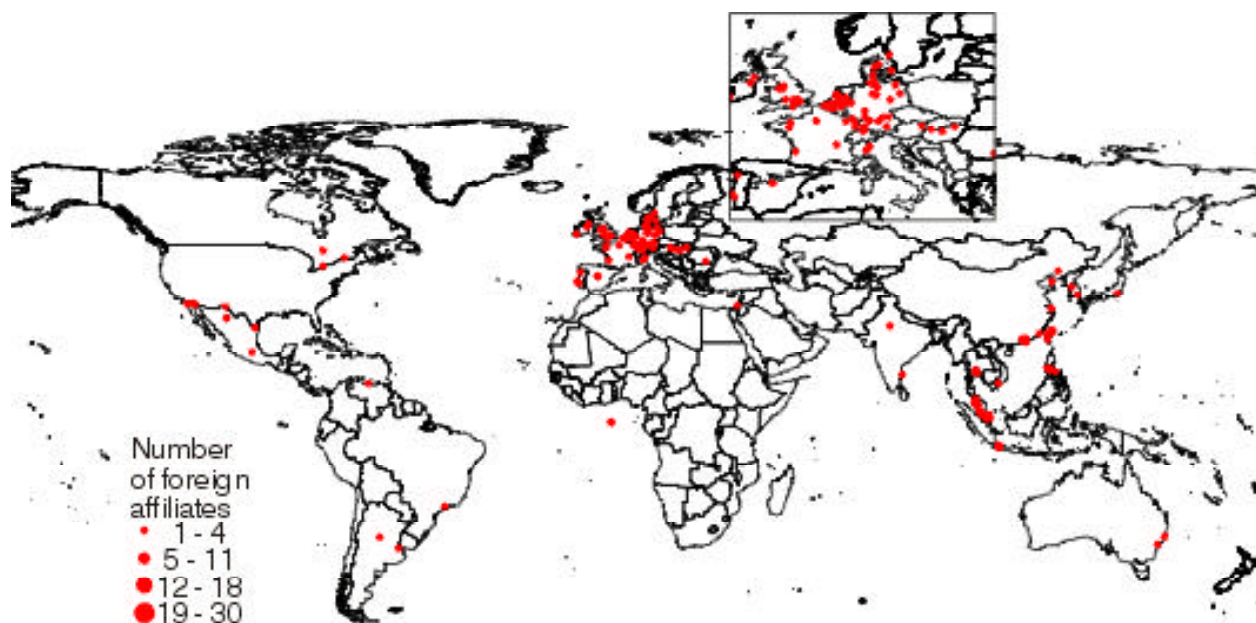
Figure II.19. The distribution of foreign affiliates in the automobile industry, 1999^a



Source: UNCTAD, FDI/TNC database, on the basis of *Who Owns Whom CD-Rom 2000* (Dun and Bradstreet).

^a On the basis of 1,296 majority-owned foreign affiliates identified.

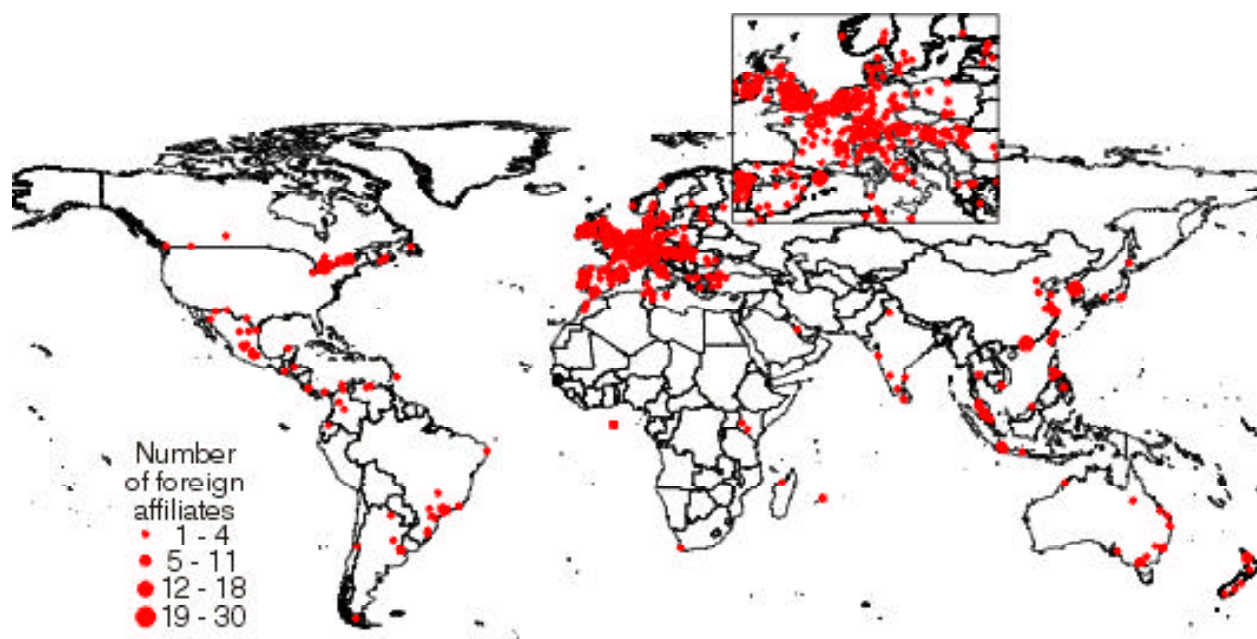
Figure II.20. The distribution of foreign affiliates in the TV and radio receivers industry, 1999^a



Source: UNCTAD, FDI/TNC database, on the basis of *Who Owns Whom CD-Rom 2000* (Dun and Bradstreet).

^a On the basis of 253 majority-owned foreign affiliates identified.

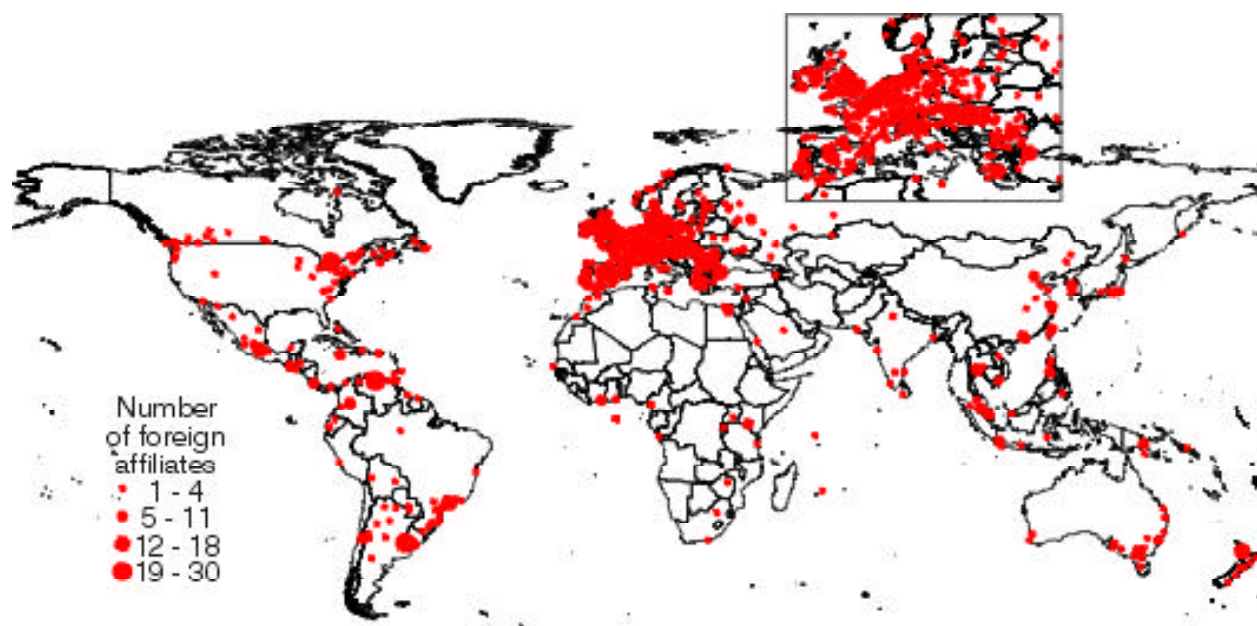
Figure II.21. The distribution of foreign affiliates in the textiles and clothing industry, 1999^a



Source: UNCTAD, FDI/TNC database, on the basis of *Who Owns Whom CD-Rom 2000* (Dun and Bradstreet).

^a On the basis of 1,455 majority-owned foreign affiliates identified.

Figure II.22. The distribution of foreign affiliates in food and beverage industry, 1999^a



Source: UNCTAD, FDI/TNC database, on the basis of *Who Owns Whom CD-Rom 2000* (Dun and Bradstreet).

^a On the basis of 2,245 majority-owned foreign affiliates identified.

The industrial distribution of FDI stocks in manufacturing differs considerably between developed and developing countries. In the former countries, chemicals is the largest recipient industry in the manufacturing sector, accounting for one-fifth of total FDI stock in manufacturing in 1999, a share twice as high as the second largest recipient industry, motor vehicles and transport equipment (annex table A.II.4). But the most dynamic industry in the developed world is motor vehicles and transport equipment, which tripled its share of total manufacturing FDI stocks between 1988 and 1999 (annex tables A.II.3 and A.II.4). Not surprisingly, the share of low-technology manufacturing has diminished in importance in developed countries. By contrast, inward investment in developing countries remains concentrated in less technology-intensive industries. In Latin America and the Caribbean food and beverages, as well as chemicals, are large recipient industries in manufacturing. Chemicals, and electrical and electronic equipment are the largest recipients in developing Asia. These industries continue to dominate inward FDI in manufacturing. Meanwhile, the relative importance of manufacturing as a whole fell considerably in Latin America and the Caribbean (from two-thirds of total FDI stock in 1988 to only one-third by the end of 1990s), while it remained stable in developing Asia (at 60 per cent).

The evidence suggests that TNCs in some industries tend to cluster in relatively small localities, often near local firms and other institutions. Biotechnology and microelectronics (box II.3) are examples. TNCs sometimes also develop new clusters in host countries that may be joined later by indigenous firms. In the United Kingdom, for example, Japanese automobile companies formed their own local clusters – Nissan in northeast England and Toyota in Derby (Dunning, 2000). In developing countries, the electronics industry in Penang, Malaysia, is an example (box II.4). Or they may join existing clusters and come to dominate them over time. This is illustrated by the City of London (box II.5) and by the media cluster of central London, which foreign firms have helped to transform into the second largest concentration of media activity in the world after Hollywood (Nachum and Keeble, 2000a, 2000b).

The attraction of TNCs to local clusters also reflects the dynamic comparative advantages of host countries. When clusters lose their competitive advantage, activities may move elsewhere.¹²

To conclude, traditional explanations for FDI location have largely focused on the factors affecting *national* location-specific advantages. While these are certainly important, it is becoming clear that more attention has to be paid to location-specific features related to *clusters* at the sub-national level. Agglomeration economies, in other words, have a significant impact on the location decisions of TNCs (Head et al., 1995, 1999; Smith and Florida, 1994). It is not only countries as a whole that compete for FDI, but also particular geographical sites within them. This has important policy implications, addressed below in the conclusions of this part of this report.

2. The location of corporate functions

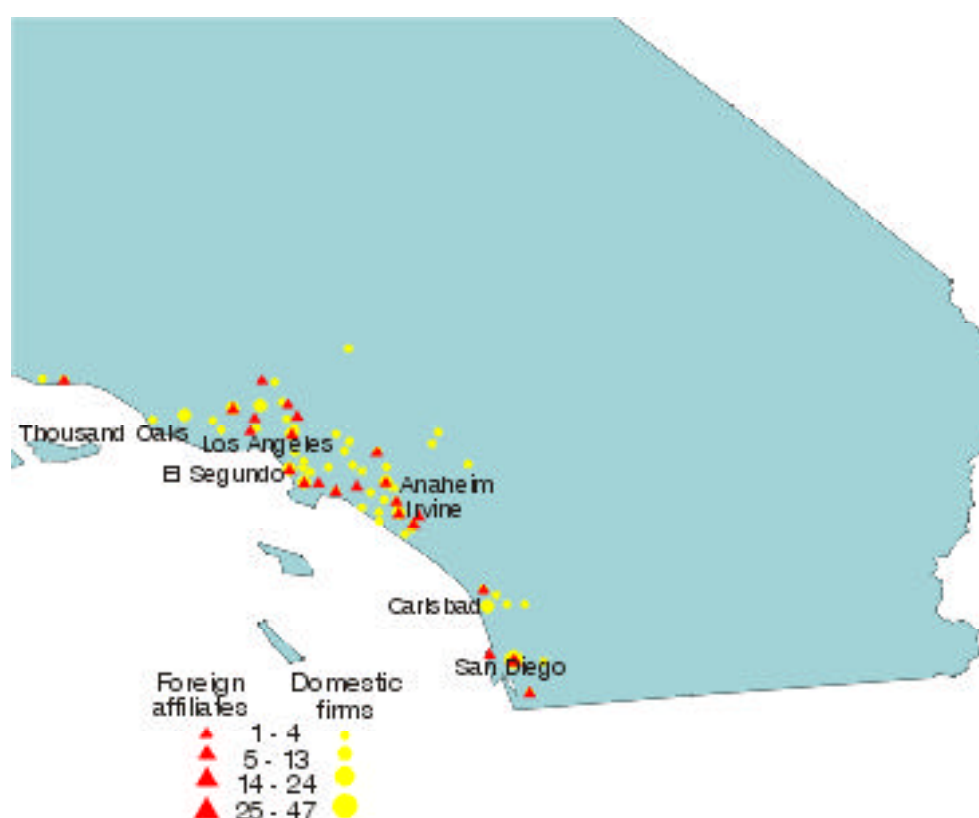
The location factors mentioned above also affect the *functions* performed abroad by foreign affiliates. TNCs, by definition, place some productive functions in host countries: resource-seeking ones locate extraction functions, and manufacturing ones locate production functions, abroad. TNCs serving host country markets place their necessary marketing and distribution functions abroad, traditionally focused on specific (limited) market segments. Historically, strategically critical corporate functions like design, R&D, strategic and financial management or the procurement of core inputs have been kept at headquarters. It is possible in theory, however, for a TNC to place each function in a different location to take advantage of different characteristics and thus optimize efficiency for the company as a whole. There is growing evidence that this is taking place.

However, not every function can be located abroad with equal ease. Some are best located in geographical proximity with each other (and near advanced economic or innovation centres), while others can be efficiently dispersed. Some need to be located close to the corporate decision-

Box II.3. FDI in high technology industries in California

A primary motive for FDI in California is to access the pool of knowledge and skills available there. Foreign firms investing in this cluster come from countries at various levels of technological development. Investors establish R&D facilities in the cluster and draw upon the knowledge-rich environment to upgrade their technological capabilities (Saxenian, 1994; Best, 2000). A number of foreign affiliates are located in this cluster (box figure II.3.1).

Box figure II.3.1. Location of foreign affiliates and domestic firms in the microelectronics industry in California, United States, 1999



Source: UNCTAD, FDI/TNC database, on the basis of *Who Owns Whom CD-Rom 2000* (Dun and Bradstreet).

The cardiovascular medical products industry in Orange County in southern California, a highly innovative research and production centre for cardiovascular products and related devices, is another example of a cluster that has attracted foreign investors. Some affiliates started with greenfield plants close to existing firms, others tapped directly into the knowledge base by acquiring successful start-up firms. The presence of large foreign firms like Siemens and Hoffmann-La Roche, in turn, has drawn the cluster into a global network of linkages, further raising its competitiveness by broadening its industry base and contributing to the generation of external economies (De Vet and Scott, 1992).

In both of these cases, TNCs are instrumental in tapping, inducing and sustaining agglomeration. TNCs buy material and service inputs, with affiliates and local firms establishing interlinkages of functional and spatial interdependence (Scott, 1992).

Source: UNCTAD.

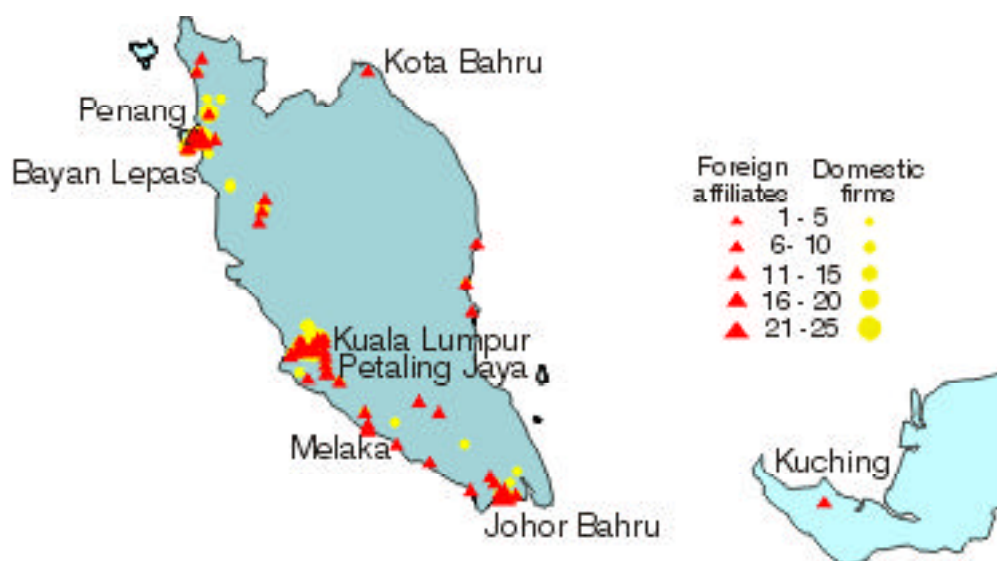
Box II.4. FDI in the electronics industry in Penang, Malaysia

Although the electronics cluster in Penang was initiated by the Government, it was largely developed by TNCs that have struck roots in the local economy. The cluster began when foreign electronics firms set up assembly plants in the early 1970s, attracted by the cheap, trainable and English-speaking labour force (UNCTAD, 2000c). The success of the early investors led to a steady stream of new TNCs, many of them global players in the electronics industry.

While foreign firms still dominate this cluster (box figure II.4.1), it has over the years contributed to the development of local suppliers, notably in areas such as metal stamping and precision tools, contract manufacturing and assembly operations, production of plastics and packaging materials. Most of these suppliers have been spin-offs from TNCs, with former employees leaving after acquiring technical and marketing expertise to set up their own firms (UNCTAD, 2000c). Some TNCs encouraged and supported these spin-offs with know-how and purchase contracts, and have retained significant linkages with them (Driffield and Mohd Noor, 1999).

The development of the cluster has been strongly supported by the local authorities. The Penang Development Corporation is playing a proactive role in attracting investors, supporting local suppliers and building support institutions for training and so on (see Part Two).

Box figure II.4.1. Location of foreign affiliates and domestic firms in the electronics industry in Malaysia, 1999



Source: UNCTAD, FDI/TNC database, on the basis of *Who Owns Whom CD-Rom 2000* (Dun and Bradstreet).

Source: UNCTAD.

making centre, while others do not. Some enjoy large scale-economies and so need to reach a critical minimum size to serve global or regional needs efficiently; others can be divided into discrete stages and be located far apart according to cost considerations. All these factors are, moreover, changing over time. The maturing of international

networks and new communications and organizational technologies are altering the optimal location of each function. The need for proximity has diminished with the ability to link sites across the globe in real time. Specialized skills are more readily available, and in some cases their cost can be far lower, in some host countries. The need to tap new

Box II.5. FDI in financial services in the City of London

The City of London is an interesting case of foreign firms joining a traditional cluster, initially benefiting from it and later coming to dominate it. The origins of the City of London as a cluster of finance-related activities date back several centuries (Nachum, 2000). Financial TNCs started to enter the cluster in the 1980s, at that time dominated by competitive, internationally-oriented and often very large United Kingdom firms. The main reason for the entry of foreign firms was to gain access to the intangible (but immobile) assets and externalities contained in this concentration. Physical proximity was essential for this.

Over the years, the foreign players increased their standing and acquired many incumbent firms. The dominant players in the City are today foreign-owned. The London affiliates typically occupy central positions within their corporate systems, often having managerial responsibility for the global operations of the parent companies or acting as European headquarters.

There were 537 foreign banks in London in 2000, constituting about two-thirds of all authorized banks based in the City of London. The combined assets of foreign banks in London in 1999 amounted to £1,386 billion, compared with £1,254 billion in the case of United Kingdom banks (British Invisibles, 2001).

Foreign banks (initially overwhelmingly of United States origin) have been operating in London for over a century, but have arrived in large numbers only since the 1950s. Their presence has significantly increased from the 1980s onwards; nearly a half of them (44 per cent) were established after 1980. A large part of this growth resulted from investment by Japanese banks.

Although attracted to the cluster of local firms and by the strong economies of agglomeration that it provided, the competitiveness of this cluster is largely dependent upon the performance of foreign, rather than indigenous, firms.

Source: UNCTAD.

sources of innovation can make it imperative to place advanced technological functions in several locations. The old model of TNCs retaining critical functions at headquarters and letting affiliates reproduce other functions in each host country is giving way to a more coherent and integrated location pattern (*WIR93*).

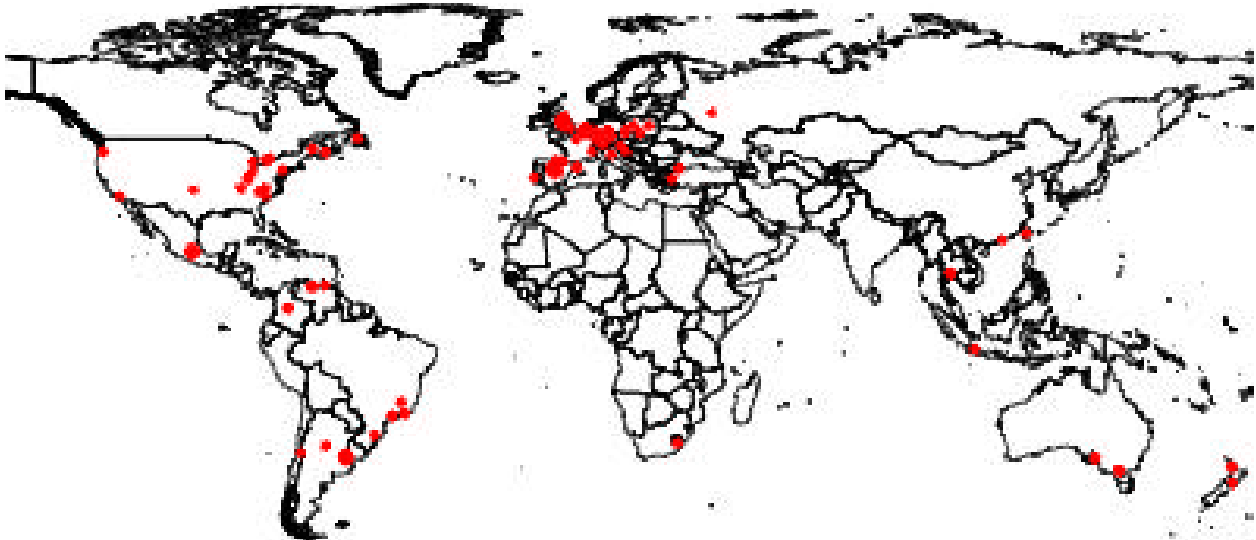
The automobile (figure II.23) and electronics industries (figure II.24) provide good examples. Special service functions like R&D, finance, insurance and so on are being placed in a few locations, while production is scattered over a larger geographical range in different regions. The pattern of distribution, marketing and sales differs between the two industries. In automobiles, most marketing affiliates are located close to major markets, reflecting a separation between manufacturing and sales. In electronics, production units also often undertake sales activities; thus, there are not as many affiliates engaged purely in the latter function as in the case of the

automobile industry. A comparison of the current patterns in the distribution of functions in these industries with those prevailing in 1985 shows a distinct evolution in the establishment of foreign affiliates (annex figures A II.7 and A.II.8). In 1985, few R&D, other professional services and financial services affiliates were located abroad in either of the two industries. They were established only relatively recently. Equipment and part suppliers had followed automobile companies abroad by 1985, but they were not as dispersed as today. Similarly, only few foreign affiliates were engaged in distribution, marketing and sales in the electronics industry at that time. This suggests that integrated international production systems were not yet well established in the mid-1980s.

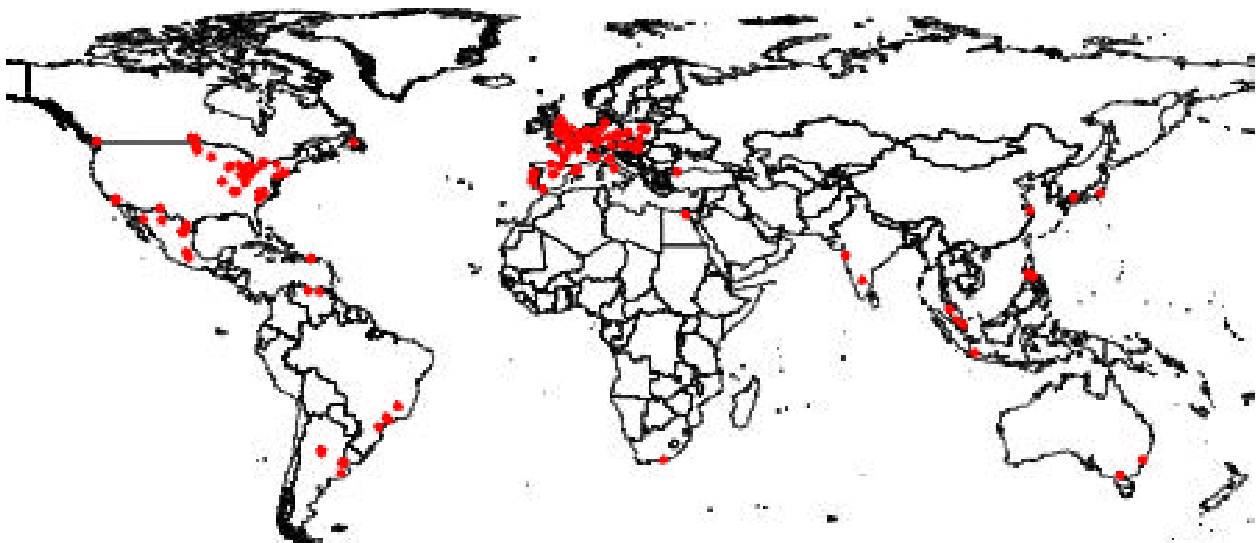
Regional headquarters. TNCs sometimes separate managerial from other functions and establish regional headquarters overseas. These regional headquarters are given an important administrative or

Figure II.23. The distribution of foreign affiliates of the largest ten automobile TNCs,^a by function, 1999

Assembly



Equipment and part supplies



Distribution, marketing and sales

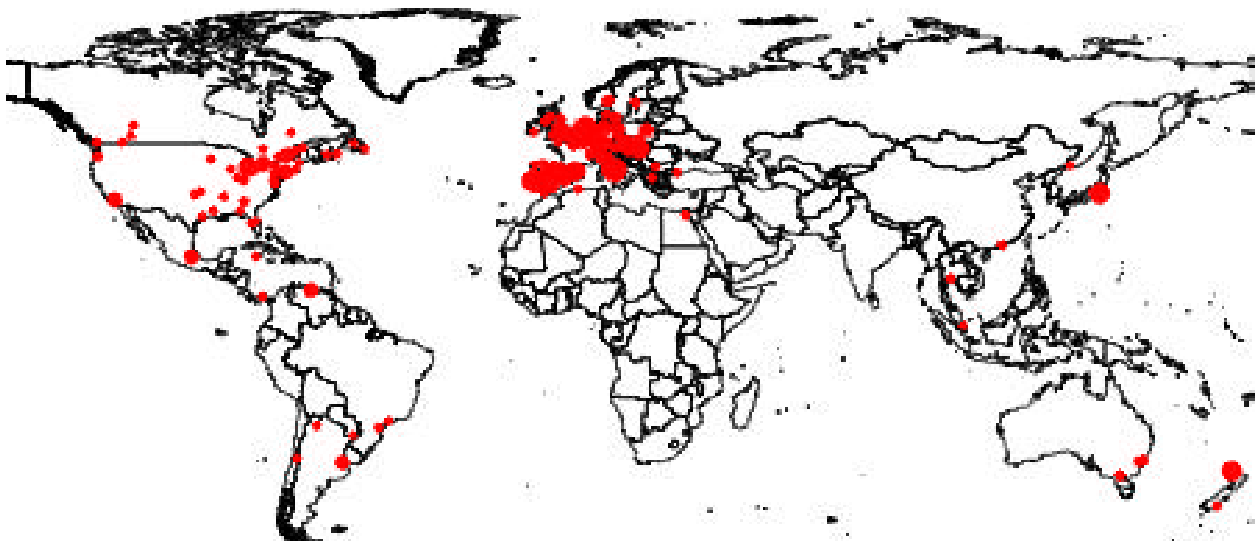
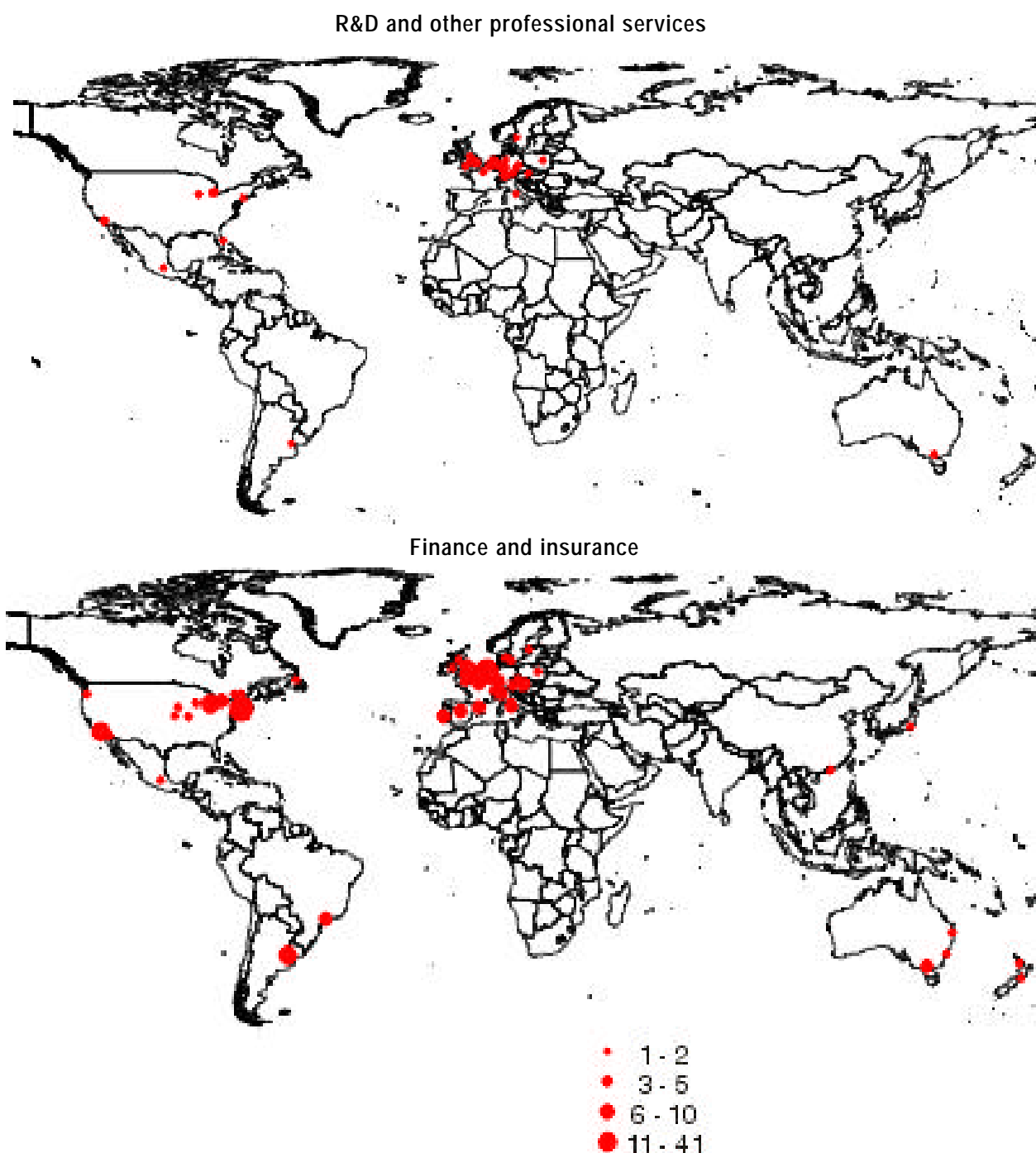


Figure II.23. The distribution of foreign affiliates of the largest ten automobile TNCs,^a by function, 1999



Source: UNCTAD, FDI/TNC database, based on *Who Owns Whom CD-Rom 2000* (Dun and Bradstreet).

^a On the basis of 1,775 majority-owned foreign affiliates identified for ten large automobile TNCs (DaimlerChrysler Ag, Ford Motor Company Inc, General Motors Corporation, Giovanni Agnelli E C. Societa' In Accomandita Per Azioni (FIAT), Honda Motor Co. Ltd., Nissan Motor Co. Ltd., Peugeot Sa, Renault, Toyota Motor Corp. and Volkswagen Ag.).

Note: The SIC codes used for the different functions are the following:

Assemblers: 3711-3713.

Production equipment and parts: 3519-3592, 3824, 3999, 2221-3499, 3613-3699 and 3714.

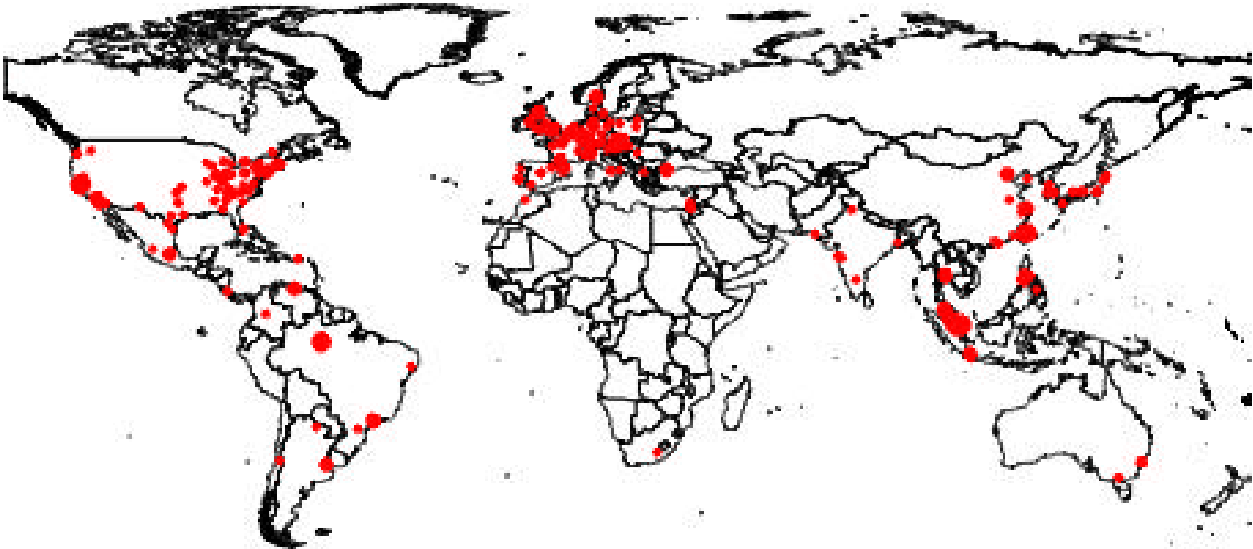
Distribution, communication and wholesale/retail: 4013-4789, 4813-484, 5012-5013, 5511-5599 and 7513-7515.

Research and development (R&D) and professional services: 8731-8734, 8711-8721 and 8741-8742.

Finance and insurance: 6011-6411.

Figure II.24. The distribution of foreign affiliates of the largest ten electronics TNCs, ^a by function, 1999

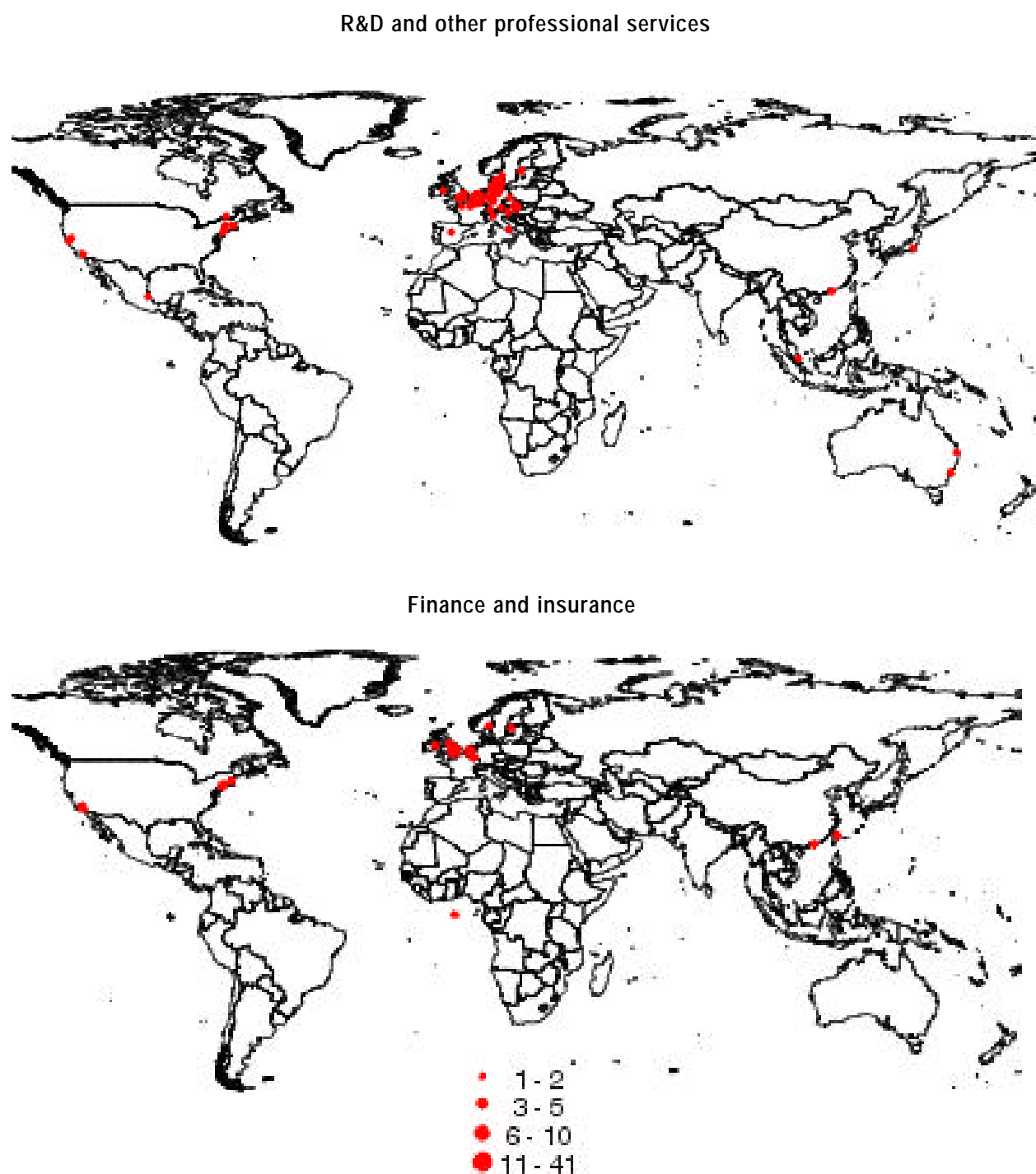
Production of equipment and parts



Distribution, marketing and sales



Figure II.24. The distribution of foreign affiliates of the largest ten electronics TNCs, ^a by function, 1999



Source: UNCTAD, FDI/TNC database, based on *Who Owns Whom CD-Rom 2000* (Dun and Bradstreet).

^a On the basis of 1,557 majority-owned foreign affiliates identified for ten large electronics TNCs (Hitachi, Intel, Matsushita, Mitsubishi, Motorola, NEC, Philips, Siemens, Sony and Toshiba).

Note: The SIC codes used for the different functions are the following:
 Production of equipment and parts: 3519-3592, 3824, 3999, 2221-3499, 3613-3699 and 3714.
 Distribution, communication and wholesale/retail: 4013-4789, 4813-484, 5012-5013, 5511-5599 and 7513-7515.
 Research and development (R&D) and professional services: 8731-8734, 8711-8721 and 8741-8742.
 Finance and insurance: 6011-6411.

organizational role in a particular geographic area, and are regarded by host countries as a valuable function to attract. Regional headquarters need a strategic location from a communications point of view, in order to keep in close contact with other affiliates, access to high quality services and a ready supply of advanced skills, especially in information processing. Their need to collect information requires interaction with other regional organizations, leading to strong agglomeration tendencies.

The development of the European Single Market and the rapid growth of South-East Asian economies have stimulated TNCs to establish regional headquarters in these areas. United States TNCs have been establishing European headquarters for some time. A number of Japanese TNCs are following this trend, setting up regional European headquarters. More than 400 of some 23,000 Japanese foreign affiliates in the world acted as regional headquarters by 1997; the United States, Singapore, the United Kingdom and Hong Kong, China, in that order, hosted two-thirds of the total (Toyo Keizai, 1998). In the Americas, more than 70 per cent of Japanese manufacturing plants are engaged in some regional management functions (table II.7).

Two of the most successful economies to attract regional headquarters in Asia are Hong Kong, China and Singapore: Hong Kong, China was, in 2000, the regional headquarters for some 855 firms. Among them were 212 United States TNCs, followed by Japanese, United Kingdom and Chinese TNCs (table II.8). Even firms from Singapore established regional headquarters there, with their number doubling during the past five years. Reflecting the economy's characteristics, more than 40 per cent of the foreign affiliates with regional headquarters status were engaged in trade, followed by business services and financial services (table II.8). Singapore began to attract regional headquarters actively when it introduced, in 1996, various incentives under an International Business Hub Programme.¹³ By end-2000, some 200 foreign affiliates there had regional headquarters status; in 2000 alone, 20 TNCs were awarded that status. They include major TNCs such as 3M, ABB, BMW, Caltex, Compaq, General Motors, Hilton, IBM, Johnson Controls, Matsushita, Motorola, Nokia, Philips, Reuters and UPS.¹⁴ A regional headquarters strategy is attractive for a country in that it gives it a strategic position in the corporate systems of TNCs and wins favourable recognition in the international investment community (Dicken and Kirkpatrick, 1991).

Table II.7. Corporate networks of Japanese affiliates in the Americas, 1999^a
(Number)

Economy	Regional headquarters and managerial offices	Sales offices	Final production sites	Parts and materials production	R&D and design centres
United States	897	877	887	446	580
Canada	39	223	157	48	4
Mexico	57	138	136	62	26
Brazil	53	94	77	10	40
Puerto Rico	-	1	-	-	-
Dominican Republic	-	-	1	-	-
El Salvador	-	2	2	-	-
Honduras	-	2	2	-	-
Costa Rica	-	3	3	2	-
Panama	-	5	-	-	-
Argentina	18	33	29	1	-
Colombia	1	6	-	-	-
Chile	1	8	1	-	-
Venezuela	16	19	16	-	-
Peru	1	3	1	-	-
Barbados	-	-	1	-	-
Unspecified	-	5	-	1	-

Source: UNCTAD, based on JETRO, 2000.

^a On the basis of 1,223 plants, each of which may be engaged in more than one activity.

R&D. While R&D is subject to the same factors that are driving the globalization of other TNC activities, there is a widespread impression that there is greater "stickiness" in relocating innovation activity abroad than in other functions. Not only are there large transaction, communication and coordination costs in reproducing R&D activities abroad, there are strong synergies between corporate R&D and the science and production system around it. These external economies add to

the inertia in setting up innovation functions abroad (Porter, 1990).

However, that impression appears to be largely based on evidence from the United States. It does not necessarily apply to other home countries. In fact, smaller home countries in Europe internationalized their R&D many decades ago. Taking patents registered by TNCs in the United States by their head offices and affiliates abroad as an indicator of the international spread of innovative activity, the data show that many TNCs perform significant proportions of R&D abroad (table II.9).¹⁵ There was extensive overseas patenting by TNCs even in the inter-war period (Cantwell, 1995). But national tendencies differed. French, Swiss and German TNCs had relatively low shares

(3-6 per cent) of patents taken out by affiliates. At the other end, Belgian TNCs had 95 per cent of patents arising abroad. United Kingdom, Italian and Swedish TNCs ranked in the middle (with 28-31 per cent) and United States TNCs had moderately low shares (7 per cent). In the period 1940-1968, affiliate patenting rose for most of Europe (from 12 to 27 per cent), but not for the United States (it fell to 4 per cent). After 1970, foreign patent shares of United States TNCs rose steadily, exceeding those in the inter-war period by 1991. TNCs from European countries continued to have generally higher ratios; the average declined till 1978 but has risen consistently since. In contrast, Japanese TNCs have continued to keep most innovation activity at home (table II.9).

Table II.8. Regional headquarters of foreign firms in Hong Kong (China), by home economy and by industry, 1996-2000^a
(Number)

Home economy/industry ^b	1996	1997	1998	1999	2000
Number of regional headquarters	816	903	819	840	855
<i>By home economy</i>					
United States	188	219	194	205	212
Japan	122	121	109	114	127
United Kingdom	90	86	95	82	81
China	85	117	70	69	69
Germany	40	53	59	55	50
Netherlands	30	27	27	32	31
Switzerland	27	30	28	32	29
France	26	35	38	36	28
Virgin Islands	16	21	9	17	22
Canada	12	17	13	19	21
Singapore	10	18	17	20	21
Taiwan Province of China	25	28	26	28	21
Others	158	163	144	139	149
Total ^c	829	935	829	848	861
<i>By industry</i>					
Wholesale/retail, import/export	408	435	412	444	422
Business services	151	167	162	166	187
Finance and banking	113	103	93	107	108
Manufacturing	110	119	84	75	86
Transport and related services	73	88	55	57	55
Construction, architectural and civil engineering	45	41	50	32	33
Real estate	26	34	25	23	20
Telecommunication services	15	12	10	10	16
Insurance	16	13	15	16	14
Restaurants and hotels	9	9	4	6	5
Diversified	3	12	8	10	11
Others	9	11	15	3	19
Total ^d	978	1 044	933	949	976

Source: Data provided by Census and Statistics Department, Government of Hong Kong, China.

^a As at 1 June.

^b Ranked in an ascending order.

^c The totals are higher than the actual numbers due to the inclusion of joint ventures undertaken by two or more foreign investors.

^d The totals are higher than the actual numbers due to the fact that some companies are engaged in more than one line of business.

There is a general tendency for TNCs to set up R&D facilities overseas according to the technological strengths of host countries, initially to adapt technologies to local conditions and later to tap into its innovation capabilities and the use of skilled scientists (Cantwell and Santangelo, 1998). One manifestation of this trend is to set up affiliates abroad primarily to undertake R&D: such affiliates now exist in more than 45 host countries (figures II.25-27), compared to 26 in 1985 (annex figures II.A.9-11).

While there is a growing tendency to locate R&D abroad, most such facilities are concentrated in a few countries, mostly highly industrialized. Thus, while Japanese TNCs have established R&D centres in four countries in the Americas, most of them are in the United States (table II.7). Data on overseas R&D by United States TNCs in 1994 show that 77 per cent of the R&D conducted in developing countries was concentrated in just four economies: Brazil, Mexico, Singapore and Taiwan Province of China (*WIR99*). The reasons are clear. Innovation concentrates where there is a high density of specialized resources for innovation: a large supply of highly trained

scientists, engineers and technicians, proximity to universities and other research institutions. More important, perhaps, there has to be a presence of other innovative enterprises that create cluster benefits.

There is also a growing tendency for R&D in some industries, such as automobiles, to work jointly with first-tier suppliers. This increases the tendency to concentrate in established locations. Mapping foreign affiliates engaged in R&D and universities shows that the two tend to cluster close to each other (figures II.25-27).¹⁶

Foreign R&D at the sub-national level is more concentrated geographically than most other functions. In the United States, for instance, two-thirds of the Japanese R&D facilities (157 out of 251 R&D facilities) were located in four states (California, Michigan, New Jersey and Massachusetts) in 1998, while only one-quarter of employees of Japanese manufacturing affiliates (98,300 of 422,400 employees) were located there.¹⁷ In the United Kingdom, R&D is disproportionately concentrated in South-East England (Dicken, 1998; Cantwell and Iammarino, 2000). In the developing world, there are almost no clusters

of foreign R&D facilities, except for Hong Kong, China, Singapore and recently Zhong Guancun, a suburb of Beijing (figure II.27).¹⁸ There are, however, many individual R&D facilities, mainly serving production units (Reddy, 2000).

Production. Foreign production affiliates are among the earliest – after sales – to be established in most countries. They are also more dispersed geographically than other functions (again, apart from sales). As noted, traditional location patterns, serving protected markets and accessing natural resources or low-cost unskilled labour, are changing. The need now

Table II.9. Share of United States patents of world's largest firms attributable to research in foreign locations, 1969-1995
(Percentage)

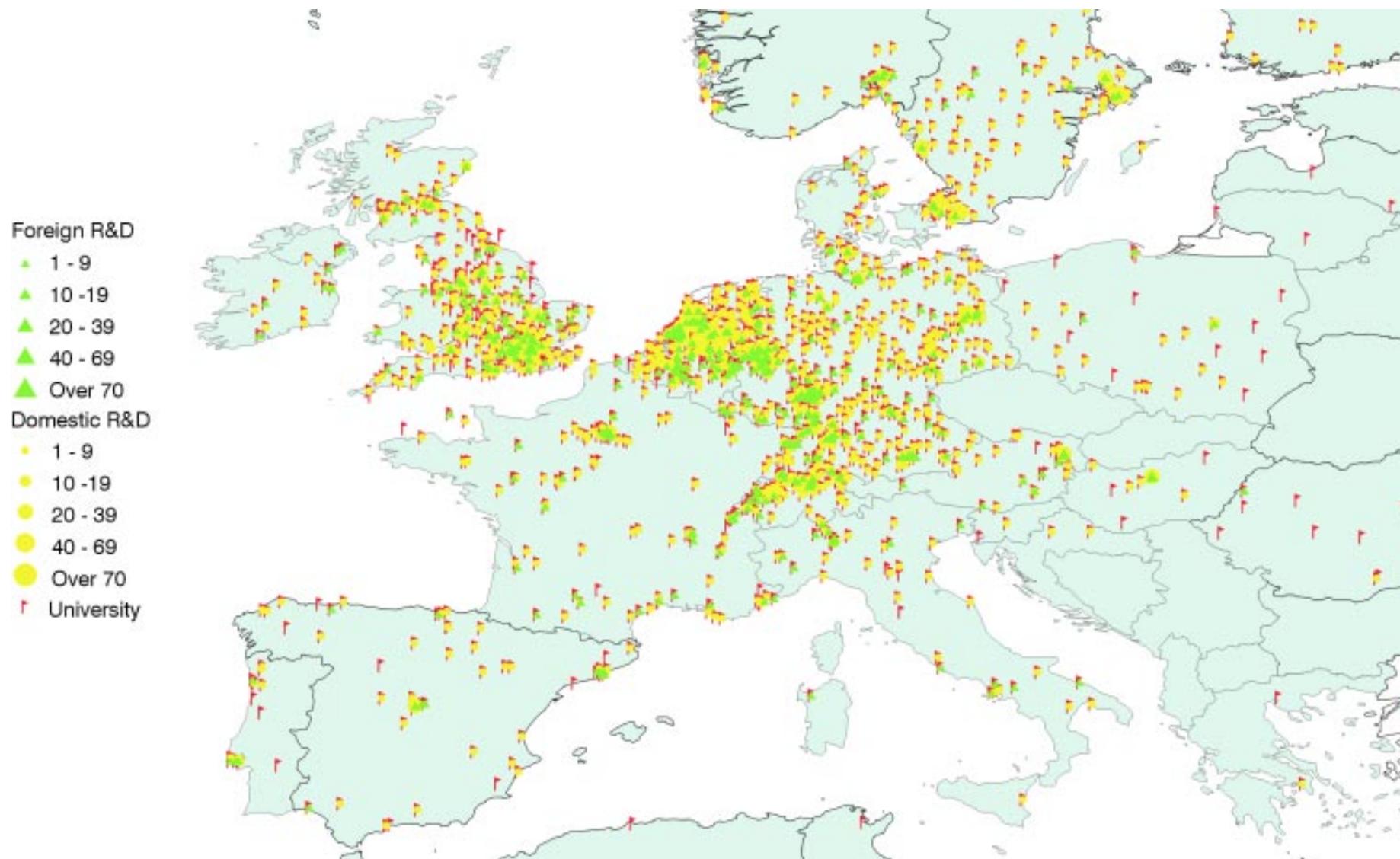
Nationality of parent firm	1969-1972	1973-1977	1978-1982	1983-1986	1987-1990	1991-1995
United States	4.96	5.89	6.40	7.53	7.91	8.62
Germany	12.77	11.05	12.07	14.47	17.05	20.72
United Kingdom	43.08	41.24	40.47	47.09	50.42	55.79
Italy	13.39	16.03	13.85	12.59	11.14	16.47
France	8.16	7.74	7.17	9.19	18.17	33.17
Japan	2.63	1.88	1.22	1.26	0.92	1.08
Netherlands	50.40	47.37	47.65	53.99	53.96	55.69
Belgium-Luxembourg	50.36	51.11	49.28	58.15	47.53	53.25
Switzerland	44.36	43.63	43.78	41.59	42.99	52.47
Sweden	17.82	19.90	26.20	28.94	30.60	42.42
Austria ^a	5.06	16.76	19.84	11.82	8.00	-
Norway ^a	20.00	1.67	12.31	32.50	37.14	20.22
Finland ^a	18.87	27.11	26.89	18.67	27.94	39.49
Canada	41.19	39.30	39.49	35.82	40.12	43.96
Others	28.21	22.22	26.37	30.34	7.54	3.94
Total	10.04	10.53	10.50	10.95	11.28	11.27
Total excluding Japan	10.52	11.59	12.25	13.87	15.76	16.53
Total European countries ^b	28.01	25.19	24.52	26.95	29.99	34.78

Source: Cantwell and Janne, 1997.

^a Patents less than 50 for several periods.

^b Germany, United Kingdom, Italy, France, Netherlands, Belgium-Luxembourg, Switzerland, Sweden, Denmark, Ireland, Spain, Portugal, Greece, Austria, Norway and Finland.

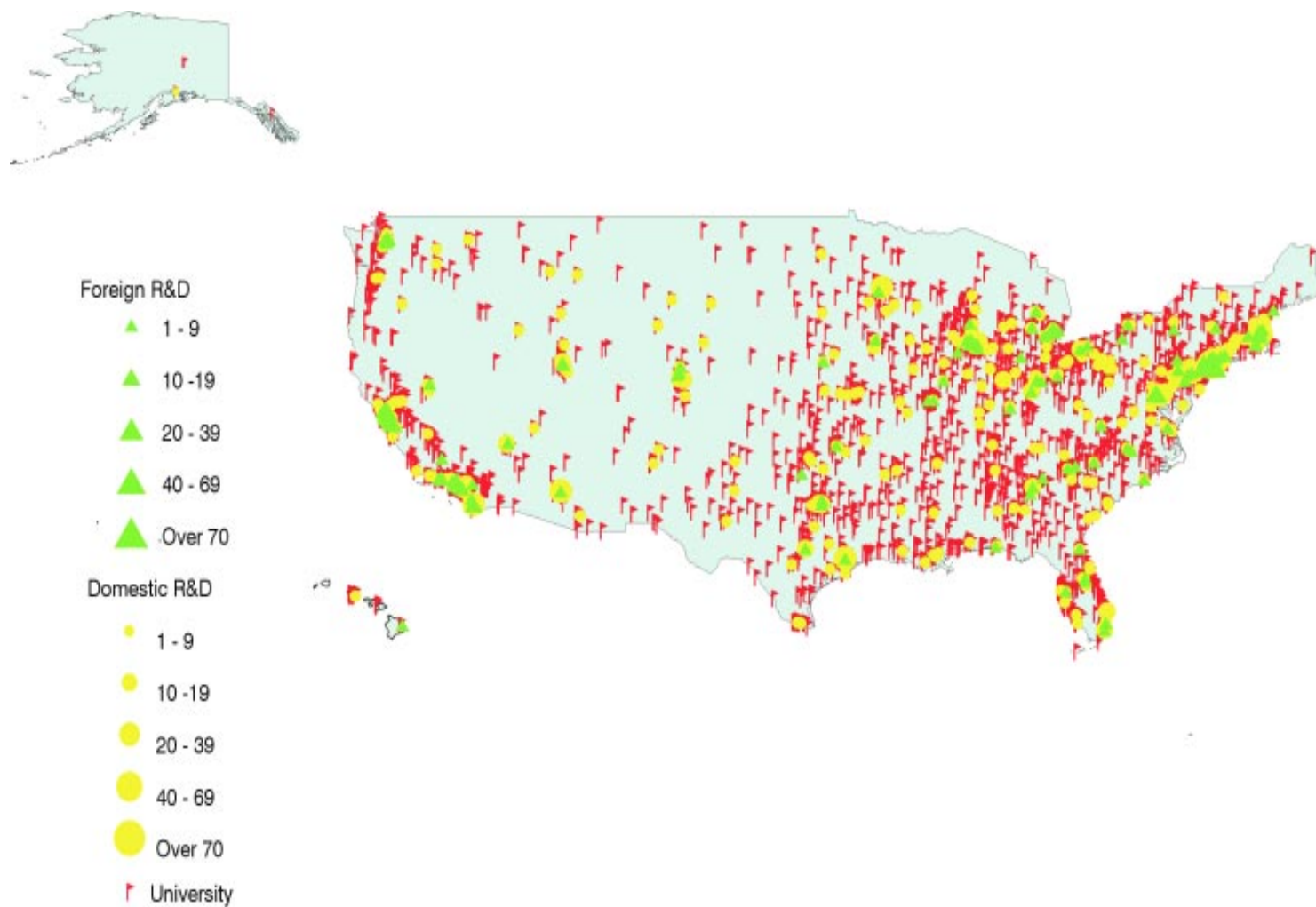
Figure II.25. The distribution of R&D facilities and location of major universities in Europe, 1999



Source: UNCTAD, FDI/TNC database, on the basis of *Who Owns Whom CD-Rom 2000* (Dun and Bradstreet).

Note: On the basis of 744 majority-owned foreign R&D facilities and 3,436 domestic R&D facilities identified.

Figure II.26. The distribution of R&D facilities and location of major universities in the United States, 1999



Source: UNCTAD, FDI/TNC database, on the basis of *Who Owns Whom CD-Rom 2000* (Dun and Bradstreet).

Note: On the basis of 357 majority-owned foreign R&D facilities and 1,476 domestic R&D facilities identified.

is for competitiveness, efficiency and flexibility. As a result, skills, advanced infrastructure, state-of-the-art logistics, supply networks and support institutions are becoming key determinants of location.

These determinants vary according to industry, and also according to where affiliates are in the value chain. In integrated production systems, where affiliates are part of a complex global production strategy, the functions entrusted to specific units vary greatly. Those in less industrialized locations are assigned simpler tasks like assembly and packaging. Those in advanced locations are assigned more skill and technology intensive tasks. Where production involves close supply linkages and the operation of just-in-time delivery, affiliates have to be located in dense networks of efficient suppliers and infrastructure providers. The automobile industry provides a prominent example of an integrated production system. In Thailand, automobile part makers (both domestic and foreign) are closely linked to automobile assemblers. Similarly in Brazil, all automobile makers have invited their core suppliers to be in close proximity to their plants.

Integrated production systems have grown in regions that have reduced trade barriers between member countries and have strong industrial capabilities. The essence of this organizational form is geographical specialization by different parts of a TNC production system (e.g. components, sub-assemblies, semi-finished products). In the EU, for instance, TNCs in the automobile industry have built closely knit supply chains across several countries. A similar system is emerging in NAFTA, and increasingly in ASEAN (figure II.28).

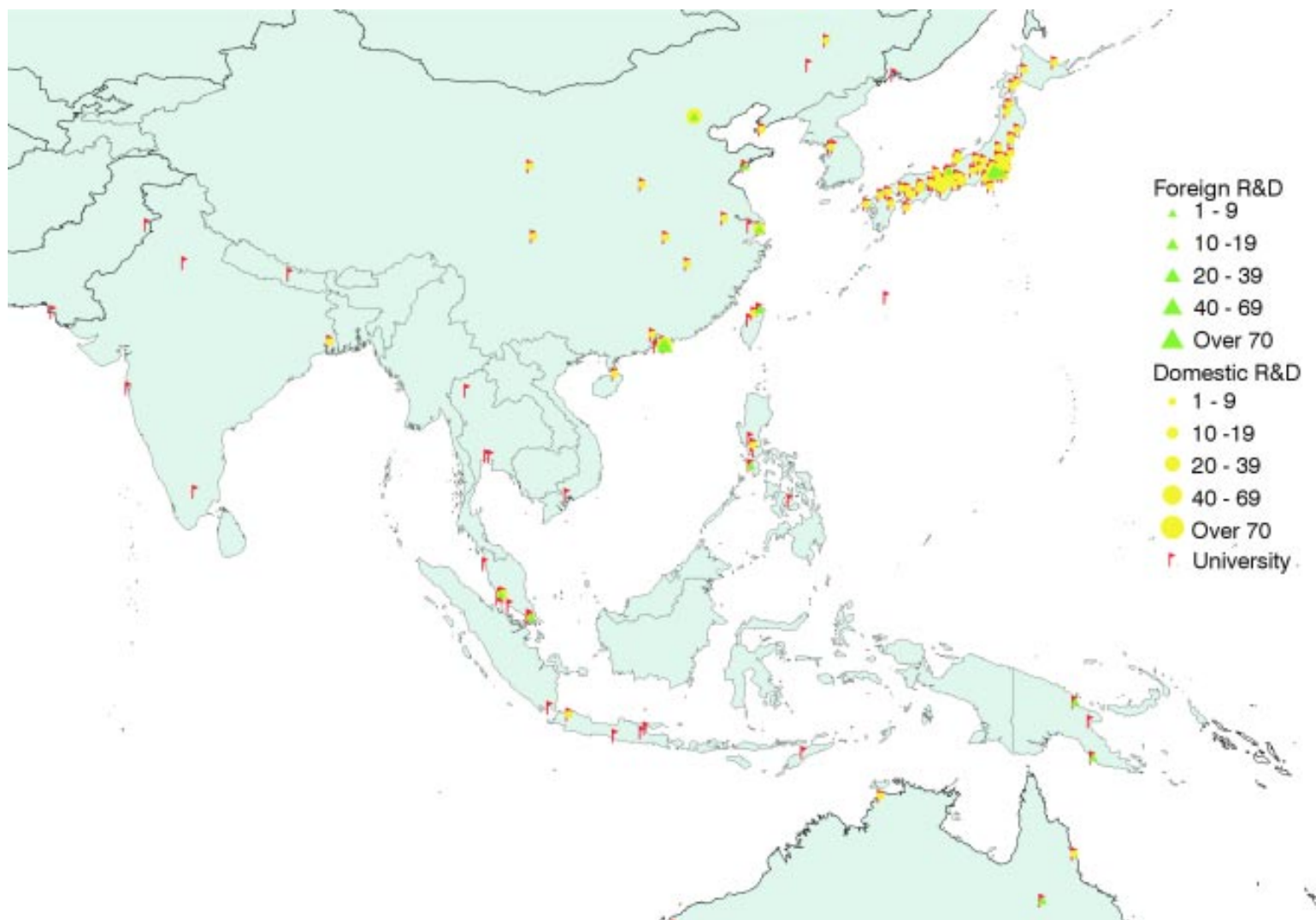
There is a different form of integrated system that is more global than regional. The semiconductor industry, for instance, operates an integrated chain from North America and Europe to Israel and South-East Asia. Such systems make economic sense where the product has a very high value-to-weight ratio and can be produced in enormous volumes. For “heavier” products, or those less amenable

to scale economies, global systems are not economical.

Marketing and sales. Marketing and sales operations have to be located close to (actual and potential) customers, and are the most geographically dispersed of all TNC functions. There is little need to be near other firms or clusters, though, of course all firms serving a national market tend to locate near major consumer centres. Large TNCs have sales units in virtually every country (see table II.7 for Japanese manufacturing affiliates in the Americas and figure II.23 for the automobile industry). Still, there are marketing and sales functions of firms selling to other businesses, rather than final consumers. Such sales operations may also tend to cluster in areas hosting regional or global purchasing operations of major firms.

The growing role of international production in the world economy is enlarging the geographical spread of TNCs' international production systems. The changing strategies of TNCs, including an increasing trend towards organizing trade and production in integrated international production systems, especially in certain major industries, is changing the patterns of FDI. The mapping of FDI patterns – in the aggregate, by industry and by functional activity – in this chapter throws light on the location of FDI and its industrial and functional distribution across countries. International production continues to be concentrated geographically – at the regional, national as well as the sub-national levels. Cross-border M&As as corporate strategies of TNCs and clusters as locational advantages play an increasing role in determining the location of international production and, hence, FDI patterns. Understanding the patterns of FDI and the driving forces of production location in different industries, and within international production systems, is important for formulating effective strategies and policies with respect to FDI.

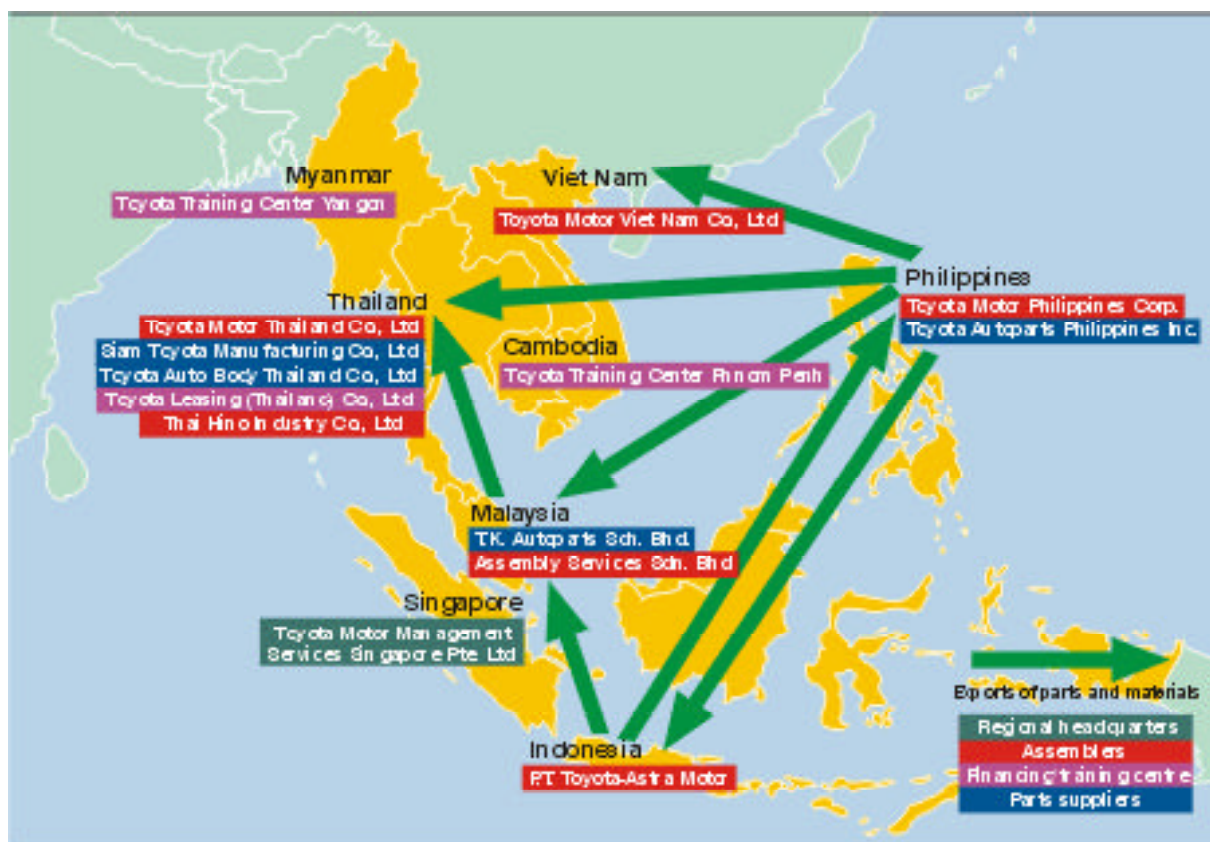
Figure II.27. The distribution of R&D facilities and location of major universities in Asia, 1999



Source: UNCTAD, FDI/TNC database, on the basis of *Who Owns Whom CD-Rom 2000* (Dun and Bradstreet).

Note: On the basis of 155 majority-owned foreign R&D facilities and 432 domestic R&D facilities identified.

Figure II.28. Functional integration of foreign affiliates of Toyota Motor Corporation in ASEAN, 2000



Source: UNCTAD, based on information from www.global.toyota.com.

Notes

- 1 Stocks are normally expressed in book value. During 1985 and 1999 the import price index (the deflator commonly used to revalue international transactions) increased by only 8 percentage points. If world FDI stock is deflated by this amount to approximate FDI stock in real prices, the figures would not change very much.
- 2 In the absence of appropriate stock variables measuring size of economies, GDP – a flow variable – is used to compare with FDI stock.
- 3 UNCTAD's data on cross-border M&As include deals resulting in the acquisition of more than 10 per cent equity share only. The value is on a completion basis, rather than on an announcement basis. However, the data suffer from other problems that make it impossible to compare the value of M&As directly with FDI on a balance-of-payments basis. These problems include: the transaction value of M&As is not necessarily paid out in the year a deal is completed; the financing of M&As is not necessarily cross-border (funds can be raised in domestic as well as international financial markets); and values are not on a net basis, i.e. not as differences between gross acquisitions and divestment abroad. For details, see *WIR00*, chapter IV.
- 4 The differences in the nature of investment between foreign and domestic investment should also be noted in this comparison. The bulk of the former investment in developed countries now takes place through cross-border M&As, which have different impacts from domestic – real – investment.
- 5 This is measured by the ratio of the share of partner region b in total trade (exports and imports) of region a to the share of the region b in world trade.
- 6 FDI intensity is measured by the ratio of the share of partner b in FDI stock of region a to the share of the region b in world FDI stock.
- 7 This may also happen in developed countries. For example, in the automobile and electronics industries in the United Kingdom, local firms (for various reasons) were unable to take advantage of the location advantages of the country. Exports today are dominated by foreign firms (notably Japanese), which were able to use their ownership advantages to exploit the location advantages of the United Kingdom.
- 8 See, for instance, the case studies in UNCTAD, 2000b.
- 9 The literature is quite extensive. See, e.g. Bell and Albu, 1999; Markusen, 1996; Nadvi, 2001; OECD, 1994; Porter, 1998; Pyke and Sengenberger, 1992; Pyke, Becattini and Sengenberger, 1990; Rabellotti, 1997; Saxenian, 1994; Schmitz, 1995, 1999.
- 10 Biotechnology industry here includes in vitro/in vivo diagnostic substances industry (SIC code 2835) and biological products industry (SIC code 2836).
- 11 On the basis of 272 majority-owned foreign affiliates identified in the semiconductor industry and 2,245 in food and beverages.
- 12 Examples of such shifts include the cutlery industry of Sheffield (United Kingdom), which was displaced by a similar cluster in Solingen (Germany). Producers of low- and medium-priced watches in the Jura area in Switzerland also came under great pressure, first from Japanese companies and then from a cluster of Hong Kong companies (Enright, 2000).
- 13 Under this Programme foreign affiliates awarded regional headquarters status are taxed at a concessional rate of 10 per cent on the income arising from the provision of approved services for up to 10 years; an extension is possible. Other income from their overseas affiliates may also be eligible for effective tax relief.
- 14 Information obtained from Singapore Economic Development Board (www.sedb.com.sg).
- 15 Patents as a measure of technological activity have advantages over R&D expenditures. Patents data are available for longer periods, in more detail and for more countries. In any case, both give very similar geographical distributions (Patel and Pavitt, 1991).
- 16 R&D affiliates are defined here as those engaged in commercial physical and biological research (SIC 8731), commercial non-physical research (SIC 8732), non-commercial research organizations (SIC 8733) and testing laboratories (SIC 8734).
- 17 Data provided by United States Department of Commerce, Bureau of Economic Analysis.
- 18 Altogether foreign R&D facilities in developing countries were located in just 18 countries in 1999.

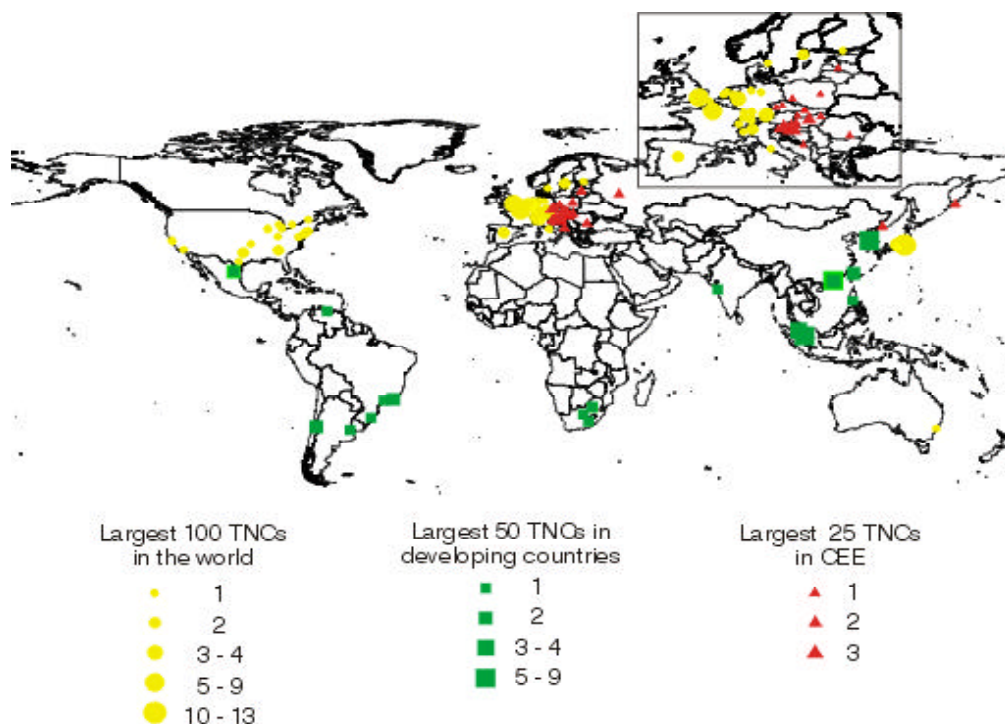
CHAPTER III. THE LARGEST TRANSNATIONAL CORPORATIONS



As in earlier years, this report reviews recent developments in the universe of the largest non-financial TNCs¹ ranked by their foreign assets: the 100 largest worldwide (table III.1), the largest 50 TNCs from developing countries (table III.9) and the largest 25 TNCs from the economies in transition of Central and Eastern Europe (table III.16). The role of the top 100 is illustrated by the fact that their foreign assets, sales and employment in 1999 accounted for roughly 12 per cent, 16 per cent and 15 per cent of the estimated foreign assets, sales and employment of the total number of the TNCs in the world,² which now comprises more than 60,000 companies. And most of their foreign operations are controlled by TNCs headquartered in a handful of countries

(figure III.1 and chapter II). Similarly, the location of TNCs based in other groups of economies (developing countries and those of Central and Eastern Europe) is geographically limited (figure III.1). However, the role of the largest TNCs from developing countries is increasing: as noted in chapter I, the share of the developing economies in outward FDI has risen from some 3 per cent at the beginning of the 1980s to some 9 per cent in 2000. The third group of TNCs, the 25 largest TNCs from Central and Eastern Europe, underlines some interesting developments in what used to be centrally planned economies. A number of companies of these countries are becoming increasingly transnational. They are about to establish themselves as prominent players of their own with international production networks.

Figure III.1. Location of the largest 100 TNCs in the world, the largest 50 TNCs in developing countries and the largest 25 TNCs based in Central and Eastern Europe,^a 1999



Source: UNCTAD.

^a On the basis of the largest 100 TNCs in the world, the largest 50 TNCs in developing countries, and the largest 25 TNCs in Central and Eastern Europe (including the countries of the former Yugoslavia) in this report (Chapter III).

Table III.1. The world's 100 largest TNCs, ranked by foreign assets, 1999
(Billions of dollars and number of employees)

Ranking 1999 by:	Ranked in 1998 by:		Assets										TNI ^a
	TNI ^a	Foreign assets	Corporation	Country	Industry ^b	Foreign	Total	Foreign	Total	Foreign	Total	Employment		TNI^{a}
1	75	1	General Electric	United States	Electronics	141.1	405.2	32.7	111.6	143 000	310 000	36.7	
2	22	5	Exxon/Mobil Corporation	United States	Petroleum expl./ref./distr.	99.4	144.5	115.5	160.9	68 000	107 000	68.0	
3	43	3	Royal Dutch/Shell Group	The Netherlands/ United Kingdom	Petroleum expl./ref./distr.	68.7	113.9	53.5	105.4	57 367	99 310	56.3	
4	83	2	General Motors	United States	Motor vehicles	68.5	274.7	46.5	176.6	162 300	398 000	30.7	
5	77	4	Ford Motor Company	United States	Motor vehicles	..	273.4	50.1	162.6	191 486	364 550	36.1	
6	82	6	Toyota Motor Corporation	Japan	Motor vehicles	56.3	154.9	60.0	119.7	13 500	214 631	30.9	
7	51	9	DaimlerChrysler AG	Germany	Motor vehicles	55.7	175.9	122.4	151.0	225 705	466 938	53.7	
8	21	32	TotalFina SA	France	Petroleum expl./ref./distr.	..	77.6	31.6	39.6	50 538	74 437	70.3	
9	50	7	IBM	United States	Computers	44.7	87.5	50.4	87.6	161 612	307 401	53.7	
10	18	8	BP	United Kingdom	Petroleum expl./ref./distr.	39.3	52.6	57.7	83.5	62 150	80 400	73.7	
11	2	10	Nestlé SA	Switzerland	Food/beverages	33.1	36.8	45.9	46.7	224 554	230 929	95.2	
12	45	11	Volkswagen Group	Germany	Motor vehicles	..	64.3	47.8	70.6	147 959	306 275	55.7	
13	11	-	Nippon Mitsubishi Oil Corporation (Nippon Oil Co. Ltd.)	Japan	Petroleum expl./ref./distr.	31.5	35.5	28.4	33.9	11 900	15 964	82.4	
14	41	19	Siemens AG	Germany	Electronics	..	76.6	53.2	72.2	251 000	443 000	56.8	
15	90	14	Wal-Mart Stores	United States	Retailing	30.2	50.0	19.4	137.6	..	1 140 000	25.8	
16	55	-	Repsol-YPF SA	Spain	Petroleum expl./ref./distr.	29.6	42.1	9.1	26.3	..	29 262	51.6	
17	13	17	Diageo Plc	United Kingdom	Beverages	28.0	40.4	16.4	19.0	59 852	72 479	79.4	
18	59	87	Mannesmann AG	Germany	Telecommunications/engineering	..	57.7	11.8	21.8	58 694	130 860	48.9	
19	58	13	Suez Lyonnaise des Eaux	France	Diversified/utility	..	71.6	9.7	23.5	150 000	220 000	49.1	
20	32	23	BMW AG	Germany	Motor vehicles	27.1	39.2	26.8	36.7	46 104	114 952	60.9	
21	3	15	ABB	Switzerland	Electrical equipment	27.0	30.6	23.8	24.4	155 427	161 430	94.1	
22	42	20	Sony Corporation	Japan	Electronics	..	64.2	43.1	63.1	115 717	189 700	56.7	
23	9	34	Seagram Company	Canada	Beverages/media	25.6	35.0	12.3	11.8	..	..	88.6
24	8	12	Unilever	United Kingdom/ The Netherlands	Food/beverages	25.3	28.0	38.4	44.0	222 614	246 033	89.3	
25	49	-	Aventis	France	Pharmaceuticals/chemicals	..	39.0	4.7	19.2	..	92 446	54.0	
26	85	24	Mitsubishi Corporation	Japan	Diversified	24.6	78.6	15.8	127.3	3 437	7 556	29.7	
27	6	27	Roche Group	Switzerland	Pharmaceuticals	24.5	27.1	18.1	18.4	57 970	67 695	91.5	
28	38	21	Renault SA	France	Motor vehicles	..	46.4	23.9	37.6	..	159 608	58.2	
29	27	18	Honda Motor Co Ltd.	Japan	Motor vehicles	24.4	41.8	38.7	51.7	..	112 200	64.7	
30	73	52	Telefónica SA	Spain	Telecommunications	24.2	64.1	9.5	23.0	..	127 193	38.0	
31	14	22	News Corporation ^d	Australia	Media/publishing	23.5	38.4	12.9	14.3	24 500	33 800	78.3	
32	44	51	Motorola Inc	United States	Electronics	23.5	40.5	18.3	33.1	70 800	128 000	56.2	
33	35	33	Philips Electronics	The Netherlands	Electronics	22.7	29.8	31.8	33.5	..	226 874	59.9	
34	68	25	Nissan Motor Co. Ltd.	Japan	Motor vehicles	..	59.7	..	58.1	..	136 397	40.7	
35	7	69	British American Tobacco Plc	United Kingdom	Food/tobacco	22.0	26.2	16.5	18.1	104 223	107 620	90.7	
36	67	38	ENI Group	Italy	Petroleum expl./ref./distr.	20.9	44.3	11.4	29.1	..	72 023	40.9	
37	79	39	Chevron Corporation	United States	Petroleum expl./ref./distr.	20.1	40.7	9.7	35.4	9 426	36 490	34.2	
38	48	74	Johnson & Johnson	United States	Pharmaceuticals	19.8	29.2	12.1	27.5	49 571	97 806	54.2	
39	52	36	Hewlett-Packard	United States	Electronics/computers	..	35.3	23.4	42.4	41 400	84 400	53.1	
40	54	29	Elf Aquitaine SA	France	Petroleum expl./ref./distr.	18.8	43.2	25.7	35.8	..	57 400	51.7	

/...

Table III.1. The world's 100 largest TNCs, ranked by foreign assets, 1999 (continued)
(Billions of dollars and number of employees)

Ranking 1999 by: Foreign assets	TNI ^a	Ranked in 1998 by:		Corporation	Country	Industry ^b	Assets		Sales		Employment		TNI ^a (Per cent)
		Foreign assets	TNI ^a				Foreign	Total	Foreign	Total	Foreign	Total	
41	33	26	33	Bayer AG	Germany	Pharmaceuticals/chemicals	18.2	31.4	20.3	29.2	64 100	120 400	60.2
42	26	47	25	Coca-Cola Company	United States	Beverages	18.0	21.6	12.4	19.8	..	37 000	65.2
43	25	42	42	Alcatel	France	Electronics	17.7	34.0	16.4	23.2	85 712	115 712	65.6
44	69	44	77	Texas Utilities Company	United States	Utility	17.3	40.7	6.8	17.1	8 590	21 934	40.4
45	86	37	78	Mitsui & Co Ltd.	Japan	Diversified	17.3	56.5	57.8	118.5	..	31 250	29.1
46	36	40	46	BASF AG	Germany	Chemicals	17.1	30.0	22.5	29.5	46 455	104 628	59.2
47	80	53	83	Vivendi SA	France	Utility/media	..	79.3	16.7	39.1	..	275 591	34.0
48	74	-	-	Hutchison Whampoa Ltd.	Hong Kong, China	Diversified	..	48.5	2.1	7.1	21 652	42 510	38.0
49	62	43	65	Peugeot SA	France	Motor vehicles	15.6	39.8	24.4	37.8	50 300	165 800	44.7
50	72	56	79	Fujitsu Ltd.	Japan	Electronics	15.3	42.3	17.5	43.3	72 851	188 573	38.4
51	81	50	82	Fiat Spa ^c	Italy	Motor vehicles	15.2	80.4	16.5	45.2	98 589	221 319	33.4
52	65	65	88	Veba Group	Germany	Diversified	15.1	55.8	24.5	39.1	49 590	131 602	42.4
53	97	46	89	Sumitomo Corporation	Japan	Trading/machinery	15.0	47.6	12.6	103.5	..	33 057	16.1
54	66	41	69	Du Pont (E.I.) de Nemours	United States	Chemicals	14.8	40.8	13.3	26.9	36 000	94 000	41.3
55	96	58	97	Hitachi Ltd.	Japan	Electrical equipment/electronics	14.6	91.5	15.4	77.7	..	323 827	17.9
56	71	55	72	Matsushita Electric Industrial Co. Ltd.	Japan	Electronics	13.9	72.5	34.0	68.9	143 773	290 448	39.3
57	1	57	2	Thomson Corporation	Canada	Media/publishing	13.6	13.8	5.5	5.8	37 000	40 000	95.4
58	60	70	57	Dow Chemical Company	United States	Chemicals	13.3	33.5	14.5	25.9	21 850	51 012	46.2
59	5	62	6	Holcim (ex Holderbank)	Switzerland	Construction materials	12.5	13.6	7.3	8.1	36 719	39 327	91.8
60	99	45	96	Itochu Corporation	Japan	Trading	12.4	55.9	18.4	115.3	..	40 683	13.7
61	40	92	55	Canon Electronics	Japan	Electronics/office equipment	12.3	25.4	18.0	25.7	42 787	81 009	57.1
62	78	73	49	Carrefour SA	France	Retailing	12.3	33.7	14.3	37.7	..	297 290	34.7
63	24	59	36	McDonald's Corporation	United States	Eating places	12.1	21.0	8.1	13.3	260 000	314 000	67.1
64	17	64	18	Michelin	France	Rubber/tires	..	17.3	11.9	13.8	..	130 434	73.8
65	16	67	20	Glaxo Wellcome Plc	United Kingdom	Pharmaceuticals	11.8	16.8	11.8	13.8	44 976	60 726	76.6
66	94	66	95	RWE Group	Germany	Utility/diversified	10.9	57.4	7.9	35.1	..	155 576	22.9
67	88	68	90	Marubeni Corporation	Japan	Trading	10.8	54.2	31.9	99.3	..	8 618	26.0
68	70	78	71	Procter & Gamble ^e	United States	Chemicals/cosmetics	10.7	32.1	18.4	38.1	..	110 000	40.3
69	31	80	37	Ericsson LM	Sweden	Electronics/telecommunications	10.6	23.8	20.4	25.3	59 250	103 290	60.9
70	46	60	48	Robert Bosch GmbH	Germany	Motor vehicle parts	..	20.9	18.5	28.0	96 970	194 889	55.3
71	19	63	22	Stora Enso OYS	Finland	Paper	..	16.2	10.0	10.7	..	40 226	72.5
72	61	-	-	AES Corporation	United States	Utility	10.2	20.9	2.1	3.3	..	14 500	45.5
73	28	75	30	Compagnie Spa	Italy	Food	..	18.6	8.0	11.8	25 177	36 916	63.8
74	100	76	100	SBC Communications	United States	Telecommunications	..	83.2	..	49.5	..	204 530	12.9
75	10	77	16	Akzo Nobel NV	The Netherlands	Chemicals	10.2	12.0	12.6	15.4	55 100	68 000	82.6
76	53	84	32	Royal Ahold NV	The Netherlands	Retailing	10.0	14.3	23.3	33.8	59 428	308 793	52.7
77	95	81	98	Southern Company	United States	Utility	9.6	38.4	1.5	11.6	6 928	32 949	19.8
78	23	72	29	Danone Groupe SA	France	Food/beverages	9.5	15.1	8.9	13.4	..	75 965	67.8
79	87	85	84	Merck & Co	United States	Pharmaceuticals	9.1	35.6	7.0	32.7	23 824	62 300	28.4
80	4	82	4	Electrolux AB	Sweden	Electrical equipment/electronics	9.1	9.8	13.9	14.5	84 035	92 916	93.2
81	98	49	92	Nissin Iwai	Japan	Trading	9.1	38.5	12.9	68.7	..	18 446	15.8
82	15	86	15	L'Air Liquide Groupe	France	Chemicals	..	10.5	4.6	6.1	..	29 000	76.9

/...

Table III.1. The world's 100 largest TNCs, ranked by foreign assets, 1999 (concluded)
(Billions of dollars and number of employees)

Ranking 1999 by: Foreign assets	Ranked in 1998 by:		Assets		Sales		Employment		TNI ^a (Per cent)	
	TNI ^a	Foreign assets	Foreign	Total	Foreign	Total	Foreign	Total		
		Corporation	Country	Industry ^b	Foreign	Total	Foreign	Total		
83	91	-	United States	Electronics	8.1	35.0	1.0	9.2	19 570	24.3
84	84	87	Venezuela	Petroleum expl./ref./distr.	8.0	47.3	13.3	32.6	47 760	29.8
85	29	31	Italy	Chemicals/agri/industry	..	16.7	7.9	11.5	29 550	62.2
86	64	30	Germany	Diversified	..	34.2	11.1	19.6	81 809	43.3
87	34	54	Australia/ United Kingdom	Mining	7.4	12.1	5.3	9.3	26 938	60.2
88	30	83	Sweden	Motor vehicles	..	17.7	13.4	15.1	53 600	61.4
89	63	-	France	Steel manufacturing	7.4	15.6	7.0	14.5	64 118	43.5
90	93	95	United States	Petroleum expl./ref./distr.	..	26.3	2.0	12.5	16 600	23.3
91	20	-	United States	Pharmaceuticals	7.2	19.3	14.3	15.1	58 000	71.6
92	89	-	United States	Electronics	7.2	32.1	12.2	38.3	153 000	25.9
93	39	90	United States	Packaging	7.2	11.5	3.9	7.7	35 959	57.5
94	76	-	Germany	Retailing	7.2	19.1	17.3	44.1	171 440	36.4
95	56	-	United States	Petroleum expl./ref./distr.	..	29.0	25.2	35.0	18 443	51.2
96	12	-	United Kingdom	Food/beverages	7.1	8.0	5.3	6.8	37 425	81.9
97	92	100	Japan	Electronics	7.1	53.8	17.5	54.2	190 870	23.3
98	57	88	Japan	Motor vehicles	7.0	25.4	16.8	29.1	26 749	51.2
99	37	93	Japan	Rubber/tires	7.0	15.7	11.6	18.3	101 489	58.9
100	47	-	Mexico	Construction material	7.0	11.9	2.5	4.8	20 902	54.6

Source: UNCTAD/Erasmus University database.

^a TNI is the abbreviation for 'transnationality index'. The transnationality index is calculated as the average of three ratios: foreign assets to total assets, foreign sales to total sales and foreign employment to total employment.

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

^c Foreign assets, sales and employment are outside Europe.

^d Foreign assets, sales and employment are outside Australia and Asia.

^e Foreign assets, sales and employment are outside North-America.

^f Foreign employment is outside Europe, Australia and New Zealand.

.. Data on foreign assets, foreign sales and foreign employment were not made available for the purpose of this study. In case of non-availability, they are estimated using secondary sources of information or on the basis of the ratios of foreign to total assets, foreign to total sales and foreign to total employment.

Note: The list includes non-financial TNCs only. In some companies, foreign investors may hold a minority share of more than 10 per cent.

A. The 100 largest TNCs worldwide

1. Highlights

In 1999, General Electric maintained its top position among the world's 100 largest non-financial TNCs (table III.1) ranked by foreign assets. General Motors moved back to fourth position, with ExxonMobil replacing it in second place and Royal Dutch Shell remaining in third place. Overall, the ranking remained fairly stable. Only a few changes occurred among the top 10 TNCs: TotalFina moved up from thirty-second to the eighth rank and Nestlé moved down to the eleventh rank.

Thirteen new entries and exits were registered in 1999 (tables III.2 and III.3). Three departures were caused by M&As (Hoechst, Mobil and Rhone-Poulenc). Repsol (Spain) appeared for the first time in the list of the top 100, as a result of the acquisition of YPF (Argentina). For the first time since this listing has been established, three firms among the top 100 TNCs, Hutchison Whampoa, Petróleos de Venezuela (PDVSA) and Cemex, were headquartered in a developing country. PDVSA, which was also placed in the top 100 TNCs in previous years, rose seven places to take eighty-fourth position in the top 100 list. Since 1997, no

TNC from the Republic of Korea has had sufficiently large foreign assets to enter the top 100 listing.

Foreign assets. Growth in the total amount of foreign assets held by the 100 largest TNCs continued in 1999. Total foreign assets increased by 10 per cent in 1999, to \$2.1 trillion (table III.4). The TNCs that had the three most important increases in foreign assets were all petroleum companies (ExxonMobil, TotalFina and Repsol). Other companies that experienced significant increases in their foreign assets had a diversified industrial and geographical background. The same observation applies to the 10 TNCs with the largest decreases in foreign assets.

TNCs from the United States raised their share of the overall total of the foreign assets held by the world's 100 largest TNCs by about 6 per cent (table III.5). The share of EU TNCs has remained fairly stable since 1990. However, in general the larger countries of the EU (Germany, France and Spain) increased considerably their relative share within this regional group at the expense of the smaller country members. Japan, too, saw its share in ownership of foreign assets rise in the top 100 TNC listing, by about 28 per cent during the past decade, testifying to the sustained outward orientation of Japanese companies.

Table III.2. Newcomers to the world's 100 largest TNCs, ranked by foreign assets, 1999

Ranked by					
Foreign assets	TNI ^a	Corporation	Country	Industry	TNI ^a (Per cent)
13	11	Nippon Mitsubishi Oil Corporation	Japan	Petroleum expl./ref./distr.	82.4
16	54	Repsol-YPF SA	Spain	Petroleum expl./ref./distr.	51.6
25	48	Aventis	France	Pharmaceuticals/chemical	54.0
48	74	Hutchison Whampoa	Hong Kong, China	Diversified	38.0
71	61	AES Corporation	United States	Utility	45.5
82	90	Edison International	United States	Electronics	24.3
88	63	Usinor	France	Steel manufacturing	43.5
90	20	AstraZeneca Plc	United States	Pharmaceuticals	71.6
91	88	Lucent Technologies Inc.	United States	Electronics	25.9
93	75	Metro AG	Germany	Retailing	36.4
94	55	Texaco Inc.	United States	Petroleum expl./ref./distr.	51.2
95	12	Cadbury - Schweppes Plc	United Kingdom	Food/beverages	81.9
100	47	Cemex SA	Mexico	Construction	54.6

Source: UNCTAD/Erasmus University database.

^a TNI is the abbreviation for "transnationality index", which is calculated as the average of three ratios: foreign assets to total assets, foreign sales to total sales and foreign employment to total employment.

Table III.3. Departures from the world's 100 largest TNCs, ranked by foreign assets, 1999^a

Ranked in 1998 by Foreign assets		TNI ^b	Corporation	Country	Industry	TNI ^b (Per cent)
16	43		Mobil Corporation ^d	United States	Petroleum expl./ref./distr.	58.6
28	23		Hoechst AG ^c	Germany	Pharmaceuticals/chemicals	71.6
31	26		Rhone-Poulenc SA ^c	France	Pharmaceuticals/chemicals	69.1
35	28		Cable And Wireless Plc	United Kingdom	Telecommunications	67.5
48	24		Nortel Networks	Canada	Telecommunications	70.8
61	74		RJR Nabisco Holdings	United States	Food/tobacco	36.9
71	9		SmithKline Beecham Plc	United Kingdom	Pharmaceuticals	82.3
89	61		Broken Hill Proprietary	Australia	Steel manufacturing	49.3
94	99		GTE Corporation	United States	Telecommunications	16.0
96	39		Imperial Chemical Industries	United Kingdom	Chemicals	60.2
97	68		Compaq Computer Corporation	United States	Computers	42.6
98	10		SCA	Sweden	Paper	80.8
99	70		ALCOA	United States	Aluminium manufacturing	41.7

Source: UNCTAD/Erasmus University database.

^a This also includes companies that could not be considered in 1998 because of the late arrival of the response to the UNCTAD questionnaire and for which estimates could not be derived.

^b TNI is the abbreviation for "transnationality index", which is calculated as the average of three ratios: foreign assets to total assets, foreign sales to total sales and foreign employment to total employment.

^c Formed Aventis in 1999.

^d Acquired by Exxon in 1999.

Foreign sales. Total foreign sales of the world's largest 100 TNCs amounted to slightly more than \$2.1 trillion in 1999 (table III.4), increasing by 3 per cent. TNCs from the petroleum industry captured four of the ten largest increases in foreign sales, in the range of 20 - 50 per cent. As for the 10 largest decreases in foreign sales, no clear pattern can be discerned: TNCs experiencing declines came from various countries and industries.

Over the past decade, the share of the TNCs from the United States in the total foreign sales of the world's 100 largest TNCs decreased by about 5 percentage points, to around 25 per cent of the total. EU TNCs increased their relative share of foreign sales by about 5 percentage points, to almost 46 per cent. As with foreign assets, the share of TNCs headquartered in smaller European countries decreased (the only exception being The Netherlands). The overall relative share of the EU increased, mainly due to a large, increase in the German TNCs' share in the foreign sales of the top 100 TNCs: an increase of about 7 percentage points, to almost 18 per cent of the total. The Japanese relative share increased slightly to 22 per cent.

Foreign employment. For the first time, total foreign employment by the

largest TNCs decreased by about 8 per cent, whereas their total employment rose by 4 per cent (table III.4). This is a reversal of the previously observed trend of declining overall employment with rising foreign employment (figure III.2). However, diverging from the overall trend, a number of TNCs – led by McDonalds, General Motors and Siemens – added considerably to their foreign employment. Despite the large increases in foreign assets and foreign sales by a number of petroleum companies,

Table III.4. Snapshot of the world's 100 largest TNCs, 1999

(Billions of dollars, number of employees and percentage)

Variable	1999	1998	Change 1999 vs. 1998 (Per cent)
Assets			
Foreign	2 124	1 922	10.5
Total	5 092	4 610	10.5
Sales			
Foreign	2 123	2 063	3.0
Total	4 318	4 099	5.3
Employment			
Foreign	6 050 283	6 547 719	-7.6
Total	13 279 327	12 741 173	4.2
Average index of transnationality	52.6	53.9	-1.3 ^a

Source: UNCTAD/Erasmus University database.

^a The change between 1998 and 1999 is expressed in percentage points.

only one petroleum company, TotalFina, is among the TNCs showing the ten largest increases in terms of foreign employment. No Japanese company saw its foreign employment rise.

The 10 TNCs accounting for the largest declines in foreign employment differed from the 10 with the largest declines in foreign sales. One company (Bayer) is also among those recording the largest declines in foreign assets. This suggests that foreign employment, as much as total employment, evolves somewhat independently from the overall transnationalization strategy of a company.

National origin. The national origin composition of the top 100 TNCs continued to be fairly stable. Perhaps not surprisingly, 91 of the top 100 are headquartered in the Triad (EU, Japan and the United States) (table III.5). The share of the Triad among

the top 100 TNC listings has risen gradually over the past decade, mostly in favour of Japan and at the expense of some smaller industrialized countries like Belgium, Norway and New Zealand. Increasingly, TNCs from the developing economies (Hong Kong (China), Mexico and Venezuela) are emerging and rising in the list of the world's 100 largest TNCs.

Industries. In 1999, the top 100 TNCs were dominated by the same four industries as in previous years : electronics and electrical equipment, motor vehicles, petroleum exploration and distribution, and food and beverages (table III.6). Of the top 100 TNCs, 55 were in one of these industries, and 32 in the first two industries. The growth of TNCs in these industries, as represented by Ford, Siemens and Unilever, shows the dramatic geographic expansion and increased number of foreign affiliates, especially since the mid-1980s (figures III.3-

Table III.5. Country composition of the world's largest 100 TNCs by transnationality index and foreign assets, 1990, 1995 and 1999
(Percentage)

Economy	Average TNI ^a			Share in total of foreign assets of top 100			Number of entries		
	1990	1995	1999	1990	1995	1999	1990	1995	1999
European Union	56.7	66.0	58.7	45.5	43.8	43.0	48	39	46
France	50.9	57.6	55.7	10.4	8.9	11.6	14	11	13
Germany	44.4	56.0	49.6	8.9	12.2	12.3	9	9	12
United Kingdom ^b	44.4	56.0	49.6	8.9	12.2	12.3	12	10	8
The Netherlands ^b	68.5	79.0	68.2	8.9	8.2	5.3	4	4	5
Italy	38.7	35.8	50.1	3.5	2.3	2.6	4	2	4
Sweden	71.7	80.6	71.8	2.7	1.7	1.3	5	3	3
Finland	-	-	72.5	-	-	0.5	-	-	1
Spain	-	-	44.8	-	-	2.5	-	-	2
Belgium	60.4	70.4	-	1	0.9	-	1	2	-
North America	41.2	46.0	46.2	32.5	35.9	35.2	30	34	28
United States	38.5	41.9	42.7	31.5	33.3	33.3	28	30	26
Canada	79.2	76.5	92.0	1	2.7	1.9	2	4	2
Japan	35.5	31.9	38.4	12	15.1	15.4	12	17	18
Remaining countries	73.0	66.9	70.4	10	9.0	7.5	10	10	9
Switzerland	84.3	83.6	93.1	7.5	6.6	4.6	6	5	4
Australia ^b	51.8	-	69.3	1.6	-	1.5	2	3	2
Hong Kong, China	-	-	38.5	-	-	0.3	-	-	1
Mexico	-	-	54.6	-	-	0.8	-	-	1
Venezuela	-	44.4	29.8	-	0.4	0.4	-	1	1
New Zealand	62.2	-	-	0.5	-	-	1	-	-
Norway	58.1	-	-	0.4	-	-	1	-	-
Republic of Korea	-	47.7	-	-	0.7	-	-	1	-
Total of all listed TNCs	51.1	51.5	52.6	100	100	100	100	100	100

Source: UNCTAD, 1993 and Erasmus University database.

^a TNI is the abbreviation for "transnationality index", which is calculated as the average of three ratios: foreign assets to total assets, foreign sales to total sales and foreign employment to total employment.

^b Due to dual nationality, Royal Dutch Shell and Unilever are counted as an entry for both the United Kingdom and The Netherlands. In the aggregate for the European Union and the total of all listed TNCs they are counted once. Rio Tinto PLC is counted as an entry for both the United Kingdom and Australia. In the aggregate for the total of all 100 listed TNCs it is counted once.

III.5). The relative decline of chemical firms during the past decade, from 12 in 1990 to 7 in 1999, is noteworthy. This is partly the result of substantial restructuring in the chemicals and pharmaceuticals industries. Traditionally, chemicals and pharmaceuticals were organized within the structure of individual companies. Such a combined structure was seen to yield synergies. Since the second half of the 1990s, companies switched increasingly to separating chemicals from pharmaceuticals and vice versa, into distinct corporate structures emphasizing synergies in areas other than production and research. A significant decline in the transnationality index was recorded in trading, which (together with diversified) is essentially represented by Japanese *Sogo Shoshas*. They have been restructuring for some time, but their geographical spread established in the past is already extensive, as shown by the mapping of foreign affiliates of Marubeni Corporation (figure III.6).

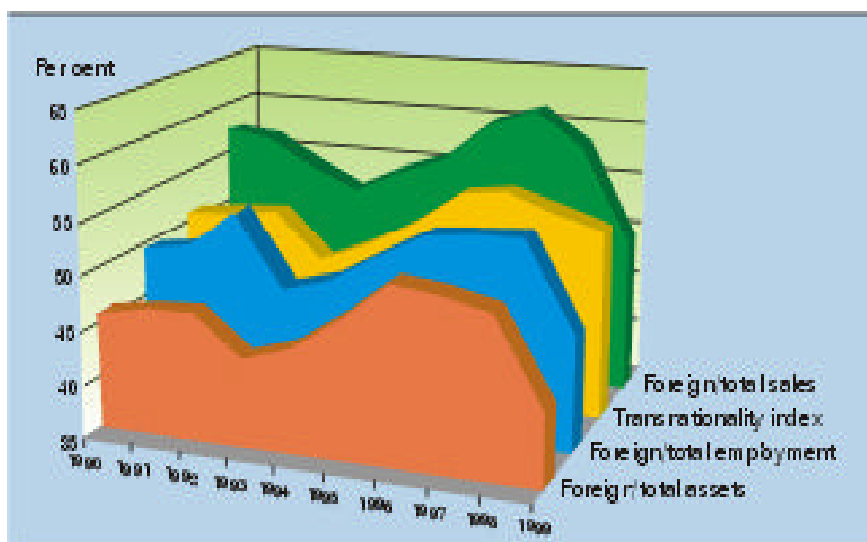
2. Transnationality

The “transnationality index” is the average of three ratios: foreign assets/total assets, foreign sales/total sales and foreign employment/total employment. It captures the foreign dimension of the overall activities of a firm. Between 1990 and 1999, the average transnationality index of the world’s top 100 TNCs rose from 51 per cent in 1990 to 55 per cent in 1997 but declined to 53 per cent in 1999 (figure III.7).³ The gradual emergence in the listings of top 100

TNCs of large transnational utility, retailing and telecommunication companies with their traditionally large portfolio of domestic assets has contributed to the decline of the list’s average transnationality index. Most of these companies entered the list of the largest 100 TNCs during the latter half of the 1990s, with an average transnationality index far below the overall average in 1999 (table III.6). If these three industries were excluded, the index in 1999 would stand at 56 per cent. Given the increasing liberal policy environment in which such companies operate, their transnationality can be expected to increase over the next decade, following the example of the motor vehicle industry (see below).

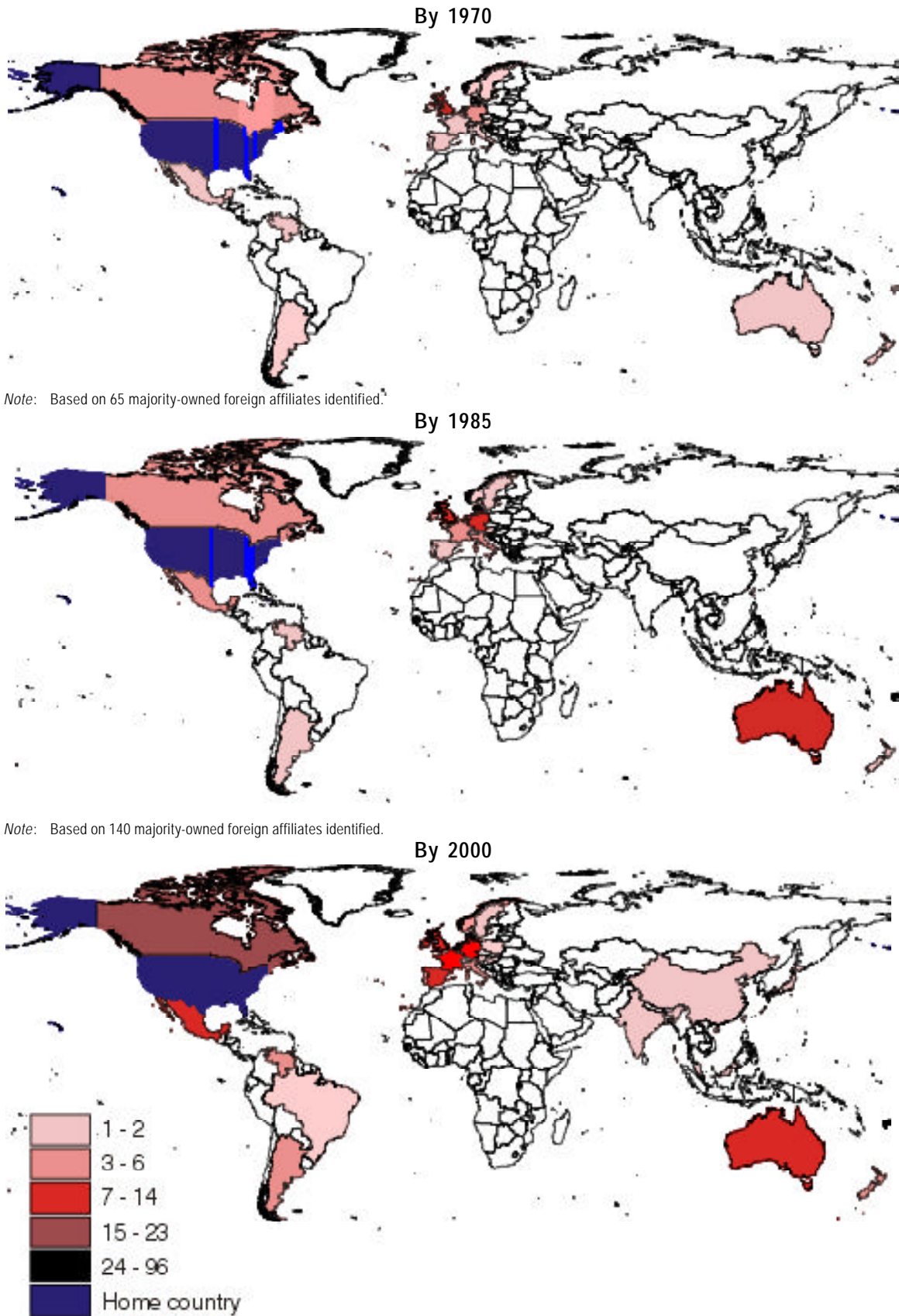
In 1999, as in earlier years, the index was led by firms from countries with small domestic markets. For example, all four Swiss TNCs among the world’s 100 largest TNCs feature in the listing of the top 10 companies as measured by their transnationality (table III.7). Meanwhile, only two were headquartered in a relatively large economy (United Kingdom), whose TNCs for historical reasons have always maintained an above-average level of transnationality (table III.5). Of course, TNCs from smaller home countries have to go abroad if they want to overcome the constraints of their domestic market size, and to reach the economies of scale needed to make optimal use of their ownership advantages and to stay competitive. Interestingly, however, among the companies with largest increases and decreases of the transnationality index, only four are from

Figure III.2. Snapshot of the world’s 100 largest TNCs, 1990-1999



Source: UNCTAD/Erasmus University database.

Figure III.3. Global expansion of Ford Motor Company



Note: Based on 65 majority-owned foreign affiliates identified.

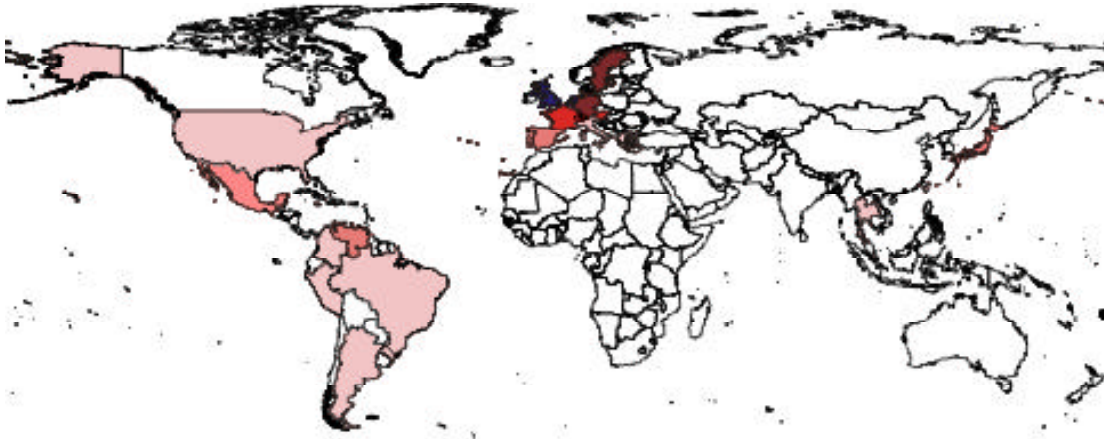
Note: Based on 140 majority-owned foreign affiliates identified.

Note: Based on 270 majority-owned foreign affiliates identified.

Source: UNCTAD, FDI/TNC database, on the basis of *Who Owns Whom CD-ROM 2000* (Dun and Bradstreet).

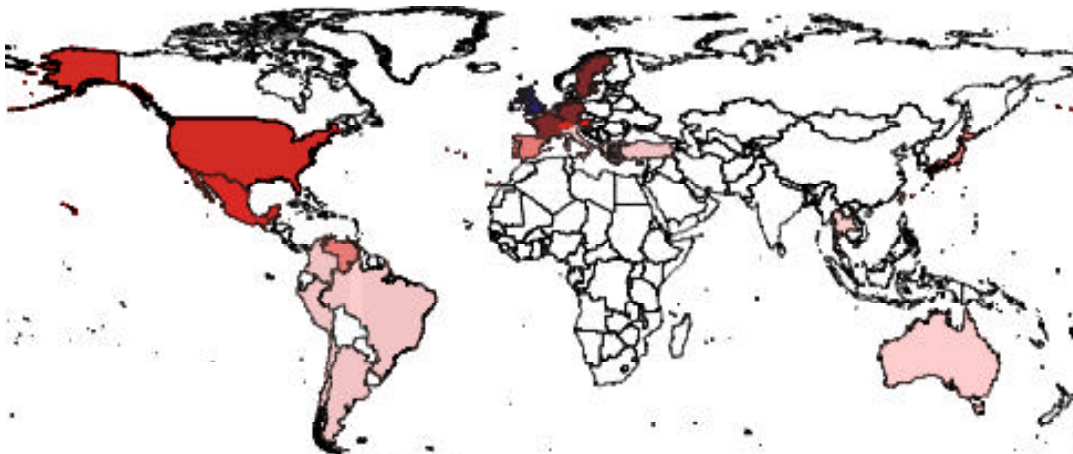
Figure III.4. Global expansion of Unilever N.V.

By 1970



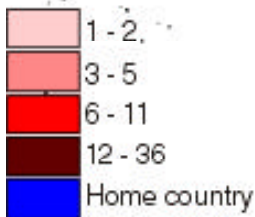
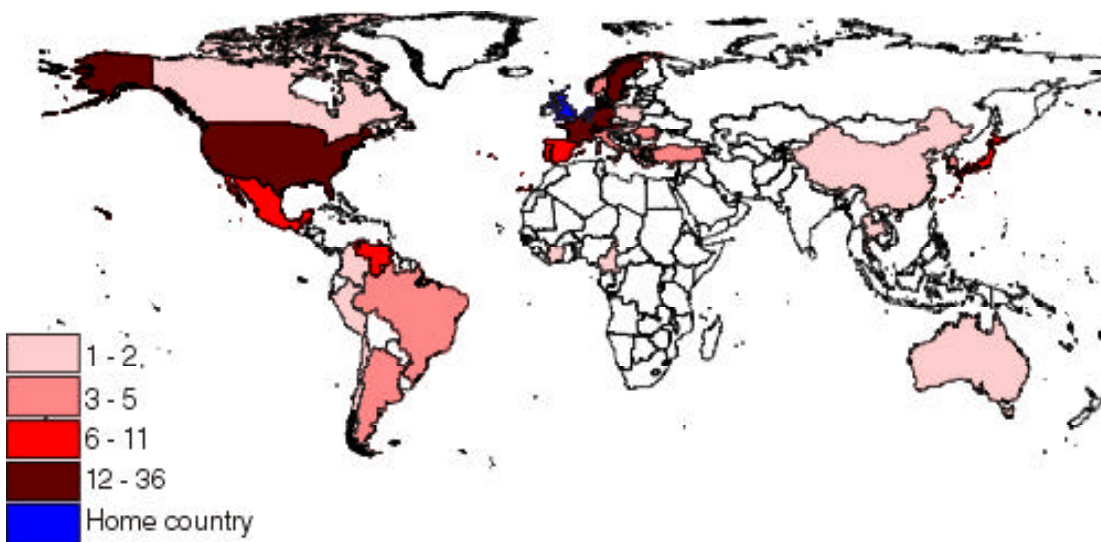
Note: Based on 94 majority-owned foreign affiliates identified.

By 1985



Note: Based on 146 majority-owned foreign affiliates identified.

By 2000

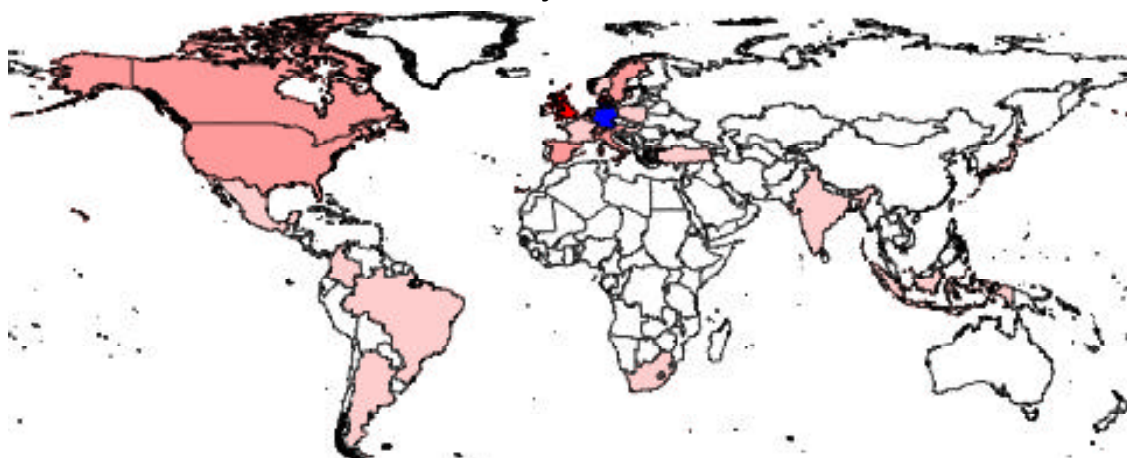


Note: Based on 244 majority-owned foreign affiliates identified.

Source: UNCTAD, FDI/TNC database, on the basis of *Who Owns Whom CD-ROM 2000* (Dun and Bradstreet).

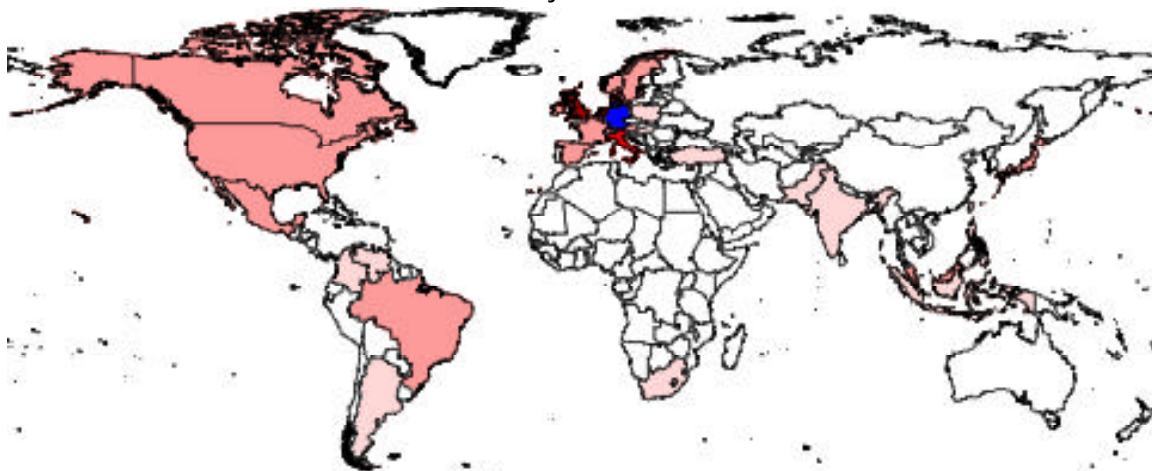
Figure III.5. Global expansion of Siemens A.G.

By 1970



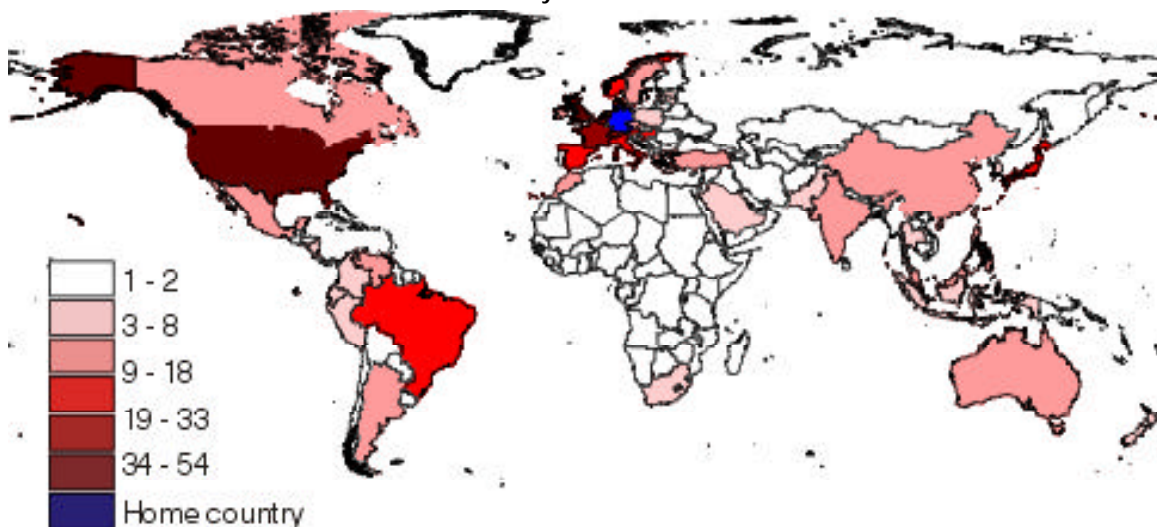
Note: Based on 84 majority-owned foreign affiliates identified.

By 1985



Note: Based on 165 majority-owned foreign affiliates identified.

By 2000



Note: Based on 416 majority-owned foreign affiliates identified.

Source: UNCTAD, FDI/TNC database, on the basis of *Who Owns Whom CD-ROM 2000* (Dun and Bradstreet).

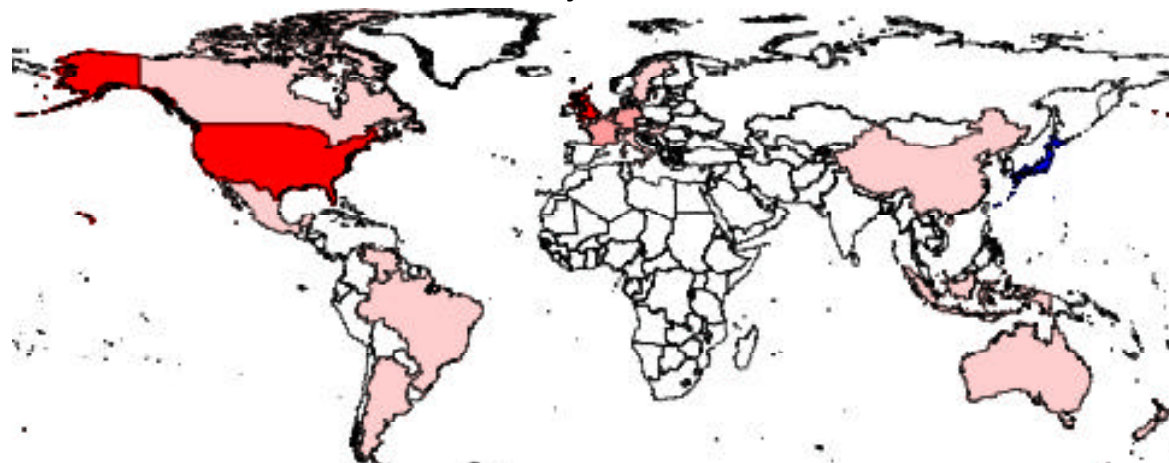
Figure III.6. Global expansion of Marubeni Corporation

By 1970



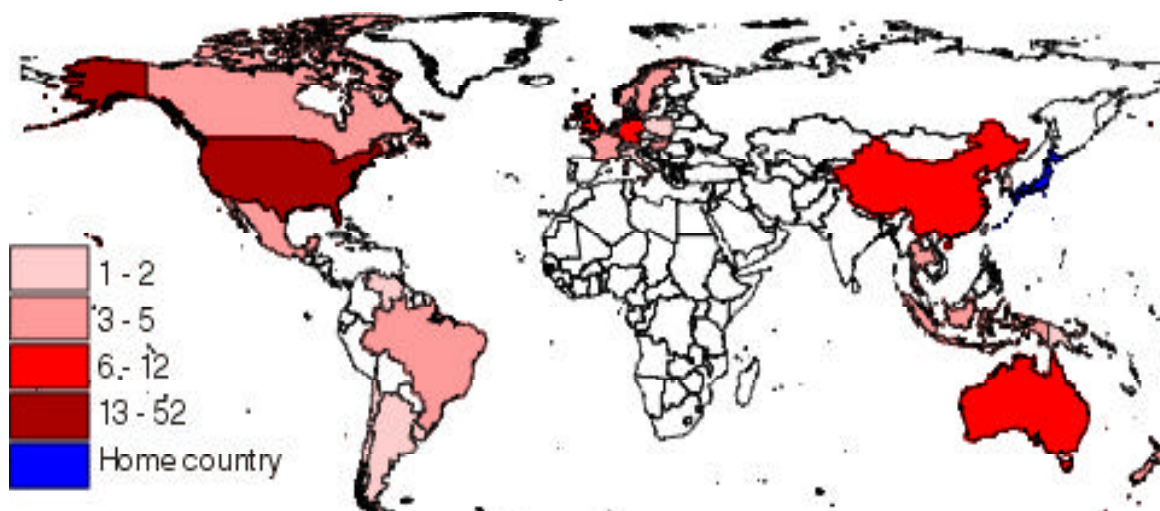
Note: Based on 16 majority-owned foreign affiliates identified.

By 1985



Note: Based on 44 majority-owned foreign affiliates identified.

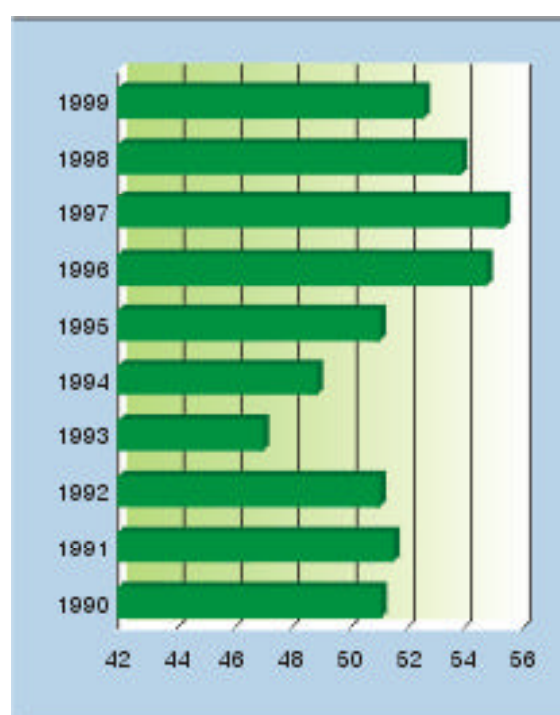
By 2000



Note: Based on 170 majority-owned foreign affiliates identified.

Source: UNCTAD, FDI/TNC database, on the basis of *Who Owns Whom CD-ROM 2000* (Dun and Bradstreet).

Figure III.7. Average transnationality index of the world's 100 largest TNCs, 1990-1999



Source: UNCTAD/Erasmus University database.

smaller countries, suggesting that companies from large home markets are more often involved in transnational expansion and retreat (figures III.8 and III.9).

Transnationality by industry varies to a great extent (table III.6). The media industry topped the list with 87 per cent,

Table III.6. Industry composition of the largest 100 TNCs, 1990, 1995 and 1999

Industry	Number of entries			Average TNI ^a per industry (Per cent)		
	1990	1995	1999	1990	1995	1999
Media	2	2	2	82.6	83.4	86.9
Food/beverages/tobacco	9	12	10	59.0	61.0	78.9
Construction	4	3	2	58.8	67.8	73.2
Pharmaceuticals	6	6	7	66.1	63.1	62.4
Chemicals	12	11	7	60.1	63.3	58.4
Petroleum exploration/refining/distribution and mining	13	14	13	47.3	50.3	53.3
Electronics/electrical equipment/computers	14	18	18	47.4	49.3	50.7
Motor vehicle and parts	13	14	14	35.8	42.3	48.4
Metals	6	2	1	55.1	27.9	43.5
Diversified	2	2	6	29.7	43.6	38.7
Retailing	-	-	4	-	-	37.4
Utilities	-	-	5	-	-	32.5
Telecommunications	2	5	3	46.2	46.3	33.3
Trading	7	5	4	32.4	30.5	17.9
Machinery/engineering	3	1	-	54.5	37.9	-
Other	7	5	4	57.6	59.4	65.7
Total/average	100	100	100	51.1	51.5	52.6

Source: UNCTAD, 1993 and Erasmus University database.

^a TNI is the abbreviation for "transnationality index", which is calculated as the average of three ratios: foreign assets to total assets, foreign sales to total sales and foreign employment to total employment.

while trading was at the bottom with 18 per cent. The transnationality index of the top five firms in all industries that have at least five entries in the lists of both 1990 and 1999 increased substantially over the period 1990-1999 (table III.8). Food and beverages firms exhibited the largest gains (28 percentage points), and chemical firms the

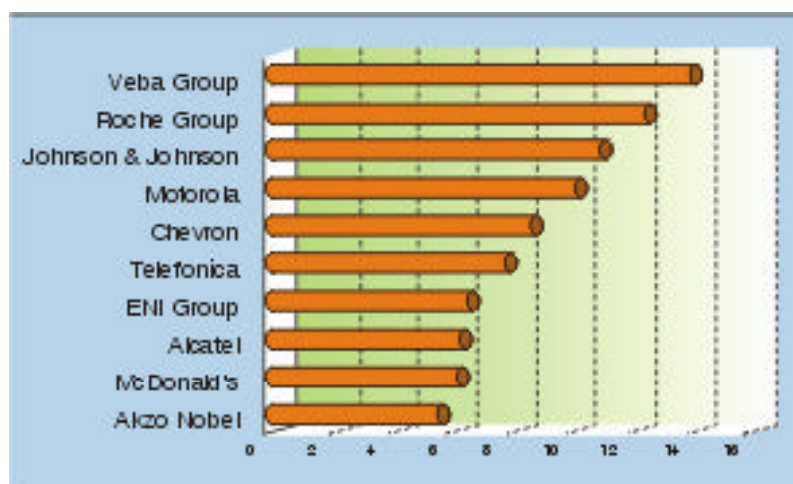
Table III.7. The world's largest 10 TNCs in terms of transnationality, 1999

Ranking 1999 by		Ranked in 1998 by		Corporation	Country	Industry	TNI ^a
Foreign assets	TNI ^a	Foreign assets	TNI ^a				
57	1	57	2	Thomson Corporation	Canada	Media/publishing	95.4
11	2	10	3	Nestlé SA	Switzerland	Food/beverages	95.2
21	3	15	8	ABB	Switzerland	Electrical equipment	94.1
80	4	82	4	Electrolux AB	Sweden	Electrical equipment/electronics	93.2
59	5	62	6	Holcim (ex Holderbank)	Switzerland	Construction materials	91.8
27	6	27	13	Roche Group	Switzerland	Pharmaceuticals	91.5
35	7	69	5	British American Tobacco Plc	United Kingdom	Food/tobacco	90.7
24	8	12	7	Unilever	United Kingdom/ The Netherlands	Food/beverages	89.3
23	9	34	1	Seagram Company	Canada	Beverages/media	88.6
75	10	77	16	Akzo Nobel NV	Netherlands	Chemicals	82.6

Source: UNCTAD/Erasmus University database.

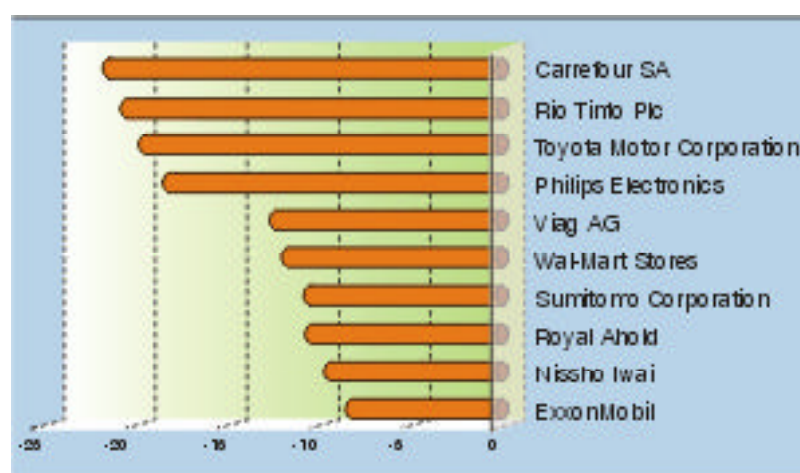
^a TNI is the abbreviation for "transnationality index", which is calculated as the average of three ratios: foreign assets to total assets, foreign sales to total sales and foreign employment to total employment.

Figure III.8. The top 10 increases in transnationality among the world's 100 largest TNCs, 1998-1999
(in percentage points)



Source: UNCTAD/Erasmus University database.

Figure III.9. The top 10 decreases in transnationality among the world's 100 largest TNCs, 1998-1999
(in percentage points)



Source: UNCTAD/Erasmus University database.

Table III. 8. Averages in transnationality index, assets, sales and employment of the largest 5 TNCs in each industry, ^a 1990, 1995 and 1999
(Percentage points, and per cent of top 100 total)

Industry	Year	Transnationality index	Assets		Sales		Employment	
			Foreign	Total	Foreign	Total	Foreign	Total
Petroleum	1990	57.7	15.1	10.6	15.8	11.9	5.5	4.2
	1995	64.8	12.9	8.0	13.6	10.0	4.0	3.1
	1999	70.1	13.6	8.3	13.5	9.8	4.1	2.8
Motor vehicles	1990	34.7	11.9	15.3	10.4	11.8	9.7	14.2
	1995	38.6	14.0	17.3	9.6	13.4	9.7	13.5
	1999	41.4	13.3	18.5	15.4	15.8	12.2	13.1
Electronics/electrical equipment	1990	36.1	6.4	7.4	4.7	6.3	6.5	9.6
	1995	61.1	11.1	10.4	7.8	6.9	13.2	10.7
	1999	59.6	12.7	13.0	9.5	8.3	13.6	10.5
Pharmaceuticals	1990	47.1	1.5	1.3	1.6	1.4	2.4	2.3
	1995	68.0	3.8	2.5	2.4	1.7	3.4	2.5
	1999	67.3	4.7	2.8	3.1	2.5	4.7	3.3
Chemicals	1990	51.6	5.3	4.2	5.9	4.5	4.8	5.4
	1995	61.1	6.2	3.9	5.0	4.0	5.5	4.9
	1999	53.9	3.1	2.9	3.8	3.1	3.3	3.2
Food/beverages	1990	60.8	7.2	5.6	5.8	5.0	11.7	7.6
	1995	76.9	6.7	4.8	7.4	5.2	12.9	7.1
	1999	88.7	6.3	3.3	6.1	3.2	10.5	5.1

Source: UNCTAD, 1993 and Erasmus University database.

^a Only industries that have at least five entries in the lists of the top 100 TNCs of 1990, 1995 and 1999.

smallest (about 2 percentage points). The top five motor vehicle companies remained among the least transnationalized during the whole past decade, whereas the top five food and beverages firms, closely followed by pharmaceutical and electronic firms, became more transnationalized over the same period. Only motor vehicle companies maintained a transnationality index of below 50 per cent at the end of the 1990s. All other manufacturing industries saw their industry-specific transnationality indices rise substantially above 50 per cent. However, the trend towards global consolidation in the motor vehicle industry during the past years has made that industry the frontrunner of transnationality in terms of its dynamic evolution: its index grew by 35 per cent between 1990 and 1999.

The findings based on the analysis of the transnationality index are mirrored in the analysis of the Network Spread Index (NSI) of the world's largest TNCs (box III.1). TNCs from small home countries are generally spread over more countries than TNCs from large home countries. TNCs from industries with a consumer orientation have a higher spread than TNCs from other industries.

Box III.1. Assessing the international spread of the world's largest TNCs

The transnationality index presented in *WIR* since 1995 assesses the degree to which companies gear their activities outside of their home countries. *WIR98* (pp. 43-44) introduced a complementary concept of measuring the transnationalization of companies, the Network Spread Index (NSI).^a This index focuses on the extent to which companies locate their activities in foreign countries, and thus the extent to which they follow strategies of cross-border geographical diversification. The index is calculated as a ratio of the number of foreign countries in which a TNC locates its activities (N) as a percentage of the number of foreign countries in which it could, potentially, have located (N*). The latter is taken as the number of countries that have inward stocks of FDI (minus 1, excluding the home country of the TNC) in the particular year to which the calculations refer. In this case the year 1999 was the most recent year for which the data are available. Following the data from this report N* is 187. Using the Dun and Bradstreet (*Who Owns Whom*)

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Box III.1. Assessing the international spread of the world's largest TNCs (continued)

ownership tree structure, the NSI has been estimated for the top 100 TNCs listed in this report which are exclusively parent companies.

The results grouped by the country of origin of each TNCs and by industry are presented in box tables III.1.1 and III.1.2. The country-specific analysis shows TNCs from countries with a long history of FDI (Switzerland, Netherlands, United Kingdom and France) exhibiting an above average NSI. TNCs from the two largest economies in terms of GNP (United States and Japan) have a lower than average NSI, most likely because the size of their domestic economy allows their TNCs to concentrate more on home markets, in comparison with TNCs of similar size from smaller home countries.

TNCs in most of the industries included have NSIs ranging from 18 to 22 percentage points (box table III.1.2). Notable exceptions are found among TNCs operating in the utilities, media and construction industries, which have NSIs of below 10 per cent. TNCs in the automotive, metals/mining and telecommunications industries lie in between, with NSIs of around 13 per cent.

Industries in which the top TNCs have a higher NSI (like chemicals/pharmaceuticals, electronics and food and beverages) are to a large extent consumer-oriented industries, and TNCs operating in such industries follow primarily market-seeking strategies with regard to their transnationalization. TNCs from the utilities, media, construction/retailing/service and industries have a lower-than-average NSI, as they are industries that are more domestic-market oriented, partially due to market segmentation (utilities), and partially due to cultural boundaries (media). Greater liberalization is increasing the NSIs of TNCs in all industries mentioned above, and is likely to do so even more in the future.

Consistent with the industry analyses, the companies with the highest NSI (over 30 per cent) are Shell, Nestlé, Unilever, TotalFina, Aventis and ABB. At the other end of the spectrum, the lowest values for NSI (below 5 per cent) are found for Wal-Mart, Texas Utilities, Woodbridge Company, Southern Company, Royal Ahold NV, Mitsubishi, Petróleos de Venezuela and Hutchison Whampoa, AES Corporation, Cemax, Edison International and Nippon Oil.

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B. The largest 50 transnational corporations from developing countries

The list of the largest TNCs from developing economies in 1999 underlines the power of the transnationalization process, as reflected by the impressive increase in foreign assets and sales after a slowdown in 1998. What is even more remarkable is that three firms have joined the group of the world's largest 100 TNCs.

In 1999, Hutchison Whampoa Ltd. (Hong Kong, China) occupied the first position, sending *Petróleos de Venezuela* to the second rank, followed by *Cemex SA* from Mexico (table III.9). These three TNCs, ranked by the size of their foreign assets, were also among the world's 100 largest

TNCs. In general, the top 50 TNCs from developing countries are of a smaller size than their counterparts in the top 100 list. The median foreign assets holdings for the top 50 increased slightly from \$1.5 billion in 1998 to about \$1.6 billion in 1999, still far below the corresponding figure of \$15.2 billion for the top 100 group in 1999. The overall increase in foreign assets by the top 50 was largely accounted for by the growth in foreign assets within the group of the top ten companies on the list.

Developing country TNCs have recovered from the setback of 1998 in the aftermath of the financial crisis in Asia. In 1999, their assets and sales (total as well as foreign) registered a significant increase, as compared with the levels reached in 1998 (table III.10). Total employment, however, declined further, by 26.6 per cent, while foreign employment decreased only by 4.3

Box III.1. Assessing the international spread of the world's largest TNCs (concluded)

Box table III.1.1. Network Spread Index of the world's largest 97 TNCs, by country of origin

Country of origin*	Network spread (mean) NSI (Per cent)	Rank
Switzerland	25.80	1
Netherlands	21.79	2
United Kingdom	19.59	3
France	19.93	4
Germany	18.89	5
Italy	17.16	6
Sweden	17.11	7
Japan	14.29	8
United States	13.18	9
Finland	12.30	10
Canada	8.56	11
Australia	6.42	12
Spain	5.88	13
Venezuela	2.67	14
Hong Kong, China	1.07	15
Mean NSI	15.63	

Source: Ietto-Gillies, 2001, based on this report.

* Companies having headquarters in more than one country are counted as nationals of both countries. These companies include: Rio Tinto (UK/Australia), Shell (Netherlands/UK) and Unilever (Netherlands/UK). This accounts for a total of 97 instead of 94.

Source: Unpublished research by Grazia Ietto-Gillies and Marion Frenz, South Bank University, London, May 2001.

^a See Ietto-Gillies, 1998, The NSI for 1996 presented in *WIR98* is not fully comparable to the one presented here because the current one is calculated on the basis of majority-owned affiliates ("subsidiaries") and not all affiliates as in *WIR98*. This is due to changes in the type of information given by the Dun and Bradstreet database.

Box table III.1.2. Network Spread Index of the world's largest 94 TNCs, by industry

Country of origin*	Network spread (mean) NSI (Per cent)	Rank
Chemical/Pharmaceutical	21.80	1
Food/Beverages/Tobacco	19.31	2
Electronics/Electrical		
Engineering	18.90	3
Oil/Petroleum	16.52	4
Diversified	16.44	5
Telecommunication	13.77	6
Metals/Mining	13.37	7
Other	12.83	8
Automotive	12.83	9
Retailing/Trading/Services	10.46	10
Construction/Construction		
Materials	8.02	11
Media/Printing/Paper	6.77	12
Utility	4.01	13
Mean NSI	15.63	

Source: Ietto-Gillies, 2001, based on this report.

Table III.9. The largest 50 TNCs from developing economies, ranked by foreign assets, 1999
(Millions of dollars, number of employees)

Ranking by Foreign assets	TNI ^a	Corporation	Economy	Industry ^b	Assets		Sales		Employment		TNI ^a (Per cent)
					Foreign	Total	Foreign	Total	Foreign	Total	
1	24	Hutchison Whampoa Ltd.	Hong Kong, China	Diversified	..	48 157	2 096	7 108	..	42 510	38.0
2	30	Petróleos de Venezuela	Venezuela	Petroleum expl./ref./distr.	8 009	47 250	13 332	32 600	15 000	47 760	29.8
3	10	Cemex SA	Mexico	Construction	6 973	11 896	2 504	4 841	..	20 902	54.6
4	39	Petronas - Petrolim Nasional Berhad	Malaysia	Petroleum expl./ref./distr.	..	31 992	..	15 957	..	18 578	19.8
5	34	Samsung Corporation	Korea, Republic of	Diversified/Trade	5 127	21 581	6 339	37 180	1 911	4 600	27.4
6	13	Daewoo Corporation	Korea, Republic of	Diversified/Trade	..	16 460	..	18 618	..	12 021	49.4
7	22	Lg Electronics Inc.	Korea, Republic of	Electronics and electrical equipment	..	..	..	..	..	..	..
8	45	Sunkyong Group	Korea, Republic of	Energy/Trading/Chemicals	4 215	17 273	6 383	15 590	27 000	50 000	39.8
9	43	New World Development Co., Ltd.	Hong Kong, China	Construction	4 214	34 542	10 762	43 457	2 273	26 296	15.2
10	42	Samsung Electronics Co., Ltd.	Korea, Republic of	Electronics and electrical equipment	4 097	14 789	368	2 259	788	22 945	15.8
11	3	Neptune Orient Lines Ltd.	Singapore ^c	Transportation	3 907	25 487	5 214	28 024	6 039	39 350	16.4
12	6	Sappi Ltd.	South Africa	Pulp and Paper	3 870	4 184	4 101	4 276	6 843	8 611	89.3
13	8	First Pacific Company Ltd.	Hong Kong, China	Electronics and electrical equipment	3 643	5 428	3 425	4 422	9 427	20 245	63.7
14	49	Petroleo Brasileiro SA - Petrobras	Brazil	Petroleum expl./ref./distr.	3 482	6 797	965	1 232	12 901	22 210	62.5
15	19	Jardine Matheson Holdings Ltd.	Hong Kong, China ^d	Diversified	3 293	33 733	1 542	16 358	993	39 979	7.2
16	40	Keppel Corporation Ltd.	Singapore	Diversified	2 865	9 904	7 489	10 655	..	150 000	43.9
17	46	Hyundai Motor Co., Ltd.	Korea, Republic of	Motor vehicles	2 609	19 889	273	2 451	5 273	15 947	19.1
18	14	Hyundai Engineering & Construction Co.	Korea, Republic of	Construction	2 595	22 163	2 909	21 346	6 300	87 221	10.9
19	1	Tan Chong International Ltd.	Singapore	Construction	2 577	8 105	1 696	4 999	17 844	22 364	48.5
20	44	Singapore Telecommunications Ltd.	Singapore	Diversified	2 181	2 388	1 783	1 837	..	649	93.3
21	20	Citic Pacific Ltd.	Hong Kong, China	Telecommunication	2 078	8 129	10	2 842	..	12 637	15.8
22	9	Acer Inc.	Taiwan Province of China	Diversified	..	7 935	1 042	3 399	..	10 490	42.2
23	25	South African Breweries Plc.	South Africa ^c	Food and beverages	1 812	3 715	3 864	5 811	..	33 912	59.7
24	2	Orient Overseas International Ltd.	Hong Kong, China	Transportation	..	4 384	..	4 299	..	48 079	37.4
25	17	Baflo Ltd.	South Africa ^c	Diversified	1 631	1 863	2 126	2 139	3 540	4 157	90.7
26	27	Companhia Vale Do Rio Doce	Brazil	Mining/other	1 587	2 335	1 769	3 502	..	22 148	44.3
27	18	Gener SA	Chile	Electrical services (in 1997)	..	10 974	..	6 979	..	10 743	34.0
28	29	Metalurgica Gerdau SA	Brazil	Steel and iron	1 520	3 699	401	835	514	1 185	44.2
29	37	San Miguel Corporation	Philippines	Food and beverages	1 468	3 582	535	1 850	3 526	12 021	33.1
30	38	Pérez Compan SA	Argentina	Petroleum expl./ref./distr.	1 447	3 410	217	1 934	3 117	14 511	25.0
31	5	Guangdong Investment Ltd.	Hong Kong, China	Diversified	1 376	5 030	243	1 272	..	3 731	24.5
32	26	Savia SA de CV	Mexico	Diversified	1 355	2 179	564	689	14 064	15 233	78.8
33	33	Tatung Co. Ltd.	Taiwan Province of China	Electronics and electrical equipment	1 297	6 658	823	2 843	11 599	19 015	36.5
					..	5 017	..	4 471	..	..	28.1

Table III.9. The largest 50 TNCs from developing economies, ranked by foreign assets, 1999 (concluded)
(Millions of dollars, number of employees)

Ranking by Foreign assets	TNI ^a	Corporation	Economy	Industry ^b	Assets		Sales		Employment		TNI ^a (Per cent)
					Foreign	Total	Foreign	Total	Foreign	Total	
34	7	Fraser & Neave Limited	Singapore	Food and beverages	1 232	3 760	1 075	1 527	8 507	9 750	63.5
35	36	Samsung Sdi Co., Ltd.	Korea, Republic of	Electronics and electrical equipment	1 181	4 547	1 037	4 218	2 052	7 900	25.5
36	28	Singapore Airlines Limited	Singapore	Transportation	1 064	9 573	4 071	5 179	3 021	27 630	33.6
37	11	Gruma SA de CV	Mexico	Food and beverages	1 061	2 322	988	1 730	9 147	16 513	52.7
38	41	Pohang Iron And Steel Co., Ltd.	Korea, Republic of	Steel and iron	1 018	11 971	3 875	11 093	..	28 037	17.3
39	50	Clp Holdings - China Light & Power Company Limited	Hong Kong, China	Electric utilities or services	985	5 878	46	3 024	33	4 190	6.4
40	21	Sime Darby Berhad	Malaysia	Diversified	892	2 389	1 587	2 608	6 585	29 106	40.3
41	47	Reliance Industries Limited	India	Chemicals and pharmaceuticals	..	6 733	400	4 654	..	15 912	9.6
42	35	Copec - Compania de Petroleos de Chile	Chile	Diversified	..	6 496	..	3 173	..	7 805	26.6
43	16	Companhia Cervejaria Brahma	Brazil	Food and beverages	841	2 874	208	1 776	9 029	9 192	46.4
44	32	Great Eagle Holdings Limited	Hong Kong, China	Hotel/Property	830	3 607	193	496	..	3 004	28.3
45	4	WBL Corporation Limited	Singapore	Electronics and electrical equipment	805	949	257	417	9 963	10 754	79.7
46	31	Bejaya Group Berhad	Malaysia	Diversified	739	3 290	792	1 914	..	21 066	28.8
47	23	De Beers Consolidated Mines	South Africa ^c	Mining/ other	646	5 053	4 854	5 344	..	12 520	38.8
48	15	Hong Kong And Shanghai Hotels Ltd.	Hong Kong, China	Tourism and hotel	632	2 472	271	463	3 583	6 166	47.4
49	48	Telekom Malaysia Berhad	Malaysia	Telecommunication	624	6 792	83	2 061	..	25 442	7.5
50	12	Natsteel Limited	Singapore	Steel and iron	585	1 280	251	822	14 018	17 363	52.3

Source: UNCTAD, FDI/TNC database.

^a TNI is the abbreviation for "transnationality index", which is calculated as the average of three ratios: foreign assets to total assets, foreign sales to total sales, and foreign employment to total employment.

^b Industry classification for companies follows the United States Standard Industrial Classification which is used by the United States Securities and Exchange Commission (SEC).

^c Within the context of this list, South Africa is treated as a developing country.

^d The company is incorporated in Bermuda and the group is managed from Hong Kong (China).

.. Data on foreign assets, foreign sales or foreign employment were not made available for the purpose of this study. In case of non availability, they are estimated using secondary sources of information or on the basis of the ratios of foreign to total assets, foreign to total sales and foreign to total employment.

Table III.10. Snapshot of largest 50 TNCs from developing economies, 1999

(Billions of dollars, percentage and number of employees)

Variable	1999	1998	Change 1999 vs. 1998 (Per cent)
Assets			
Foreign	129	109	18.3
Total	531	449	18.4
Sales			
Foreign	122	109	12.0
Total	367	289	27.1
Employment			
Foreign	383 107	400 475	-4.3
Total	1 134 687	1 546 883	-26.6
Average index of transnationality			
	38.9	36.6	2.3 ^a

Source: UNCTAD, FDI/TNC database.

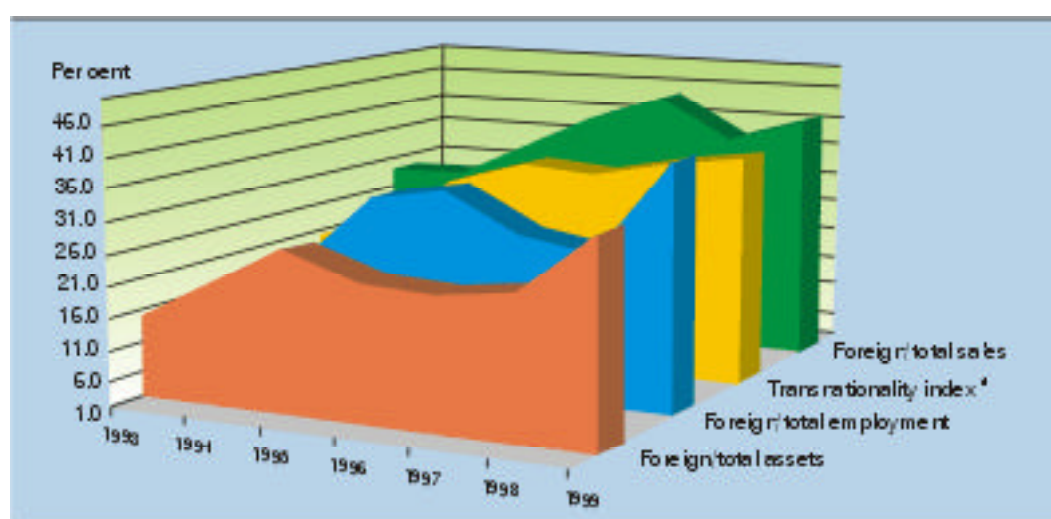
^a The change between 1998 and 1999 is expressed in percentage points.

per cent reflecting, thus, a sharper drop in domestic employment. This reduction in employment is perhaps a result of a restructuring of industries after the crisis.

On the other indicators, the top 50 showed a more positive development. This

was largely due to the recovery effect after the financial crisis.

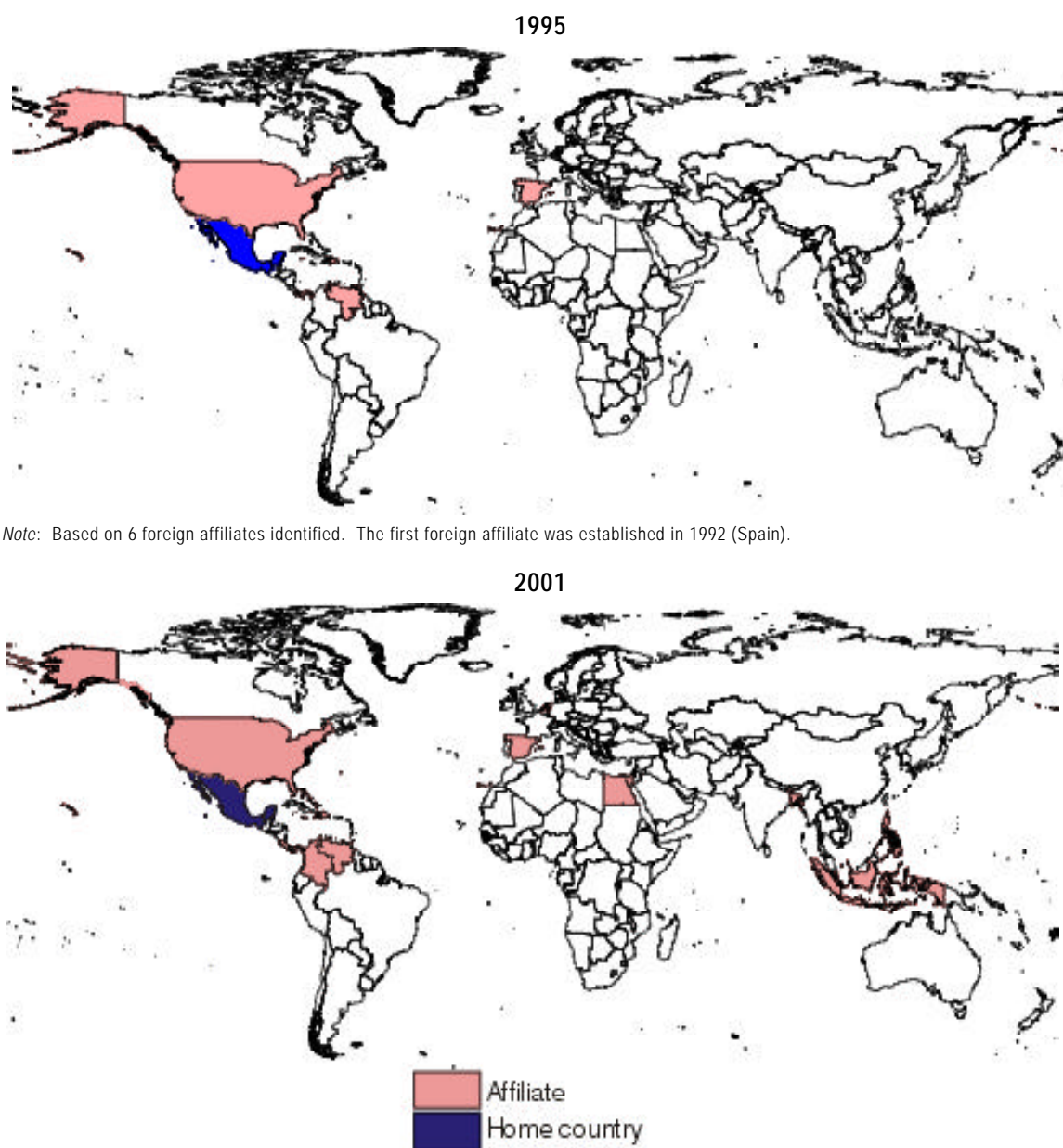
The overall increase in the transnationality index (TNI) for the whole group as compared to last year confirms that the top 50 TNCs, in general, pursued their transnationalization process even during the crisis years. This increase should be interpreted with caution as it is largely driven by the increase in the ratio of foreign to total employment (figure III.10) which in turn was the result of the sharp drop in domestic employment in 1998 and 1999. Yet, as foreign assets and sales have also increased, the transnational expansion of the top 50 TNCs is noteworthy. TNCs from a wide range of economies and industries are continuing with their trans-nationalization push of recent years. Companies such as South African Breweries and Barlow of South Africa, Mexico's Cemex, San Miguel from the Philippines, Pérez Companc of Argentina, Singapore Telecommunications and LG Electronics from the Republic of Korea – to name only a few – all recorded increases in their TNI-index of 15 percentage points or more since 1995. The mapping of the global expansion of Cemex SA provides a good example of the rapid transnationalization process of these companies (figure III.11).

Figure III.10. Trends among the largest 50 TNCs from developing economies, 1993–1999

Source: UNCTAD, FDI/TNC database.

^a The average transnationality index of the largest 50 TNCs is the average of the 50 individual company transnationality indices.

Figure III.11. Global expansion of Cemex SA



Note: Based on 6 foreign affiliates identified. The first foreign affiliate was established in 1992 (Spain).

Note: Based on 21 foreign affiliates identified. There is only one affiliate in each country except in the Philippines (where there are two).

Source: UNCTAD, based on information from www.cemex.com.

Table III.11. The top five TNCs from developing economies in terms of transnationality, 1999

Ranking by		Company	Economy	Industry	TNI ^a (Per cent)
TNI ^a	Foreign assets				
1	19	Tan Chong International Ltd.	Singapore	Diversified	93.3
2	24	Orient Overseas International Ltd.	Hong Kong, China	Transportation	90.7
3	11	Neptune Orient Lines Ltd.	Singapore	Transportation	89.3
4	45	WBL Corporation Ltd.	Singapore	Electronics and electrical equipment	79.7
5	31	Guangdong Investment Ltd.	Hong Kong, China	Diversified	78.8

Source: UNCTAD, FDI/TNC database.

^a TNI is the abbreviation for "transnationality index", which is calculated as the average of three ratios: foreign assets to total assets, foreign sales to total sales and foreign employment to total employment.

As in previous years, the top companies in terms of transnationalization come from Asia (table III.11). In the case of Hong Kong (China) and Singapore, it is not surprising that the small size of their economies pushed companies to expand abroad. Industry-specific factors also contribute to the composition of the list. Shipping companies, such as Neptune Orient Lines as well as Orient Overseas International, have almost by definition most of their assets "overseas".⁴ On the other hand, petroleum companies as well as TNCs in the utilities, tend to have lower values of TNI, as much of their business is either still concentrated on the exploration of domestic resources, or because expansion abroad had only recently been made possible by the deregulation of telecommunications.

This year's top 50 list features 12 new companies that were not on the list last year. This figure is rather high as compared to previous years, which recorded only five to seven new companies. The information for the list in this report is less complete, as data for TNCs from China were not available. On the other hand, improved and more complete data for companies from the Republic of Korea led to the insertion of four Korean companies that did not figure on the list in preceding years. Overall, the changes in the composition of the list remained in line with previous years. M&As

had an impact on the list, as the take-over of Argentina's YPF and Chile's Enersis by Spanish companies resulted in the departure of these companies from the list. On the other hand, the merger with another domestic company helped Savia of Mexico to be included in the top 50 for the first time (tables III.12 and III.13).

The industry composition of the top 50 list has remained unchanged (figure III.12). Conglomerates with interests in a wide range of industries accounted for the lion's share in the combined foreign assets as well as foreign employment of the top 50 group. Foreign sales were largely concentrated on companies from "other industries" which are to a large extent Asian companies in the electronics industry. Companies whose business is more focused on any particular industry, such as construction, food and beverages, as well as petroleum exploration, refinery and distribution have declined in importance since 1993, as shown by their respective shares in foreign assets, sales and employment. In terms of absolute numbers, most companies on the top of the list – as in previous years – are diversified companies. Due to the inclusion of new firms, in particular from the Republic of Korea, the electronics and electrical equipment industry now accounts for the second largest group of companies, followed

Table III.12. Newcomers to the largest 50 TNCs from developing economies, 1999

Number	Ranking by		Corporation	Economy	Industry	TNI ^a (Per cent)
	Foreign assets	TNI ^a				
1	46	31	Berjaya Group Berhad	Malaysia	Diversified	28.8
2	47	23	De Beers Consolidated Mines	South Africa	Mining/ Other	38.8
3	44	32	Great Eagle Holdings Limited	Hong Kong, China	Hotel/Property	28.3
4	17	46	Hyundai Motor Co., Ltd.	Korea, Republic of	Automotive	10.9
5	11	3	Neptune Orient Lines Ltd.	Singapore	Transportation	89.3
6	24	2	Orient Overseas International Ltd.	Hong Kong, China	Transportation	90.7
7	38	41	Pohang Iron And Steel Co., Ltd.	Korea, Republic of	Iron and Steel	17.3
8	5	34	Samsung Corporation	Korea, Republic of	Diversified	27.4
9	32	26	Savia SA de CV	Mexico	Diversified	36.5
10	20	44	Singapore Telecommunications Ltd.	Singapore	Telecommunication	15.8
11	19	1	Tan Chong International Ltd.	Singapore	Automotive /Trading	93.3
12	49	48	Telekom Malaysia Berhad	Malaysia	Telecommunication	7.5

Source: UNCTAD, FDI/TNC database.

^a TNI is the abbreviation for "transnationality index", which is calculated as the average of three ratios: foreign assets to total assets, foreign sales to total sales and foreign employment to total employment.

Table III.13. Departures from the largest 50 TNCs from developing economies, 1999

Number	Ranking by		Corporation	Economy	Industry	TNI ^a (Per cent)
	Foreign assets	TNI ^a				
1	47	5	Asia Pacific Breweries Ltd.	Singapore	Food and beverages	74.8
2	36	42	China Harbor Engineering Company	China	Construction	16.1
3	15	17	China National Chemicals Import & Export Corporation	China	Trade	41.4
4	37	32	China National Metals and Minerals Imp and Exp Corp.	China	Trade	25.1
5	12	31	China State Construction Engineering Corporation	China	Construction	26.8
6	35	23	Dong-Ah Construction Ind. Co., Ltd.	Korea, Republic of	Construction	34.8
7	20	28	Enerjis, SA	Chile	Electric utilities or services	28.2
8	49	41	Sadia SA Industria e Comercio	Brazil	Food and beverages	16.2
9	24	44	Shougang Group	China	Steel and iron	14.4
10	45	33	Souza Cruz, SA	Brazil	Diversified	24.6
11	50	1	Want Want Holdings, Ltd.	Singapore	Food and beverages	97.9
12	13	36	YPF SA	Argentina	Petroleum expl./ref./distr.	19.8

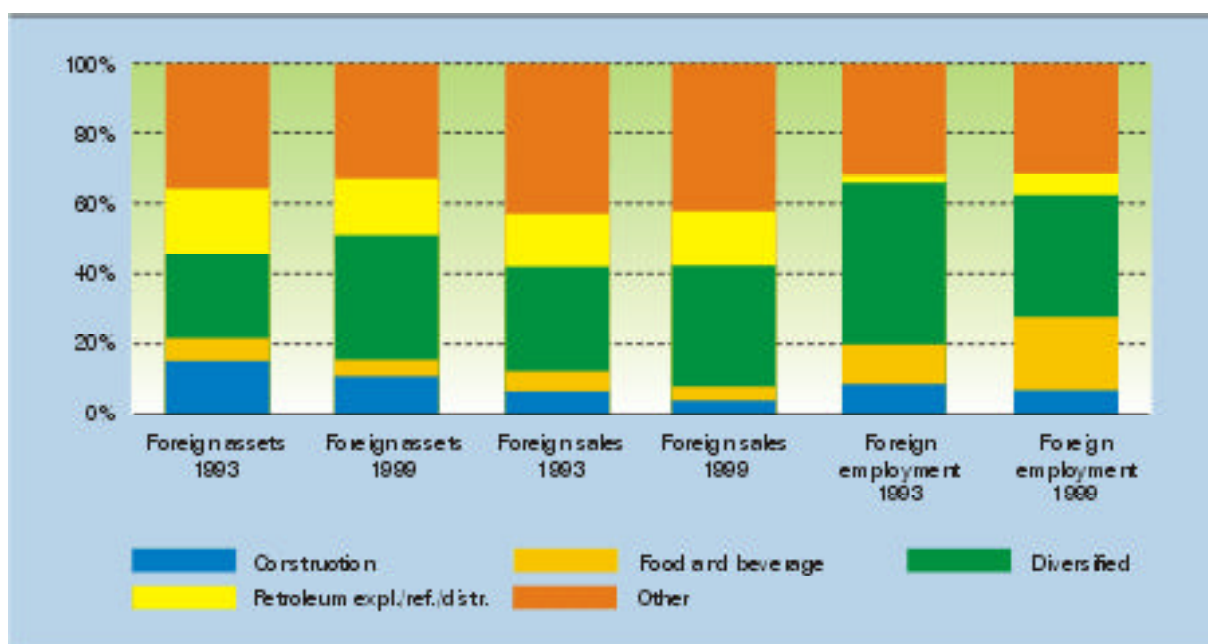
Source: UNCTAD, FDI/TNC database.

a TNI is the abbreviation for "transnationality index", which is calculated as the average of three ratios: foreign assets to total assets, foreign sales to total sales and foreign employment to total employment.

by food and beverages as well as the petroleum industry (table III.14). A novelty in the list are two telecommunications companies, Singapore Telecommunications Ltd. and Telekom Malaysia Berhad. With top 50 leader Hutchison Whampoa also having significant interests in this industry,

together with some of the other diversified conglomerates on the list, this demonstrates that TNCs from developing countries can also make substantial inroads into dynamic and highly competitive industries. Interestingly, most of the telecommunication companies expand their operations, as do

Figure III.12. Major industry groups as per cent of largest 50, 1993 and 1999



Source: UNCTAD, FDI/TNC database.

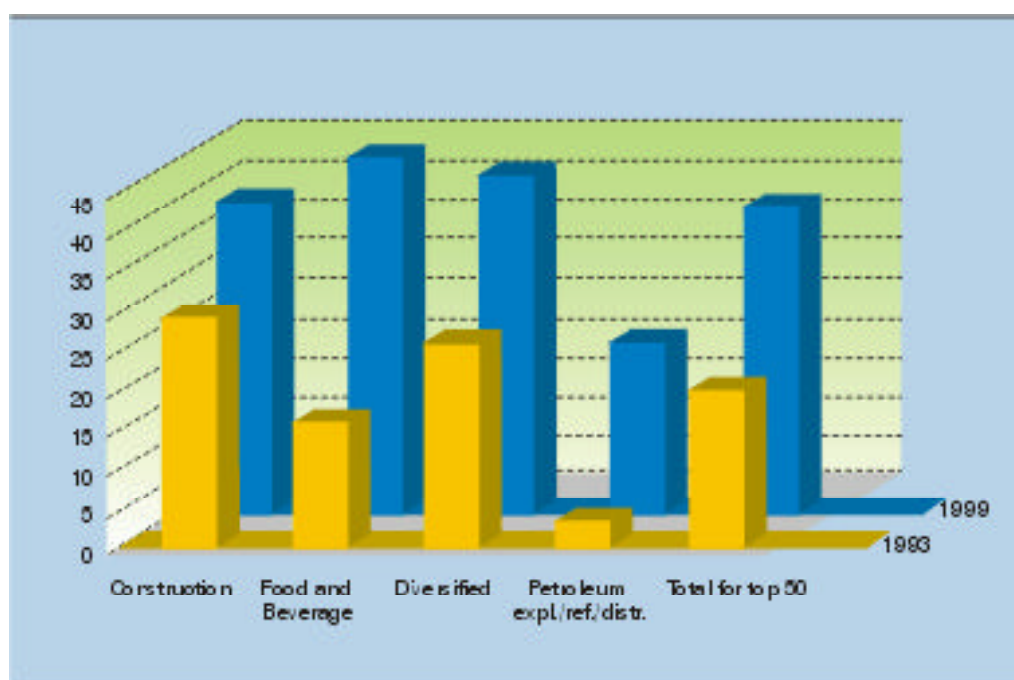
their developed countries' counterparts, in developed and developing markets simultaneously.

As for the most transnationalized industries (figure III.13 and table III.14), the picture has changed little. Among the industries most frequently represented on the list, food and beverages ranks highest, followed by diversified companies, electronics and electrical equipment and construction. This suggests that the trend towards transnationalization includes both companies that primarily invest abroad in search of foreign markets (such as food and beverages) as well as those where efficiency-seeking is the prime motive for FDI (as is the case of electronics and electrical equipment companies). The somewhat lower transnationality index for petroleum and mining companies on the top 50 list suggests, on the other hand, that companies for which natural-resource seeking is the principal reason for outward investment might find it more difficult or would have fewer incentives to transnationalize their operations. The increasing TNI for the petroleum companies (table III.14) demonstrates that over the years these

companies have also transnationalized their business. A comparison with the petroleum companies on the top 100 list – which score much higher on the TNI index – also shows that in this industry there is (in principle) as much potential for developing-country TNCs to further transnationalize as there is in other industries.⁵

Despite the aforementioned increase of the transnationality index in general, and in the case of some companies in particular, the top 50 remain less transnationalized than the top 100. But the degree of transnationality differs widely by home country, with smaller Asian economies such as Hong Kong (China), Singapore and Taiwan Province of China showing much higher levels of TNI, than larger countries such as India or China. In Latin America, Mexican companies are on average the most transnationalized. The rapid increase in the TNI for Mexican TNCs in recent years may suggest that the opening up of the country (including its integration in the framework of NAFTA) has encouraged the transnationalization of Mexican companies. South African companies, too, have stepped up their transnationalization process. The

Figure III.13. Major industry groups of the largest 50 TNCs and their average transnationalization index, 1993 and 1999



Source: UNCTAD, FDI/TNC database.

Table III.14. Industry composition of the largest 50 TNCs from developing economies, 1993, 1996 and 1999

Industry	Number of entries			Average TNI ^a per industry (Per cent)		
	1993	1996	1999	1993	1996	1999
Diversified	12	11	14	25.6	32.3	44.3
Food and beverages	7	8	5	15.6	32.8	45.0
Construction	4	3	3	28.8	47.4	39.6
Petroleum expl./ref./distr.	3	6	5	3.1	19.4	21.6
Electronics and electrical equipment	7	5	6	28.1	35.6	41.5
Electric Utilities or Services	1	..	2	2.0	..	25.3
Steel and iron	5	1	3	11.6	37.6	34.2
Trade	..	4	..	..	44.6	..
Transportation	1	4	3	23.2	54.1	71.2
Chemicals and pharmaceuticals	1	1	1	17.0	7.7	9.6
Other	4	5	..	23.6	38.1	..
Pulp and paper	2	..	1	26.0	..	63.7
Tourism, hotel and property	3	2	2	33.1	33.2	37.9
Automotive	1	..	1	..	..	10.9
Media	1	..	..	..	..	..
Mining	..	..	2	..	..	36.4
Telecommunications	..	..	2	..	59.4	11.7
Average/total ^b	50	50	50	19.8	36.9	38.9

Source: UNCTAD, FDI/TNC database.

^a TNI is the abbreviation for "transnationality index", which is calculated as the average of three ratios: foreign assets to total assets, foreign sales to total sales and foreign employment to total employment.

^b Numbers may not add up exactly due to rounding.

Note: This list does not include countries from Central and Eastern Europe.

end of the apartheid era in 1994 opened for many South African firms (the only African companies on the list) new possibilities to invest abroad as well as increased international competition compelled them to do so.

The top 50 list shows a gradual shift towards Asian TNCs over time. The number of Asian companies has increased from 32 in 1996 and 1997, to 35 in 1999. This trend continued in 1999 as some Latin American companies departed from the list due to take-overs by firms from developed countries and due to relatively high increases of the foreign assets of TNCs from the Republic of Korea, Hong Kong (China), Singapore and Malaysia. Asia increased its share in the total foreign assets owned by the top 50 companies, from 66 per cent (1998) to more than 70 per cent in 1999. All Latin

American countries registered declining shares (table III.15), while the share of African firms stabilized at the same low level as in previous years. While in Asia, foreign assets – on average – increased for TNCs from all major countries (except for China for which – as mentioned – data were not available this year), Mexican and Venezuelan TNCs were the only ones that (as a group) managed to increase their assets abroad (figure III.14). While the improvement of Asia's position is a reflection of the economic recovery in the region, the decline of foreign assets of most Latin American TNCs represented in the list might be explained by the industry composition of the two sets of firms involved and the aforementioned acquisitions of some firms by companies from developed countries.

Table III.15. Country composition of the largest 50 TNCs from developing economies, by transnationality index and foreign assets, 1993, 1996 and 1999

Region/economy	Average TNI ^a per country (Per cent)			Share in total foreign assets of the largest 50 (Per cent)		
	1993	1996	1999	1993	1996	1999
South, East and South-East Asia	21.8	31.8	39.1	70.6	65.7	72.1
China	..	30.0	..	..	8.2	..
Hong Kong, China	36.5	50.7	45.4	22.0	20.4	26.4
India	6.4	7.7	9.6	0.4	0.8	0.7
Korea, Republic of	20.2	45.6	27.8	24.8	24.4	23.2
Malaysia	20.0	34.4	24.1	4.7	3.2	7.0
Philippines	6.9	16.1	25.0	1.4	0.9	1.1
Singapore	43.0	38.1	58.9	5.3	3.7	11.2
Taiwan Province of China	19.6	32.1	43.9	12.3	4.2	2.4
Latin America	14.0	28.9	48.3	29.9	28.9	21.9
Argentina	..	19.5	24.5	..	2.6	1.1
Brazil	17.4	13.1	30.2	12.0	6.2	5.6
Chile	12.1	29.0	35.4	1.0	3.6	1.8
Mexico	12.5	48.7	48.0	16.9	7.5	7.3
Venezuela	..	44.9	29.8	..	8.6	6.2
Africa	..	40.2	46.0	..	5.4	5.9
Average/total ^b	19.8	35.1	38.9	100	100	100

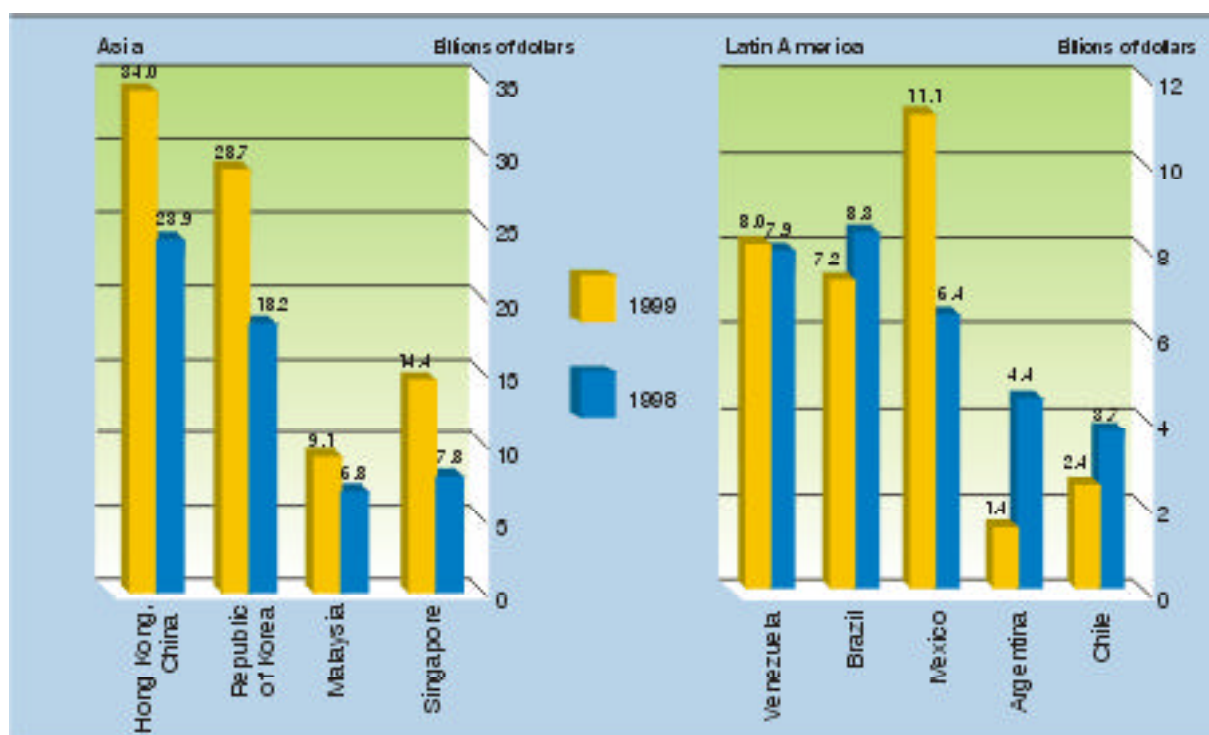
Source: UNCTAD, FDI/TNC database.

^a TNI is the abbreviation for "transnationality index", which is calculated as the average of three ratios: foreign assets to total assets, foreign sales to total sales and foreign employment to total employment.

^b Numbers may not add up exactly due to rounding.

Note: This list does not include countries from Central and Eastern Europe.

Figure III.14. Foreign assets of the biggest investors from developing economies, 1998 and 1999



Source: UNCTAD, FDI/TNC database.

C. The largest 25 TNCs from Central and Eastern Europe

A successor to the lists of the top 25 non-financial TNCs based in Central Europe published in *WIR99* and *WIR00*, the ranking presented in this section (table III.16) shows, for the first time, the largest TNCs of the Russian Federation together with those from the rest of Central and Eastern Europe. It is based on 1999 data provided by the firms responding to the UNCTAD survey of the largest TNCs in Central and Eastern Europe.⁶ With the exception of *Gazprom*, most of the leading outward investors of the Russian Federation are included in the list. With its annual sales above \$10 billion⁷ in 1999 and its extensive international network (table III.17), *Gazprom* is likely to be one of the top Central and Eastern European TNCs. However, consolidated information on its international activities could not be obtained.

Compared with the ranking of the top Central European TNCs presented in *WIR2000*, five firms exited from the top 25 list for the following reasons:

- *A take-over by other firms.* the core business of VSZ a.s. Kosice (Slovakia) was taken over by U.S. Steel, and Pilsner Urquell (Czech Republic) was acquired by South African Breweries; in other words, they became foreign affiliates.
- *Change in the declared nationality of the firm.* Graphisoft changed its declared nationality to the place where its holding company is registered (The Netherlands), instead of the place where top management is located (Hungary).
- *Displacement by others.* Moldova Steel Works (Republic of Moldova) and Budimex Capital Group (Poland) were displaced due to larger firms not previously on the list taking their place in the ranking.

The five newcomer firms are: Lukoil Oil Co., Primorsk Shipping Co. and Far Eastern Shipping Co. (Russian Federation); Petrom SA National Oil Co. (Romania); and Intereuropa d.d. (Slovenia).

For most firms on the list, the growth of foreign activities (assets, sales and employment) was faster in 1999 than that of the domestic activities. These developments are reflected in an increasing transnationality index (table III.16). Transportation (7 firms), petroleum and natural gas (5 firms) and pharmaceuticals (3) are the industries in which firms figure most frequently among the top 25. They are headquartered in nine countries: Croatia (5 firms), Slovenia (5), Hungary (4), Russian Federation (3), Czech Republic (2), Poland (2), Slovakia (2), Latvia (1), and Romania (1) (figure III.1). Notably absent are firms from Estonia, despite increasingly important FDI outflows from that country (annex table B.2). This is due to the fact that more than 60 per cent of Estonia's outward FDI stock was in finance in 2000, i.e. undertaken by firms in an industry not covered in this survey (Kilvits and Purju, 2001, p. 248). Moreover, the leading outward investing Estonian banks are foreign owned (*Hansapank* is owned by Sweden's *Swedbank* and *Ühispank* by Sweden's *SEB*, *idem.*, p. 255).

The internationalization efforts of the top 25 firms of Central and Eastern Europe are fairly recent, and focus heavily on the European continent. In the case of *Pliva Group*, a pharmaceuticals company based in Croatia, the parent company (*Pliva d.d.*) did not expand outside its home base over the first 53 years of its existence (1921-1974). It established its first foreign affiliate in New York, and its first representative office in Moscow, both in 1974 (figure III.15). Then, after a pause of 18 years, it restarted international expansion, on a large scale and at a fast pace. By June 2001, the number of foreign affiliates and representative offices expanded to 14 each. With the exception of *Pliva USA Inc.*, all the foreign affiliates are on the European continent. As for the representative offices, there are two non-European locations: Beijing (opened in 1998) and Mumbai (opened in 2000). A salient feature of the current expansions is the acquisition of production and R&D capacities in the Czech Republic, France, Germany and the United Kingdom.

Table III. 16. The largest 25 non-financial TNCs based in Central and Eastern Europe, ^a ranked by foreign assets, 1999
(Millions of dollars and number of employees)

Ranking by Foreign assets	Transnationality index ^b	Corporation	Country	Industry	Assets		Sales		Employment		Transnationality index ^b (Per cent)
					Foreign	Total	Foreign	Total	Foreign	Total	
1	15	Lukoil Oil Co.	Russian Federation	Petroleum & natural gas	3 236.0	8 422.0	4 642.0 ^d	10 903.0	10 000	120 000	29.8
2	1	Latvian Shipping Co.	Latvia	Transportation	459.0	470.0	191.0	191.0	1 124	1 748	87.3
3	23	Hrvatska Elektroprivreda d.d.	Croatia	Energy	296.0	2 524.0	10.0	780.0	..	15 877	4.3
4	12	Podravka Group ^c	Croatia	Food & beverages/ pharmaceuticals	285.9	477.1	119.4	390.2	501	6 898	32.6
5	6	Primorsk Shipping Co.	Russian Federation	Transportation	256.4	444.1	85.3	116.5	1 308	2 777	59.4
6	11	Gorenje Group	Slovenia	Domestic appliances	236.3	618.1	593.3	1 120.6	590	6 691	33.3
7	8	Far Eastern Shipping Co.	Russian Federation	Transportation	236.0	585.0	134.0	183.0	263	8 873	38.8
8	7	Pliva Group	Croatia	Pharmaceuticals	181.8	915.9	384.7	587.6	2 645	7 857	39.7
9	10	TVK Ltd.	Hungary	Chemicals	175.4	553.2	248.9	394.3	927	5 225	37.5
10	2	Motkov a.s. ^c	Czech Republic	Trade	163.6	262.5	260.2	349.1	576	1 000	64.8
11	19	Skoda Group Plzen ^c	Czech Republic	Diversified	139.1	973.4	150.7	1 244.5	1 073	19 830	10.6
12	4	Atlantska Plovidba d.d.	Croatia	Transportation	138.0	154.0	46.0 ^d	46.0	..	509	63.2
13	21	MOL Hungarian Oil & Gas Plc.	Hungary	Petroleum & natural gas	126.3	3 131.0	582.4	3 129.6	833	20 684	8.9
14	9	Kirka d.d.	Slovenia	Pharmaceuticals	120.7	447.0	209.0	283.0	429	3 218	38.1
15	3	Adria Airways d.d.	Slovenia	Transportation	116.3	129.2	103.4	104.6	19	597	64.0
16	20	Petrol d.d.	Slovenia	Petroleum & natural gas	90.4	574.9	105.7 ^d	924.4	75	235.6	10.1
17	16	Slovnaft a.s.	Slovakia	Petroleum & natural gas	82.8	1 367.1	627.5	1 035.7	119	7 540	22.7
18	5	Zalakerámia Rt. ^c	Hungary	Clay product & refractory	69.0	125.0	39.0	64.0	2 022	3 066	60.7
19	18	Matador J.s.c. ^c	Slovakia	Rubber & plastics	51.9	305.0	34.0	203.4	5	3 878	11.3
20	13	Malev Hungarian Airlines Ltd.	Hungary	Transportation	43.3	206.3	274.1	367.5	49	3 162	32.4
21	22	KGHM Polska Miedz SA	Poland	Mining & quarrying	34.0	1 266.0	265.0	1 155.0	25	28 300	8.6
22	14	Croatia Airlines d.d.	Croatia	Transportation	29.9	288.6	60.2 ^d	77.9	39	842	30.8
23	25	Elektrim SA ^c	Poland	Diversified	21.0	1 228.0	42.0	874.0	62	26 475	2.2
24	24	Petrom SA National Oil Co.	Romania	Petroleum & natural gas	19.0	2 970.0	211.0	2 041.0	67	82 054	3.7
25	17	Intereuropa d.d.	Slovenia	Trade	16.0	168.0	17.0	136.0	511	2 103	15.4
Averages					265.0	1 144.2	377.4	1 068.1	1 011	15 254	32.4 ^e
Change (in per cent)					19.7	3.3	36.2	8.3	64.0	0.8	5.8

Source : UNCTAD survey of the largest TNCs in Central and Eastern Europe.

^a Based on survey responses.

^b The index of transnationality is calculated as the average of three ratios: foreign assets to total assets, foreign sales to total sales and foreign employment to total employment.

^c 1998 data.

^d Including export sales by parent firm.

^e Unweighted average.

There are two reasons why the potential pool of enterprises that could be listed in the top 25 is small. First, in the case of Central and Eastern Europe, it is often foreign affiliates that undertake FDI abroad.⁸ The second reason is that some of the top 25 firms become targets of acquisitions, as in the case of VSZ Kosice mentioned above or in the case of Slovnaft, taken over by MOL Hungarian Oil & Gas Plc. in 2000 (UNCTAD, 2000, pp. 92-93). In May 2001, MOL, which already owned 32.9 per cent of the shares of TVK, made

an offer to take over all the remaining shares of that firm.

Some of the top 25 firms have been active in cross-border M&As. Between 1997 and May 2001, 6 firms carried out 21 transactions (table III.18). These transactions are not necessarily limited to neighbouring countries. In fact, Lukoil was the first Russian company to acquire in 2000 an oil company in the United States (box III.2).

Table III.17. Gazprom: selected equity investments outside the Russian Federation by 2001

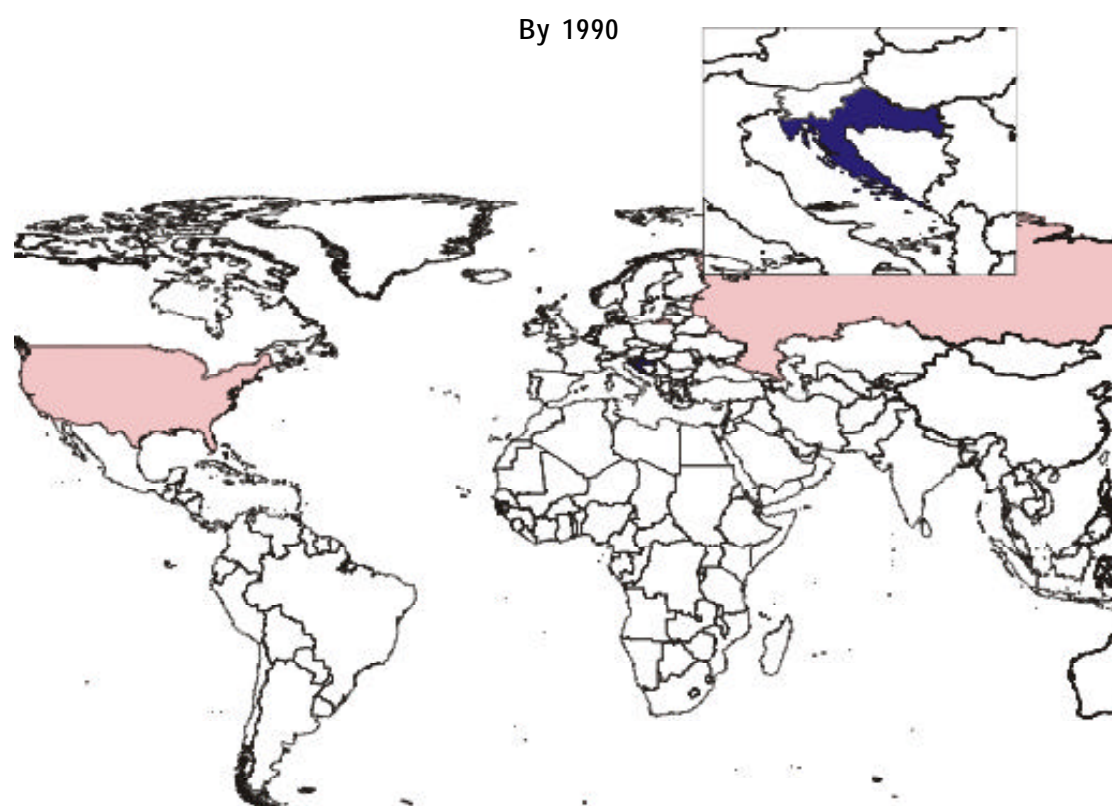
Target firm	Host country	Share (Per cent)	Activity
GHW	Austria	50	Gas trading
Belgazprombank	Belarus	34.99	Banking
Brestgazoapparat	Belarus	51	Gas equipment manufacturing
Topenergo	Bulgaria	50	Gas trading and transport
Eesti Gaas	Estonia	30.6	Gas trading and transport
Gasum Oy	Finland	25	Gas distribution and transportation
North Transgas Oy	Finland	50	Construction of a pipeline beneath the Baltic Sea
FRAgaz	France	50	Gas trading
Ditgaz	Germany	49	Gas trading
Verbundnetz Gas	Germany	5.3	Gas transportation and marketing
Wingas	Germany	35	Gas transportation and storage
Wintershall Erdgas Handelshaus	Germany	50	Exclusive trader until 2012 for all the gas exported by Gazeksport (Russian Federation)
Zarubezgas Erdgashandel	Germany	100	Gas trading
Prometheus Gaz	Greece	50	Marketing and construction
Borsodchem	Hungary	25 ^a	Petrochemicals
DKG-EAST Co. Inc.	Hungary	38.1	Oil and gas equipment manufacturing
General Banking and Trust Co. Ltd.	Hungary	25.5	Banking
Panusgas	Hungary	40	Gas trading and transport
TVK	Hungary	13.5 ^a	Petrochemicals
Promgaz	Italy	50	Gas trading and marketing
Volta	Italy	49	Gas trading and transport
Latvijas Gaze	Latvia	16.25	Gas trading and transport
Stella-Vitae	Lithuania	30	Gas trading
Gazsnabtransit	Moldova, Republic	50	Gas trading and transport
Peter-Gaz	Netherlands	51	Gas trading
Europol Gaz	Poland	48	Gas transport
Gas Trading	Poland	35	Gas trading
WIROM	Romania	25 ^b	Gas trading
Slovrusgaz	Slovakia	50	Gas trading and transport
Tagdem	Slovenia	7.6	Gas trading
Gamma Gazprom	Turkey	45	Gas trading
Druzhkovskiy zavod gazovoi apparatury	Ukraine	51	Gas equipment manufacturing
Institut Yuzhniigprogaz	Ukraine	40	..
Interconnector	United Kingdom	10	Bacton (United Kingdom)-Zeebrugge (Belgium) pipeline
JugoRosGaz	Yugoslavia	50	Gas trading and transport
Progress Gas Trading	Yugoslavia	50	Gas trading

Source: UNCTAD, based on Gazprom, 1999, pp. 86-102; Heinrich, 2001, p. 78; Liuhto, 2001, p. 27; and Westphal, 2000, pp. 61-63.

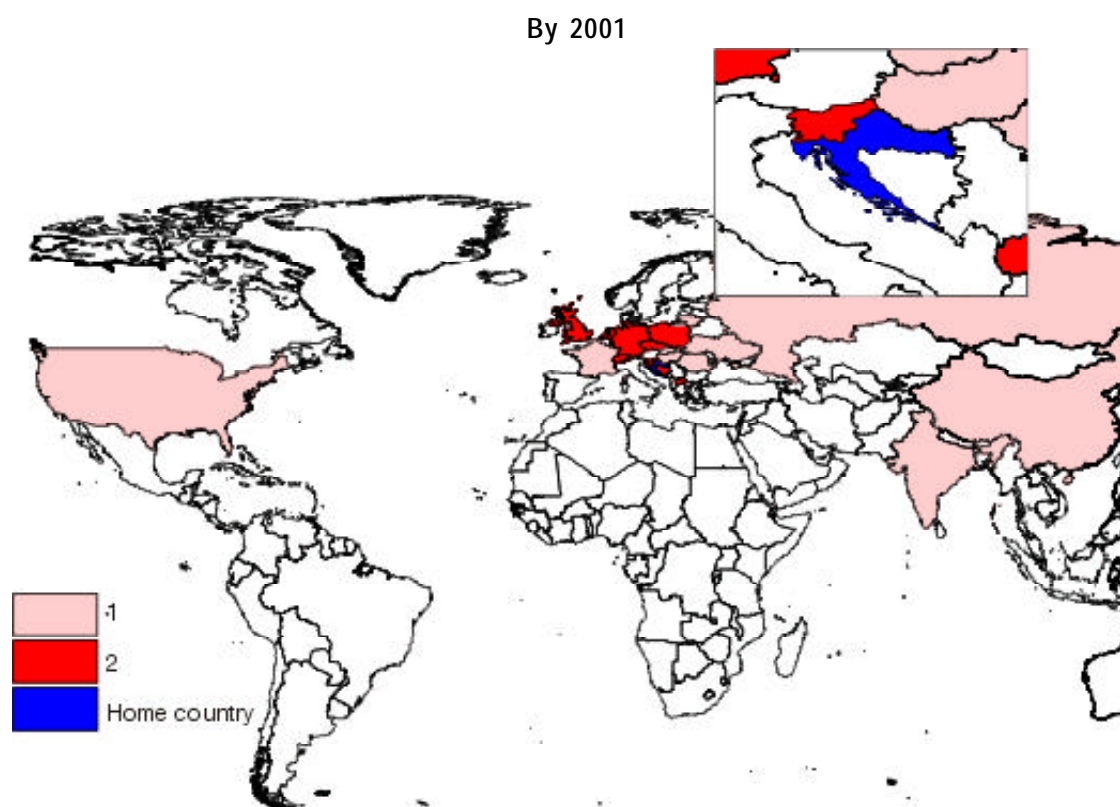
^a Financial investment through Milford Holdings Ltd. (Ireland).

^b Controlled through Wintershall Erdgas Handelshaus.

Figure III.15. Global expansion of Pliva d.d.



Note: There were 2 foreign affiliates established in 1974 (Russian Federation and United States).



Note: Based on 28 foreign affiliates identified, 14 of which are representative offices.

Source: UNCTAD, based on data provided by Pliva d.d.

Table III.18. Selected publicly announced cross-border mergers and acquisitions involving the largest 25 firms, January 1997 to May 2001

Year	Acquirer	Country	Acquired firm	Country	Industry of acquired firm	Value of transaction (million \$)	Share acquired (Per cent)
1997	MOL Hungarian Oil & Gas Plc.	Hungary	Amoco Romania Petroleum	Romania	Gasoline stations	..	100.0
1997	TVK Ltd.	Hungary	Plastico SA	Romania	Plastic Products	..	67.5
1997	Zalakerámia Rt.	Hungary	Cesarom	Romania	Clay product & refractory	9.0	62.0
1997	Zalakerámia Rt.	Hungary	Inker	Croatia	Clay product & refractory	6.5	85.8
1997-2000	Pliva Group	Croatia	Pofa Krakow ^a	Poland	Pharmaceuticals	167.8	89.2
1998	Lukoil Oil Co.	Russian Federation	Petrol SA	Romania	Petroleum & natural gas	56.0	51.0
1998	Pliva Group	Croatia	Fermenta Trebisov ^b	Slovakia	Yeast	1.3	100.0
1998	TVK Ltd.	Hungary	Plastico SA	Romania	Plastic products	1.6	19.5
1998	Zalakerámia Rt.	Hungary	Keramika Horni Briza ^c	Czech Republic	Clay product & refractory	13.7	36.2
1999	Lukoil Oil Co.	Russian Federation	Neftokhim	Bulgaria	Petroleum & natural gas	101.0 ^e	58.0
1999	Lukoil Oil Co.	Russian Federation	Odessa Oil Refinery	Ukraine	Petroleum & natural gas	6.5	51.9
1999	Pliva Group	Croatia	Farmacom	Poland	Pharmaceuticals	4.8	100.0
1999	Pliva Group	Croatia	Mixis Genetics	France	Pharmaceuticals	3.3	100.0
1999	Podravka Group	Croatia	Podravka Kft (Cerere s.r.l. Italy's share)	Hungary	Food & beverages	..	50.0
1999	TVK Ltd.	Hungary	Hamburger Unterland ^d	Austria	Plastic products	27.2 ^f	74.0
1999-2000	Pliva Group	Russian Federation	Lachema a.s.	Czech Republic	Pharmaceuticals	32.2	95.9
2000	Lukoil Oil Co.	Hungary	Getty Oil Plc.	United States	Petroleum & natural gas	71.0	100.0
2000	MOL Hungarian Oil & Gas Plc.	Hungary	Slovnaft a.s.	Slovakia	Petroleum & natural gas	262.0	36.2
2000	Pliva Group	Croatia	Lachema a.s.	Czech Republic	Pharmaceuticals	4.9	26.0
2000	Pliva Group	Croatia	Pharmascience UK Ltd.	United Kingdom	Pharmaceuticals	5.0	100.0
2001	Pliva Group	Croatia	AWD	Germany	Pharmaceuticals	42.6	100.0

Source : UNCTAD, based on firm reports.

^a Renamed Pliva Krakow in 1998.^b Resold in 2000.^c Subsequently reclassified as financial investment.^d Resold in 2001.^e Plus tax arrears of about \$ 260 million.^f Estimate.

Box III.2. Lukoil's acquisition of Getty Petroleum

Lukoil purchased Getty Petroleum Marketing Inc. for \$71 million at the end of 2000. The First Vice President of Lukoil stressed in this respect that "This is the first acquisition of a publicly held American company by a Russian corporation, and it is the first step in our expected expansion into the U.S. market. It is an excellent opportunity for LUKOIL because it gives us entree into the vast American market in partnership with a highly regarded brand. In the future, we may seek to supply the Getty stations with our own petroleum products" (Lukoil, 2000, p. 1).

The acquired firm owns a chain of 1,260 retail outlets in 13 states. It also markets heating oil and other petroleum products. The principal shareholders of Getty (which collectively owned approximately 40 per cent of Getty's common stock) agreed to the transaction, subject to certain conditions. First, Getty's headquarters were to remain in Jericho, Long Island, New York. Second, Lukoil had to make a best-effort promise to avoid laying off employees and to retain the majority (if not all) of the pre-acquisition management. Lukoil also intended to keep the Getty brand, considered as one of the premier and best-known retail brands of petroleum products in the United States.

The managers of both Lukoil and Getty argued that the transaction created major synergies. "The combination of Getty's strong presence in the American market with LUKOIL's capabilities as a world class integrated oil company is going to create a formidable new company," said the chairperson and chief executive officer of Getty Petroleum Marketing (Lukoil, 2000, p. 2).

Source: Lukoil, 2000.

Notes

- ¹ Financial firms are not included because of the different economic functions of assets of financial and non-financial firms and the unavailability of relevant data for the former.
- ² These estimates are based on the estimates of the 1999 sales, assets and employment of foreign affiliates of TNCs, as given in table I.1. These ratios, especially those relating to sales and assets, should be treated with caution, as the data on the foreign assets and sales of the top 100 TNCs, mostly obtained through a questionnaire completed by firms, may not necessarily correspond exactly to the definition of foreign assets and sales used in table I.1.
- ³ The average transnationality index of the world's top 100 TNCs is the average of the 100 individual transnationality indices.
- ⁴ It should also be noted that many shipping companies have registered their fleets (which often represents a substantial part of their total assets) in so-called "flag-of-convenience" countries for tax or other reasons.
- ⁵ The TNIs for the top 100 group were in 1999 higher in all industry categories shown in table III.14 than the corresponding figures for the top 50 group.
- ⁶ These data were collected through a questionnaire survey organized by UNCTAD that took place in February-June 2001 and covered close to 100 firms from 15 Central and Eastern European countries. The integration of Russian firms into this list has been made possible by improved reporting and improved response rate by firms from that country to the survey questionnaire.
- ⁷ As reported in the top 500 list of the Financial Times, <http://specials.ft.com/ft500/may2001/eastern.html>.
- ⁸ Apart from the Estonian cases already mentioned, the most salient example is the investment of Hungary's Matav, majority controlled by Deutsche Telekom, into Maktelekom (TFYR Macedonia), carried out at the end of 2000. Another case is an investment by German-Austrian controlled Dunapack (Hungary) into Romania. Similarly, the Czech affiliate of Germany's RWE Entsorgung has invested in Romania, and Swedish-owned Czech Pramet in Bulgaria, while United States-owned Europharm Brasov has invested from Romania in the Republic of Moldova.

CONCLUSION



World FDI flows are expanding unabated. Their pace of growth surpasses that of most other economic aggregates. As a result, the role of international production in the global economy is on the rise. FDI liberalization, too, proceeds with a multitude of favourable changes in national regulatory regimes and supporting treaty making at the international level. With the growing knowledge intensity of economic activity, TNCs play a key part in creating and applying advanced technologies and managerial practices across the globe. They also account for a large proportion of world trade; about a third of world trade is in the form of intra-firm trade. In addition, they influence international trade indirectly by setting up extensive networks of procurement and subcontracting relations with other firms.

The location of TNC operations and functions is changing in response to new technologies, more liberal policies and intensified competition. During the past two decades, the geographical spread of international production has expanded noticeably. Nevertheless, it is far from evenly distributed across the globe in absolute terms. Developed countries and, in particular, the Triad continue to dominate, receiving over three-fourths of global FDI inflows and originating over four-fifths of outward FDI flows in 1998-2000. Developing countries have increased their participation in international production – both as recipients of FDI and as outward investors – during much of the 1990s, but their share as recipients has fallen during the past two years. The world's top 30 host countries account for 93 per cent of inward FDI flows and 90 per cent of stocks; the top 30 home countries account for around 99 per cent of outward FDI flows and stocks. The latter are mainly industrialized economies and a few large or newly

industrializing developing countries and transition economies. Within countries, FDI tends to be fairly concentrated geographically, responding to the same agglomeration economies that influence local firms. These economies relate to proximity to markets and factors of production, and the availability of specialized skills, innovative capabilities, suppliers and institutions.

The geographical concentration of international production reflects the locational attractions of particular sites. These attractions arise from several factors: natural resources, larger markets and competitive complementary inputs for TNC activity. The even stronger concentration of outward FDI means that only a few home countries have so far created the competitive advantages needed for a significant number of their firms to invest abroad. Together, these are the regions, countries and sub-national areas that benefit more from, and exercise control over, international production.

The geographical concentration of FDI often reflects the size and economic strength of the recipient economies. Low absolute amounts of FDI inflows into small economies, like the least developed countries, may represent relatively high shares of their incomes or total investments. The Inward FDI Index provides a comparative picture of how host countries fare with respect to inward FDI after adjusting for their size, measured by GDP; labour force, measured by number of employed persons; and their competitive advantages as revealed in export performance. Ranking by the Index shows that, in 1998-2000, the top economies in this respect were Belgium and Luxembourg, Hong Kong, China, Ireland, Sweden, and The Netherlands. The value of the Index varies widely among individual countries. Although differences diminish to some

extent when groups of countries are considered, there are also some noticeable differences among them: the Index shows that South America, Central Asia and the African LDCs receive FDI in line with or above their average shares of global GDP, employment and exports, but the majority of developing regions do not. The patterns suggest that there are economic factors other than those captured by the Index that influence a country's international position with respect to inward FDI. They also suggest that government policies can lead to much higher FDI inflows than those predicted by a country's economic size and strength.

Large TNCs dominate international production. Some 90 per cent of the world's largest 100 TNCs are headquartered in the Triad. The electrical and electronic equipment, motor vehicle, and petroleum exploration and distribution industries account for over a half of the world's top 100 TNCs. The top 50 TNCs from developing countries originate in 13 newly industrializing economies of Asia and Latin America (and South Africa) only. The largest of these TNCs from developing countries are as large as the smallest of the top 100 worldwide. They congregate in construction, food and beverages, and diversified industries. The largest TNCs from Central and Eastern Europe are more evenly distributed among home countries: nine countries of the region figure in the list of the region's top 25 TNCs. Transport, mining, petroleum and gas and chemicals and pharmaceuticals are the most frequently represented industries in the list of the top 25 TNCs based in that region.

The locational patterns of international production differ not only by country but also by industry, and they change over time, partly in response to the changing industrial composition of FDI. Within manufacturing, geographical concentration is related to the technological level of the activity: the more advanced a technology, the higher the level of concentration. In less technology-intensive activities and where proximity to customers matters – as with many service industries – FDI is more dispersed. In some industries, trade liberalization has allowed firms to reduce the number of production sites.

The geography of FDI can also be extended to the level of such corporate functions as R&D and financial management. Efficiency considerations, coupled with technological advances enabling real-time links across long distances and the liberalization of trade and FDI policies, encourage a greater spread of all corporate functions. In some industries, this has led to the growth of integrated international production systems spanning regions (as in automobiles) or continents (as in semiconductors). Within these complex systems, the functions transferred to different locations vary greatly. Less industrialized locations are assigned simpler tasks like assembly and packaging, while industrially advanced locations are assigned more skill- and technology-intensive functions.

International production tends to cluster in particular locations in home and host countries, often near other firms and institutions. Major reasons for clustering are proximity to innovative and dynamic firms and research centres and pools of knowledge and skills created by agglomerations. TNCs may also develop new clusters in host countries that are later joined by indigenous firms. As developing countries move up the value chains of international production, the role of clusters in attracting and retaining international production tends to increase.

The drivers of FDI location have important policy implications at the regional, national and local levels. Natural resources and unskilled labour – and perhaps even national markets – are decreasing in significance. The new drivers are skills, technological capabilities, supply networks, good logistics and strong support institutions to attract FDI. Their development becomes key to attracting international production.

This raises important policy challenges for the developing world. Many countries, in particular the poorer and least developed ones, are increasingly marginal to the dynamics of international production. Simply opening an economy is often no longer enough to attract sustained inflows of FDI and to upgrade its quality. Governments need to take a more active and targeted approach, especially if they seek

to attract competitive and export-oriented FDI. And part of such an approach is that countries need to identify and develop, over time, distinct configurations of locational advantages.

Different configurations of locational advantages attract different corporate functions, and these may be either industry specific or cut across industries. They offer several efficiency benefits to firms located in them. In some high-technology industries like electronics it may be possible to attract final-stage assembly on the basis of cheap semi-skilled labour and efficient export-processing facilities. In other activities, production facilities may require developed supply chains within an economy, a wide range of skills, interacting with other firms and knowledge-producing institutions in close proximity. Some back-office activities may require specialized skills (e.g. in accounting). High value functions like R&D or regional headquarters are particularly demanding of advanced skills and institutions. This is why many activities (natural resource extraction apart) tend to agglomerate in specific locations, a process further helped when firms concentrate on core activities, outsourcing others.

Investors – domestic and foreign alike – seek to take advantage of such clusters. In joining a cluster, they often add to its strength. Where agglomeration economies are significant, the rest of the country might be of little relevance to their locational decisions. Hence, attracting FDI in these activities depends increasingly on the ability to provide efficient clusters. An international bank's location choice is not so much a choice between the United Kingdom and Germany as between London and Frankfurt.

In today's highly competitive world economy, successful firms differentiate themselves from their competitors by developing clearly identifiable products with recognizable brand names. The ability to attract FDI, especially high quality FDI, increasingly needs a similar "investment product": the world market for FDI is just as competitive as that for goods and services. One implication of this is that countries that want to attract high quality FDI and benefit

from it need to develop differentiated and efficient clusters that offer real and identifiable locational advantages to international investors and eventually become brand names recognizable to any national or international investor seeking this particular configuration of advantages. Bangalore in India has such a "brand name" for the development of software, as do Singapore and Hong Kong, China for financial services and regional headquarters.

Using clusters to attract FDI calls for new promotion policies, going beyond the first and second generations of investment promotion policies. In the first generation of investment promotion policies, countries simply liberalize their FDI regimes: they reduce barriers to inward FDI, strengthen standards of treatment for foreign investors and enhance the functioning of markets (*WIR94*). Virtually all countries – to be sure, in varying degrees – have, over the past decade or so, undertaken steps in this direction. The assumption was that, once an enabling framework is in place, FDI inflows will increase. Many countries, especially those with weak institutions, can go a long way in attracting FDI in this manner, if the basic economic determinants for obtaining FDI are right (*WIR98*, ch. IV).

In the second generation of investment promotion policies, governments go further and actively seek to attract FDI by "marketing" their countries (Wells and Wint, 1990). This approach finds its typical expression in the establishment of national investment promotion agencies. In 2001, over 160 of such national agencies existed, of which over 100 were members of the World Association of Investment Promotion Agencies, established in 1995. Again, of course, the success of proactive efforts depends, in the end, on the quality of the basic economic FDI determinants.

The third generation of investment promotion policies takes the general enabling framework for FDI and a proactive approach towards attracting FDI as a starting point. It then proceeds to target foreign investors at the level of industries and firms and in light of a country's developmental priorities. The objective is to match the immobile locational advantages of a country

with the mobile competitive advantages of firms, with a view towards upgrading the former. Such a strategy is greatly helped if a country can nurture specific clusters that build on the country's competitive advantages, that capitalize on the natural inclination of firms to agglomerate, and that eventually acquire a brand name.¹ Thus, investment promotion increasingly needs to improve – and market – particular (sub-national) clusters that appeal to potential investors in specific activities. Of course, a country's general economic, political and regulatory features also matter because they affect the efficiency of the clusters within it. But the key to the success of such new investment promotion strategies is that they actually address one of the basic economic FDI determinants.

It must be recognized, however, that such a targeted approach, and especially the development of locational brand names, is difficult, costly and takes time. Moreover, a more targeted and fine-tuned approach – which, in the end, seeks to match the specific functional needs of corporate investors with specific locational products – requires fairly sophisticated institutional capacities. It is, however, facilitated by the proliferation of sub-national agencies (of which a minimum of 240 exist today), and also even by municipal investment promotion agencies that as a rule, seek to market more specific investment products. But this gives rise to another challenge: the need to coordinate

policies across various administrative levels in a country. If that is not done, there is a risk that competition among regions within a country leads to “fiscal wars” and results in waste as far as the welfare of the country as a whole is concerned.

Regardless of the level at which FDI is promoted – and regardless of the precise mix of the three basic investment-promotion strategies outlined above that is pursued – the competitiveness of the domestic enterprise sector (including a pool of skilled people) is the key to the “product”. Strong local firms attract FDI; the entry of foreign affiliates, in turn, feeds into the competitiveness and dynamism of the domestic enterprise sector. The strongest channel for diffusing skills, knowledge and technology from foreign affiliates is the backward linkages they strike with local firms. This can contribute to the growth of a vibrant domestic enterprise sector, the bedrock of economic development. For developing countries, backward linkages are therefore particularly important. The challenge then is how to promote backward linkages – regardless of the type of investment promotion policies that a country pursues. This is the topic of Part Two of this report.

Note

¹ Jamaica is considering a branding strategy for attracting FDI; see Bloom et al., 2001.

PART TWO

PROMOTING LINKAGES BETWEEN FOREIGN AFFILIATES AND DOMESTIC FIRMS

INTRODUCTION



With the growing importance of FDI in economic life, host countries seek not just more such investment, but are also increasingly interested in its quality, in terms of benefits for sustainable economic development. Perhaps the most important way to tap these benefits is through production linkages between foreign affiliates and domestic firms. Such linkages can take several forms: *backward*, *forward* or *horizontal* (table IV.1). *Backward linkages* exist when foreign affiliates acquire goods or services from domestic firms, and *forward linkages* when foreign affiliates sell goods or services to domestic firms. *Horizontal linkages* involve interactions with domestic firms engaged in competing activities. Linkages, broadly defined, can also involve non-business entities like universities, training centres, research and technology institutes, export promotion agencies and other official or private institutions.

The focus of Part Two of this report is on the *backward linkages* of foreign affiliates with domestic firms in host developing countries. These are defined as transactions that go beyond arm's length, one-off relations (as in buying standardized products off the shelf) and involve longer-term relations between firms. In fact, a very large proportion of intra-industry transactions in every country involves linkages in this sense, marked by sustained exchanges of information, technology, skills and other assets. Linkages are of particular significance to developing host economies, because they provide a means of diffusing valuable knowledge throughout the economy – through direct flows to the linked firms as well as spillovers to and from the latter. The benefits provided through linkages with foreign affiliates

tend to be of greater competitive significance than those among domestic firms because of the stronger knowledge and skills base of many foreign affiliates. Linkages with foreign affiliates can therefore be of great importance to the dynamism and competitiveness of the domestic enterprise sector – the bedrock of economic development. Foreign affiliates, in turn, can benefit from backward linkages as they can reduce costs and enhance access to local tangible and intangible assets. Hence there is a substantial mutual interest between foreign affiliates and domestic firms to create and deepen backward linkages.

Foreign affiliates, of course, do not only link to domestic firms but also link, and quite frequently so, to other foreign affiliates in a host country. However, backward linkages to other foreign affiliates, while often unquestionably important, do not offer the same type of benefits for host developing countries as those between foreign affiliates and domestic (i.e. domestically owned) enterprises. The main reason is that domestic firms in developing countries are generally behind foreign affiliates as regards technology, human resources and other competitiveness-related factors, and hence would benefit more in terms of capacity-building than would other foreign affiliates. Linkages with domestic firms are therefore the primary focus of Part Two. The discussion, furthermore, ignores linkages between domestic enterprises and foreign firms that have no local direct investments (e.g. foreign buyers with supply contracts in developing countries). While these can also be channels for transfers of technology, information and skills, they involve different mechanisms and policies that are not the focus of analysis here.

Linkage promotion is not a new policy issue for developing countries (see, for example, Lall, 1980; UNCTC, 1981), but it deserves renewed attention. To begin with, FDI has become much more important in virtually all developing countries (see Part One); hence the issue of how to benefit from it has also become more important. Moreover, the economic setting is changing, and with it TNC procurement and supply chain management strategies. Intensified competition, policy liberalization and new organizational practices are leading firms to raise their reliance on external suppliers of goods and services. This opens up new possibilities for greater (and often higher quality) linkages and makes the availability of suppliers a more important factor in attracting FDI (Part One). At the same time, it imposes more stringent technological, managerial and scale demands on suppliers (and on their support institutions and infrastructure).

Confronted with this changed landscape, governments need to adapt their policies. This is all the more necessary as the ability of governments to promote efficient linkages is subject to new constraints that reduce their policy space. In particular, some frequently used measures to promote linkages, like local content requirements, are no longer permissible in the context of the WTO or other international agreements. It is still possible to promote linkages, but tools are different from those used in the past. Given the rising significance of linkages for domestic competitiveness, it is important to be aware of these tools. The objective, of course, is not just to create linkages for their own sake, but only when they are economically desirable and they enhance the efficiency of domestic enterprises. It is possible to

promote inefficient linkages, for instance, by forcing their formation under protected conditions, such that the linked supplier enterprises never become internationally competitive. This is costly for the host economy, breeding inefficiency and high-cost production structures. More generally, there are trade-offs between deeper linkages and greater dependence of suppliers on buyers.

Chapter IV provides the background to the policy discussion, outlining the significance of backward linkages for host economies and the determinants of linkage formation. It also reviews the evidence on foreign affiliate initiatives to create and deepen backward linkages in host developing countries – without claiming that this review is exhaustive or that the cases presented are representative. Still, it is clear that foreign affiliates and domestic firms, in their own self-interest, are forging linkages, and that best practices in this area can be emulated. At the same time, it is also clear that whatever the current level of backward linkages of foreign affiliates, linkages can be increased or deepened further, with a view towards augmenting the capabilities of domestic firms. This is why policies aimed at promoting linkages are important – precisely the topic of chapter V, the key chapter of this Part. The conclusions in chapter VI highlight the main policy options available to host country governments and provide the elements of a linkage promotion programme. In focusing on concrete policy measures and ways to combine them into programmes, this report seeks to identify pragmatic ways in which the contribution of FDI to the development of host countries can be enhanced.

CHAPTER IV.

BACKWARD LINKAGES: IMPACT, DETERMINANTS AND TNC EXPERIENCE

A. Why backward linkages matter

Backward linkages are important to both foreign affiliates and domestic (linked) enterprises.¹ Take them in turn, starting with affiliates. Most productive enterprises buy a large proportion of inputs - goods as well as services - from other firms.² The ability to source these locally can matter. If foreign affiliates can procure inputs locally, particularly in host economies in which labour costs are low, they can lower production costs (some service inputs, for example, may be very expensive to import). If they can subcontract directly to local suppliers, they can increase their specialization and flexibility, and adapt technologies and products better and faster to local conditions. Technologically advanced suppliers can provide affiliates with access to a pool of external technological and skill resources, feeding into their own innovative efforts. The trend to greater outsourcing and to concentration on core competencies raises the competitive benefits of having efficient support firms close by. This is why strong supplier clusters are of growing importance in the location decisions of firms, particularly for high value activities and functions (see Part One).

Domestic suppliers can also benefit from linkages with foreign affiliates. First, linkages raise output and employment in linked supplier enterprises. The indirect effects on supplier capabilities are probably more important. Linkages can be powerful channels for diffusing knowledge and skills between firms.³ Inter-firm linkages nearly always entail an exchange of information, technical knowledge and skills. Strong linkages can promote production efficiency, productivity growth, technological and

managerial capabilities and market diversification in supplier firms. They can often promote exports by linked enterprises and, under the right conditions, domestic firms may develop to become global suppliers and/or TNCs in their own right (box IV.1). The strengthening of suppliers can in turn lead to various indirect effects and spillovers for the rest of the host economy. Spillovers can take place through demonstration effects, mobility of trained labour, enterprise spin-offs and competition effects (table IV.1).⁴

Box IV.1. ENGTEK: from a backyard business to a global supplier

Eng Teknologi Holdings Bhd (ENGTEK), headquartered in Penang, Malaysia, is a global supplier for the computer hard disk drive and the semiconductor industries. This holding has nine companies in four countries (China, Malaysia, the Philippines and Thailand). Some 2,000 employees generated a total revenue of about \$63 million during the fiscal year 2000, while cumulative capital investment reached more than \$34 million in that year. ENGTEK is run by a professional management team and has been quoted on the Kuala Lumpur Stock Exchange since 1993, moving to its main board in 1999.

Some 25 years ago, in 1974, the company started with a seed capital of \$200, as a tiny family-run venture that produced jigs and fixtures in a make-shift backyard facility. What are the main reasons for this exemplary growth from a no-name small and medium enterprise (SME) to a high-precision manufacturer that supplies competitive, quality value-added products and services to several global players in the electronics industry?

First of all, there is the entrepreneurial drive and the commitment of the founder family, including the vision of becoming the “best-in-class” technology corporation, the continued technological and managerial upgrading of the company to achieve this goal, as well as

/...

Box IV.1. ENGTEK: from a backyard business to a global supplier (concluded)

the uncompromising stand on product quality, price and reliability concerning on-time delivery. Secondly, ENGTEK grew up in a policy environment conducive to enterprise development. Under Malaysia's Vendor Development Programme, TNCs have been encouraged to assist local suppliers to become competitive at the global level. In addition, the Government accorded pioneer status to select local SMEs, which entitled them to generous tax rebates, thus strengthening their investment base. ENGTEK has benefited from both factors. Thirdly, ENGTEK has engaged in closely-knit partnerships with TNCs. For example, Intel provided financial as well as technical assistance needed for the company to produce semi-automated wire bonders in 1981. With partners such as Advanced Micro Devices, Bosch, Fujitsu, Hewlett Packard, Maxtor, Readrite and Seagate, ENGTEK has been involved in designing products, bringing in its specific experience in product development and gaining a competitive edge vis-à-vis potential competitors. As a first-tier supplier company, ENGTEK has been able to link up to the global production systems of its TNC clients, moving up the value chain over time. Partnerships also helped ENGTEK to internationalize and to become a TNC on its own. Finally, ENGTEK realized very early the risks related to an undiversified portfolio both of partners and products. To avoid dependence on one single customer, ENGTEK consciously put efforts into absorbing technology from a number of clients. It widened its range of products, diversifying, e.g., from precision tools into manufacturing of disk-drive components. Moreover, it developed its own technology for original equipment manufacturing and achieved original design manufacturing capabilities, which further reduced its dependency on any particular foreign affiliate.

Source: UNCTAD, based on ENGTEK's presentation at the workshop on Technological and Managerial Upgrading of SMEs through Linkages with TNCs, Penang, 8-9 August 2000, organized by UNCTAD and INTEL; interview with Alfred Teh Eong Liang, CEO, ENGTEK, 10 August 2000; www.engtek.com; and Rasiah, 1999, pp.238-242

Knowledge diffusion through linkages with foreign affiliates can offer specific long-term (or dynamic) benefits to host developing countries. Where, as in industrial countries, both buyers and suppliers are technologically strong and capable, knowledge flows run in both directions. Their focus is then often on new technologies, products and organizational methods. Where, as in most developing countries, local suppliers are relatively weak in technological terms, the flows are likely to be more one-sided, from foreign affiliates to their domestic suppliers. They are also likely to contain more basic technological and managerial knowledge, in that the suppliers are likely to lag behind international best practice frontiers. At a time when the international competitive setting makes it imperative for developing country enterprises to upgrade technology and skills to best practice levels, this is of particular importance.

There is another advantage of linkages between foreign affiliates and domestic firms: they increase the local integration and "rooting" of TNCs and make them less footloose. Since backward linkages involve cost and effort by affiliates, stronger linkages make it more difficult for them to divest. Moreover, TNC linkages with SMEs can promote the formation and upgrading of industrial clusters in host economies, an important component of competitiveness (see Part One; Altenburg and Meyer-Stamer, 1999).

However, not all linkages are equally beneficial for a host economy; some may be harmful. For instance, firms may strike considerable linkages in protected industries in which there is inadequate incentive to invest in technological capabilities. Where such linkages lead to an uncompetitive supplier base, there is a net economic cost to the host economy.⁵ This does not mean that there is no scope for promoting infant industries. But there is a difference between judicious, highly selective and temporary protection to foster technological learning (say, in strongly export-oriented regimes) and open-ended protection to firms – domestic or foreign – that deters learning and upgrading.

Linkages may also involve excessive costs for a host economy even under relatively open conditions. The reason lies in the size and market power of foreign affiliates. Exclusive linkages with large, monopsonistic foreign affiliates can lead to anti-competitive practices and unfair terms and conditions for suppliers (Altenburg, 2000). The distribution of benefits between buyers and sellers is subject to bargaining. Much depends on the technological content of, and value added by, the activities undertaken by suppliers. Suppliers of high value-added and sophisticated products and services are generally better placed to benefit from linkages than those selling simple products. Not only may the former receive higher shares of the revenues generated by their buyers, they may also have greater scope for enhancing their technological and organizational capabilities via linkages. The most advanced suppliers,

such as first-tier suppliers in developed countries, interact increasingly with customers in developing new technologies and products.

Foreign affiliates may be in a strong bargaining position with respect to suppliers, and so apportion to themselves a large share of the benefits of the relationship. For example, some foreign affiliates exact periodical price cuts from their suppliers (Brimble, 2001). Suppliers of simple price-sensitive inputs may, in addition, have to compete with each other by cutting costs, making it difficult for them to raise revenues and pay higher wages. Such suppliers may be forced to bear a high share of the risk of market fluctuations. Moreover, where employees in supplier firms have lower levels of job security and lower rates of unionization than employees in affiliates, there is another risk: outsourcing may be

Table IV.1. Backward linkages and other relationships between foreign affiliates and local enterprises and organizations^a

Form	Relationship of foreign affiliate to local enterprise			Relationship of foreign affiliate to non-business institution
	Backward (sourcing)	Forward (distribution)	Horizontal (co-operation in production)	
"Pure" market transaction	• "Off-the-shelf" purchases	• "Off-the shelf" sales		
Short-term linkage	• Once-for-all or intermittent purchases (on contract)	• Once-for-all or intermittent sales (on contract)		
Longer-term linkage	• Longer-term (contractual) arrangement for the procurement of inputs for further processing • Subcontracting of the production of final or intermediate products	• Longer-term (contractual) relationship with local distributor or end-customer • Outsourcing from domestic firms to foreign affiliates	• Joint projects with competing domestic firm	• R&D contracts with local institutions such as universities and research centres • Training programmes for firms by universities • Traineeships for students in firms
Equity relationship	• Joint venture with supplier • Establishment of new supplier-affiliate (by existing foreign affiliate)	• Joint venture with distributor or end-customer • Establishment of new distribution affiliate (by existing foreign affiliate)	• Horizontal joint venture • Establishment of new affiliate (by existing foreign affiliate) for the production of same goods and services as it produces	• Joint public-private R&D centres/training centres/universities
"Spillover"	<ul style="list-style-type: none"> • Demonstration effects in unrelated firms <ul style="list-style-type: none"> - Spillover on processes (incl. technology) - Spillover on product design - Spillover on formal and on tacit skills (shopfloor and managerial) • Effects due to mobility of trained human resources • Enterprise spin-offs • Competition effects 			

Source: UNCTAD.

^a The shaded area represents the focus of Part Two.

used as a means to reduce employment in affiliates and to transfer pressure onto employees in supplier firms where terms of employment and remuneration may be less formalized (ILO, 2001a, pp. 41-48; Blum, 2001; Harrison, 1994); this is especially the case with respect to lower-tier suppliers. However, the tendency of larger and stronger firms to try to shift the burden of adjusting to falling demand to suppliers with limited bargaining power, or to source from enterprises with no, or less formal, employment arrangements to reduce labour costs, applies regardless of ownership.

Where affiliates are “footloose” and prone to shift to lower cost locations as wages rise, local suppliers may again be forced to bear a high risk. The risk this time is of closure rather than of lower returns. Finally, there is a risk that local firms are displaced by first-tier suppliers that follow the lead firm to a new location (box IV.2). Even where TNCs stay, there is a risk to suppliers that become “locked in” to large buyers. Their fortunes become tied to those of their main customers, exposing them to potential pressure from them and to losses if the latter lose competitiveness. The same risks arise, of course, from being locked into large domestic buyers.

In sum, backward linkages of foreign affiliates matter for host developing countries because they provide opportunities for production and employment by domestic suppliers. More importantly, they constitute a direct channel for knowledge diffusion that can assist in upgrading domestic suppliers, technological and other capabilities, with spillover effects on the rest of the economy. Such knowledge diffusion is of particular importance for domestic firms that are still catching up with internationally competitive practices. The ability of foreign affiliates’ linkages to contribute to domestic supplier development cannot, however, be taken for granted. It depends on the markets in which foreign affiliates operate and therefore the incentive that they have to set up internationally competitive operations. It also depends on the capabilities of domestic firms. Where these are weak, few linkages

will occur. Moreover, linkages with large foreign affiliates, like those with all large firms, raise risks - such as the possibility for domestic suppliers of facing anticompetitive practices, unequal bargaining positions and excessive dependence.

Box IV.2. Linkages to first-tier foreign suppliers

Many foreign investments are followed by an inflow of FDI by key foreign suppliers. This phenomenon (“sequential investment”) is particularly marked in the automobile and automobile-parts industry, and in some segments of the electronics industry (UNCTAD, 2000a). In Brazil, for example, foreign component suppliers have located operations close to the final assembly plants of the leading carmakers that have invested in the country. In 2000, General Motors opened a new factory in Gravatai, Brazil. The plant was designed and developed jointly by General Motors and 16 of its global suppliers.^a Given the increasing need to rely on local sourcing, associate investments by the supplier TNCs were necessary for General Motors’ investment to function. However, while all but one of General Motors’ first-tier suppliers to the Gravatai plant are foreign-owned, all use Brazilian suppliers at the second- or third-tier of the supply chain. Similar developments have been observed for other car manufacturers and in other parts of the world (Humphrey, 1998; Mortimore, 1997; Pries, 1999). Similarly, in the TV industry in Tijuana, Mexico, foreign components suppliers, notably from Asia, established operations in Mexico to follow United States and Japanese TV assembly TNCs (Carrillo, 2001, p.9).

Technological and scale factors often mean that first-tier suppliers to final assemblers in industries such as automotives are foreign-owned. In some cases, domestic supplier firms are taken over by foreign firms. However, linkages between first-tier foreign affiliate suppliers and domestic firms tend to develop at the second- and third-tier levels.

Source: UNCTAD, based on various sources.

^a Tim Burt, “Components of an output revolution”, *Financial Times*, 10 April 2001 and company interview.

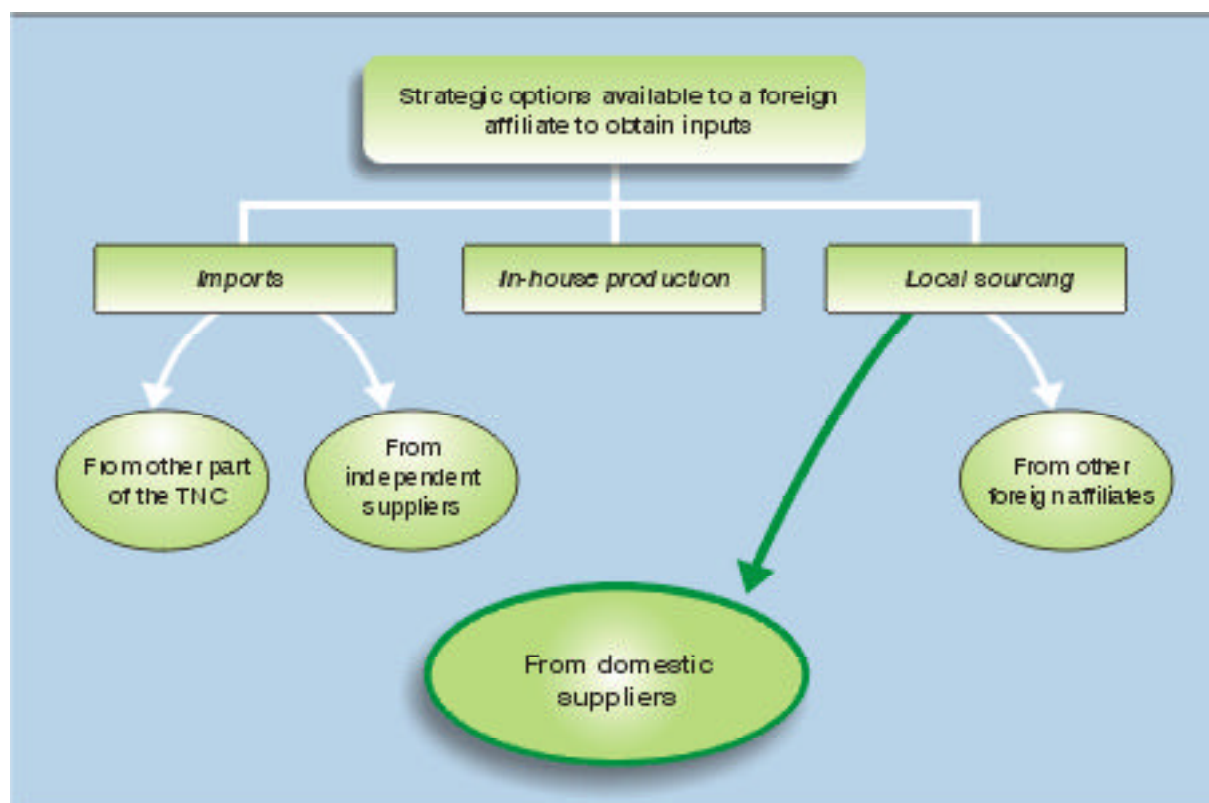
B. Linkage determinants

A firm in any location has three options for obtaining inputs. It can import them, produce them locally in-house or procure them locally from other (foreign or domestic) suppliers (figure IV.1). The extent to which foreign affiliates actually develop linkages with domestic firms differs considerably (box IV.3). Foreign affiliates tend to be in a different position from local firms: they come with international supply chains and with established suppliers that know their technical, quality, scale and cost needs and have the capability to keep up with changing technologies. As a result, TNCs often find it economical to *import* inputs from these suppliers rather than buy locally. Where they need to procure inputs locally, they may find it more efficient to “internalize” them (produce in-house) because of their technological advantages over local firms. There may be other advantages in internalization: to avoid the costs of searching for, negotiating with,

upgrading and monitoring external suppliers. For affiliates with valuable proprietary technologies, internalization also reduces the risk of parting with valuable technological assets that can then leak out to competitors.

However, *producing inputs in-house* also involves several costs. There is the capital cost of setting up production facilities. There are further costs in managing the production process. If inputs enjoy scale economies and a firm is unable to reap them as fully as an independent supplier (that serves a number of customers), it will suffer from higher costs. If a firm has to undertake activities very different from its main area of specialization, it may face inefficiencies and overextend its organizational and technological capacity (Richardson, 1972; Penrose, 1959). Large firms – particularly foreign affiliates in developing countries – may also have to pay much higher wages than small domestic firms.

Figure IV.1. Strategic options for foreign affiliates with regard to obtaining inputs



Source: UNCTAD.

Box IV.3. Evidence on backward linkages

The extent to which foreign affiliates establish backward linkages with domestic suppliers is usually measured by the local content of production or local sourcing by foreign affiliates. For many reasons, however, these measures may not accurately reflect the magnitude of backward linkages with domestic firms:

- Local content indicates the share of total outputs - components or intermediate products and ancillary products and services - produced locally. This includes inputs produced by local (foreign and domestic) suppliers, i.e. local sourcing, as well as those produced in-house by the foreign affiliates.
- Local sourcing indicates the share of inputs supplied by firms in a host country, but very often there is no information available on the ownership of suppliers (domestically owned or foreign-owned).
- Finally, sometimes the definition of local content, for the purpose of determining eligibility under rules of origin in the context of preferential trade arrangements, also includes inputs from other countries belonging to the same preferential trade area.

Bearing in mind these caveats, local content and local sourcing are the most commonly used proxies for backward linkages. The following examples review some evidence on local content (and local sourcing), based on relevant literature.

Several studies have noted that the propensity to source locally is often lower among foreign than domestic buyer firms. This has given rise to concerns in host countries that foreign affiliates have too limited interactions with the rest of the host economy. In Nigeria, foreign affiliates had a higher propensity to import than their local counterparts (Landi, 1986). Similar findings were made in the case of Ireland, Republic of Korea and India (McAleese and McDonald, 1978; Jo, 1980; Kumar, 1990). In Hungary, it was found in 1999 that on average the share of inputs procured from Hungarian suppliers was markedly higher in the case of domestic producers (59-62 per cent) than that of foreign affiliates (39 per cent) (Tóth, 2000). In a sample of 12 foreign-owned firms in Costa Rica “over 95 per cent of physical inputs are supplied ‘in house’ through their respective TNC networks” (UNCTAD, 2000a, p.104). Conversely, a small sample of national firms interviewed in the same survey sourced about 30 per cent of their inputs locally (UNCTAD, 2000a, p.105).

In selected *developed* host countries, affiliates source between 10 and 20 per cent of their inputs locally (i.e. supplied by domestic or foreign-owned suppliers). The average percentage of local sourcing observed in studies of various United Kingdom regions, for instance, ranges from 10 to 25 per cent (Collis and Roberts, 1992; Phelps, 1993, 1997; Crone and Roper 1999; Turok, 1993). Some evidence suggests that local procurement increases overtime. In Ireland, for example, raw materials sourced locally as a percentage of total raw material inputs in non-food manufacturing increased from 16 per cent in 1986 to 19 per cent in 1994; and in a sample of affiliates in the electronics sector, the percentage of raw materials and components procured locally increased from 8 per cent to 24 per cent in the same period (Görg and Ruane, 1998). During the 1990s, foreign affiliates of Japanese TNCs increased their local procurement in basically all host country regions, primarily by buying more from other Japanese companies in the respective host countries (Japan, METI, 2001).

In *developing* countries, the share of locally-sourced inputs by foreign affiliates varies by industry and region. Local sourcing by foreign affiliates is particularly low in the garments industry – between 5 and 10 per cent (UNCTAD, 2000a). In the Dominican Republic and Costa Rica, for example, very limited subcontracting was observed, essentially restricted to firms located in the industrial processing zone. Weak linkages were mainly attributed to the tariff regime of the main destination market, the United States. In Morocco, similarly, the share of inputs from domestic and foreign-owned suppliers of the garments industry’s principal export items was estimated at only 10 per cent in the late 1990s. As in the case of the Dominican

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Box IV.3. Evidence on backward linkages (concluded)

Republic and Costa Rica, the trade regime, which allows for the duty-free import of intermediate goods used in export production (UNCTAD, 2000a, p. 101), worked against local sourcing.

In the electronics industry, sourcing patterns appear to differ significantly by host country. For example, in 2001, foreign affiliates in the colour TV industry in Tijuana, Mexico, sourced about 28 per cent of their inputs locally, of which only a very small proportion (3 per cent) was supplied by Mexican-owned firms (Carillo, 2001). Meanwhile, in Malaysia, locally-procured components by foreign affiliates in the electronics and electrical industries comprised 62 per cent of exports in 1994; the corresponding figure for Thailand was 40 per cent (UNCTAD, 2000a, p. 71). However, in both countries, the most strategic parts and components were supplied mainly by foreign-owned companies rather than domestic ones (UNCTAD, 2000a, p. 71). In the hard disk drive industry, the level of local content provided by affiliates and domestic firms in Thailand was estimated at 30 to 40 per cent of total production cost in 2001 (Brimble, 2001, p. 2).

In the automobile industry, a global restructuring process has been under way for the past two decades, with all the major automobile producers, and their component suppliers, locating in developing countries. Assemblers have been moving increasingly towards “global sourcing” from preferred suppliers. Some of these locate in the production sites of the assemblers (box IV.2). This process has often been accompanied by a shake-out of domestically-owned supplier firms (UNCTAD, 2000a, pp. 148, 152, 162; Barnes and Kaplinsky, 2000). Local sourcing in the automobile industry has increased in host countries that have become global export bases for components. For instance in Mexico, local content from Mexican-owned suppliers and subcontractors stood at 30 per cent by 1995. Conversely, in Brazil, where local content in the automobile industry had been at a very high 85 per cent in 1990, local input shares fell throughout the 1990s. Imports of components rose from 8 to 24 per cent of production between 1990 and 1996, resulting in a weakening of the local supplier industry (UNCTAD, 2000a, p.152). A similar process has been observed in Argentina and Thailand (UNCTAD, 2000a, p. 155) as well as in South Africa (Barnes and Kaplinsky, 2000). In Thailand, the automobile industry’s local content is estimated at 19 per cent for passenger and heavy commercial vehicles and 25 per cent for pick-up trucks^a (UNCTAD, 2000a, p. 161). Local content in the production by foreign affiliates in the Malaysian automobile industry was around 30-40 per cent in 1996 (UNCTAD, 2000a, p. 165). In China, a policy of “localization” stipulated that foreign affiliates in the automobile industry had to source 40 to 50 per cent of inputs locally. Several foreign affiliates reached this target, many by inducing their foreign suppliers to invest in China. For example, the share of Shanghai Volkswagen Company’s local sourcing from affiliates stood at 26 per cent in 2000, measured as purchases from foreign-invested suppliers in total local purchases (Xia and Lu, 2001, pp. 8-14).

In many of the *transition* economies in Eastern Europe, FDI has only been present since the early 1990s. It is therefore of interest to note some examples of high levels of local sourcing. In Poland, a sample of some 30 foreign affiliates responding to a 1997 survey reported that 75 per cent of inputs were then sourced from local firms, compared to 65 per cent at the time of their establishment in the early 1990s (Floyd, 2000). In the Czech Republic, Volkswagen-Skoda in the mid-1990s was sourcing roughly three-quarters of its inputs from suppliers based in the country. Of Skoda’s 279 registered suppliers, 174 (62 per cent) were Czech-owned, 19 were Slovak-owned and 86 were foreign affiliates and joint ventures with firms from the United States, United Kingdom, Germany, Italy and France (Skoda Auto, 2001). The degree of local sourcing – again, not necessarily from domestically owned firms – is much related to policies pursued in the preferred destination market of the European Union.

Source: UNCTAD, based on various sources.

^a The official figure is higher: 45 – 60 per cent, depending on the car model. See UNCTAD 2000a, p. 160.

Excessive internalization can therefore lead to a loss of flexibility, higher labour costs and diversion into unrelated technologies. The global trend is to focus on core competencies and to contract out other components and services, reflecting both the cost and complexity of technological change and intensifying competitive pressures. Specialization is just as much a feature of international production systems. TNCs are combining the spread of facilities abroad under their management control with a growing web of supply relationships with independent firms at each stage of production. In fact, in some industries, firms are subcontracting out the entire manufacturing process to independent "contract manufacturers", retaining for themselves only such functions as R&D, design and marketing (Kagami and Kuchiki, 2000). Most contract manufacturers hail from industrial countries; however, some are appearing in industrializing developing countries like Singapore.

The decision to *source locally* in a host country depends on the cost, quality, reliability and flexibility of local suppliers relative to suppliers abroad. Proximity matters in many sourcing choices. Being near suppliers can make procurement more flexible and easier to negotiate and monitor. It is essential where much information and technical interchange is required for efficiency. Where the input is a constantly used service, again, it is more efficient to have the provider nearby. An efficient network of suppliers allows affiliates to reduce risk or disruptions in input supply and to adjust capacity utilization more readily to market conditions. Trust, which plays an important role in all transactions, is easier to develop with face-to-face interaction.

However, establishing linkages can be an expensive process. In any setting, efforts are needed to identify suitable suppliers and ensure that they can meet the exacting needs of buyers. Sometimes this can be facilitated by meso-institutions such as chambers of commerce, business associations or providers of business development services (Doner and Schneider, 2000). For instance, some business

associations serve as a venue for the exchange of business information, which can include specific data on subcontracting opportunities, or on opportunities for deepening linkages.⁶

In many developing countries the effort required may be particularly great because of the lack of efficient domestic suppliers - the main obstacle to the creation of more linkages (Halbach, 1989; Altenburg, 2000; Battat et al., 1996; UNCTAD, 2000b; Crone, 1999 and 2000).⁷ Where the costs and risks are particularly high but proximity is important for efficiency, TNCs may encourage foreign suppliers to establish local facilities or they may decide to produce in-house. Where the costs and risks are lower, they may make efforts to identify potential domestic suppliers and assist them in reaching the efficiency and quality standards needed.⁸ Where proximity is not important, foreign affiliates may retain sourcing links with independent suppliers abroad or with other plants in their TNC systems.⁹ Centralized or pooled group-sourcing arrangements may encourage affiliates to use foreign sources even when local suppliers are available.¹⁰

While the extent of local linkages generally and those with domestic firms in particular reflects the balance of these benefits and costs in the short term, TNCs may display differences in their sourcing behaviour in similar situations. Apart from differences in firm-level perceptions and strategies, this may reflect the business practice and culture of their home countries. For example, Japanese TNCs, which emphasize close inter-firm collaboration, seem to find it more difficult to establish local linkages abroad than United States firms, which are more market-oriented in their procurement.¹¹ United States affiliates in Malaysia rely more on local supplies than do firms from either Japan or the European Union. On the other hand, Japanese companies, once they enter into supply relationships with local firms, seem to establish deeper and more long-term relationships than their United States counterparts (Institute of Developing Economies, 1994).

Still, local sourcing patterns change over time and as experience grows, suggesting that the nationality of TNCs should become less important in comparison with other TNC-related factors in explaining local linkages. What are these other factors? The main ones are the following:

Investment motives and strategies.

The propensity of foreign affiliates to forge local linkages is affected by the motive for investing in a host country. Domestic-market-oriented affiliates generally purchase more locally than do export-oriented firms.¹² Domestic suppliers find it easier to serve activities aimed at domestic markets, particularly where quality and technical requirements are lower (as in protected markets). They also have the advantage of knowing local consumer preferences. In some developing countries, local sourcing by affiliates may also be motivated by the desire to avoid exchange rate risks. On the other hand, cost and quality requirements are much more stringent in export-oriented activities (and host countries also tend to impose fewer controls on sourcing of inputs in export-oriented affiliates). In particular, foreign affiliates that are part of international production systems are likely to be more dependent on global corporate sourcing policies and, thus, less able to choose suppliers freely. While such affiliates (e.g. in the automotive and electronic industries) source large numbers of components, sub-assemblies and services locally, with major opportunities for firms that qualify as suppliers they tend to reduce the number of first-tier suppliers and enter into closer relationships with those that remain.¹³

These core suppliers are expected to have a capability to manufacture and supply – on a global basis – complex systems, to have independent design capacity and to solve problems jointly with the assembler. Such stringent requirements make it more difficult for domestic suppliers in host countries to enter the supply chain.¹⁴ Hence, domestic firms in developing countries supplying to affiliates that are part of integrated production systems typically belong to a lower tier and provide relatively simple inputs – cardboard boxes, plastic and

foam rubber packaging materials, metal stamping, die-making and simple assembly (Ganiatsos, 2000, Yoon, 1994; Carrillo, 2001; UNCTAD, 2000a).¹⁵ However, domestic suppliers that manage to survive in this competitive environment enjoy increased productivity, technology upgrading and export growth (box IV.1).

Technology and market position.

Linkages reflect the technology used and the market position of TNCs. Foreign affiliates making standardized products with mature, non-proprietary technologies tend to prefer externalized, arm's length procurement: there are many suppliers to choose from, and it is not necessary to develop special capabilities in any supplier. Where products are specialized and technologically advanced, on the other hand, affiliates tend to prefer in-house production or to retain relationships with a few selected suppliers.¹⁶ TNCs in price-sensitive segments respond more to wage differences than those in markets where innovation and quality are important. The former are generally relatively footloose and less willing to invest in local skills and supplier upgrading.¹⁷

Role assigned to affiliates. The degree of autonomy given to affiliates affects sourcing: greater autonomy allows more development of local suppliers. In turn, affiliates with stronger local links are likely to be given more autonomy (Zanfei, 2000). In Mexico, for example, the lack of local autonomy as regards purchasing was found to be an impediment to linkage development.¹⁸ Affiliates considered to be “centres of excellence”, with regional or global mandates for complete products, services or technology, tend to be more integrated with local suppliers (Frost et al., 1999; Holm and Pedersen, 2000).

Age of foreign affiliates. Many studies have found that local procurement by foreign affiliates tends to increase over time.¹⁹ The more experience a TNC gathers in a foreign country, the more managers are recruited locally and the more knowledge it gains about local suppliers, the lower the costs of sourcing locally.²⁰

Mode of establishment. For similar reasons, affiliates established through M&As are likely to have stronger links with domestic suppliers than those established through greenfield investment (WIR00; Scott-Kennel and Enderwick, 2001). The latter take time and effort to develop local linkages while the former have “ready-made” linkages that are likely to be retained if they are efficient. For example, a study of Japanese TNCs concluded that acquired affiliates had significantly higher local content levels than those established through greenfield investment due to their pre-acquisition embeddedness in the local economy (Belderbos et al., 2001). Similarly, affiliates of Swedish TNCs and affiliates in Central and Eastern European countries have been found to rely more on imports of inputs when established via greenfield investment; in the case of the Swedish TNCs’ affiliates, this difference persisted also in the longer-term. If, on the other hand, existing linkages are inefficient, M&As may lead to a switch to foreign suppliers (WIR00).

Size of affiliate. Large foreign affiliates have been found to source less locally than small ones: they can internalize their operations better, and local suppliers find it difficult to supply very large volumes.²¹

The linkage potential also varies by industry (box IV.3). It is easier to source externally when the technology is divisible into discrete stages and services than when it is a continuous process.

- In the *primary sector* the scope for linkages between foreign affiliates and local suppliers is often limited. Production processes tend to be continuous and capital intensive.²² Still, possibilities exist, for example in mining (see box IV.4).
- The *manufacturing sector* has a broad range of linkage-intensive activities, but there are large variations by industry. Food processing involves high ratios of intermediate inputs to total production and extensive backward linkages between foreign affiliates and domestic suppliers of raw and packaging materials. By

Box IV.4. Linkages in the Peruvian mining industry

In 1998, Peru’s mining industry purchased goods and services for \$1.37 billion, of which \$800 million were acquired locally and \$570 million were imported (Peru, SNMPE, 1999, p. 13). The production capacities of domestic firms in goods and services that are inputs for the mining industry and, hence, their ability to supply, vary considerably (UNCTAD, 2000c, p. 63).^a Until recently, the local supply capacities have not been fully utilized, mainly because there has been little incentive for local firms to upgrade as the markets have been virtually monopolized and protected. As a result, their costs and quality have not kept abreast with the standards required by large-scale mines that can purchase inputs from more competitive sources abroad.

For certain inputs, however (e.g. power generation and technical services), domestic firms already have strong capabilities. In Peru, relatively few users need to rely on self-generated power (Peru, SNMPE, 1999, p. 40). This is a favourable factor for mining firms as they are able to save the capital costs of setting up power generation facilities, and can benefit from the economies of scale in power generation. Significant local capabilities have developed in technical services, too. This is supported by undergraduate and post-graduate courses in geology, mine engineering, environmental engineering and metallurgy, offered at local universities. Domestic firms are able to conduct technical and feasibility studies, and have the necessary capabilities in related civil and structural engineering and construction. The Peruvian environmental engineering design and monitoring services are considered to be of particularly high standards.

Source: UNCTAD, based on UNCTAD, 2000c.

^a The variation of local supplier capabilities is confirmed by concrete case studies in gold and copper mining. A case study on gold mining joint venture Minera Yanacocha S.A. (Kuramoto, 2000) has found that, sub-national variations set aside, local sourcing is substantial in both goods and services, but more developed in the latter. Another case study on Southern Peru Copper Corporation has found that in 1998, this firm sourced more than 60 per cent of its purchases locally (Torres Zorrilla, 2000, pp. 45-46). The most important items sourced exclusively from within Peru were diesel oil, fuel oil and ball bearings. On the other hand, rubber tyres and tubes, transportation equipment and parts, and earth-moving equipment were mostly imported (Torres Zorrilla, 2000, p. 47).

contrast, textiles and clothing show relatively low local linkages; the textile industry needs considerable sophistication and size to provide the variety and quality of fabrics needed by foreign affiliates that generally produce clothing for export.²³ Engineering activities offer linkage opportunities because processes are divisible. However, where technical needs are stringent, as in machinery and precision instruments, subcontracting tends to be limited.

- The *tertiary sector*, led by finance, trading, tourism and utilities, accounts for growing shares of FDI in developing countries. The scope here for dividing production into discrete stages and subcontracting out large parts to independent domestic firms is also limited. Still, some service industries such as retailing and construction offer considerable potential for linkages with physical input supplier (box IV.5). Similarly, foreign hotel operators can make significant local purchases of foodstuffs, furniture and fittings (Dunning, 1993). Increasingly, the services component of some activities is being subcontracted to reduce wage costs. (“Back office” services by airlines, banks or retailers are good examples.) Developing countries like India are making inroads into this market;²⁴ but, at this time, this subcontracting is primarily international. It may spread locally as services within developing countries are upgraded and telecommunications improve.

The above review shows that the degree of linkages is affected by a number of factors, with notable differences between industries, activities and TNCs. Basically, the extent of linkages established depends on the balance of costs and benefits involved. Still, the creation and deepening of linkages are sometimes of mutual interest to foreign affiliates and local firms. Unsurprisingly, then, there are examples of TNCs that make considerable efforts in order to foster local linkages, while others do not. Some evidence on such efforts is reviewed in the next section.

Box IV.5. Sourcing in the food retailing industry: Carrefour and McDonald’s in Argentina

Foreign affiliates in food retailing are typically oriented towards the domestic market, and hence rely to a high degree on locally procured inputs. The Argentinean retail sector provides some illustrations of typical strategies vis-à-vis local suppliers.

Carrefour’s sourcing strategy differs by product groups.^a Since the merger with Promodès in 2000, Carrefour has begun centralizing its sourcing in response to growing competition with other retailers, such as Ahold, Wal-Mart Stores and Casino. For *processed* food products, one central procurement office serves all retail outlets in Argentina; in fact, in some cases, one supplier delivers a particular product to all outlets in the MERCOSUR area. Thus, suppliers need to operate a sufficient scale to meet the demand of the entire network. In the area of *fresh and staple foods*, local suppliers, producing local brands with strong market recognition for individual retail outlets, predominate; many of these were originally domestic brand-name food firms that had been acquired by TNCs since the late 1990s.

McDonald’s uses a similar sourcing strategy in most of its affiliates in different countries, with minor local adaptations.^b In Argentina, about 87 per cent of McDonald’s basic food products are sourced locally. Once a supplier and McDonald’s have agreed on standards and quality guarantees along the food chain,^c contracts tend to be long-term. Moreover, McDonald’s then transmits its international know-how to its supplier. As a consequence, supplying to McDonald’s is often considered an indication of quality and reliability and can lead to new contracts with other buyers. As in the case of Carrefour, supplier firms to McDonald’s are today predominantly foreign affiliates, following mergers with or full acquisitions of previously locally owned firms. Some greenfield investments have also been undertaken. For example, McCain (United States) established a large plant to produce frozen fries in the main potato-growing area of Argentina.

Source: UNCTAD, based on Green and Tozanli, 2001.

^a Carrefour had 364 retail outlets in Argentina, with a turnover of 2.2 billion euros in 2000.

^b The company had 173 outlets in Argentina at the beginning of 2001.

^c This includes standards regarding employment, food processing and preservation, as well as with respect to environmental concerns such as provisions for the recycling of packaging materials.

C. Creating and deepening linkages: what companies do

Many TNCs have specialized organizational units and procedures to deal with suppliers and subcontractors. Some even have special supplier development programmes.²⁵ A survey of TNCs in the automobile and electronics industries found that 16 out of 18 automotive TNCs had adopted a strategy for global supplier development, while the corresponding data for electronics TNCs was 8 out of 15 (Handfield and Krause, 1999). For instance, in Malaysia, four of eleven electronics affiliates surveyed had such programmes (Giroud, 2001a); a survey in Northern Ireland found 38 per cent of foreign affiliates with similar programmes (Crone and Roper, 1999).²⁶ However, what matters for the present discussion is not so much the frequency of such efforts. The point is that, whatever some TNCs have done can be emulated by other firms that seek to create and strengthen linkages with local suppliers. Some examples are given in this section and the annex to this chapter. They are not necessarily representative and are mostly based on experiences in economically more advanced developing countries. Still, they do give an insight into what companies can do.²⁷

Whether as part of special supplier development programmes or not, efforts to create and deepen linkages involve steps for finding suppliers and ensuring efficient supply through technology transfer, providing training, sharing business information and/or giving financial support. The ultimate objective usually is to expand the number of suppliers that meet the requirements of foreign affiliates in terms of cost, quality and timely delivery, and/or to help existing suppliers improve their capabilities in one or more areas. For some TNCs, efforts to upgrade supplier activities are part of a corporate strategy taking broader economic and social considerations into account. Activities that foreign affiliates undertake to implement their programmes and achieve their objectives are reviewed briefly below; additional details and examples are contained in the annex to this chapter.

1. Finding new local suppliers

In host developing countries and economies in transition, where supply chains are generally not well developed, there is a particular need for efforts to identify potential suppliers. This may be especially important for affiliates that depend on inputs that cannot be imported easily or produced in-house. There are many ways for foreign affiliates to do this, of which the most common ones are as follows:

- *Making public announcements* about the need for suppliers and the requirements that firms must meet on costs and quality, ability to undertake continuous improvement, technological capabilities and delivery. Provision of such information is quite common. For example, it is an important part of Nestlé's activities related to the selection of suppliers (box IV.6).
- *Supplier visits and quality audits* are commonly used to evaluate and develop new (as well as existing) suppliers in developed and developing countries. For example, in the United Kingdom and Singapore, about 60 per cent of the affiliates conduct site visits to audit the quality of suppliers (PACEC, 1995; Tan, 1990). The corresponding figure in Northern Ireland is 47 per cent (Crone and Roper, 2001). Regular follow-ups on delivery, inventory performance, quality rating and cost improvements are relatively common.

As noted, efforts in finding new suppliers are likely to be the most frequent in foreign affiliates that are highly dependent on having access to a dynamic base of local suppliers. Factors that affect the behaviour of foreign affiliates in this respect include host country trade policies, the nature of inputs required and the competitive aspects of the supply structure of the foreign affiliates.

2. Transferring technology

To ensure that the inputs procured meet their stringent technical requirements, foreign affiliates often have to provide suppliers not just with specifications but sometimes also with assistance in raising

Box IV.6. Nestlé's supplier development programme in China

Nestlé operates 18 factories in China, producing a large variety of products including beverages, milk products, infant nutrition, ice cream, cooking aids, chocolate and confectionery. In 2000, the company's turnover in China was about CHF1 billion. High quality packaging is required to transport products and store under difficult climatic conditions, taking safety, health and environmental considerations into account. Nestlé initially had major difficulties in finding packaging of the required quality. In 1992, much of the company's supplies were imported. To expand the number of viable suppliers, Nestlé decided in 1994 to engage in active supplier development; by 1997, 98 per cent of its needs were covered by local suppliers.

As a basis for its selection of suppliers of agricultural and dairy produce, as well as packaging materials, Nestlé develops "specification sheets" that state the requirements to which every procured product or service must conform. The selection of suppliers is based on various criteria, including the acceptance of Nestlé's specifications, acceptance of audits and inspection, the existence of a well-structured quality assurance system, technical competence in their field of activity, good quality record, reliability and economic viability.

Nestlé's approach in China to develop suppliers of packaging materials was pragmatic and directed to concrete needs. When possible and economically feasible, the company worked with local suppliers to help them meet quality standards by providing information, technical assistance and sometimes also financial support.

- *Information provision.* The main contribution was to help suppliers improve their understanding of specifications required, and to improve certain commercial and quality aspects. Suppliers were given the information needed to meet the quality standards of Nestlé. Information has also been given to help suppliers contact Nestlé affiliates in other countries.
- *Technical assistance.* Nestlé staff visited the suppliers' premises before buying and again later whenever needed, and gave advice on technical aspects of production. Production assistance is given by specifying and improving quality assurance elements, helping to avoid and analyse defects in first deliveries, giving the chance to deliver in small quantities, etc. Nestlé's Quality Assurance Department gave assistance in production control and to improve the quality control system of suppliers. One supplier, for instance, was helped to overcome problems related to printing quality, bonding strength of the laminate and heat sealability.

Nestlé's efforts to establish proper quality control procedures contributed to an improvement of the competitiveness of suppliers of packaging materials, and some of them subsequently exported to Russia, the Republic of Korea and elsewhere in Asia. So far, Nestlé has dealt with 154 suppliers of packaging materials, 45 of which are foreign affiliates or joint ventures with foreign affiliates, and 109 are local. Of the ten main suppliers, six are domestic companies, three are foreign affiliates and one is a joint venture.

Nestlé's affiliates in China also assist providers of raw materials. For example, major efforts were undertaken in China to help develop local growers of coffee. During the first two years of operation of a Nescafé factory established in 1991 (of which Nestlé controlled 60 per cent and a Chinese state company the remaining 40 per cent), all green coffee was imported. To facilitate a switch to local supplies, Nestlé set up an Agricultural Technical Assistance Service (ATAS) to promote the cultivation of coffee in China. The ATAS in China began its activities in 1990 and, by 1996, employed 17 agronomists and agro-technicians and 33 farm-hands working on two Nestlé experimental, demonstration and teaching farms. The ATAS offered a number of services, such as advice on which sites are best suited for coffee plantations; how to terrace the land and select the coffee to be planted; and how to plant, use fertilizers, prune, fight pests and diseases, etc. In 1995, Nestlé created a Professional Training Department to provide technical and practical training to a number of target groups: those responsible for growing and selling coffee, agronomists and civil servants and individuals interested in entering the business. Some agronomists have been trained as trainers, in order to be able to extend the training to more people.

Source: UNCTAD, based on Nestlé, 2001 and company interviews.

suppliers' technological capabilities.²⁸ Such assistance tends, for obvious reasons, to be more prominent in developing countries.

A number of studies throw light on the extent or incidence of technology transfer – broadly defined to include the transfer of proprietary technology as well as technical support or assistance of various other kinds – from foreign affiliates to local supplier firms.²⁹ For example, a survey of 30 large foreign-affiliate manufacturing plants in the United Kingdom found that 67 per cent made contractual arrangements on product specification, 60 per cent provided technical assistance on quality assurance and organizational issues through visits, and 27 per cent of the foreign affiliates provided management advice to their local suppliers (PACEC, 1995). Similar results were noted in a Northern Ireland study, with 18 per cent to 76 per cent of the respondents indicating knowledge transfer activities of one kind or another (Crone and Roper, 1999, table 7.5). In both of these studies, at least half of the managers of the foreign affiliates surveyed were of the view that the knowledge transfers had had a positive impact on their suppliers' competitiveness in terms of price, quality or delivery conditions (Crone and Roper, 1999).

In developing countries, a number of studies on the electrical and electronics industries have focused on the transfer of technology by foreign affiliates to their suppliers. For example, a study carried out among eight foreign affiliates and 16 local subcontracting firms in the electronics sector in Singapore showed that significant technology transfer took place through learning opportunities provided by the exposure to foreign affiliates, e.g. through testing and diagnostic feedback (Wong 1992). Direct transfer of technology was stated to be of moderate importance and took place mainly through technical support, such as the advice or training in quality management systems and other good manufacturing practices. The types of technologies transferred were mostly related to processes, especially in quality-control techniques. In another study in the electronics industry in Singapore, focusing on original equipment manufacturing arrangements between foreign affiliates and

local supplier firms, 89 per cent of the foreign affiliates reported providing technical support as part of their efforts to develop their suppliers (Tan, 1990). In the electronics industry of Malaysia, foreign affiliates were found to have provided significant technical support to their local suppliers (Ismail, 1999; UNDP, 1993). Such support included solving specific technical problems (Capannelli, 1999) and assisting in factory layout, production planning and machinery installation (Ismail, 1999).

The extent of technology transfer appears to rise the more affiliates are committed to long-term relationships with suppliers, the greater the technical complementarity between their activities, and the more specialized or custom-made (rather than standardized) are the inputs supplied.³⁰ Transfers of knowledge are also likely to be positively influenced by the size of affiliates and their export-orientation.³¹ Needless to say, the extent of technology transfer also depends on the host economy and the level of development of local firms. TNCs invest in building local capabilities only when the investment can be expected to yield a return in a reasonable period. Where potential suppliers lack the minimum base of skills and know-how needed to absorb technologies and management practices (and support institutions are lacking or weak), TNCs may find it too expensive or risky to try and bring them up to the standards needed. Given minimum levels of capability, moreover, affiliates differentiate their technological relations according to individual suppliers. Primary attention is typically given to a limited number of key suppliers that provide the most complex and strategically important inputs, the production of which requires close interaction between the buyer and supplier. Highly ranked suppliers receive larger and higher value-added orders, along with greater technical assistance and know-how .

Technology transfer by foreign affiliates to suppliers can be categorized according to the area of technology involved; an affiliate may engage in several simultaneously (boxes IV.7 and IV.8).

The first area of technology transfer relates to *product technology*. Forms of transfer include the following (see also the annex to this chapter):

- *Provision of proprietary product know-how.* The incidence of transfer of proprietary technology is relatively low. When it occurs, such transfers seem to concentrate on a few “preferred suppliers” (see e.g. box IV.9) (Wong, 1992; Yoon, 1994; Handfield et al. 2000).
 - *Transfer of product designs and technical specifications.* Such transfers can take the form of detailed technical specifications and designs to enable local suppliers to manufacture the required inputs. Some studies have found this to be the main form of transfer of product-related technology (Wong, 1992; Ismail, 1999).
 - *Technical consultations with suppliers to help them master new technologies.* Some affiliates provide advice to local suppliers on product characteristics or parameters. Such technical support activity helps local suppliers in adopting and absorbing new product-related technology.
 - *Feedback on product performance to help suppliers improve performance.* Such feedback reports often include diagnostic measures. Regular feedback to suppliers has been found to be more frequent in foreign affiliates that have implemented special programmes on supplier development (Crone and Roper, 1999).
 - *Collaboration in R&D.* Such buyer-supplier relationships typically require a critical minimum level of research capability of the host countries involved. In some cases, collaboration in R&D may involve local universities or research institutes (see e.g. box IV.8).
- manufacturing processes, quality control methods, inspection and testing methods. Affiliates may also advise supplier firms on the selection/use of process equipment/technologies.
- *Visits to supplier facilities to advise on layout, operations and quality.* Personnel of foreign affiliates visit suppliers’ premises in order to provide advice on factory layout, installing machinery, production planning, production problems and quality control. Such visits may take place weekly or monthly or whenever the need arises. Sometimes it may also involve seconding affiliates’ engineers to the supplier’s factory for a certain number of days (Ismail, 1999).
 - *Formation of “cooperation clubs” for interacting with or among suppliers on technical issues.* Such clubs are particularly common in Japanese TNCs and sometimes arrange for activities such as quality control presentations, discussions of case studies on quality improvement, value analysis and cost reduction activities; and also organize workshops on technical guidance and training (see box IV.10; also see box V.5).³²
 - *Assistance to employees to set up their own firms.* Employees of foreign affiliates are sometimes given support to start their own business and become suppliers. Having worked in an affiliate, the employee-turned-entrepreneur has a better understanding of the requirements of the affiliate. In addition to procurement guarantees, affiliates provide know-how, equipment and technical assistance to such start-up firms.³³

The main forms of transfer of *process technology* are (see also the annex to this chapter):

- *Provision of machinery and equipment to suppliers.* Foreign affiliates sometimes transfer machine-embodied process technology by providing machinery/equipment to local suppliers. Such equipment may be related to the manufacturing of the product to be purchased or testing equipment for quality control.
 - *Technical support on production planning, quality management, inspection and testing.* Such support includes assisting supplying firms in improving their
- Organizational and managerial know-how* can be transferred in the following ways (see also the annex to this chapter):
- *Assistance with inventory management and the use of just-in-time and other systems.* Such assistance is of particular importance where the continuous supply to suit a foreign affiliate’s production schedule is vital. This applies, for example, to the automotive industry.
 - *Assistance in implementing quality assurance systems* (including ISO certification). Some foreign affiliates provide support to their suppliers in

Box IV.7. Cooperation between foreign affiliates and local suppliers: the case of LG Electronics in India

Some foreign affiliates use advanced and systematic techniques for transferring technology and information to linked enterprises, based on their experience elsewhere. For instance, the Indian affiliate of the Korean TNC, LG Electronics, uses techniques for supplier development such as “early supplier involvement” to implement the Six Sigma system of statistical analysis for quality and productivity improvement. It helps them with process redesign and re-engineering and direct on-line supply. It provides them with global cost benchmarks, data not easily available to local counterparts. Suppliers are provided with assistance in “factory innovation” to improve quality and profits. Some are helped to set up facilities close to the buyer to improve logistics. Selected vendor employees are sent to overseas plants, invited to regular meetings and presented with awards. They can participate in LG’s training programmes and are instructed in e-commerce techniques. By being exposed to global quality and cost standards, they can meet export market demands directly; LG helps them to enter export markets.

Source: UNCTAD, based on Kalyankar, 2000.

designing and implementing quality assurance systems or total quality control systems. The nature of such systems are often industry-specific.

- *Introduction to new practices such as network management or financial, purchase and marketing techniques.* Foreign affiliates can offer important advice related to various other management-related areas, with important positive effects on supplier performance (see, e.g. boxes IV.9 and IV.10).

The technology transfer and upgrading process can take a long time and may, in some cases, precede actual supply activity. For example, when the French company Saint Gobain decided to set up a float glass plant in Chennai, India, it had major technical problems with potential local suppliers. Firms were disorganized and scattered. Their technological capabilities were limited and they lacked ability to reach minimum standards unaided (Saint Gobain, 2001). Saint Gobain set up specialized teams

to develop suppliers three years before even starting productive operations. The teams, with experts in several disciplines from India and abroad, provided assistance on raw material evaluation, engineering and technical services, information technology support, packaging materials development and logistics management. Each team worked with suppliers to develop cost and business models, to train a largely illiterate labour force; and to educate firms in management concepts. Moreover, the teams acted as intermediaries to help firms obtain loans, where needed, from financial institutions. Four years after the first teams were sent to India, 80 per cent of the raw material requirements were indigenized. Moreover, several suppliers began supplying other TNCs in India.

There are thus various ways in which technology linkages between foreign affiliates and domestic suppliers can be formed and strengthened. The realization of the full potential benefits derived from such linkages by the recipients also involves the transfer of capacity to understand, use and improve a given technology (Komoda, 1986). It involves adapting the acquired technology, as well as its absorption by the recipients (Baranson and Roark, 1985). Complete absorption at the firm-level involves the recipient gaining the capability to undertake innovative activity independently to improve upon products and production processes (Baranson and Roark, 1985; Narayanan, 1999). The transfer of proprietary technology usually comes with restrictions on its usage. Therefore, efforts on the part of a recipient firm to absorb acquired technologies and to improve upon them further become even more crucial.

3. Providing training

The human resource base of supplier firms is vital to the success and sustainability of linkages. Assistance in human resource development therefore often forms part of linkages, and expands the scope for deeper spillovers of skills and knowledge. While evidence on skill linkages is difficult to collect, what exists suggests that they can be significant. In the Malaysian electronics industry, for example, the majority (10 out of 11) of foreign affiliates

Box IV.8. Upgrading supplier capabilities in the food processing industry in India

The food industry is of special interest as it is one of the most linkage-intensive industries and also of great importance in many developing countries. It generates extensive and strong local linkages as a result of the use of perishable agricultural inputs, such as milk and vegetables. Difficulties in importing the required inputs, coupled with restrictions on land ownership in many countries, can make it necessary for foreign affiliates in food processing to rely on sourcing from domestic producers and to engage in efforts to develop new and upgrade existing suppliers.

Field research (conducted by UNCTAD in India in 2001) involved interviews with four leading foreign affiliates of TNCs in the food processing industry of India (Pepsi Foods Ltd., GlaxoSmithKline Beecham Ltd., Nestlé India Ltd. and Cadbury India Ltd.). It revealed that each firm on average sourced locally 93 per cent of their raw material (tomato, potato, basmati rice, groundnut, cocoa, fresh milk, sugar, wheat flour, etc.), and 74 per cent of other inputs (plastic crates, glass bottles, refrigerators, ice chests, corrugated boxes, craft paper, etc.). This high level was achieved in part as a result of comprehensive efforts by these companies to assist in the development of local suppliers.

In order to improve the sourcing of key produce in terms of reliable quantities and consistent quality, the four companies have undertaken a number of measures to strengthen their relationships with suppliers:

- *Collaboration in product development.* All four affiliates are engaged in product development with local research institutes or universities to develop hybrid varieties of crops and vegetables and new agricultural implements to alter cropping patterns and to raise productivity. For example, Pepsi Foods' R&D team has so far evaluated more than 215 varieties/hybrids of chilli, which is believed to be the largest scientific evaluation of chillies at any location. Pepsi's technology in chilli cultivation has raised its yield three times, to about 20 tons per hectare. In addition, Pepsi R&D has developed 15 new agricultural implements to facilitate planting and harvesting in India.
- *Technology transfer and training.* New hybrid varieties, implements and practices are transferred to suppliers (primarily farmers) through Farmer Training Camps. Pepsi provides its contract farmers, free of cost, with various agricultural implements and hybrid seeds/plantlets, as well as process know-how. Cadbury India has a procurement and extension services team that imparts training to potential and existing suppliers on new techniques in planting, harvesting, quality control and post-transplantation care of cocoa crop through technical bulletins, video demonstrations, slides and charts and live demonstrations on the use of various agricultural implements.
- *Introduction of contract farming.* Growers are contracted to plant the processors' crops on their lands and to deliver to the processors, at pre-agreed prices and quantities of output based upon anticipated yields and contracted acreage. Towards this end, a processor usually provides the farmers with selected inputs like seeds/seedlings, information on agricultural practices and regular inspection of the crop and advisory services on crops. Farmers have the choice to leave some part of the output free from the contract arrangement to sell it in the open market.
- *Financial assistance* is provided to growers through the involvement of agricultural development banks. For example, GlaxoSmithKline Beecham acts as a guarantor enabling its suppliers to take bank loans.

Technology transfer to local farmers has apparently had a positive impact. For example, prior to Pepsi's activities (in 1989), the tomato yield was 16 tons/hectare in Punjab; by 1999, the yield of Pepsi's suppliers in Punjab had increased to 52 tons/hectare. A report based on the impact of a number of food processing projects by foreign affiliates indicated that foreign affiliates had contributed to better farming practices (e.g. hybrid seeds, transportation innovation) that resulted in increased incomes and yields (McKinsey & Company, 1997).

Source: UNCTAD, based on field research.

Box IV.9. Unilever in Viet Nam

In Viet Nam, domestic suppliers account for 40 per cent of Unilever's production volume, 20 per cent of its raw materials and 87 per cent of its packaging materials. As local suppliers initially often lack the necessary financial resources, technology, quality control, safety standards and environmental awareness to qualify as suppliers, Unilever assists its local suppliers directly in a number of ways to develop their supply capabilities.

For its five key suppliers, Unilever provides extensive training programmes and offers financial support to upgrade their equipment. Direct technology transfers are made in the form of equipment and machinery, formulations and processing, quality assurance and analytical methods and other best practices. Unilever managers provide on-ground support to help raise efficiency, quality control and consistency of the products supplied. For example, Bicico Chemicals Cosmetic Enterprise became a supplier of detergent paste to Unilever in 1996. When the company showed an interest in expanding its capabilities, Unilever assisted in the start-up and building of a liquid detergent plant in 1997. A second plant was added in 1999. In addition, Unilever provided technology for a powder bleach plant, a detergent paste plant and quality assurance equipment. Business growth and jobs created at Bicico have developed favourably. According to Unilever, Bicico's production volume grew from 3,000 tons in 1996 to 23,000 tons in 2000. In the same period, turnover grew from \$18,000 to \$285,000, and the number of employees from 12 to 250.

In the case of its 76 suppliers of raw materials and 54 suppliers of packaging materials in Viet Nam, Unilever defines quality standards required, establishes the technology input needed to achieve these requirements and, where appropriate, provides the financial support to ensure long-term growth. In addition, Unilever conducts training on quality standards, inspection and testing methods and warehousing specifications. In 1997, for example, Quang An 1 Company became a supplier of plastic bottles for Unilever's factory in Hanoi. Unilever established quality standards, sampling procedures and analytical test methods and provided staff training. The assurance of a steady business volume also allowed Quang An to invest in new equipment. Apart from increasing their business with Unilever sixfold in three and a half years, Quang An's improved capabilities enabled it to win new business from other TNCs and local companies.

Source: UNCTAD, based on Unilever, 2001.

Box IV.10. Fostering linkages with local suppliers: the case of Toyota Motor Thailand

Toyota Motor Thailand (TMT) has established an extensive network of linkages with supplier firms within the country. TMT's first-tier suppliers in January 2001 comprised 575 firms, of which 134 supplied core auto-parts and 441 supplied other materials and facilities (box table IV.10.1). Of the former, Japanese joint ventures and Toyota-related companies accounted for 55 per cent of firms and 79 per cent of the value of supplies. Thai firms with Japanese technical assistance and other Thai firms accounted for 27 per cent of the number of suppliers but only 8 per cent of the value of supplies. In the case of materials and facilities, wholly owned Thai firms accounted for 60 per cent of the number of suppliers, but only 14 per cent of the supplied value. It is estimated that the second- through fourth-tier suppliers of TMT's supply chain comprise around 1,500 largely Thai-owned firms, but the actual number may be lower since the economic crisis of 1997-1998 caused serious financial problems for many smaller suppliers.

During the economic downturn following the East Asian financial crisis, TMT gave significant financial support to its first-tier suppliers. In order to prevent bankruptcies among its suppliers, TMT provided some 1.6 billion baht from Toyota Motor (Japan) through a number of programmes: an advance payment revolving fund; dead stock purchase schemes at cost; and advance payments for tooling expenses.

Toyota has declared its intention to procure all parts and components locally (100 per cent local procurement – as distinguished from 100 per cent local content) at TMT by 2003, rising from its present level of around 70 per cent. In order to achieve this, TMT announced a special project in 2000 (the so-called "Thai for Excellent Project") and explained the plan to its suppliers. Toyota decided to aim for 100 per cent local procurement in the anticipation of the automotive liberalization foreseen by the ASEAN Free Trade Area in 2003, and in response to high competition with other automobile companies.

This is the first time that Toyota seeks full local procurement. Eventually this approach could also be extended to other ASEAN countries. The reason why this approach was pioneered

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Box IV.10. Fostering linkages with local suppliers: the case of Toyota Motor Thailand (concluded)

Box table IV.10.1. Local procurement by Toyota Motor Thailand, 2001, by type of supplier and type of input

Type of supplier	Purchasing of key parts and components		Purchasing of other materials and facilities	
	Number of suppliers	Distribution of purchases (Per cent)	Number of suppliers	Distribution of purchases (Per cent)
Toyota-owned firms in Thailand	4	37	-	-
Japanese joint ventures	69	42	103	78
Thai firms with Japanese technical assistance	17	7	3	2
Non-Japanese joint ventures	6	2	71	6
Pure Thai firms	19	1	264	14
Firms in ASEAN under the ASEAN BBC programme ^a	19	11	-	-
Total	134	100	441	100

Source: Information provided by Toyota Motor Thailand.

^a Brand-to-brand complementation scheme.

in Thailand is that Toyota had already established a wide range of supporting industries there, including for key components, such as engines and major body parts. These key components are generally produced by Toyota's affiliates (not by domestic firms). The major remaining parts to be procured locally include certain precision transmission parts and electronic controls.

Toyota Cooperation Club

The Toyota Cooperation Club (TCC) plays an important role in TMT's efforts to strengthen its local suppliers' capabilities. TCC is an association of suppliers to TMT, with a current membership of 92 first-tier suppliers. Suppliers eligible to apply for membership must have annual sales of five million baht to TMT and at least a three-year relationship. There are currently six major types of activities at the TCC: (1) annual conferences; (2) TCC Executive Committee meetings; (3) Quality Assurance Kaizen (steady improvements) activities; (4) Cost Kaizen activities; (5) quality control circle activities; and (6) TCC lectures.

These activities are open to all members of the TCC. Activities (3) through (5) are limited to first-tier suppliers, while activity (6) is open to all suppliers. Although TMT was involved in the establishment of the suppliers' association, the major players in the activities of the Association are its key suppliers. The Executive Committee of TCC consists of representatives from its 12 key suppliers, which include not only some Japanese subcontractors in Thailand (e.g. Denso (Thailand)), but also domestic suppliers (e.g. CH. Auto Parts Co.).

The members of the Executive Committee host various activities at their companies to diffuse the Toyota Production System and quality control mechanisms to other local suppliers. For example, some members organize a series of seminars/training courses on issues related to cost-efficiency, quality assurance and delivery. There are also study groups on, e.g. plant operation with a view to proposing ways and means to utilize Kaizen. In these activities, TMT and Toyota's Operation Management Division in Japan provide technical advice and guidance. Toyota's approach is to encourage suppliers to make their own efforts to improve their competitiveness, in a voluntary learning process ("jishiuken").

The TCC has not only provided opportunities for suppliers to learn best practices from each other in management and quality control, but also fostered cooperation among suppliers. In addition, a "Supplier Centre" has been set up at TMT headquarters to provide the necessary information for its suppliers. This includes prototypes of all major parts, lists of suppliers and their performance for each month, and information on specifications of major parts and components.

Although TMT appears to be interested in extending the activities of the TCC to tier-two to tier-four suppliers, the programmes to support these suppliers are relatively weak. This is due in part to the desire of the first tier suppliers to deal with their own suppliers by themselves and to be responsible for them, and in part due to a lack of resources (both financial and personnel) on the part of TMT. With some exceptions, TMT efforts are limited to encouraging first-tier suppliers to work with their own suppliers in a similar manner to that adopted by TMT with its first-tier suppliers. Innovative ways of involving lower-tier suppliers in some of the higher-level activities of the TCC are needed to upgrade capabilities and understanding. Government support to such activities could help to reach local suppliers.

Source: UNCTAD, based on Brimble, 2001.

in a 1996 study provided some training to local suppliers on quality testing and process yields, product testing and problem spotting, new management techniques and production process (Giroud, 2001a). In Costa Rica, according to a survey of suppliers to Intel, 35 per cent of service providers and 17 per cent of goods providers received training from that TNC (Larraín et al., 2001). In Indonesia, where skilled labour is very scarce, a few suppliers among those interviewed for an assessment of the supply-side situation in a number of industries mentioned the training assistance they had received from their TNC clients (Battat et al., 1996). In India, three out of four large foreign affiliates covered by a case-study of the food-processing industry provided training to their suppliers' personnel (see box IV.8). In Mexico, according to the results of a questionnaire-survey, all the foreign-owned automobile-assemblers surveyed provided support to suppliers for training, mainly related to quality control (Altenburg, 2000, p. 28). Such support was, however, largely confined to first-tier suppliers, which were generally also affiliates of foreign firms.³⁴

There is some evidence to suggest that the impact of linkages on training (and labour management) tends to be higher the longer the duration of a relationship and the smaller the size of a supplier firm relative to an affiliate (PACEC, 1995). Skill transfers seem to be higher for suppliers in manufacturing than in services. In some cases, TNCs also extend their training assistance to potential suppliers (boxes IV.11 and IV.12; Saint Gobain, 2001).

In developing host countries, local firms often face financial, skill and institutional constraints in improving human resources. Many are unaware of their skill gaps or of means to remedy them. Given their knowledge of skill needs and training methods, foreign affiliates can play a significant role in helping suppliers to audit their human resources and mount effective upgrading programmes. They can use a number of methods to do so:

- *Training courses in affiliates for suppliers' personnel.* Some foreign affiliates organize training courses for local suppliers' personnel. These can take several forms and can include broad productivity-

enhancing areas related to organizational and managerial practices. Since training courses require considerable expenditure and organizational effort, they are likely to be offered only when there is an expectation of high returns to both sides due to a sustained long-term relationship. Courses may also be offered in cooperation with meso-institutions such as industry groups or public sector agencies at the local level as, for example, the Penang Skills Development Centre (box IV.11).

- *Offering access to internal training programmes in affiliates or abroad.* Foreign affiliates that have internal training courses of their own or are part of TNC-systems with internal training courses sometimes also open them up to their suppliers' employees. (see e.g. box IV.11).
- *Sending teams of experts to suppliers to provide in-plant training.* The purpose of such visits can be to provide training on improvements in technology or process management.
- *Promotion of cooperative learning among suppliers,* through associations and clubs. Such events can promote the exchange of business information among suppliers and foreign affiliates (box IV.10).³⁵

In addition, informal exchanges between affiliates and suppliers can be a valuable source of ideas and information on human resource development, particularly in more developed host countries in which the gap between suppliers' and affiliates' skill levels is small.

The size, range and content of foreign affiliates' training programmes in terms of the various kinds of activities mentioned vary. Several factors explained these variations. They include the characteristics of the TNCs and their affiliates as well as of the domestic suppliers: size, resource-base, capabilities and business culture. Strategies and objectives matter as does the nature of their activities. The duration and closeness of the relationship is an important determinant. Finally, the costs of providing training and the inducement provided by governments, provincial authorities and interested civil-society groups, can influence the extent and nature of training provided.

4. Sharing information

A continuous flow of information from buyers is necessary for linked firms to coordinate production and investment plans, reduce transaction costs and optimize delivery. The importance of information

rises with accelerating innovation, rapid market changes and intensifying competition.³⁶ Apart from providing suppliers with information on their own business plans, foreign affiliates can assist suppliers by giving access to a broad range of technical, market and business

Box IV.11. The SMART model of Intel Malaysia

Intel Malaysia has developed one of the most comprehensive programmes for supporting supplier development and upgrading. Local suppliers are used by Intel in the areas of subcontracting, tooling and fabrication, equipment service support, transportation and packaging, operating supplies, construction and infrastructure support as well as information technology supplies.

Intel's so-called "SMART" approach consists of five steps. The first is to select suppliers that are willing and capable of participating in the programme. Potential candidates are sought via open houses and links with business organisations like the Small and Medium Industries Development Corporation and various Chambers of Commerce. Intel analyses a candidate from four perspectives: its management (including the vision of the CEO and the companies' financial stability); its human resources; its technical, materials and process capabilities; and its cost competitiveness.

In the second stage, Intel assists selected suppliers by initial training. The next step is to allocate business to suppliers at the level of complexity appropriate to their capabilities and the needs of Intel. Intel then helps raise supplier capabilities by continuous training and coaching. The ultimate and fifth step is to develop firms into global suppliers, with the ability to meet international standards and export directly. The goal is that Intel should not account for more than 20 per cent of any supplier's sales.

Continuous training of suppliers is provided partly by inviting them to send their staff to Intel's internal training courses and partly through courses in the Penang Skills Development Centre (PSDC). PSDC analyses gaps in the capability of the suppliers' workforce and provides courses to plug these gaps. While the PSDC assumes responsibility to package and deliver the courses, most courses are contributed by Intel and other foreign affiliates in Penang.

Coaching involves regular supplier reviews and continuous dialogue. Through the supplier reviews, Intel shares new information on technical roadmaps and expected future technical and business requirements early in the process. When appropriate, teams of engineers or relevant experts from Intel are sent to suppliers to assist.

A number of suppliers have participated in Intel's programme. According to the company's estimates, about four out of five selected companies eventually become suppliers. For "direct" suppliers, which supply large volumes of components, the success rate is almost 100 per cent. Intel Malaysia spends extra resources on coaching these suppliers. In the case of "indirect" suppliers, the success rate is about 70 per cent. Several SMEs have eventually become TNCs in their own right. In 2000, six were listed on the main board of Kuala Lumpur Stock Exchange, while another seven were listed on the second board.

According to Intel, tax incentives provided by the Government have been important in motivating it to invest in developing local SMEs as suppliers. Under the "Pioneer" scheme (see box V.8 on the Malaysian government programme), Intel has negotiated with the Government and agreed on a financial support package, from which it benefits if it meets certain agreed criteria, including one relating to supplier development. Currently, according to Intel, the tax incentives are about \$50 million per year. There are also specific government funds available, which suppliers can use to finance upgrading efforts. TNCs in Penang work closely with government institutions and PSDC.

Source: UNCTAD, based on Intel, 2001; Wong, 2000 and company interviews.

Box IV.12. Motorola's backward linkage programme in China

Since its establishment in China in 1987, Motorola has become one of the country's largest inward investors, with a direct investment stake of more than \$3.4 billion, two wholly owned affiliates, 8 joint ventures, and 18 R&D centres.

Working in full partnership with China's State Development and Planning Commission (SDPC), Motorola has established the *Centre for Enterprise Excellence*, a programme to provide high-level training to selected state-owned enterprises. The main objective of the programme is to develop Motorola's supplier base by strengthening especially quality, production and productivity through classroom and on-site instruction as well as outreach activities. Motorola and the SDPC have developed a three-step model for that purpose: training of participants for two weeks; selection of high-potential state-owned enterprises for further development (after a 6-12 months joint effort, Motorola qualifies selected enterprises as suppliers); and provision of finance, jointly with the SDPC, to selected firms. This final step has so far not been implemented as the firms selected have had access to alternative sources of funding.

Since 1998, Motorola and SDPC have developed a training curriculum in quality and productivity management for the chief executive officers, managers and technical staff of selected Chinese state-owned enterprises. They recruit and train professors from major universities in Beijing and Tianjin to provide courses in areas such as leadership development, strategic planning, marketing, quality control (Six Sigma), internal controls, finance, and human resource development. By early 2001, 449 enterprises from 23 provinces, covering 1,516 chief executive officers, middle level managers and technicians, have participated in the programme. The trainees come from a wide range of industries, including electronics, telecommunications, computer hardware, software, media, and general trading or commercial enterprises. Motorola and the SDPC plan to expand this programme to reach 1,000 enterprises over the next few years.

Recently the programme was extended beyond Beijing to the interior of Western China. In 2000, Motorola and SDPC held sessions in Xian and Chengdu. By 2001, 400 chief executive officers, middle level managers and technicians from 85 enterprises had participated in the programme there. There are plans to continue this programme in Western China through 2001. By offering to share the company's experience in quality and productivity management with Chinese companies, it contributes to the reform of state-owned enterprises, a priority objective of the Government of China. Taking this programme outside Beijing serves the Government's objective of promoting more balanced growth. The successful reform of the state-owned-enterprise sector contributes, in turn, to a more favourable business environment.

At the same time, the programme supports Motorola's efforts to expand its supplier base and achieve localization goals, which helps Motorola minimize costs, control inventory and reduce new product cycle time, all of which are critical factors for success in an industry characterized by rapid technological change. Moreover, the programme has generated goodwill and enhanced corporate access to central and provincial government leaders.

The programme has been adjusted over time. Initially, the plan was to undertake the training effort together with four or five other TNCs. However, after about a year, these plans were scrapped because each company had its own training priorities and corporate culture and it was difficult to make the programme work for multiple firms. The content of the programme is also continuously updated and new training methods are introduced, such as e-learning as a means to accelerate the dissemination of the training materials.

As of end-2000, 63 of the participating state-owned enterprises had joined the 700-plus Chinese firms currently supplying Motorola. Companies that become certified suppliers to Motorola continue to receive various types of support to ensure they remain qualified. By 2000, the average percentage of locally manufactured parts and components in a cellular phone manufactured in a Motorola plant in China had reached 65 per cent. It is expected that Motorola's local procurement will exceed \$1.5 billion, and the number of local suppliers will exceed 1,000 by the end of 2001.

Source: UNCTAD, based on Motorola, 2001.

information. For instance, they often have extensive knowledge of international and domestic market potential, market and price trends, and sources of raw materials. Information can flow from a foreign affiliate to its domestic suppliers either informally or through contractual arrangements. Foreign affiliates can use the following methods to inform local suppliers (see the annex to this chapter for examples):

- *Informal exchanges of information on business plans and future requirements.* Representatives of foreign affiliates visit their local suppliers to inform them about new market developments or future strategies. This kind of information assists domestic suppliers in making decisions on capital investments and business plans to match the needs of their buyers.
- *Provision of annual purchase orders (confirmed periodically).* Information in advance on purchasing orders is likely to be important for most suppliers. It is particularly helpful for just-in-time arrangements, where the strict delivery schedules demanded by foreign affiliates tend to entail additional costs for suppliers, who have to build up higher levels of inventories before receiving purchasing orders in order to avoid late delivery penalties (Sison, 2000).
- *Provision of market information, particularly on foreign markets.* For example, information on global market trends can help SME suppliers diversify their customers and/or markets, thus reducing their dependence on a single large buyer or market. In some cases, foreign affiliates actively assist their vendors in finding new customers in other parts of the TNCs' network (see e.g. box IV.6).
- *Encouraging suppliers to join business associations,* participate in fairs and facilitate networking (see box IV.10). These can provide a framework for foreign affiliates to communicate with a large number of suppliers, giving information on different aspects of their activities.

Sharing of information with their suppliers is a common feature of linkage programmes that some TNCs implement. This is an essential element for the matching

of capacities of suppliers with the requirements from foreign affiliates buyers. Foreign affiliates that have implemented supplier development programmes tend to be the most active in terms of providing market- and technology-related information to their suppliers (Crone and Roper, 1999).

5. Extending financial support

Finance is a necessary part of all linkages between affiliates and suppliers. The primary financial linkage is pricing, but it can also include financial assistance from buyers to suppliers. In developing countries, the shortage of finance is often a major constraint for local firms. Studies suggest however, that there is relatively low incidence of financial support to suppliers by foreign investors (Lall, 1980; Halbach, 1989; Battat et al., 1996, Carrillo, 2001).³⁷ In this respect, foreign affiliates may not be all that different from other buyer firms. Nevertheless, in a survey of SMEs in Europe,³⁸ TNCs were the least-often mentioned group of slow payers, when compared with local firms, both public and private. When it does occur, financial support appears to take place in the case of suppliers with whom affiliates have established close cooperation.

Foreign affiliates with relatively strong financial positions can help domestic suppliers in various ways (see the annex to this chapter for examples):

- *Providing special or favourable pricing for suppliers' products.* Under normal circumstances, buying firms have an interest in fixing prices at a level below arm's length prices, as a trade-off for long-term security and stability. Foreign affiliates are no exception. Some foreign affiliates stipulate future price reductions in line with anticipated technical progress.³⁹ At the same time, affiliates may sometimes offer preferential prices to new suppliers to help them get established (UNCTC, 1981).
- *Helping suppliers' cash flow* through advance purchases and payments, prompt settlements and provision of foreign exchange. Advance payments or purchases can help the liquidity situation of suppliers, particularly during financial crises (see e.g.

box IV.10). This could also be helpful in addressing exchange rate fluctuations which might affect suppliers, notably if they are sourcing inputs from overseas to meet the buyers' requirements.⁴⁰

- *Longer-term assistance* through the provision of capital; guarantees for bank loans; the establishment of funds for working capital or other supplier needs; infrastructure financing; sharing of the costs of specific projects with suppliers; and leasing. When the procurement of new equipment necessary to produce the stipulated amount and quality of goods is too costly for a domestic supplier, a foreign affiliate can buy the equipment and lease it to its supplier.

In general, finance can be a serious bottleneck for the development of the productive capacities of suppliers, or for funding their current operational costs. The financial and cash flow situation of suppliers can be improved and strengthened if there is a commitment on the part of the financially stronger buyer-partners to provide short-term and/or long-term support through various channels. In practice, in the context of backward linkages, foreign affiliates provide finance to their suppliers relatively infrequently, suggesting that the tangible benefits for themselves that they perceive from such support are often lower than their expected costs.⁴¹ However, a number of them are involved in supporting suppliers in various ways, raising the possibility that the extent of such assistance could be increased.

D. Conclusions

The evidence, scattered as it is, suggests that a number of TNCs take various steps to develop linkages between their foreign affiliates and suppliers in host developing countries or economies in transition. Some affiliates provide assistance in a broad range of areas, whereas others may only support suppliers on an ad hoc basis, if at all. The most intense relationships are those affecting the technological status of suppliers and their ability to meet the scale, quality and cost needs of the buyer. Meanwhile, it is clear

that it has become more difficult for domestic firms in host developing countries to qualify as suppliers to foreign affiliates, in particular to affiliates that are a part of integrated international production systems. In such cases, TNCs tend to focus their supplier development efforts on key suppliers providing the most important inputs. On the other hand, when TNCs have a strong self-interest in developing their supplier base in a host country, foreign affiliates can extend considerable support to enhance the competitiveness of their domestic suppliers.

The transfer of information on technical specifications and production requirements is, of course, a necessary part of all linkages; beyond this, there are generally considerable flows of advice, information, assistance and support from buyers to suppliers. The shape linkages take varies by location, activity, firm, the state of domestic and other local firms, the nature of activities, the duration and closeness of the buyer-seller-relationship and the costs and risks involved. The general picture is however, clear: TNCs invest in linkages if and when they are expected to yield a positive (and competitive) return.⁴² Indeed, a survey of 84 companies in Japan, the Republic of Korea, United Kingdom and United States in a wide range of industries showed that most, but not all, buying firms found that, supplier development activities did improve suppliers' cost, quality, delivery performance and cycle time (Handfield et al., 2000).⁴³

The development, management and evaluation of supplier relations are a necessary part of supply chain management by any enterprise. TNCs transfer this function, with its range of search, evaluation, interaction and other functions, to their affiliates in most host economies. As more effective supply chain management becomes essential to their competitiveness and dynamism, TNCs seek broader, more efficient and responsive supplier networks wherever they locate. As they shift more facilities, and a larger variety of functions abroad, the range of potential linkages increases. With technical progress and its rising information intensity, the technological and skill content of many

linkages becomes higher. With the rationalization of production across regions, they also have greater scale requirements.

Forming and maintaining linkages involve costs and risks, which clearly vary according to local supply capabilities and infrastructure. This is why a TNC making the same product in different host countries may have very different local sourcing patterns. The available information does not allow the quantification of linkages by location. The broad picture, however, is that local linkages, especially with domestic firms, rise with the level of local development, particularly in complex activities. It is more likely that foreign affiliates source from domestic suppliers and engage in supplier development when the technological and managerial gaps between them and their local suppliers are not too wide.

The lack of comprehensive information makes it difficult to assess fully supplier development efforts by TNCs. Clearly, companies undertake such activities because they make sense from a business perspective. Whether supplier development programmes are effective or not depends furthermore not only on efforts made by foreign affiliates, but on the efforts made by local suppliers. It is obvious that, in order for linkages to be favoured and for assistance through linkages to contribute to an improvement of the competitiveness of domestic enterprises in a host country, strong commitment on the part of the supplier firms is required.

Finally, although companies have a self-interest in establishing and strengthening links with local suppliers, it is clear that various government policies can promote linkages between foreign affiliates and domestic firms and help to increase the willingness of foreign affiliates to assist their linked partners. While most TNC supplier development efforts are organized and implemented by parent firms and especially their foreign affiliates, some involve close collaboration with public, or semi-private, institutions. Well-designed government policies can further stimulate such efforts. Indeed, this is in a host country's economic interest, since linkages

between firms that increase the competitiveness of the firms involved can ultimately contribute to the performance of the economy as a whole. The role of governments in creating and deepening linkages between foreign affiliates and domestic firms is hence the topic of the next chapter.

Notes

- 1 Defined as enterprises in which no single foreign equity participation is more than 10 per cent of capital. At the level of the economy or industry, the efficient use of domestic resources and capabilities may be a more important consideration than the question of the ownership composition of the suppliers with whom the linkages are established. However, countries also see backward linkages as a means to strengthen domestic enterprises and to support domestic entrepreneurship.
- 2 On average, a manufacturing firm spends more than half of its revenues on purchased inputs (Burnes and Whittle, 1995, cited in Handfield et al., 2000). A growing proportion of inputs is now knowledge- or information-intensive.
- 3 In an enclave situation, in which foreign affiliates have basically no direct links with domestic firms, the dissemination of TNC-specific knowledge to the host economy as a whole depends entirely on externalities and spillovers. Where local inputs substitute for imported ones, linkages also benefit the balance of payments.
- 4 While there is a large empirical literature on FDI and spillovers (e.g. Kokko, 1994; Katz, 1987; Gerschenberg, 1987; Aitken and Harrison, 1991; *WIR95*), there are hardly any empirical studies in the literature that analyse explicitly the link between linkages and spillovers (Blomström et al., 2000, p. 116).
- 5 See, for example, Barnes and Kaplinsky, 2000; Battat et al., 1996; UNCTAD, 2000a.
- 6 For example, the Brazil Auto Parts Association (*Sindipeças*) intermediated between suppliers and manufacturer (Doner and Schneider, 2000).
- 7 For example, 70 per cent of the foreign electronics firms in Scotland that attempted to increase local sourcing were constrained by the lack of efficient local suppliers of key inputs (Turok, 1993). Similarly, in the electrical equipment and electronics industries in Mexico and the Republic of Korea, the main constraint to local procurement by foreign affiliates was the inadequate technological level of local enterprises. Common concerns among foreign affiliates included the lack of quality control, inability to deliver on time and high prices charged by local suppliers (UNCTAD, 2000a).

- p. 66; Yoon, 1994).
- 8 In Mexico, IBM assisted the local firm Ureblock to start producing packaging materials that were not available from any supplier in the country at the time. Now Ureblock has a 200m² building in the IBM plant and its responsibilities in the production process range from cleaning the final product to labelling, packaging and final delivery to the IBM distribution department (Dussel, 1999).
- 9 In some regions of the United Kingdom, for instance, one in seven foreign affiliates obtained more than half of its material inputs from group sources (Crone, 2000).
- 10 See, for example, Phelps, 1993; Crone, 1999; Kelegama and Foley, 1999; Carrillo and Gonzalez, 1999.
- 11 Lim and Fong, 1991; Iannone, 1989; Driffield and Mohd Noor, 1999; UNCTAD, 2000a. Low linkages between Japanese affiliates and local firms may also be related to the Japanese preference for greenfield investment when expanding abroad (Belderbos et al., 2001).
- 12 Reuber et al., 1973; UNCTAD, 2000a; Altenburg, 2000; Belderbos et al., 2001.
- 13 During the 1990s, for example, the number of suppliers to Fiat's manufacturing plant in Betim, Brazil, was more than halved from 500 to around 200 (Borges Lemos et al., 2000); the number of suppliers to Fiat's Polish plant fell by 33 percent between 1992 and 1996 (Balcet and Enrietti, 1998); and to its Turkish plant by 56 percent between 1992 and 1999 (Balcet and Enrietti, 2000). Similar developments have been noted for other carmakers (also see box IV.2).
- 14 Suzuki's affiliate in Hungary, for example, only negotiates with potential suppliers that are already ISO9000 and QS9000 certified (company interview).
- 15 Even in developed economies like the United Kingdom and the United States, products sourced locally by foreign affiliates are often of a standardized or technically unsophisticated nature (Turok, 1993; Crone and Roper, 1999; Crone and Watts, 2000; Chung et al., 1994).
- 16 This may explain why technology-intensive Japanese TNCs have relatively low local content abroad, particularly in developing countries (Belderbos et al., 2001). An analysis of inward FDI in Ireland suggests that foreign manufacturing affiliates with the largest purchasing linkages tend to have a relatively low R&D intensity and therefore may have the least to offer to a local supplier in terms of technology and knowledge transfer (Breathnach and Kelly, 1999).
- 17 In the Central American apparel industry, some Asian investors relocated from higher-wage to lower-wage countries while United States brand-name companies rarely relocated despite considerable intra-regional wage differentials (Altenburg, 2000, p. 40).
- 18 Brannon et al., 1994; Lowe and Kenney, 1999. After NAFTA came into force, foreign affiliates appear to have been given a higher degree of autonomy (Carrillo et al., 1999, p. 56).
- 19 Driffield and Mohd Noor, 1999; Mair et al., 1988; Turok, 1997; Castellani and Zanfei, 1998; Halbach, 1989; Yoon, 1994; McAleese and McDonald, 1978; O'Farrell and O'Loughlin, 1981; Görg and Ruane, 1998; Scott-Kennel and Enderwick, 2001.
- 20 For example, the number of domestic suppliers to Honda of America gradually increased from about 30 in 1983 to more than 400 in 1997 (Handfield and Krause, 1999).
- 21 An Irish study shows that large and expanding foreign affiliates had relatively low levels of local procurement (Görg and Ruane, 1998). In Mexico the small size of local suppliers was found to be an obstacle to linkage creation by large foreign electronic and auto-parts firms (Carrillo et al., 2001). Other studies confirm that larger affiliates tend to have weaker local linkages (Schachmann and Fallis, 1989; Halbach, 1989; Barkley and McNamara, 1994).
- 22 Studies of the mining industry in Chile – the leader in mining-support industries in Latin America (UNCTAD, 2000c) – found that foreign-owned mining companies operate in an “enclave” with few links to local industry (UNCTAD, 2000a; Culverwell, 2000).
- 23 A survey of garments production in Costa Rica, the Dominican Republic and Morocco showed local sourcing by affiliates of between 5 and 10 per cent (UNCTAD, 2000a, chapter 4).
- 24 As *The Economist*, 3 May 2001, noted, India is becoming the “Back office to the world” by undertaking a variety of services for foreign banks, airlines, insurance companies, travel agents and so on. Most of the work is done in captive (wholly owned) facilities, saving the companies involved around 40-50 per cent of the cost. Some independent subcontractors are entering the field (e.g. in medical transcription and call centres), but almost all their work is for companies located abroad.
- 25 Examples of companies having such programmes in developing countries are Anglo-American, BASF, Cadbury, Daewoo Corporation, Fiat, GlaxoSmithKline Beecham, Hitachi, IBM, Intel, LG, Matsushita, Motorola, Nestlé, Pepsi Foods, Philips, Saint Gobain, Siemens, Toshiba, Toyota, Unilever and Volkswagen. This list is by no means exhaustive, but represents responses provided by firms to a joint UNCTAD-ICC request for case studies as well as examples referred to in the literature. These cases are part of the analysis below.
- 26 Other studies show a lower frequency of such

- efforts. For example, a survey of the South African automotive industry found that supplier development efforts by foreign carmakers and their first-tier suppliers were very modest and that they had become rarer in recent years (Barnes and Kaplinsky, 2000).
- 27 The information on companies has been compiled from responses to a survey of affiliates in developing countries and economies in transition conducted by UNCTAD and the International Chamber of Commerce in 2000/2001.
- 28 Expertise and skills can be transmitted between buyers and suppliers in both directions, and in developed host countries they probably are. But this also happens in the more advanced developing countries. For example, in Singapore, local SMEs were found to play an important role in transferring knowledge on local technical specifications, standards, management styles and local culture, as well as soft technology to their TNC customers (Chew and Yeung, 2001).
- 29 Technology transfer to suppliers generally takes the form of technical support rather than the transfer of proprietary know-how (Wong, 1992; Hobday, 1995; Ernst, 1997). Proprietary knowledge refers to product and/or process related know-how developed and owned by a TNC and usually protected through a patent or copyright or industrial design or trade secret. One reason for the limited transfer of proprietary technology may, of course, be that the foreign affiliate does not itself possess the know-how to produce a part or component it procures externally.
- 30 For example, in Thailand, technology transfer (both direct and indirect) took place in 38 per cent of the cases involving low-specificity products and 57 per cent of medium-specificity products, whereas the corresponding figure for high-specificity products was 80 per cent (Supapol, 1995). See also Chung et al., 1994.
- 31 See Giroud, 2001a; Halbach, 1989; Supapol, 1995; Gultom-Siregar, 1995; Wong, 1992.
- 32 The first "Supplier Associations" date back to 1939 when Toyota created one in Japan with its ten most important suppliers (Handfield and Krause, 1999).
- 33 Such spin-offs have become important players in the support industry in the electronics sector in Malaysia (Hobday, 1999), Singapore (Mathews, 1999) and the Republic of Korea (Bloom, 1992; Kim, 1999).
- 34 In the television-manufacturing industry of Mexico, a somewhat similar situation seems to prevail: nearly half of the foreign-owned local suppliers (to foreign-affiliate manufacturers) covered by a questionnaire survey received training (along with technical assistance) from the respective foreign affiliates for their employees, but less than a fifth of locally owned firms (generally second- or third-tier suppliers) received training for their employees from the buyers (foreign affiliates or locally owned) to whom they supplied (Carrillo, 2001).
- 35 See the section on technology transfer.
- 36 "Information is one of the most important hurdles standing in the way of the more widespread adoption of backward linkages. The whole concept of subcontracting revolves around the idea of information dissemination, since subcontracting is expected to facilitate the matching of capacities of the small-scale firms with demand emanating from the large firms. There is thus a need for effective institutional arrangements for the collection and dissemination of business information relevant to the large and small units operating in the respective industrial sectors" (ITC, 1998, pp. 11-12).
- 37 For instance, eight of 11 foreign affiliates in a survey of the Malaysian electronics industry did not provide any financial support to suppliers (Giroud, 2001a). Affiliates that provided financial support mentioned that it was limited in time and scope, and was not a part of regular company practice. In Singapore in the mid-1980s, only 19 per cent of the United States-owned affiliates and 12 per cent of the Japanese-owned ones provided financial assistance to suppliers, but the practice was more common for European affiliates, with more than 50 per cent providing such assistance (Tan, 1990).
- 38 The survey was conducted by Grant Thornton International (GTI, 1997). It should be noted that the survey report drew attention to the possibility that some respondents might have lumped foreign affiliates and large local firms together.
- 39 Suzuki in Hungary sources items from exclusive suppliers and stipulates price reductions of 2-4 per cent per year (company interview; Schweitzer, 2001) According to a survey in India in the early 1990s, 2 out of the 10 foreign affiliates mentioned professional costing and "worked out prices" with suppliers as their method to determine a mutually agreed price (Kumar, 1995).
- 40 In the Mexican *maquiladora* industry, for example, contracts are signed in Mexican pesos even if suppliers purchase raw materials in dollars. When they get paid a month or more later, payments do not take exchange rate changes into account, often at significant costs to suppliers (Carrillo et al., 2001).
- 41 Foreign affiliate-local firm financial arrangements are likely to be more prevalent

in forward linkages, especially if the relationship is governed by a franchising agreement. In the food and beverages industry, for example, companies such as Coca-Cola and Unilever often provide preferential credit lines and equipment free of charge to retailers. But these arrangements are often challenged on grounds of anti-competitive effects, as, in exchange for these contributions, retailers are required to distribute exclusively the products of the TNC or foreign affiliates supplying the product for distribution.

⁴² For example, in the case of its so-called RC5 programme in Brazil, Fiat explicitly states that it expects to benefit through price reductions on a participating supplier's output or to share the pecuniary gains the programme helps to achieve. In fact, mainly for this reason,

a number of suppliers have chosen not to participate in the programme (Borges Lemos et al., 2000). Varsity Perkins, a producer of diesel engines, similarly expects to share the benefits a supplier enjoys as a result of supplier development efforts. However, instead of requiring an equal split on savings, Perkins requires that a supplier agrees not to raise prices the following year, unless it has to respond to increases in raw material prices (Handfield et al., 2000).

⁴³ The survey and field interviews showed that in most cases, pitfalls were related to a lack of commitment or of technical and human resources on the part of suppliers to implement the improvements required (Handfield et al., 2000).

Annex to chapter IV. Supplier development activities by foreign affiliates

The following are additional examples of measures taken by foreign affiliates to strengthen their backward linkages with local firms:

1. Finding new local suppliers

- *Making public announcements* about the requirements that firms need to meet to qualify as suppliers. In Slovakia, the Development of Suppliers Department (set up by a local Volkswagen sales affiliate, Skoda Auto Slovensko) informs potential suppliers on standards they have to fulfil to become suppliers; all suppliers must first get a VDA 6.1 quality certificate (QS 9000 level) required for the supplies to the German automotive industry (Ferencikova and Koperdan, 2001). Intel Malaysia is another example (box IV.11). One part of its supplier development strategy is to search for and help domestic enterprises to reach the stipulated quality standards and upgrade their various activities in order to qualify as suppliers to Intel. The most important characteristic of a local firm is that its top management is committed to learning, to investing resources, time and effort to work with Intel Malaysia with a view to upgrading its capabilities and skills (Wong, 2000). Another kind of information support is to help potential suppliers establish themselves a presence close to the affiliate's own plant. In Hungary, for example, Suzuki's affiliate is collaborating with local authorities to inform potential suppliers on how to establish themselves in the region by, among other actions, organizing outreach events and providing material containing information on infrastructure and financing possibilities (box V.1).
- *Supplier visits and quality audits.* In Slovakia, the Development of Suppliers Department maps the potential of local suppliers through visits and analysis of technology, capacity, quality management systems and financial performance. This is followed by a special audit, classifying candidates into three groups: ready to supply, conditional supplier and rejects.

Those in the first two categories are given assistance by representatives of Skoda Auto Slovensko – to bring them to the required levels. The suppliers who finally meet the criteria start receiving order demand quotes and enter the process of competing for a contract.¹ In Hungary, the affiliate of Suzuki carries out a full-fledged supplier audit (on management and accounting practices, technology and working methods) of suppliers.²

2. Transferring technology

Product-related technology

- *Provision of proprietary product know-how.* Some foreign affiliates transfer their product-related proprietary knowledge to their local supplier firms by licensing know-how or granting supplier firms permission to use it. For instance, Astra Research Centre India (ARCI) licensed its product know-how for reagents (which are used in DNA research) to a newly formed local firm, Gene India. This firm produces these reagents and supplies to ARCI as well as to other research institutes in India and abroad. Prior to such technology transfer by ARCI, these reagents were imported (Reddy, 2000).
- *Transfer of product designs and technical specifications.* The provision of product design specifications was noted as one of the main channels for technology transfer to local suppliers in the electronics industries of Thailand, China, Indonesia, Republic of Korea and Thailand (ESCAP/UNCTAD, 1995). In a study focusing on Japanese foreign affiliates and their local suppliers in the electrical and electronics industry in Malaysia, 70 per cent of the foreign affiliates were frequently interacting with local supplier firms to provide them with product-related technical specifications, 32 per cent to provide tools and 5 per cent to provide information on plant establishment (Giroud, 2000, p. 584). In some cases, a foreign affiliate may change the design of an input specifically to suit a local supplier's production

capabilities (Giroud, 2001a). Affiliates also provide advance technical information about changes in their products. Provision of such information appears to be more prevalent in some industries, such as automobiles and electronics, than in others. For instance, Fiat's affiliate in Brazil provides the specifications for new products to local suppliers in advance (Borges Lemos et al., 2000). Although the source of such specifications may be the TNC headquarters, local suppliers need to be involved in adapting the product to local conditions, as well as adjusting customization to specific markets. This facilitates technological cooperation between foreign affiliates and local supplier firms, enabling the latter to develop components for a new product.

- *Technical consultations with suppliers to help them master new technologies.* In a survey of 33 foreign affiliates in Northern Ireland, a majority of the affiliates (76 per cent) was observed to have provided such support through monthly contacts for discussion of technical issues (Crone and Roper, 2001).
- *Feedback on product performance to help suppliers improve performance.* After the supply of a product by the supplier(s), foreign affiliates can provide feed-back on its performance, which helps suppliers in further improving the product (see Crone and Roper, 2001; box IV.6).
- *Collaboration in R&D.* Some affiliates collaborate with their local suppliers in product development through joint R&D. Collaboration in product development was observed, for example, in 44 per cent of the foreign affiliates covered by a Northern Ireland study (Crone and Roper, 2001). Such collaboration may also involve local research institutes or universities. In India, Singapore and Malaysia, foreign affiliates have been found to be involved in R&D cooperation in product-related technologies with local firms and research institutes (Reddy, 2000; Hobday, 1999, p. 95). Research institutes were involved in supplying specific R&D inputs to affiliates. The local firms involved in R&D cooperation with foreign affiliates, in addition to developing products, may also manufacture them for supply to foreign

affiliates. Through such cooperation in R&D, there is scope for transfer of application knowledge and methodologies involved in product and process development to local supplier firms and/or research institutes (Reddy, 2000).

Transfer of process technology

- *Provision of machinery and equipment to suppliers.* Magyar Suzuki, the Hungarian affiliate of Suzuki of Japan, installed production equipment in the industrial park of Esztergom, adjacent to its own site, to be shared with suppliers (Suzuki, 2001). Foreign affiliates in the food processing industry in India are another illustration of the provision of embodied and disembodied technologies to local suppliers (box IV.8).
- *Technical support for production planning, quality management, inspection and testing.* In a study of the electronics industry in Singapore, focusing on original equipment manufacturing arrangements between foreign affiliates and local supplier firms, 89 per cent of the foreign affiliates reported providing technical support as part of their efforts to develop their suppliers (Tan, 1990). In the electronics industry of Malaysia, foreign affiliates have given significant technical support to their local suppliers (Ismail, 1999; UNDP, 1993). Such support included solving specific technical problems (Capannelli, 1999) and assisting in factory layout, production planning and machinery installation (Ismail, 1999). In a Northern Ireland survey, 31 per cent of the foreign affiliates covered advised their suppliers on the selection and use of process equipment, and 34 per cent assisted suppliers in improving their manufacturing processes (Crone and Roper, 2001). In China's automobile industry, two foreign affiliates are reported to provide technical assistance through quality control to their local suppliers (Xia and Lu, 2001).
- *Visits to supplier facilities to advise on layout, operations and quality.* Some affiliates form special teams to assist suppliers in process know-how or in operating equipment. For instance, Pepsi Foods, India formed an extension team to advise its contract farmers in improved

methods of cultivation and the use of advanced agricultural implements (Pepsi Foods, 2000). Such visits are of special importance to the supplier firms, because they facilitate transfer of “tacit knowledge” related to production process and quality control (Ernst, 1997).

- *Formation of “cooperation clubs” for interacting with suppliers on technical issues.* The activities organized by such clubs have contributed to significant improvements in the quality of supplies and delivery schedules, as well as in cost reductions for the suppliers (UNCTAD, 2000a, p. 161).
- *Assistance to employees to set up their own firms.* For instance, in the Republic of Korea, recognizing the dependence of the Korean electronics industry on imported mouldings, Motorola set up a moulding production division within its factory and trained its employees at its headquarters in the United States. When some of these employees wanted to set up their own mould-making firms, Motorola encouraged them by offering to procure their product and allowed them to use Motorola’s equipment and facilities at low prices. By offering such incubation facilities, Motorola contributed to the creation of about ten spin-off firms, including Hanmi, Kookje, Micron and Crown Precision, which became leading semiconductor-moulding producers in the Republic of Korea (Kim, 1999).
- *Assistance in implementing quality assurance systems* (including ISO certification). In the United Kingdom, a survey of 30 large foreign-affiliate manufacturing plants found that 60 per cent performed visits for the provision of technical assistance on quality assurance and organizational issues (PACEC, 1995). In Northern Ireland, 48 per cent of the foreign affiliates surveyed reported that they provide such assistance (Crone and Roper, 2001). The experience of Hei Jiya Electronics Co, a local manufacturer of liquid crystal displays and modules in China, illustrates such assistance. The company entered into a supplier relationship with an affiliate of Motorola, which assisted the local company by sending teams of technical and managerial personnel to its premises to advise on improving its production management, technology and quality system. Hei Jiya was certified as a qualified Motorola supplier in 1997 for supply of components for pagers. Due to this technical assistance, Hei Jiya obtained ISO 9001 certification in 1999 and became a supplier to other electronics manufacturers (Motorola, 2001). Similarly, in the Republic of Korea, Halla Electronics, an automobile parts manufacturing joint venture of Ford, assisted nine local supplier firms in their efforts to obtain ISO 9002 certification (Kim, 1999).
- *Introduction to new practices such as network management or financial, purchase and marketing techniques.* In a Northern Ireland survey, a quarter of the affiliates are reported to be involved in introducing new managerial and organizational techniques to local supplier firms (Crone and Roper, 2001).

Organizational and managerial know-how

- *Assistance with inventory management and the use of just-in-time and other systems.* For instance, foreign affiliates provided technical training to local automobile-parts suppliers in Mexico in just-in-time procedures, and this led to improved performance by the suppliers (Peres Nunez, 1990). Such assistance in inventory management techniques, which enable suppliers to tailor their products to order, is integrated by Japanese foreign affiliates in the Republic of Korea into their assistance in introducing the Total Productive Maintenance Approach (Kim, 1999).
- *Training courses in affiliates for suppliers’ personnel.* In Penang, Malaysia, several foreign affiliates and large domestic firms provide training courses offered at the Penang Skills Development Centre (PSDC). Subject areas for the courses include total quality management, project management, occupational safety and health (Wong,

3. Providing training

2000, p. 74; Intel, 2001). In Viet Nam, the local affiliate of Unilever conducts training in quality standards, inspection and testing methods, and warehousing specifications for its suppliers. Training is conducted by Unilever and its key suppliers, and financed by Unilever. Supplier employees receiving training include staff involved in quality assurance and safety and hygiene, and machine tool operators (Unilever, 2001). In Slovakia, the local manufacturing affiliate of Volkswagen provides, in collaboration with the Suppliers Development Department of Skoda Auto Slovensko, training for suppliers in human resource management and quality standards (Ferencikova and Koperdan, 2001). In Brazil, the car-manufacturing affiliate of Fiat in Belo Horizonte provides training to its suppliers (now largely foreign-owned) in just-in-time methods so that disruption of deliveries is minimized (Borges Lemos et al., 2000). In India, Maruti, an affiliate of Suzuki that manufactures cars, provides training to technical personnel of its suppliers (Juneja, 2000). Most of the examples cited above involve large-scale operations in highly competitive areas in which supplier capabilities can make a big difference to costs and standards.

- *Offering access to internal training programmes in affiliates or abroad.* Fiat Poland invites its local suppliers to participate in the Fiat Group's internal training programmes. The programme covers training of the sales force, management development, support to the reengineering of the production system and to the introduction of new products, and technological training (Fiat, 2001). Some of the electronics foreign affiliates included in a study of Malaysian electronic firms provided practical training related to manufacturing processes at their own facilities (Giroud, 2001a). About 80 per cent of the training provided by Intel Costa Rica to its suppliers of services also took place at Intel's Costa Rican facilities (Larraín et al., 2001). Pepsi Foods India's Procurement and Extension Services Team organizes farmer training camps to take the farmers on a tour of the PepsiCo Research and Development Centre.

- *Sending teams of experts to suppliers to provide in-plant training.* A number of electronics foreign affiliates in Malaysia gives such assistance (Giroud, 2001a). One purpose of such visits was to provide training on improvements in technology. In a somewhat different context, the food-processing affiliate of Pepsi Foods in India has established, under the direction and management of the Punjab Agro Industries Corporation, a procurement and extension services team for providing training in world-class mechanized agro-technology to local farmers who are contracted to supply fruits and vegetables to Pepsi. Training is conducted through technical bulletins, video demonstrations, slides and charts of new techniques, and live demonstrations on the use of various agricultural implements and on operations such as crop transplanting.³ Similarly, Nestlé provides training for upgrading dairy-farming methods to suppliers in Latin America and China (box IV.6).⁴

4. Sharing information

- *Informal exchange of information on business plans and future requirements* can take place through meetings and visits. For example, in India, during the 1980s, a leading truck manufacturer, Ashok Leyland (majority-owned by British Leyland) provided each supplier with schedules of anticipated six-, three- or one-month purchasing orders (Lall, 1980).⁵
- *Consultation on future strategies.* Some suppliers consult regularly with their buyers about their own future strategies and requirements. In Northern Ireland, foreign affiliates give suppliers advance notice of production plans (Crone and Roper, 2001). In Poland, an affiliate of Fiat provides local suppliers with new information on future business requirements (Fiat, 2001).
- *Provision of annual purchase orders.* In Singapore, the likelihood of foreign affiliates sharing their production and purchase forecasts with local SME suppliers is high when the length of buyer-supplier relationships exceeds two years (Chew and Yeung, 2001).

- *Provision of market information.* Some foreign affiliates in the United Kingdom pass on knowledge on market trends to their local partners (PACEC, 1995). In the MERCOSUR area and in China, Nestlé actively assists selected suppliers in becoming regional suppliers to Nestlé.⁶ Hitachi's semiconductor Malaysian affiliate exchanges information on market trends with its SME suppliers and assists them in expanding their business scope by introducing them to other Hitachi affiliates.⁷ According to some successful suppliers in Asia, once their reliability is proven to one large foreign affiliate, reference is provided to other assemblers or manufacturers within the same business network or other foreign affiliates, generating further opportunities (Sison, 2000; ESCAP/UNCTAD, 1995; Moran, 1999).
- *Encouraging suppliers to join business associations or fairs and facilitating networking.* One example of a business association involved in information provision is the International Disk Drive Equipment and Materials Association (IDEMA) in Thailand. IDEMA has supported the development of a Thailand-based group of hard disk drive manufacturers that aims at promoting business networking, facilitating information sharing through education programmes and technical symposia/conferences, and also provides a forum for the global discussion of technical issues faced by the industry. IDEMA Thailand's activities are planned by leading international companies, such as Seagate, Fujitsu, Read-Rite, KR Precision, IBM, ENGTEK and Magnecomp, and information is shared between TNCs and their suppliers.
- *Advance and prompt payments.* Toyota Thailand raised its advance purchases and early payments when its local suppliers faced severe liquidity problems in the Asian financial crisis (Muramatsu, 2000; box IV.10). Siemens in the Republic of Korea had a policy of paying small and medium-sized suppliers promptly instead of the usual deferred payment of 30 days (Yoon, 1994). Another example is from a survey of electrical and electronics TNCs and suppliers in India, according to which some suppliers benefited from advance payments from their foreign affiliate buyers for buying raw materials, or from direct supplies of raw materials from foreign affiliates, although they were not in a liquidity crisis (Kumar, 1995).
- *Medium and long-term finance.* Unilever in Viet Nam offered financial support to five key suppliers to upgrade equipment and cover the costs of extensive training (Unilever, 2001). It also bought equipment and provided it to a supplier on leasing terms. Another example is that of Nestlé China, which financed the tooling costs of a tin can supplier for sweetened condensed milk (Nestlé, 2001). In Ecuador, Nestlé's Servicio de Fomento Agropecuario (SFA) offers preferential credit lines to milk farmers for the purchase of cows, machinery and fertilizers (for fodder production). In Malaysia, Intel offered capital to Eng Hardware in 1981 to enable it to become a supplier of precision machine tooling (box IV.1). Foreign affiliates can assist suppliers by providing guarantees to facilitate access to bank lending; one example of such assistance is that of GlaxoSmithKline Beecham in India, which has established links with a local agricultural bank to enable its milk suppliers take loans from that bank against its guarantees. Some foreign affiliates provide capital to local suppliers through public institutions. One example is Fundo Fiat (Fiat Fund), created by Fiat Brazil to finance private investments in the Brazilian automobile-parts industry and managed by a state-owned financial institution (Borges Lemos et al., 2000). Another example is co-funding by Fiat (together with the Government and UNIDO) of a programme in India to strengthen the automotive

5. Extending financial support

- *Pricing.* In Brazil, Fiat agrees on target prices and gives "some guarantees regarding quantities" under one type of contract which covers the duration of the lifetime of a car model, but no commitments of any kind on other types (Borges Lemos et al., 2000).

component manufacturing industry (box V.6). When the main bottleneck to the expansion and modernization of suppliers' capacities is in the underlying infrastructure, foreign affiliates participate in the financing of such infrastructure. It was reported that Nestlé's SFA in Ecuador co-financed the construction of rural roads to facilitate market access for small suppliers.⁸ Some foreign affiliates also share the cost of improving the skills and capacities of suppliers, as with financing trainers at PSDC in Penang; trainers are seconded by foreign affiliates and paid by them. The Korean automotive company, Daewoo Corporation, has sometimes helped to finance suppliers' improvement projects in the Republic of Korea, Indonesia and Poland, e.g. by providing collateral to allow them to borrow funds at reduced rates for new equipment, or by assisting in the procurement of raw materials (Handfield and Krause, 1999).

Notes

- 1 The Supplier Development Department has visited some 160 companies, of which, 42 companies are now supplying to the concern. Of the 42 companies, 12 companies were previously not supplying for the Skoda brand.
- 2 Information obtained through interview with Suzuki, Hungary.
- 3 Based on information obtained from Pepsi Foods Ltd. India.
- 4 Based on information obtained from Nestlé.
- 5 In addition, this truck manufacturer and its suppliers had intensive discussions to ascertain whether or not a buyer's future needs matched suppliers' capacities based on long-term business plans of both sides.
- 6 Information obtained from Nestlé.
- 7 See "Experiences in SME linkages", presentation given by Leow Teik Thye, at the International Workshop on Technological and Managerial Upgrading of SMEs through Linkages with TNCs, organized jointly by UNCTAD and Intel in Penang, Malaysia, August 2000.
- 8 Source: <http://www.nestle.com.ec/ecuador/campo/sfa.htm>.

CHAPTER V.

POLICIES TO STRENGTHEN LINKAGES

A. The role of government policy

Is there a need for governments to promote actively the creation and deepening of linkages? There are certainly conditions under which the benefits of linkages are so clear to enterprises that no policies are needed to encourage firms to strike them. However, markets may fail to create efficient linkages, raising the cost to both parties of entering into long-term supply relationships and reducing the ability of domestic firms to become competitive suppliers. Failures can arise at several levels. TNCs may be unaware of potential suppliers, or may find it too costly to locate or deal with them. They may be reluctant to invest in building local capabilities because the benefits leak out to other buyers. Local capabilities may be too far below the levels needed to make it feasible for TNCs to invest in improving them. Or domestic suppliers may not have access to technology or finance.

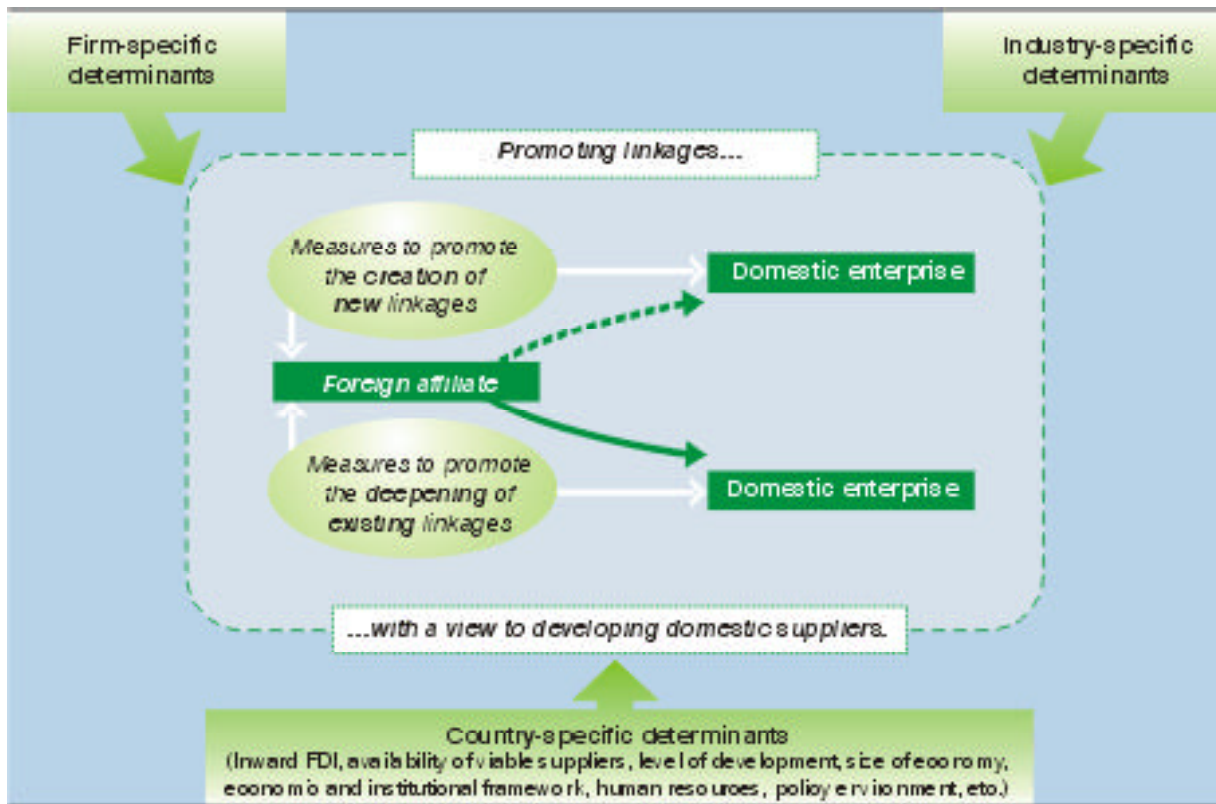
Hence, governments can encourage the creation and deepening of backward linkages by lowering the costs and raising the rewards of linkage formation for both TNCs and local firms. The objective is, as stated earlier, not to create linkages for their own sake, but rather to stimulate linkages that raise the efficiency of production and contribute to the diffusion of knowledge and skills from TNCs to the local enterprise sector. The assumption is that, whatever productive linkages there are, there is room for encouraging the creation of more and deeper linkages.

This chapter reviews, therefore, policy measures taken in different countries to promote linkages, with a view to establishing a “menu” of instruments that countries can use for this purpose, in this

important area at the intersection of enterprise development and FDI policies. The focus of the policy discussion is narrow: it is limited to the relationship between foreign affiliates and local firms (figure V.1). This is not to minimize the importance of other policy areas: for example, without foreign affiliates (and, hence, a policy to attract FDI) and domestic firms (and, hence, a policy that promotes their growth and competitiveness), the preconditions for linkages do not exist. Indeed, the more policy measures aimed at promoting linkages are consistent with, and embedded in, a broad range of policies that facilitate enterprise development (figure V.2), the higher the chances for linkage-promotion policies to succeed.

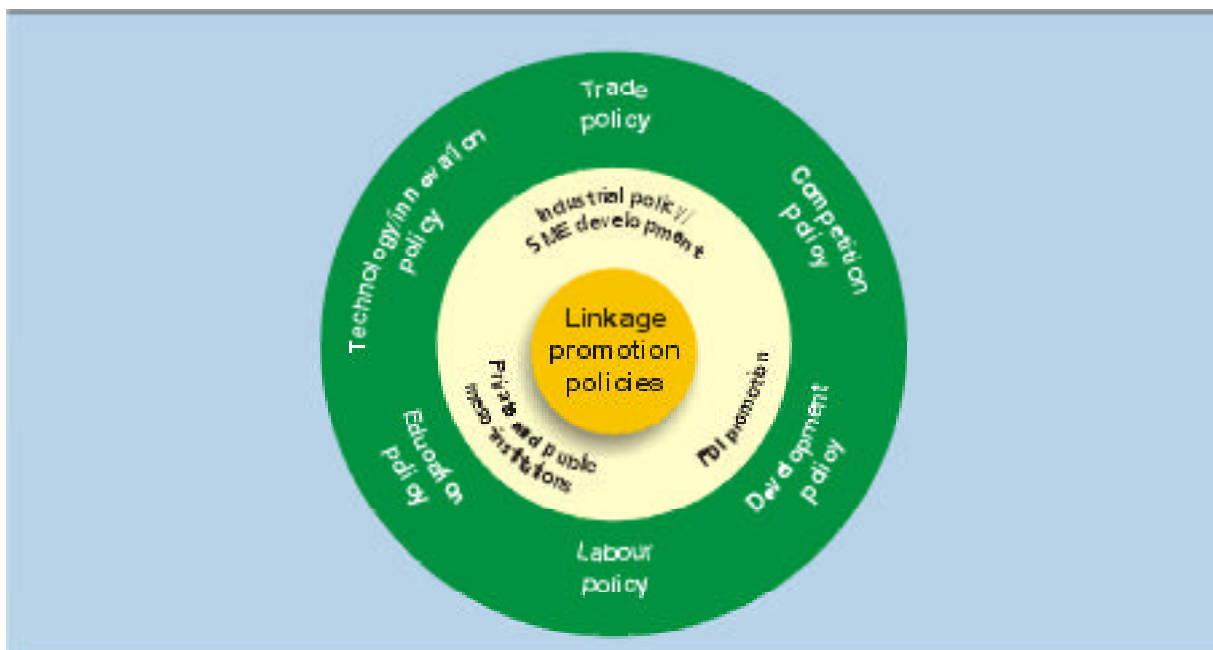
Care must be taken, however, when drawing lessons from the experience of different countries. Not all measures reviewed in this chapter have always yielded positive results in terms of promoting efficient linkages, if for no other reason than that they may have been applied to meet different policy objectives. Success also depends on whether other policies are in place. For instance, the promotion of supply links may be successful because it is complemented by a general policy of technology upgrading or industrial training. A certain strategy may work only in a specific historical, cultural, institutional or political context, making it difficult to transpose it to a different setting. In other words, many linkage promotion measures are context-specific, and the role of the enterprise and industry determinants discussed in chapter IV needs to be taken into account. Moreover, the description of a policy per se does not capture the way it has been implemented in a particular country, if only because proper implementation may require strong institutional capacities; not every government may have adequate resources for this purpose. Hence, if the same policy is implemented elsewhere, but without the

Figure V.1. Policy focus for the promotion of backward linkages



Source: UNCTAD.

Figure V.2. The linkages policy environment



Source: UNCTAD.

same efficiency, flexibility or participation of stakeholders, it may yield quite different – and perhaps disappointing – results.

Given this caveat, there are nevertheless important lessons to be learned from the policy experience of different countries. Many of the problems of linkage creation are generic. Market failures tend to occur across countries – even though the exact nature and incidence of such failures can vary by level of development and the specific national context. Governments have to make a broad strategic choice on the level at which they tackle such failures. Some can be addressed at a broad level – for instance, by encouraging information exchange or skill creation. Others are better addressed at more specific sectoral or activity levels, by targeting linkage policies to industries in which TNCs are most active. Still others can be geared to particular geographical locations, such as dynamic clusters of interest to foreign investors. Many governments have policies at all levels, with the differences in emphasis and nuance rather than strategy.

It is important to note, however, that the policy space available for national linkage policies is narrowing. A number of the direct measures used in the past to increase local purchases are being phased out, as a result of autonomous liberalization by host countries, the decline of interventionist policies and rules agreed in the context of the WTO and other international agreements. This does not mean that the role of policy is less important – on the contrary. But more attention needs to be given to policies that are in line with market forces and that build, in particular, on the mutual interests of both foreign affiliates and domestic firms (see chapter IV) to create and deepen linkages and foster competitiveness and economic growth. The challenge for each country is to identify which kind of measures are appropriate under its specific circumstances. The ultimate aim is to strengthen productive capacities of suppliers and, in particular, help them to produce higher value-added goods and services in an internationally competitive environment. In the process, some domestic suppliers may expand internationally and become TNCs in their own right (see box IV.1.)

This chapter reviews policy measures of relevance for linkage formation. Section B discusses some broad policy measures, notably in the areas of trade and investment, that can influence the behaviour of foreign affiliates, against the backdrop of recent developments in the international regulatory environment. The analysis then turns, in section C, to specific measures that can be generally applied with a view to facilitating more and deeper linkages. Section D shows how a number of countries have combined several of these measures into targeted comprehensive linkage programmes.

B. Trade and investment measures influencing linkages

Many host country policies affect the operations of foreign affiliates in various ways. Some of them can – often indirectly and incidentally, but also, at times, through deliberate use for this purpose – encourage linkages. The focus of this section is specifically on various trade and investment measures of relevance to linkages.

High *tariffs* on imports required by foreign affiliates could in theory lead to an increase in local sourcing of needed inputs by affecting their relative costs from different sources. However, import-substitution policies of this kind have been generally discontinued.

Rules of origin determine the national origin of a product for the purpose (among others) of granting preferential treatment. Rules of origin based on the level of domestic value added or local content, and implemented as part of preferential trade arrangements,¹ can have important effects on FDI and linkage creation in the preference-receiving countries (UNCTAD, 1999). In general, these effects are the more significant, the higher the preferential margin and the lower the administrative costs associated with origin compliance. On the other hand, excessively stringent rules tied to a minor preferential margin have limited impact.

In the case of the Japanese automobile manufacturer Suzuki's investment in Hungary, for example, rules of origin under the Association Agreement with the European Community were a factor in the firm's decision to locate there, create local linkages and increase local value added, so as to enjoy duty-free access for car exports to the European Union (box V.1). However, while rules of origin can lead to a relocation of activities to developing host countries, they do not necessarily lead to more or deeper linkages with local (let alone domestic) firms in those countries. Mexico, for instance, has attracted new FDI in electronics and television sets from firms wishing to have preferential access to NAFTA's two northern partners; but the impact on the share of local suppliers appears to have been negligible so far; the

bulk of parts and components, especially sophisticated ones, are produced by foreign affiliates (Carrillo, 2001). This suggests that, where local supply capacity is weak, foreign affiliates are likely to meet local content provisions contained in rules of origin either through internalized production or host country-based foreign-owned suppliers rather than domestic ones.² In addition, rules of origin have other shortcomings, including the way in which they are designed and implemented.³

Traditionally, the most prominent tool to encourage foreign affiliates to link up with local firms has been *local content requirements*, either mandatory or in return for incentives. Local content requirements – like rules of origin – do however not necessarily lead to linkages, as foreign

Box V.1. Suzuki's local sourcing in Hungary

Magyar Suzuki started commercial production in Hungary in 1992. Suzuki's decision to locate in Hungary and to source from domestic suppliers is partly the result of the preferential treatment given to goods, including cars, of Hungarian origin by the EU; its plant was largely oriented, from the outset, towards that market. Between 1992 and 1999, Magyar Suzuki exported 62 per cent of its cumulative output, mostly to the EU. In order for Magyar Suzuki cars to be considered of Hungarian origin (and enjoy EU duty free treatment), Magyar Suzuki had to rely on Hungarian inputs (or materials originating in the EU and in other European countries which, through so-called cumulation, are considered as local inputs) for at least 60 per cent of its cars' value. Magyar Suzuki's relatively high local value added also reflects company philosophy, which seeks to increase local involvement to avoid making its plants an enclave in the local environment. As a result, in 2000, 29 per cent of the components used by Magyar Suzuki was produced by the firm itself, 26 per cent was provided by its Hungarian suppliers – both domestic and foreign-owned, while 15 per cent was imported from the EU and 30 per cent from Japan.

Employing 2,100 persons directly, Magyar Suzuki is a major employer in the medium-sized town of Esztergom. It purchases a wide range of raw materials, parts and components from primary and secondary suppliers, and its indirect impact creates employment to 31,000 persons in 263 companies (box table V.1.1). In 2000, it had a high share of local value added compared to most of the other major foreign affiliates in Hungary; only some electronics firms established through acquisitions (General Electric, Electrolux) matched its share (Hungary, 2001a, p.3).

In 2000, to promote further its local embeddedness, Magyar Suzuki prepared a cluster-focused subcontracting promotion plan, the Mid-Hungarian Automotive Cluster. Magyar Suzuki decided to provide information on infrastructure and financing facilities to potential suppliers, both foreign and Hungarian. In the same year, Magyar Suzuki organized international seminars (for 47 potential foreign suppliers) and produced, jointly with the local authorities, other public relations materials to disseminate information. In 2001, the Esztergom Industrial Park had 560 000 m² open space, equipped with water pipeline, sewage, electricity, gas and telecommunications network, available for potential newcomers.

Source: UNCTAD, based on information provided by Magyar Suzuki.

Box table V.1.1. Magyar Suzuki and its supplier network, 2001

Item	No. of enterprises	Employees
Magyar Suzuki	1	2 100
Primary suppliers	55	10 400
Secondary suppliers	208	20 800
Total	264	33 300

Source: Magyar Suzuki.

affiliates can decide to internalize production within their host country operations. Although it is not clear how widely local content requirements have been used in the past,⁴ they (together with other trade-related investment measures (TRIMs) are now being phased out as a result of changes in host countries' economic strategies (from protectionist to open strategies) and of international commitments, in particular the 1995 WTO TRIMs Agreement (box V.2). Only a limited number of countries have requested an extension of the transition period for the TRIMs they had notified under Article 5.1 of the Agreement (table V.1).⁵ In any case, the experience with local content requirements is mixed (box V.3).

There are other *host country operational measures* (UNCTAD, forthcoming a) that can lead to linkages, even though this may not be among their principal objectives. In particular:⁶

- *Joint venture requirements* can lead to higher levels of local sourcing, reflecting
- *Export performance requirements* may not always lead to a substantial increase in linkages; but where they lead to linkages, these tend to have a higher quality – precisely because export markets are more exacting and hence foreign affiliates need to upgrade suppliers where this is needed. Such requirements seem to have played a role in pushing TNCs when automotive and electronics industry firms incorporated production facilities in developing countries and economies in transition into their international sourcing strategies, creating new patterns of international production (Moran, 1998, p.50). Foreign affiliates in these industries, in turn, formed strong backward linkages with domestic suppliers, who received a continuous flow

Box V.2. The TRIMs Agreement in brief

The TRIMs Agreement, which entered into force on 1 January 1995, specifies in its Article 2 that, “[w]ithout prejudice to other rights and obligations under GATT 1994, no Member shall apply any TRIM that is inconsistent with the provisions of Article III or Article XI of GATT 1994” (WTO, 1995). An illustrative list in the annex of the Agreement describes measures that are inconsistent with Articles III (4) and XI (1). These cover essentially the following types of measures: local content requirements; trade-balancing requirements; foreign exchange balancing requirements; and restrictions on exportation. The Agreement bans not only TRIMs that are mandatory, but also those whose compliance is necessary in order to obtain an advantage; it applies only to investment measures related to trade in goods; it does not cover trade in services.

Article 4 of the TRIMs Agreement allows developing countries to deviate temporarily from the obligations of the Agreement, as provided for in Article XVIII of GATT and related WTO provisions on safeguard measures for balance-of-payments difficulties. With regard to transition periods, developed, developing and least developed countries were given, respectively, two, five and seven years from the date of entry into force of the WTO Agreement to eliminate notified TRIMs. Furthermore, upon request, the transition period could be extended for developing and least developed countries that demonstrate particular difficulties in implementing the provisions of the Agreement. (WTO members that, as of June 2001, had sought extensions of the transition period were Argentina, Chile, Colombia, Egypt, Malaysia, Mexico, the Philippines, Pakistan, Romania and Thailand.)

The TRIMs Agreement is subject to further review by the Council on Goods no later than five years after the date of its entry into force (Article 9). In this context, several proposals have been circulated, including the following: maintaining the present list of restrictions or even reducing the coverage of such list; extending the phase-out period to allow developing countries more time to address their specific needs regarding economic, financial or social policies; and increasing the coverage of the list of prohibited TRIMs.

Source: UNCTAD, forthcoming a.

Table V.I. Notifications submitted under Article 5.1 of the TRIMs Agreement*

Member	Date of communication ^a	Industry	Category of the illustrative list
Argentina	30 March 1995; 21 March 1997	Automotive industries	Local content and trade-balancing
Barbados	31 March 1995	Pork processing enterprises	Local content
Bolivia ^b	24 June 1998	Hydrocarbons sector	Restrictions on exportation
Chile ^c	14 December 1995	Automotive industries	Local content and trade balancing
Colombia	31 March 1995; 4 June 1995; 31 July 1995; 30 September 1996	Agro-industry	Local content and trade balancing
Costa Rica ^d	30 March 1995	General	Local content
Cuba ^e	18 July 1995	Fuel, raw and other materials, tools, equipment, spare parts accessories, consumer goods; transport and marine insurance	Local content
Cyprus ^f	30 October 1995	Cheese and groundnuts products	Local content
Dominican Republic	26 April 1995	General	Local content and trade balancing
Ecuador	20 March 1996	Automotive industries	Local content
Egypt	29 September 1995	General	Not specified
India	31 March 1995; 22 December 1995; 18 March 1996; 11 April 1996	Consumer goods	Restrictions on exportation
Indonesia	23 May 1995; 28 October 1996	Automotive industries, utility boilers, soyabean and fresh milk products	Local content
Malaysia	31 March 1995; 14 March 1996	General and automotive industries	Local content
Mexico	31 March 1995	Automotive industries	Not specified
Nigeria ^g	17 July 1996	General	Not specified
Pakistan	30 March 1995	General	Local content
Peru	3 March 1995	Milk powders, anhydrous fat and other milk products	Local content
Philippines	31 March 1995	Automotive industries and coconut-based chemicals	Local content and foreign-exchange balancing
Poland ^h	28 September 1995	Cash registers	Local content
Romania	31 March 1995	General	Local content
South Africa	19 April 1995	Automotive industries, telecom- munication equipment, tea and coffee	Local content
Thailand	30 March 1995	Automotive industries, manufacture of milk and dairy products, aluminium sheets, TV picture tubes, transformers, air-conditioners and paper products	Local content
Uganda	17 June 1997	General	Not specified

/...

Table V.I. Notifications submitted under Article 5.1 of the TRIMs Agreement*

Member	Date of communication ^a	Industry	Category of the illustrative list
Uruguay	31 March 1995; 30 August 1995	Automotive industries	Local content
Venezuela	31 March 1995	Automotive industries	Local content

Source: UNCTAD, forthcoming a.

* Under Article 5.1 of the TRIMs Agreement, members were required to notify to the Council for Trade in Goods, within 90 days after the date of entry into force of the WTO Agreement, any TRIMs that are not in conformity with the Agreement. A decision adopted by the WTO General Council in April 1995 provided that governments that were not members of the WTO on 1 January 1995, but were entitled to become original members within a period of two years after 1 January 1995, should make notifications under Article 5.1 within 90 days after the day of their acceptance of the WTO Agreement.

- a Most of the TRIMs notified are probably no longer in place as only ten members (Argentina, Chile, Colombia, Egypt, Malaysia, Mexico, the Philippines, Pakistan, Romania and Thailand) have sought an extension of the transition period.
- b Bolivia subsequently submitted a notification indicating that it does not apply any TRIMs that are not in conformity with the Agreement.
- c Initially, Chile notified its measure under the Automotive Statute as a prohibited subsidy under the WTO Agreement on Subsidies and Countervailing Measures. However, after further analysis, this measure was also notified as a TRIM.
- d Costa Rica subsequently submitted a notification indicating that it intends to eliminate measures notified under Article 5.1 in advance of the expiry of the transition period.
- e Cuba subsequently informed the Committee that the measures notified by Cuba under Article 5.1 are no longer in force.
- f This notification superseded Cyprus' previous one of 29 June 1995; Cyprus subsequently submitted a notification indicating that it has eliminated measures notified under Article 5.1.
- g Nigeria subsequently submitted a notification indicating that the Nigerian Enterprises Promotion Act of 1989 has been repealed and replaced with the Nigerian Investment Promotion Commission Decree 1995.
- h Poland had subsequently submitted a notification indicating that it has eliminated measures notified under Article 5.1.

Box V.3. Experiences with local content requirements

The issue of the economic efficiency of local content requirements in creating linkages between foreign affiliates and local firms has been much debated. Some studies have argued that, under certain circumstances, mandatory measures can be useful in giving local firms the opportunity to build supply capabilities (Balasubramanian, 1991; Halbach, 1989). Evidence suggests that local content requirements contributed to the development of supplier industries in the Republic of Korea (Wong, 1992), Taiwan Province of China (Dahlman and Sananikone, 1990), Brazil, Mexico and Thailand before the 1990s (UNCTAD, 2000a). One study found that local content and other market reservation schemes had a positive influence on the development of domestic suppliers to foreign affiliates geared to domestic markets (Halbach, 1989, pp. 16-17).

Other studies have questioned the usefulness and efficiency of local content requirements and market reservations (Moran, 1998 and 1999). While they lead to higher local linkages, they can diminish the profitability of foreign investments and therefore reduce the attractiveness of the host countries involved as FDI locations, particularly when local suppliers are not competitive. Some evidence suggests that local content requirements discouraged manufacturing investment from Japan and the United States (Hackett and Srinivasan, 1998). In liberalized trade regimes, they may make foreign affiliates uncompetitive and reduce their export potential or even their ability to survive. The prolonged use of local content requirements can also lead to high costs, poor quality and a lack of long-term competitiveness in supplier industries (UNCTC, 1981). Thus, using surveys of the automobile industry (Bale and Walter, 1986), the petrochemical industry (Gray and Walter, 1984) and the informatics industry (Frischtak, 1986), one observer concluded that the use of "local content requirements in highly protected markets is not only extremely costly, but also quite ineffective" (Moran, 1998, p. 5). Another recent study (Xia and Lu, 2001) showed that local content requirements in China did promote the development of domestic suppliers but at the cost of low efficiency, high costs of production and hence a loss of competitiveness of the enterprises concerned.

The case for local content requirements rests essentially on the need to promote infant supply firms by providing support (in the form of assured demand) during their learning periods. The issue is thus similar to that of infant industry protection. Where used carefully, with offsetting measures to ensure that suppliers face competitive pressures and have access to the technology and skills they need to improve their capabilities, they can foster efficient suppliers. Where used in a protected setting, with few pressures to invest in building competitive capabilities, they can result in inefficient suppliers that saddle the economy with high costs, outdated technologies or redundant skills.

Source: UNCTAD.

of technical and managerial improvements and benefited from economics of agglomeration, scale and scope (Moran, 1998, chapter V). It is difficult, however, to generalize, on the basis of these industry experiences, that export-performance requirements invariably produce favourable outcomes as regards linkages to domestic suppliers in host countries.

While these two kinds of measures are not prohibited by the TRIMs Agreement, a number of interregional, regional and bilateral agreements (or drafts thereof) explicitly prohibit, condition (e.g. on incentives) or discourage them (and other host country operational measures) (table

V.2). In contrast to the TRIMs Agreement, however, such agreements in some cases allow these additional measures (or some of them) in so far as they are linked to incentives (UNCTAD, forthcoming a). In contemplating linkage-enhancing measures, governments need therefore to be aware that some countries (or groups of countries) have already agreed to prohibit these in some investment agreements, suggesting, perhaps, that the same issues may eventually be raised at the multilateral level.

While the measures described in the preceding paragraphs are prescriptive, countries can also offer *incentives* to foreign affiliates to encourage the creation of

Table V.2. Examples from international agreements (or attempts thereof) that prohibit, condition^a or discourage certain host country operational measures^b

Host country operational measure	Instrument
Requirements to establish a joint venture with domestic participation	GATS; draft MAI
Requirements for minimum level of domestic equity participation	GATS; draft MAI
Requirements to locate headquarters for a specific region or the world market	draft MAI
Employment performance requirements	draft MAI
Export performance requirements	NAFTA Canada – Barbados BIT; Canada – Philippines BIT; Canada – Trinidad and Tobago BIT; Canada – Venezuela BIT; El Salvador – Peru BIT; Malaysia – United Arab Emirates BIT; Mexico – Switzerland BIT; United States – Trinidad and Tobago BIT; United States – Bolivia BIT; draft MAI
Restrictions on sales of goods or services in the territory where they are produced or provided	El Salvador – Peru BIT ; NAFTA; United States – Bolivia BIT; draft MAI
Requirements to supply goods produced or services provided to a specific region or the world market exclusively from a given territory	United States – Trinidad and Tobago BIT; draft MAI
Requirements to act as the exclusive supplier of goods produced or services provided	NAFTA; Mexico-Switzerland BIT
Requirements to transfer technology, production processes or other proprietary knowledge	NAFTA; Canada – Barbados BIT; Canada – Philippines BIT; Canada – Trinidad and Tobago BIT; Canada – Venezuela BIT; El Salvador – Peru BIT; Mexico – Switzerland BIT; United States – Trinidad and Tobago BIT; United States – Bolivia BIT; draft MAI
R&D requirements	United States – Trinidad and Tobago BIT; United States – Bolivia BIT; draft MAI

Source: based on UNCTAD, forthcoming a.

^a For example, certain performance requirements are permitted in so far as they are linked to incentives.

^b Provisions on performance requirements may be subject to exceptions, derogation, reservations, safeguards and the like. As in the case of GATS, they may apply only to sectors, for which specific commitments have been made. Moreover, provisions on performance requirements may be subject to national treatment and most-favoured-nation treatment provisions.

linkages (provided that relevant international obligations are observed). Direct and targeted measures are tax exemptions for affiliates from corporate income tax, value-added tax or sales tax.⁷ Thus, some governments, like that of Indonesia, exempt exporters from value-added tax to encourage the use of local inputs (Felker and Jomo, 2000). In other cases, affiliates are allowed to treat the costs related to linkage formation as tax-deductible expenses. For example, in Malaysia, large companies participating in an Industrial Linkage Programme (ILP) can claim expenditure incurred for the training of employees, product development, testing and factory auditing (to ensure the quality of vendors' products), as a deduction in the computation of income tax (Malaysia, MITI, 2001). Linkage creation is also used as one of the criteria to grant "pioneer" or similar status to foreign investors. "Pioneer" status usually entitles firms to various types of fiscal or financial incentives, or to other benefits. In Malaysia, for example, pioneer status is granted to companies proposing to manufacture promoted products or undertake promoted activities, taking into consideration the value added, level of technology and industrial linkages involved in the projects (Malaysia, MIDA, 2001). The Thai Board of Investment also offers a variety of incentives to promote investment projects that use domestic resources and develop basic and support industries (Thailand, BOI, 2001). Moreover, sometimes changes of the tax system itself can facilitate linkages.⁸

It is difficult to isolate the impact of incentive measures on linkage formation from that of other measures that usually form part of an incentive package, or from the impact of economic conditions in a host economy. Some studies have found that incentives can be important in developing subcontracting relations; on the other hand, if local suppliers are not able to meet the needs of foreign investors efficiently, incentives alone are unlikely to have an impact on linkages.⁹ Furthermore, special attention needs to be given to avoid granting incentives in situations in which linkages would be forged even in the absence of incentives, which would then simply result in windfall gains for foreign affiliates. In

any event, the use of incentives must be compatible with the TRIMs Agreement and the Agreement on Subsidies and Countervailing Measures. Hence, particular care needs to be taken in the design and implementation of linkage-related incentive schemes. Under the TRIMs Agreement, local content requirements and other trade-related investment measures mentioned in the Agreement, are prohibited if they are a condition "to obtain an advantage". In other words, an incentive linked to a local content requirement is not considered permissible. Incentives are also covered by the Agreement on Subsidies to the extent that they fall within the definition of a subsidy contained in the Agreement. And again, the use of subsidies contingent upon the use of domestic over imported goods ("import substitution subsidies") is forbidden, although transition periods are provided for developing (five years) and least developed countries (eight years) (table V.3). On the other hand, while forgoing local content requirements, developing countries may find it useful to encourage linkages through well-targeted incentives to foreign affiliates (or domestic firms for this purpose) that engage in linkage creation and deepening activities, such as technology upgrading and the training of local suppliers. But incentives of this kind are currently open to challenge ("actionable"). Thought should therefore be given to adapting the relevant WTO rules to render this category of development-related subsidies non-actionable. To avoid free riding, affiliates receiving incentives could be required to commit matching resources.

Issues pertaining to performance requirements and incentives often arise in the context of concrete negotiations between governments and TNCs, especially of large FDI projects. *Contractual arrangements* with foreign investors can offer host governments an opportunity to encourage the formation of local linkages by including this element in their award procedures. Under the Umbrella Subcontracting Scheme of Malaysia, for example, the Government granted procurement contracts without competitive tendering to a furniture market intermediary company in exchange for its marketing the products of medium-sized local companies (Meyanathan, 1994).

Privatization transactions may also offer opportunities to keep linkage consideration in mind. For example, when Volkswagen bought Skoda (Czech Republic) in 1991, one of the best-effort commitments it made was to rely increasingly on domestic suppliers.¹⁰

Finally, thought could be given to the possibility that *home countries* encourage their TNCs through fiscal, financial and other incentives to forge local linkages in developing countries. Some developed countries give support in the form of loans, government-sponsored insurance and equity financing for FDI in developing countries and economies in transition (UNCTAD, 2001b). In some cases, such assistance is limited to SMEs. So far, however, the development of linkages between foreign affiliates and local firms does not appear to have been emphasized in these programmes, although there is progress in this direction. The Government of the United Kingdom published, in December 2000, a White Paper on International Development which noted that “[e]ven with good policies in place, it can be difficult for some developing countries to stimulate domestic investment and attract foreign investment”. One of the measures the Government of United Kingdom announced to deal with this situation is that it would establish a “Business Linkages Challenge Fund” which “will support enterprises in

developing countries to form linkages with domestic and international partners. It will facilitate knowledge transfer and improve access to the information and markets necessary to compete in a global economy” (United Kingdom, 2000, pp. 61-62).

* * * * *

Developments in the global economy and changes in the international policy framework, including commitments in WTO and other international arrangements, have changed the scope for national policy options. Some measures that were applied in the past are now considered less relevant or non-permissible in this new environment. However, there is flexibility within the existing framework, e.g. in the form of extension of transition arrangements and differential treatment of countries at different level of development. Moreover, some agreements are subject to further review. The challenge for policy makers is, therefore, how to adjust to this new international policy framework, make use of the options allowed within this framework and use other policy measures which are not subject to multilateral rules to integrate FDI more deeply into their national economies and, in particular, benefit from backward linkages. Some of these other measures are discussed below.

Table V.3. The WTO Agreement on Subsidies^a

Type of subsidy	Developed countries	Developing countries	Least developed countries
Subsidies contingent on use of domestic goods	Prohibited	Prohibited after 5 years (end of 1999)	Prohibited after 8 years (end of 2002)
Subsidies contingent on export performance	Prohibited	Prohibited after 8 years (end of 2002) ^{b, c}	Permissible (also for the 20 countries listed in Annex VII of the Agreement as long as their GNP per capita remains below \$1,000 per year) ^c
Subsidies that may cause adverse effects to the interests of another WTO member	“Actionable” nd	“Actionable” nd	“Actionable” nd

Source: UNCTAD.

^a The table does not summarize the provisions of the Agreement related to countervailing measures. The Agreement does not cover subsidies provided for the services sector.

^b This period may be extended in particular cases on the basis of specific economic, financial and development needs.

^c Developing and least developed countries are required to phase out export subsidies for products for which they gain more than a 3.25 per cent share of world trade for two consecutive years. The phase out periods are two years for developing countries and eight years for LDCs.

^d “Actionable” subsidies are not prohibited per se but they are open to complaint through the WTO dispute settlement mechanism. They can also be subject to countervailing measures applied by importing countries.

C. Specific measures to assist the creation and deepening of linkages

The discussion so far has dealt with certain broad policy measures that can influence the behaviour of foreign affiliates in terms of linkage development. Beyond these, there are two basic (mutually not exclusive) approaches that can be pursued. One involves encouraging linkages in general, regardless of the industries involved. This is a broad approach – it basically seeks to make the regulatory framework more conducive for linkage formation. The discussion below provides a menu of policy measures that can be considered under this approach. The other approach, discussed in section D, goes further in that it involves the establishment of a specific linkage promotion programme dedicated to increasing and deepening linkages between foreign affiliates and domestic firms.

The linkage process is affected by a host country's overall policy environment, including its economic and institutional framework, the availability of human resources, infrastructure and the degree of political and macroeconomic stability. Moreover, it is evident that the volume and nature of inward FDI determine the potential for linkage formation; for this reason, targeting foreign investors with linkage potential can be a part of a general FDI targeting strategy and hence an element in linkage promotion. But perhaps the single most important host country factor influencing linkage formation is the availability of local suppliers with competitive costs and quality. This is, of course, related to a country's level of development. The technological and managerial capabilities of domestic firms also determine to a large extent the ability of a host economy to absorb and benefit from the knowledge that linkages can transfer. In particular, the tendency for foreign affiliates to source the most sophisticated and complex parts and components either internally or from a preferred (foreign-owned) supplier within or outside a host country depends essentially on the capabilities of local companies. Another key requirement,

often stressed by TNCs, is the “right attitude” towards continuous improvement and, in particular, a commitment to upgrade quality on the part of suppliers; this is regarded by some as more important than the actual level of quality at any given point in time (Yoon, 1994; Belderbos et al., 2001; Altenburg, 2000).¹¹

The process of linkage formation is also affected by the availability of supporting meso-institutions. Public and private providers of financial, technological and training support often play key roles in the process of fostering the development of viable suppliers. Without this kind of institutional support, domestic firms may be unable to get a required quality certificate, training or capital needed to become competitive. Moreover, the costs incurred for foreign affiliates may simply be too high for them to get engaged in supplier development activities.

Support of another kind may also be important. Domestic suppliers – because they are typically small in size and economically weak – can be at a disadvantage when negotiating with buyers, especially when a single firm is the only or main customer. Governments can help to a certain extent to balance the negotiating positions of buyers and suppliers. For example, guidelines, model contracts or similar instruments setting out minimum requirements may be useful. In the Republic of Korea, the 1984 Act on Fair Transactions and Subcontracting gave the Government supervisory authority to monitor buyer-supplier transactions (Meyanathan, 1994). In India, policy measures have been implemented to strengthen the legal and institutional framework for linkage formation, including a proposal to prevent large enterprises from abusing their position.¹² The relationship between domestic suppliers and their buyers is often a delicate one and therefore requires constant attention and care.

This section focuses first on measures related to information provision and matchmaking to help domestic firms link up with foreign affiliates. It then examines various means to strengthen existing linkages in the areas of technology upgrading, training and financial assistance.

In each of these areas, specific measures are presented as they have been taken by governments. They represent a “menu” of sorts from which governments can choose in light of their specific circumstances. Typically, these measures do not distinguish between foreign affiliates and domestic firms and they can be applied across industries.

1. Information and matchmaking

The first set of policy measures to help domestic firms link up with foreign affiliates involves the provision of information and matchmaking. Such efforts may be needed to help overcome information failures as regards linkage opportunities. The most prominent ones are:

- *Provision of information.* Governments can act as facilitators by gathering and disseminating information on linkage opportunities and by guaranteeing the accuracy of the information provided. The information may include details about prices paid for particular components, qualities and even the products and processes used. It may consist simply of a list of inputs and materials available locally. Or it may include the names, locations and profiles of the supplier firms and some company information, along with data on the characteristics and structure of supplier industries. The information can be made available through simple hand-outs or brochures, but the recent tendency in most programmes is to use electronic databases. Of course, the more detailed and complex the data, the more useful they are to users – but the higher the cost of providing the information. (Governments may charge a fee for the use of the information services.) Information can also be provided through public announcements, linkage-information seminars and missions, and by international exhibitions. Instead of direct intervention, governments can support information exchanges by private institutions; some are promoted by international organizations like UNIDO.¹³ It must be recognized, however, that maintaining a reliable, up-to-date broad-based database is difficult and costly and

that, unless it fulfils these criteria, its usefulness may be limited.

- *Matchmaking.* Matchmaking implies a more active government role and focusing on the specific capabilities and needs of individual buyers and suppliers and working closely with them to reach supply arrangements. It can take many forms: facilitating one-to-one TNC-supplier encounters and negotiations, acting as honest broker in negotiations, supporting supplier audits, providing advice on subcontracting deals, sponsoring fairs, exhibitions, missions and conferences. Governments can also organize meetings to bring suppliers and buyers in particular industries together, to enable them to show their products, make contacts and initiate deals. They can try to establish the input needs of foreign affiliates and identify parts and components for local supply. They can monitor linkages and act as troubleshooters when problems arise. The Irish National Linkage Programme, for example, helps with bureaucratic processes and institutions in subcontracting arrangements and with resolving problems and disputes in linkage relationships (box V.8). The most common types of matchmaking activity consist of arranging individual meetings and visits to plants. The “Meet the Buyer” Programme in the Czech Republic arranges meetings between foreign investors and potential Czech suppliers as part of CzechInvest support measures (Czech Republic, 2001; box V.10). In Thailand, the Unit for Industrial Linkage Development (BUILD) of the Board of Investment arranges for visits to assembly plants by potential suppliers. Since the initiation of the Vendors’ Meet Customer Programme in 1997, there have been about 50 visits to factories (Thailand, Office of the Prime Minister, 2001; see annex E to this chapter). In Mexico’s state of Baja California Norte, a variety of trade fairs bring supplies and buyers together (see annex D to this chapter).

Many linkage-promotion efforts put emphasis on overcoming the information gap. In many countries such institutions as chambers of commerce or industry associations can be valuable sources of information for foreign affiliates that are newcomers in these countries. Based on the

experience of information and matchmaking activities in different countries, some lessons can be drawn. First, public initiatives can indeed play a role in enhancing the availability of information. This may be particularly important with regard to foreign affiliates that have recently invested in a host country. Second, matchmaking activities, however, make sense only when there are viable suppliers. Third, matchmaking initiatives need to be complemented by efforts at enhancing the competence and capabilities of domestic suppliers. Matchmaking cannot remedy supplier weaknesses but can be an important complement. Fourth, matchmaking efforts should be based on close collaboration with the private sector. The active participation of foreign affiliates is a key factor for the success at matchmaking programmes and trade fairs (see, e.g. Carrillo, 2001).

2. Technology upgrading

The technological capabilities of local firms are key determinants of their ability to qualify as suppliers to firms operating in increasingly competitive markets. They also influence the extent to which suppliers are able to take advantage of the opportunities for further technological improvement that linkages may provide. More and more foreign affiliates demand that their suppliers comply with quality standards such as ISO9000, QS9000, HACCP and VDA. Accordingly, the technological upgrading of local supplier firms is a priority for host countries, and several governments have adopted measures to encourage technology transfer from buyer firms to supplier firms and to strengthen technological cooperation between the two. These measures may be general or focus particularly on suppliers to large firms, including foreign affiliates. Often, they are part of comprehensive programmes to promote backward linkages (see section V.D). They are, moreover, implemented against the background of increasingly open policy frameworks for FDI and also growing pressure — including through the TRIPS agreement — to strengthen intellectual property regimes. The issue may be of less relevance for buyer-supplier transfers as they typically do not seem to involve the transfer of proprietary technology (see chapter IV).

In general, however, firms, including foreign affiliates, are hesitant to transfer proprietary technology in an environment in which the protection of intellectual property is not robust, because of the potential risk of imitation by competitors.¹⁴ Some studies have found that the intellectual property regime in a host country could affect the inflow of FDI and the type of technology transferred, particularly in high technology industries such as chemicals, pharmaceuticals, machinery and electrical equipment (Mansfield, 1995; Maskus, 1997; UNCTAD, 1993).¹⁵

Against this background, some measures that are specifically relevant to encouraging technology transfer from foreign affiliates to their local suppliers include:

- *Technology transfer as a performance requirement.* Technology transfer requirements are used by governments (unless they have entered specific treaty obligations to the contrary), sometimes in conjunction with the provision of an incentive (e.g. tax incentive), to induce the transfer of technologies from TNCs, not only to their foreign affiliates and joint venture partners, but *also* to local firms that are subcontractors of foreign affiliates. The Republic of Korea used technology transfer requirements to domestic firms in the 1960s (Kim, 1999) but subsequently discontinued their application in 1989, as the measure did not produce the expected result.¹⁶ More recently, agreements in China's automobile and autoparts industries stipulated a certain degree of transfer of technology (Xia and Lu, 2001). However, such arrangements may be phased out in the light of China's accession to WTO.
- *Partnerships with foreign affiliates.* Some governments use foreign affiliates as partners in technology upgrading programmes. Singapore's Local Industry Upgrading Programme (box V.4) gives responsibility to managers seconded by affiliates to the Economic Development Board to identify potential suppliers, and evaluate their capabilities and design programmes to remedy their weaknesses. Foreign affiliates participating in the programme then transfer technology and skills to suppliers to upgrade the

capabilities of the latter. (Box V.4 also illustrates the success of one local firm in upgrading its technology through participation in the programme.) The Government provides organizational and financial support.

The ultimate aim of encouraging technology transfer, including to suppliers, is to strengthen the innovatory capacity of firms in developing countries. In this regard, *incentives to encourage innovation in domestic firms and R&D cooperation* play a critical role. Some governments offer incentives to firms (foreign and domestic) for R&D cooperation with other firms or research institutes. This creates another – and potentially valuable – form of backward linkages (which may also include direct input by suppliers). For example, starting in 1991, Brazil gave fiscal incentives to information technology companies that invested at least 5 per cent of local sales in R&D, and 46 per cent of the expenditure was on projects developed jointly with Brazilian universities or research centres. Between 1993 and 1998, 272 companies (including affiliates of leading TNCs like Ericsson, NEC and Compaq) availed themselves of these incentives (Galina, 2001). Motorola drew upon this incentive to establish a Brazilian centre for semiconductor component development which it built into a global research centre in collaboration with local universities (Galina, 2001).

Some governments give similar incentives to universities and research institutes to cooperate in R&D with firms (again, both domestic and foreign). The Government of India gives incentives (bonuses and royalty shares from new products) to national laboratories to strengthen linkages with enterprises. At the same time, it has reduced budgetary support for laboratories, forcing them to raise funds from corporate sources (Reddy, 2000, p. 79). Institutes with a strong research base are subcontracting R&D work from industry. TNCs like Intel and Motorola are using the research capabilities of the Indian Institutes of Technology for developing semiconductors and chip designing methodologies.

Besides the measures implemented by host country governments, *home countries* too, can take measures to encourage technology transfer by foreign affiliates to local suppliers in host countries. Some international agreements, including TRIPS, encourage technology transfer from home to host countries. To the extent measures to that effect are successful *and* foreign affiliates establish technology linkages with domestic firms, they contribute to a strengthening of the technological capacities of domestic host country firms. Home country incentives can be useful in this respect – building for example on the provisions of the TRIPS Agreement. One of the Agreement's objectives is that "the

Box V.4. Singapore's Local Industry Upgrading Programme

The Economic Development Board (EDB) of Singapore was established in 1961 as a government agency replacing the Industrial Promotion Board of 1957. Its initial aim was to increase employment by attracting FDI. The composition of FDI targeted by the Board has subsequently followed a pattern of technological upgrading, both in terms of industry and of corporate function. It moved to more sophisticated and export-oriented industries – e.g. computer parts, computer peripherals, software packages and silicon wafers – in the 1970s, and began to target high-technology industries requiring specialist skills, such as integrated circuits, computers, industrial electronic equipment and speciality chemical products since the 1980s.

The EDB added a linkage programme to its FDI targeting strategy in 1986 when it established the Local Industry Upgrading Programme (LIUP) to upgrade, strengthen and expand the pool of local suppliers to foreign affiliates, by enhancing their "efficiency, reliability and international competitiveness" (Singapore, EDB, 2001a, p. 2). Simultaneously, the EDB created the Small Enterprise Development Bureau to provide support to SMEs. This was corroborated by the 1988 SME Master Plan, which promotes and develops selected SMEs, such as those that are innovative start-ups or possess critical mass, capability and commitment to innovate and grow. From its inception, the LIUP has been part of a wider development vision and industrial policy. Most recently, under its "Industry 21" initiative, the EDB seeks to develop Singapore into a "hub

Box V.4. Singapore's Local Industry Upgrading Programme

of knowledge-driven industries" (Singapore, EDB, 2001a, p. 1). Singapore follows a long-term human resources development plan, based on projections of future growth industries. For example, university programmes and students are directed into study courses according to future skills needs of the economy (Singapore, EDB, 2001a).

LIUP is implemented in 3 phases:

- Phase 1: improvement of overall operational efficiency, such as production planning and inventory control, plant lay out, financial and management control techniques.
- Phase 2: introduction and transfer of new products or processes to local enterprises.
- Phase 3: joint product, process research and development with foreign affiliates' partners.

Activities can be undertaken concurrently under the three phases. The role of the LIUP is to offer organizational and financial support to upgrade and develop vendors. It operates with the involvement of foreign firms, and TNCs are encouraged to enter into long-term contracts with local suppliers and assist them to upgrade their products and processes (see box). While the initiative was initially launched for the electronics cluster, the LIUP now covers medical products, petroleum and petrochemicals, marine, transportation and logistics, education and information technology clusters (Singapore, EDB, 2001a).

The LIUP's activities include a variety of support measures. For instance, the EDB contributes to the salary of a foreign affiliate's representative seconded to a local supplier to make the affiliate's supplier more competitive. Specific benefits are offered to those TNCs that enrol themselves in the vendor development programme. Thus, the Government of Singapore can maintain its influence over the character and content of the capital upgrading process.

Local suppliers are encouraged to expand internationally, e.g. follow their TNC customers when they establish plants elsewhere, notably in South-East Asia. This extends the LIUP programme beyond a conventional local linkage development programme.

Over time, the economy has developed substantial contractual buyer-supplier arrangements, with knowledge transfers flowing in both directions (Chew and Yeung, 2001). For example, in 1999, about 30 foreign affiliates and 11 large local enterprises, government-linked companies and government agencies were partnering some 670 vendors under the LIUP. Most of these were in the electronics or electrical industries. In the mid-1990s, among the suppliers that had participated in the programme, productivity had increased by an average of 17 per cent, and value added per worker by 14 per cent (Battat et al., 1996). Some local firms, such as Advanced Systems Automation and Manufacturing Integrated Technology, have managed to evolve from domestic suppliers to internationalized companies performing highly complex functions (Mathews, 1999). Both these companies are today preferred global first-tier suppliers to their TNC customers. This would suggest that Singapore's approach, combining a targeted FDI promotion strategy with a linkage programme, has had positive effects on economic deepening.

FJ Industrial and Hewlett Packard

FJ Industrial, a domestically-owned firm in Singapore, started its operations as a small manufacturer of aluminium and plastic nameplates. It graduated to become the first local firm to manufacture membrane switches and circuits, which are technologically more advanced and are aimed at replacing the mechanical push-buttons on computer keyboards, copy machines, calculators microwave ovens, etc. Under the LIUP, Hewlett Packard's affiliate in Singapore assisted FJ Industrial in diversifying into these technologically sophisticated products. It helped its supplier to set up production facilities with process control equipment and sanitized rooms. FJ's factory manager and an engineer were provided training on the manufacture of membrane switches and circuits at the Olin Hunt Specialty Products factory in Los Angeles. Hewlett Packard placed a large order on FJ Industrial for switches and circuits for incorporation in its new generation calculators and computers.

Source: UNCTAD, based on Lim and Fong, 1991, pp. 130-131.

Source: UNCTAD, based on Singapore, EDB, 2001a; Battat et al., 1996; Chew and Yeung, 2001; Mathews, 1999; Tan 1990; and communications from John Mathews (May 2001).

protection and enforcement of intellectual property rights should contribute to the transfer and dissemination of technology” (Article 7). In addition, some clauses refer specifically to the promotion of transfer of technology to LDCs. The Agreement recognizes the special needs and requirements of its least developed members by providing for assistance to them by the developed country members on the issue of technology transfer. More specifically, Article 66(2) requires developed country members to “provide incentives to enterprises and institutions in their territories for the purpose of promoting and encouraging technology transfer to least developed country members in order to enable them to create a sound and viable technological base”. Further, Article 67 states that, “in order to facilitate the implementation of this Agreement, developed country Members shall provide, on request and on mutually agreed terms and conditions, technical and financial cooperation in favour of developing and least developed country Members”.¹⁷

In conclusion, the experience of firms (see chapter IV) and of selected countries suggests that the most successful technological linkage measures are two-pronged, directed at both suppliers and buyers. Policies aimed only at inducing or encouraging foreign affiliates to transfer technology have generally not been very effective. Those addressing only local supplier firms have done better, but comprehensive policies addressing both sides of the equation have turned out best. Partnerships with foreign affiliates in upgrading supplier capabilities have been particularly effective.

3. Training

Developing countries attach a high priority to human resource development (particularly in SMEs). They pay particular attention therefore to strengthening the human-resource-development dimensions of supplier linkages, including those with foreign affiliates. Policy instruments in this area range from measures that form part of broad-based policies for SME development

and/or comprehensive supplier development programmes, to programmes or measures targeting learning interrelationships between supplier- and client-enterprises in particular industries. Government training programmes that are targeted solely at SMEs or local suppliers – implemented by several countries, including, with considerable success by a few developing countries – not involving buyers, can strengthen training and skills-development interaction between foreign affiliates and their domestic suppliers. But the measures considered here are those that are related more specifically to the promotion of training and educational assistance for suppliers’ employees by (or involving) buyer (or potential) buyer firms, including especially foreign affiliates.

However, only a few countries provide fiscal or financial incentives to firms (including foreign affiliates) for this purpose. The Republic of Korea gives tax incentives to large firms (domestic as well as foreign) to compensate partly for expenditures on human resource development in SMEs (including suppliers). (These expenditures are eligible for a tax credit of up to 10 per cent.¹⁸) Some countries provide financial support to firms, including suppliers to affiliates, that send workers for training or incur training expenses. In Singapore, the Skills Development Fund of the Singapore Productivity and Standards Board gives financial assistance to companies for training their workers. Thailand grants a 150 per cent tax deduction for training expenses recognized by the Ministry of Labour; in the past, this has been relatively hard to obtain, although improvements have been made recently (Brimble, 2001). In Malaysia and Hungary, training costs can be subsidised.

On the whole, however, the main focus of the measures pursued by host countries for strengthening inter-firm linkages in the area of training and skills is on assisting buyer and supplier linkages in general, and although few of them specifically and exclusively target foreign affiliates and their domestic suppliers, they are also of direct relevance to linkages between them. Host country measures include:

- *Promoting supplier associations.* Supplier associations established with government support can help build training linkages. For instance, the Republic of Korea encourages big companies (including foreign affiliates) to help organize SME supplier associations and participate in their training and other programmes. In 1999, 6,100 subcontractors received management assistance and training from big firms through this system.¹⁹ The “Source Wales” Programme of the Welsh Development Agency also uses a supplier association as a forum to exchange skills and techniques between clients and suppliers, with major customers or consultants hired by the programme, acting as tutors for SMEs (Morgan, 1997; box V.5).

Box V.5. Source Wales

The Welsh Development Agency – one of the sub-national development agencies in the United Kingdom – runs a programme called “Source Wales”. Since it combines matchmaking and supplier upgrading activities, it is in essence a linkage programme. It is not exclusive to foreign affiliates, but Source Wales works closely with foreign affiliates, and they are major players in the different programme activities.

In terms of matchmaking, Source Wales runs a custom-built supplier database that records the capabilities of Welsh enterprises.^a This helps firms elsewhere in the United Kingdom as well as foreign affiliates to find suitable Welsh suppliers. The buyers’ commercial, technical and quality requirements and the selection criteria by which they choose potential suppliers are also disseminated.

Source Wales sponsors or is involved in various business improvement programmes, covering a broad range of activities:

- The Winning Business Programme targets ambitious, growth-oriented companies operating in medium or fast-growth market segments and young entrepreneurial companies producing niche products or services.^b The Programme offers practical help by improving the understanding of the situation of each business, identifying marketing performance indicators, providing marketing tools and transferring necessary skills and expertise to ensure sustainable improvement.
- The Lean Methodologies Programme aims at increasing a company’s productivity, quality and delivery. The Programme trains companies in the use of a fact-based diagnostic process to identify the non-value-adding activities within the business. A tailor-made action plan is then designed to abolish these.
- A Strategic Direction Programme develops business strategies by helping companies use such strategic management instruments as market analysis and future planning. In this process, a designated Source Wales programme manager meets with a company to discuss its current situation and ideas for the future. A trained assessor then performs a benchmark test to establish the current position, highlighting strengths and weaknesses and areas in need of improvement. At the end of the Programme, the company has a comprehensive strategy, with measurable achievement targets. Approximately one year after the Programme has been completed, a second benchmark is carried out to measure progress.^c
- The Workplace Management Programme provides training in tools and techniques to help overcome problems associated with a company’s “culture”, such as resistance to change. A team selected from a company’s staff is trained in team-work and problem-solving and use of analysis tools.^d
- The Activity Based Management Programme aims to help Welsh companies improve customer service levels by analysing the complete cost structure of a business and eliminating costs that do not add value. The Programme tackles issues such as sales and marketing strategies, organization and process development, cost reduction, performance measurement, reduction in quality costs and management reporting systems.

Another modality is that of “Supplier Associations”, a forum in which new skills and techniques are exchanged among clients and suppliers, and in which the major subcontractors act as tutors for SMEs (Morgan, 1997). These Associations are either initiated by foreign-owned buyers, or by supplier firms, and are generally organized by the industry involved. Source Wales offers two types of events for the benefit of these Associations: the first involves

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Box V.5. Source Wales (concluded)

annual or bi-annual strategy meetings among contractors and supplier firms; the second consists of periodical conferences and seminars. Costs of speakers, of organizing the meeting venue and of incidentals are absorbed by Source Wales (Izushi, 1999, p. 743).

In terms of supplier development, major original equipment manufacturers are engaged either on a one-to-one basis or among a network of firms. In either case, the programmes are delivered by third-party consultants and managed by Source Wales. For example, Source Wales has worked on supplier development programmes with large foreign affiliates of Ford (Bridgend plant), Sony (Bridgend plant) and Robert Bosch (Llantrisant plant). The latter are referred to as “sponsors” or “lead companies”. Sometimes lead companies are the most advanced in terms of best-practice capabilities. In other cases, lead companies actually learn from participating suppliers, if these are more capable. According to an evaluation undertaken in 1996, the Source Wales programme was effective and innovative (Segal Quince Wicksted, 1996, cited in Morgan, 1997).

An important feature of Source Wales is that it is staffed by professionals with hands-on experience of international markets and industries. This facilitates a constructive dialogue with major industrial buyers.

Source: UNCTAD.

- ^a According to the website of the Welsh Development Agency, the system contained more than 4,300 companies as of January 2001.
- ^b Other criteria relate to a company’s culture, the attitude and motivation of the employees and the leadership capability of key managers.
- ^c In a related programme, Source Wales consultants teach companies how to carry out a benchmarking exercise on their own.
- ^d One element is an “improvement toolbox” that examines workplace organization; waste elimination; change-over time reduction; just-in-time production techniques; total productive maintenance, etc.

- *Support for private sector training programmes.* Government agencies may assist large firms, including foreign affiliates, to undertake training targeted at SMEs.²⁰ Public support for training linkages between affiliates and suppliers can also be provided at the local level. The Penang Skills Development Centre in Penang plays an important role in putting together training courses contributed by TNCs to upgrade skills in the supplier workforce (Intel, 2001). In Singapore, public-private-sector cooperation for training is an important part of the Local Industry Upgrading Programme.
- *Collaboration with international agencies.* International agencies can participate in training efforts for suppliers in host countries. The UNIDO partnership programme, in its first phase aimed at the automotive component industry in western India, began in 1999 as a collaborative effort of the Government of India, Fiat and non-governmental institutions and groups within India (see box V.6).²¹

Insufficient information makes it difficult to evaluate the different kinds of government measures in the area of training

outlined above. Experience with some programmes, such as those of Wales, Singapore and Penang in Malaysia, suggests that the returns to well-conceived initiatives to promote learning and skills development among local suppliers can be high. Best practice involves mobilizing the cooperation of buyer enterprises to overcome resource and organizational constraints, and staff targeted for training, and periodic evaluation of training programmes and follow-up. Furthermore, in many cases, governments can rely on external partners for the provision of the required training.

4. Finance

Financial relationships are a necessary part of linkages between foreign affiliates and their domestic suppliers. They range from the pricing of a supplier’s product to the provision of long-term finance. While possibilities to help suppliers in pricing negotiations in a market-based economy are limited, there may be a need for *legal protection* against unfair contractual arrangements and other unfair business practices. Competition policy has an important role to play here. A government

can also sponsor legal assistance systems for suppliers negotiating contracts with large firms and provide suppliers with information on benchmark prices and alternative business opportunities, or encourage business associations to do so.

In developing countries, where shortage of finance is a major constraint facing domestic suppliers (in particular SMEs), the challenge is mainly to encourage the provision of financial support by foreign affiliates to their domestic suppliers, since the former are generally likely to be in a better financial position than the latter. Such support, when it occurs, can directly increase financial resources available to suppliers,

contribute to reducing the cost of finance for them, and/or reduce the uncertainty surrounding the sustainability of financial flows. It can be encouraged by various government measures (which, as in other areas, do not necessarily have to distinguish between foreign affiliates and domestic firms):

Short-term finance

- Governments can encourage a shortening of payment delays through tax measures. In the Republic of Korea, for example, tax reductions of up to 10 per cent of the total corporation or income tax are offered to encourage prompt payments to suppliers.²²

Box V.6. Partnership for training: the UNIDO Partnership Programme to strengthen the automotive component manufacturing industry in India

The UNIDO Partnership Programme is jointly implemented by UNIDO, the Government of India, selected TNCs and other large corporations, research institutions and civil society organizations.^a Its objective is to create a pool of competent and internationally competitive domestic component suppliers in India's automotive industry. That is expected, in turn, to result in the formation of strong linkages between foreign affiliates and domestic suppliers in the industry. The programme is targeted at SMEs that are second- and third-tier suppliers in the industry – suppliers that do not supply directly to car manufacturers but rather to firms that do. Target firms are characterized by an employment size ranging from 20 to 80 employees and also by specific difficulties in accessing technology, human resources, information and finance and integrating them into their operations. In its first phase, which began in 1999, the programme was directed at automotive component manufacturers in the Mumbai-Pune region of western India.

Training is a major component of the programme. Training activities are jointly designed by the project partners (including target companies) based on inputs provided by the TNCs among them – FIAT in phase I and FORD in phase II – on requirements which suppliers are expected to fulfil. Four international experts (two specialists in automobile manufacturing; one in plastics; and a fourth expert with extensive experience in rubber and rubber-extrusion products, identified through the participating institutions, including FIAT) are responsible for the design and implementation of the enterprise-oriented shop-floor training and training of junior engineers. In addition, experts from Automotive Research Association of India and Automotive Component Manufacturing Association of India, provide technical and managerial training and expose managers of participating enterprises to international best practices. Each participating company pays a fee of INR20,000, regardless of the number of people trained. However, in phase II, which was launched in August 2000, each participating company will pay a fixed price for specific services, also depending on the number of managers or employees trained. So far 300 Indian firms – an average of about 15 persons per firm – have received training under the programme. The core activity of the programme is shop-floor training in world-class manufacturing methods such as the 5Ss (abbreviated from the Japanese words *Seiri*, *Seiton*, *Seison*, *Seiketsu*, and *Shitsuke*, meaning housekeeping, workplace organization, cleanup, keep cleanliness, and discipline – simple but effective methods to organize the workplace); and Poka-Yoke (Japanese for “mistake-proofing”), also known as Zero Quality Control. In addition, UNIDO software for financial planning and business performance assessment is installed and training given on how to use these tools. A UNIDO survey of participating companies and survey results revealed significant improvements in productivity, training for continuous improvement and quality standards.

Source: UNIDO, 2000, and other information provided by UNIDO.

^a The budget for the programme was \$305,000, funded equally by Fiat, the Government of India and UNIDO.

- Governments can limit payment delays through legislation. Again, in the Republic of Korea, the Fair Subcontract Transactions Act mandates a time limit (60 days) on delayed payments. In India, the Interest on Delayed Payments to Small Scale and Ancillary Industrial Undertakings Act of 1993 stipulates that payment to subcontractors should be made within 30 days.
- Governments can make arrangements to guarantee the recovery of delayed payments. In the Republic of Korea and Taiwan Province of China, public guarantee funds offer up to 100 per cent coverage on promissory notes. The Government of Hungary has two non-refundable facilities (the Economic Development and the Small and the Medium-sized Enterprises Development Targeted Allocations) to re-finance borrowings by subcontractors.
- Governments can offer indirect financing to suppliers channelled through their buyers. In Mexico, for example, a State-owned development bank operates an "AAA Trust Fund" that provides the most creditworthy large firms (categorized as "triple A") with funds to finance preferential credit lines to their suppliers.²³

Medium- to long-term finance

- Governments can offer tax credits or reductions and other fiscal benefits to firms providing long-term funds to suppliers. An example is the Fundo Fiat in Brazil (Borges Lemos et al., 2000).
- Governments can co-finance supplier development programmes along with the private sector. This is the case with the Penang Skills Development Centre, the UNIDO programme for upgrading automotive component manufacturers in India, and the Government of India's co-financing and subsidization of subcontracting exchanges.
- Governments may take a direct role in providing finance to local firms to improve their capacities. For example, the Government of Hungary provides firms that are suppliers to large firms (a good number of which are foreign affiliates) financial support for new investments, the re-

financing of loans and improving operating capabilities. This is done on a cost-sharing basis, with half the costs covered by the firms. From 2000, consultants working for first-tier suppliers providing support for leasing by SMEs can also apply for financial assistance. In the Mexican *Programa de Desarrollo de Proveedores*, the national development bank finances suppliers to large companies (again, most of which are foreign affiliates).

- *Mandatory transfer of funds from foreign affiliates to local suppliers.* Although such a scheme has not yet been tried in practice, in theory, it could emulate the mechanisms of the Foster Father Business Partner programme in Indonesia (initiated in 1992), while avoiding its shortcomings. The latter "strongly encouraged" all large firms to allocate 1-5 per cent of their profits to small enterprises. One of its weak points was that it did not link the use of those resources to improvements in the production and supplying capabilities and economic efficiency of supplier SMEs benefiting from the scheme. Another shortcoming was that most of the beneficiaries of the scheme were selected by the authorities, without sufficient consideration of their potential as suppliers to large firms. Due to a lack of tangible benefits for them, foreign affiliates showed little interest in participating, making the scheme non-enforceable (Altenburg, 2000, p. 50; Kian Wie, 1994, pp. 106-107; Swisscontact, 1996, p. 10-11).

Finally, as in the case of other linkage areas, *home country governments* can take measures to encourage financial support by their TNCs to local suppliers in developing countries. Examples include:

- *Two-step loans.* Credit lines may be provided to foreign affiliates or local banks for loans to local suppliers. For instance, the Japan Bank for International Cooperation offers credit lines to local state-owned banks in host countries for loans to local firms including suppliers to Japanese affiliates. Additionally, during the Asian financial crisis, as part of emergency measures, the Bank authorized Japanese affiliates in Thailand to use its loans for working capital so that they could also extend financial assistance to crisis-hit

local suppliers in the form of advance purchases and advance payments. (Under normal circumstances, loans by this bank can be used for the purchase of machinery and equipment only.)²⁴

- *Using official development assistance (ODA).* ODA resources can be used to fund (together with firms and host governments) supplier development programmes in a host economy. In Mexico, for example, the Tijuana Development Council manages and coordinates the *Fondo Tijuana* (with resources from the Inter-American Development Bank) to finance local suppliers in the electronics cluster. The five-year budget (2000-2005) of the *Fondo* has \$2.7 million for technical cooperation and \$12 million for a venture capital fund. (See the text on Mexico in the annex of this chapter.)

Governments have an important role to play in countries that do not have a well-functioning capital market. One of the things they can do is to encourage foreign affiliates to extend financial support to their domestic suppliers through measures to influence the regulatory framework for financial linkages or through the provision of co-financing or guarantees in financial arrangements between foreign affiliates and local suppliers. However, direct financial participation can be costly for governments, and the benefits derived from it need to be assessed carefully relative to its costs.

D. Specific government linkage promotion programmes

The above review has highlighted various measures to bring suppliers and foreign affiliates together and to strengthen their linkages, regardless of the industries involved. Some countries have taken a more proactive approach by setting up specific linkage promotion programmes dedicated to increasing and deepening linkages between foreign affiliates and domestic firms. These programmes combine several of these specific measures and typically focus on a

limited number of industries and firms. Targeting is almost inevitable when governments allocate scarce resources for industrial development, and it is economically justifiable when different activities offer varying scope for technological learning, skill building or spillover benefits. Governments use various means for selecting targets for linkage creation (box V.7). Sometimes, these programmes are organized at the national level. In other cases, they are part of sub-national strategies. These latter programmes are characterized by a cluster approach, some running in parallel to nationwide linkage efforts, others being stand-alone initiatives (annex table V.2).

Not surprisingly, most specific linkage programmes are in countries with a significant FDI presence and a strong local supplier base.²⁵ Most of these countries have institutions for SME development and FDI promotion, as well as the skills and financial resources to staff and fund linkage programmes.

Common objectives of such programmes are to increase domestic production and employment; improve the current account; make TNCs more rooted in the local economy; and, above all, upgrade the capabilities of domestic enterprises. The relative importance of these objectives varies and has shifted over time. For example, the programmes in Ireland (box V.8) and Singapore (box V.4) were initially triggered by the need to increase employment; subsequently, technology upgrading took precedence.

Three elements are common to the special national-level linkage programmes:

- the provision of market and business information;
- matchmaking by such means as trade fairs or data bases;
- support to local enterprises through provision of managerial and technical assistance, training, audits and, occasionally, by financial assistance or incentives.

The relative weight assigned to each of these elements depends upon the objectives of the individual programme. It also depends on

the level of enterprise development, the involvement of the private sector in determining the needs of firms and the financial and human resources available for the programmes. Programmes aiming mainly at facilitating the establishment of linkages tend to emphasise matchmaking between domestic firms and foreign affiliates. Those aiming mainly at upgrading the technological capabilities of domestic firms place a stronger emphasis on technical and other support to domestic firms with supplier potential. This often includes strategic decisions on the activities to be covered in the programme.

The earliest programmes (table 2 in the annex to this chapter), dating from the mid-1980s, were undertaken in Ireland, Singapore and Malaysia (box V.9). The Thai linkage programme started in 1992. Programmes in the Czech Republic (box V.10) and Hungary date from the mid-1990s and that in Costa Rica began in 2000.²⁶

Linkage programmes at the sub-national level focus on subregions or industries.²⁷ Their objectives go beyond simply creating linkages, increasing employment and balancing trade and include:

Box V.7. Targeting potential local suppliers

Targeting potential suppliers implies, first, the identification of industries in which local firms have the capacity to forge linkages or in which this capacity can be successfully developed. In the case of Ireland, for example, realistic supply opportunities were identified in metal and plastic components industries, although other industries (such as printing, packing, automation equipment, electronics manufacture assembly, and system testing equipment) were also explored for potential local sourcing (Battat et al., 1996; Crone, 2001).

Governments have used various criteria to select local firms with the potential of becoming suppliers to foreign affiliates. These relate to technical and production capabilities, size, ownership, industry and the quality of the top management of local firms in terms of vision and eagerness to improve their firms and benefit from government support. Thus, in Ireland, a prime consideration for selecting companies as beneficiaries of government support is the attitude of the management of the local firm. In identifying potential domestic suppliers, some governments work closely with foreign affiliates to ensure that they identify market requirements properly (especially as to demand, supply capacities and quality and other requirements) and, from the beginning, involve the private sector in their efforts. This is the case with the Irish National Linkage Programme (NLP), Singapore's Local Industry Upgrading Programme (Singapore, EDB, 2001b), Costa Rica's Provee project and Thailand's BUILD Programme (Thailand, Office of the Prime Minister (BOI), 2001). (See boxes below and the annex to this chapter.)

Suppliers selected for linkage programmes are sometimes classified into different categories, based on firms' capabilities, competitive advantages and chances of success in a linkage programme aimed at enhancing their capabilities. For example, in the case of the Irish National Linkage Programme, only 70-80 suppliers out of an estimated 750 on its database were selected to be included in its supplier development programme (Crone, 2001; Ireland, 2001a). In Hungary, the Government has classified local suppliers in four categories: already suppliers; ready to become suppliers; suppliers that require assistance in specific areas to become suppliers; firms that cannot become suppliers in the short term. Half of the Government's resources are provided to the first category of firms on a cost sharing basis, while not more than 40 per cent are devoted to firms in the second category, and only 10 per cent to firms in the two last categories (Hungary, 2001b). In the UNIDO Programme on Industrial Subcontracting and Supply Chain Management, the selected local companies should meet at least two of four criteria: more than nine employees; specialised equipment; specialised manufacturing process; and ISO9000 certification.^a The UNIDO Partnership Programme (box V.6) for the development of autoparts suppliers in western India targets second- and third-tier suppliers according to the following criteria: 50 per cent ISO9000 or self-certified companies; a minimum of two years in operation; non-captive sub-suppliers (with at least two unrelated customers); and committed and motivated management.^a

Source: UNCTAD.

^a Information provided by UNIDO.

Box V.8. Ireland's National Linkage Programme

Since the mid-1980s, Enterprise Ireland has been operating various linkage programmes designed to improve the integration of foreign enterprise into the Irish economy. The current National Linkage Programme (NLP) was introduced in 1998. Enterprise Ireland is a government organization, established in 1985 under the Ministry of Finance.^a Its enterprise development activities take place in the context of Ireland's current National Development Plan (2000-2006) (Ireland, Ministry of Finance, 2000). Its core mission is "to work in partnership with client companies to develop a sustainable competitive advantage, leading to a significant increase in profitable sales, exports and employment" (Enterprise Ireland, 2001, p.1). Accordingly, the agency works in partnership with private industry and other institutions, notably universities. It pursues two tasks: first, to support Irish enterprises to build capacity, innovate and create new partnerships; second, to assist international investors to source and identify key suppliers in Ireland.

With a staff of about 15 people, the NLP functions primarily as a brokerage service with the aim of promoting local sourcing by foreign affiliates in Ireland. Under its linkage programme, NLP representatives initially visited foreign affiliates to determine their sourcing requirements and made efforts to match these with the production profiles of local suppliers. However, local suppliers encountered a variety of difficulties in terms of capabilities and capacities to meet the standards set by foreign affiliates. The programme hence increasingly turned to capacity building.

The NLP was focused primarily on potential suppliers to TNCs in the electronics industry, engineering and, more recently, the healthcare industry. "Realistic" supply opportunities were identified in metal and plastic components, while such industries as printing and packaging, automation equipment, electronics manufacture assembly and system testing equipment, were also explored to determine whether local sourcing could potentially increase.

The NLP closely cooperates with foreign affiliates, as well as with their parent companies, to identify specific parts and components that may be supplied domestically and to identify the domestic firms that show the greatest potential. A key criterion used for selecting companies to participate in the supplier development programme is the attitude of the management teams of local firms, which should be "forward thinking, ambitious, and dynamic" (Crone, 2001, p. 2).^b

With the carefully selected local firms, the NLP works to resolve operational problems, making use of available assistance programmes. The agency helps suppliers design support programmes, conducts development activities and assists suppliers entering into subcontracting arrangements with foreign affiliates. A wide range of services is currently offered to potential suppliers.^c Recently, and in response to the growing need for suppliers to become sub-assemblers, the NLP is also actively promoting a restructuring of local industry by "marrying" supplier companies, rather than focusing on single-component providers to the foreign affiliates.

As each company has its own distinctive ambitions, capabilities and needs, the agency aims at delivering solutions tailored to the individual circumstances of each enterprise. A "Development Adviser" is the company's main contact point in Enterprise Ireland. This professional staff member helps suppliers to assess their needs and capabilities, formulate an agreed "growth plan" and identify the range of services and resources needed to execute the plan.

Under a "Networks/Value Adding Partnerships" scheme (which seeks to help small companies overcome limitations imposed by their size), eight networks were set up in industries, ranging from cheese making to mould making, with a view to undertaking joint research and development, marketing and procurement-related activities. Reportedly, this scheme resulted in additional sales of Irish £16.7 million for participating companies in 1997 (Ireland, Minister for Finance, 2000, p. 230).

To support SMEs more generally, the National Plan has allocated Irish £128 million to support marketing capabilities focussed on SMEs, as these often fail to undertake market development on their own, due to a lack of expertise, financial resources and the perceived risks involved. The supplier development programme has focused on 70 to 80 firms, ranging from small specialist suppliers to firms of up to 150 employees. Activities include (Ireland, Minister for Finance, 2000, p. 139 f):

- market information and research on market trends, competition, logistics, market strategy options, product development and design upgrading of skills;

/...

Box V.8. Ireland's National Linkage Programme (concluded)

- sectoral and company promotional activities, such as trade fairs, advertising, literature and public relations;
- training in areas including that of supply chain management

Enterprise Ireland also runs a sophisticated electronic database, covering supplier firms in 20 industries, called the supplier search facility (Enterprise Ireland, 2001). Searches can be run by industry, by company or by product. The industries covered include aerospace, agricultural machinery, automotive components, electronics and engineering sub-supply, pharmaceuticals, textiles and clothing and other consumer products, natural resource-based industries (such as the foodstuffs, timber) and services (such as print and packaging, process control and instrumentation and telecommunications). Any firm in Ireland is eligible for inclusion. The site covers approximately 750 supplier companies.

Between 1985 and 1987, an estimated 250 foreign affiliates have been actively involved in the linkage programme. During that period, affiliates operating in Ireland increased their local purchases of raw materials fourfold, from Irish £438 million to £1,831 million, and more than doubled their purchases of services from Irish £980 million to over £2 billion. In the electronics industry alone, the value of inputs sourced locally rose from 12 to 20 per cent over the same period. On average, suppliers saw their sales increase by 83 per cent, productivity by 36 per cent and employment by 33 per cent.^d Several have become successful international subcontractors; some of the larger domestic supplier companies involved in the NLP have subsequently been acquired by foreign TNCs.

Surveys aimed at evaluating the impact of the NLP have been undertaken by the National Policy and Advisory Board for Enterprise, Trade, Investment, Science, Technology and Innovation (Forfas) since 1996. For the electronics industry, it was concluded that, by the mid-1990s, a ceiling of around 20 per cent of material input purchases from within Ireland had been reached. It was unlikely that this industry would grow much beyond its current size level because of a lack of indigenous capability in technologically complex subsectors (Crone, 2001).

Some observers found that the demand for the agency's brokering services has diminished over time. Recent inward investors tend to be better-equipped in terms of procurement staff, many having recruited staff with knowledge of local sourcing opportunities. In response, the resources devoted to the NLP have recently been scaled down, and some activities previously undertaken by the NLP are now provided in a more targeted fashion by the International Business Linkages Department of Enterprise Ireland with a staff of eight people.

In summary, the combination of programmes provided by Enterprise Ireland has contributed to the emergence of suppliers of high-quality goods and services, delivering to affiliates as well as to other buyers. Some lessons that were drawn from the Irish case are that:

- Matchmaking requires accompanying measures to upgrade the capabilities of potential and existing suppliers; the need for matchmaking as such may diminish over time as the composition of affiliates and their motivations for locating in a given country, or their local knowledge, changes.
- Supplier development efforts should be selective, in order to achieve the best outcomes from limited resources. For example, efforts should focus on those SMEs that have the greatest potential for growth. The NLP normally ignored the smallest firms because they were considered unlikely to grow to a size that is large enough to enable them to win business with foreign affiliates (Crone, 2001).
- Close collaboration with foreign affiliates and their parent TNCs is crucial.
- Close coordination and collaboration amongst the various government agencies involved in assisting local suppliers are important elements.

Source: UNCTAD, based on the Enterprise Ireland website and information provided by Enterprise Ireland, as well as Crone, 2000 and 2001.

^a Originally, the programme was implemented by the Industrial Development Authority.

^b This is similar to the approach taken in the linkage programme in Penang state, Malaysia.

^c Services are offered in business planning and information, research, development and design; production and operations; marketing and business development; human resource development and finance.

^d Data provided by Enterprise Ireland.

Box V.9. National and regional linkage development schemes in Malaysia

In Malaysia, linkage policies have been unified under the umbrella of the Second Industrial Master Plan (1996-2005),^a formulated and implemented by the Ministry of International Trade and Industry (Malaysia, MITI, 2001). This Master Plan pursues an approach to industrial development that has strong implications for the creation and deepening of linkages: its core objective is to move the economy up the value chain, from assembly-based and low value-added activities towards activities in R&D, product design, distribution and marketing. A related objective is to support the evolution of internationally competitive clusters; these are to be nurtured by integrating key manufacturers with their suppliers and with key business services, and by developing the requisite infrastructure and institutions. The approach seeks to generate backward and forward linkages and domestic spin-offs, as well as to develop domestic SMEs (Malaysia, MITI, 2001).^b Institutionally, the Master Plan brings together public and private sector players.^c

Within this broader context, the Malaysian Industrial Development Authority (MIDA) is the principal agent for the promotion and coordination of industrial development, including foreign and local investment in manufacturing (Malaysia, MIDA, 2001). At the operational level, two agencies are responsible for the promotion of industrial linkages: the Small and Medium Industries Corporation, a specialized agency that provides advisory services, guidance and assistance to enhance the competitiveness of the SMEs in Malaysia, and the Ministry of Entrepreneur Development.

The Industrial Linkages Programme of the Small and Medium Industries Corporation offers a number of incentives.^d Large companies participating in the Industrial Linkages Programme can claim tax deductions for expenditure incurred in supplier-related support activities, such as training, product development and testing, or factory auditing ensuring the quality of vendors' products. Suppliers ("vendors"), including SMEs, are eligible for incentives if they manufacture promoted products within an approved Industrial Linkages Programme. This is either a full tax exemption at statutory income levels for a period of five years under the pioneer status; or an investment tax allowance of 60 per cent on qualifying capital expenditure incurred within a period of five years. Suppliers in an approved Industrial Linkages Programme, who are capable of reaching world class standards in terms of price, quality and capacity, are eligible for similar incentives.^e

In a related effort, the Small and Medium Industries Corporation launched a Global Supplier Programme in 1999, which is aimed at strengthening the competitiveness of Malaysian SMEs, so that they become suppliers not only to foreign affiliates of TNCs, but also evolve into global suppliers.^f It has the following objectives:

- to invite TNCs to share resources in terms of specialist trainers and training materials;
- to raise funding from the state and federal governments for such initiatives as the Human Resources Development Fund and the training grant provided under the Skills Upgrading Programme which finances up to 50 per cent of the training costs;
- to explain tax incentives, such as the Double Deduction Incentives; and
- to ensure the commitment of local companies to participate actively in the Global Supplier Programme.

The Global Supplier Programme currently operates two initiatives. The first is training in critical skills and the second is an initiative to build linkages with TNCs. The training initiative focuses on helping participants acquire competencies to adopt and use new technologies; it has three levels of training.^g All trainers come from participating TNCs and are technical personnel with many years of "hands-on" experience. They are therefore in a position to assess the suppliers' performance as well as evaluate the effectiveness of the training.

Under the linkage initiative, foreign affiliates "adopt" local companies and guide them for upgrading in leadership skills and technology. The selection criteria for this programme are dependent on conditions agreed between the foreign affiliates and the participating local suppliers. In most cases, this would be a long term commitment of up to two years with regular

Box V.9. National and regional linkage development schemes in Malaysia (concluded)

reviews between foreign affiliates and the local suppliers. Quarterly review meetings are chaired by representatives of participating foreign affiliates, with participation of the chief executive officers of the Small and Medium Industries Corporation. The state of Penang, location of most of the major electronics affiliates in the country, has been actively implementing this programme. This initiative has been operational since 2000; eight TNCs and nine SMEs are currently involved.

Neither at the national nor at the state level has there been a systematic assessment of the effectiveness of policy instruments in fostering local input linkages and technology transfer. Nevertheless, a recent study (Jomo, Felker and Rasiah, 1999) examined the impact of various policy measures on local sourcing in Malaysia. It concluded that investment incentives, such as those available under the Promotion of Investment Act of 1986, can be effective in fostering local input linkages as well as technology transfer.

At the firm level, there is some anecdotal evidence of local firms that have forged strong supplier partnerships with TNCs. These firms have benefited from programmes such as the Vendor Development Programme (the predecessor to the Global Supplier Programme), but have also on their own initiative developed their capability to expand their range of products and services and cultivate new customers. The establishment of the Penang Skills Development Centre has encouraged more TNCs to participate in the Human Resources Development Fund; utilization of this fund by TNCs is now much more extensive compared to that of local firms.

In Penang, incentives to encourage the physical relocation of small firms to industrial estates adjacent to the free industrial zones have proven to be a key policy tool in the process of developing linkages and technology transfer. The physical proximity of firms to their customers allowed a greater degree of interaction and diffusion of modern manufacturing practices. A few of these small “backyard” firms have grown into international suppliers of products such as moulds and dies.

Source: UNCTAD.

- ^a This Plan had several precursors. The 1958 Pioneer Industries Ordinance was conceived as a mechanism within Malaysia's import substitution strategy, granting tax holidays, giving tariff exemptions for import-substituting investment, and adopting a cascading tariff structure. The first Industrial Master Plan (1986-1995) contained detailed targets for technology transfer and local content and was complemented by the 1986 Promotion of Investments Act which offered a new set of Pioneer status tax holidays. In 1991, this was revamped so as solely to grant pioneer status tax benefits if a firm fulfilled two of four criteria: value added of 30-50 per cent; local content levels of 20-50 per cent; technology intensity as indicated by share of managerial and technical staff in total employees; and industrial linkages (see Felker and Jomo, 2000, p. 23 et seq.).
- ^b The industries enjoying support are electrical and electronics, chemicals, petrochemicals, pharmaceuticals, textiles and apparel, transportation, the automotive industries and aerospace, as well as natural-resource based clusters, such as wood-based and agro-based and food products (Malaysia, MITI, 2001).
- ^c The Industrial Co-ordination Council, chaired by the Minister of International Trade and Industry, includes representatives of the public and private sectors. Its 19 Industry Cluster Working Groups, co-chaired by the private sector, identify issues and opportunities for the development of industry clusters.
- ^d An immediate predecessor of the Industrial Linkage Programme was the Vendor Development Programme, introduced by the MITI in 1993. Under this modality, TNCs and their affiliates offering guaranteed purchasing contracts and technical support to local suppliers received incentives or, more generally, support in their investment undertakings (see Felker and Jomo, 2000, pp. 23-30).
- ^e Full tax exemption at statutory income level for 10 years, or an investment tax allowance of 100 per cent on qualifying capital expenditure incurred within a period of five years. The incentives are administered by MIDA. See Malaysia, MIDA, 2001; Driffield and Mohd Noor, 1999.
- ^f It evolved from an initiative by Motorola which approached the Penang Skills Development Centre to outsource their supplier training programme. To initiate this proposed programme, Motorola invited its suppliers to a Supplier Resource Transformation meeting at the Penang Skills Development Centre. A comprehensive package on vendor training was conceptualized in the form of the Global Supplier Programme. Subsequently, eight other TNCs decided to incorporate the Global Supplier Programme into their own vendor development programmes.
- ^g The Global Supplier Programme training offers various “packages”. Package 1 is a basic course on core competencies, comprising presentation skills, meeting and negotiating techniques, time management and project management. Package 2 introduces to various quality standards and statistical packages and is delivered in 8.5 training days spread over four months. Package 3 is an advanced programme that teaches design capabilities (CAD/CAM; design for assembly or manufacturability, etc.). There are also modular courses teaching various engineering subjects.

Box V.10 The Czech Republic's National Supplier Development Programme

It is one of the strategic goals of the foreign investment promotion agency of the Czech Republic, CzechInvest, to support the country's supplier base and to link it to foreign affiliates. It is also a way to convince potential foreign investors to locate in the Czech Republic. It is in this context that the agency introduced its Supplier Development Programme in 1999, designed to improve links between Czech suppliers of components and services and foreign affiliates operating in the Czech Republic. It has three objectives: to promote modern industrial technology, to heed environmental protection considerations and to raise qualifications of the local labour force's.

In January 2001, the Supplier Development Programme introduced a new "Twinning Programme", co-funded by the EU and the Government of the Czech Republic. This two-year subprogramme focuses specifically on the electronics and electro-technical industry. For a local supplier to qualify for the Twinning Programme, annual revenues must exceed \$2 million. If the Programme proves to be successful, the Supplier Development Programme is expected to extend its coverage to other industries for the 2003-2005 period. At the end of the Twinning Programme, CzechInvest plans to prepare a detailed evaluation and send the information to the Government.

The Supplier Development Programme currently consists of three elements:

- *Collection and distribution of information* regarding the products and capabilities of potential Czech component suppliers, so as to enable foreign manufacturers to short-list and contact potential new suppliers. The profiles of potential suppliers are available through CzechInvest's website; it currently covers 1,000 firms .
- *Matchmaking*, comprising three elements: First, "*Meet-the-Buyer*" events between foreign investors and potential Czech suppliers. The sessions focus on identifying the type of components and services that foreign investors are considering subcontracting. Such meetings are on offer to incoming manufacturing affiliates as part of CzechInvest's standard package of support. Second, *seminars and exhibitions* are organized with and for Czech suppliers and foreign affiliates. Third, the *matchmaking programme* takes the form of concrete proposals to potential foreign investors, indicating potential suppliers in the Czech Republic. ^a
- *Upgrading of selected Czech suppliers*. Since 2000, CzechInvest has organized *upgrading programmes* for selected Czech suppliers that meet predefined criteria in high-technology industries, such as electronics, or for selected engineering firms supplying to a wide range of industries (e.g. machine spare parts producers, plastic form producers and packaging firms). The selected firms produce an upgrading plan, tailored to their individual capacities and requirements. Progress is monitored with quantifiable performance benchmarks that compare Czech companies with their competitors from the EU. The upgrading process usually includes consultancy and training support in such areas as the utilization of technology, general management operations, ISO certification and organizational change. A second component is training in a wide range of areas, including finance, management, quality assurance and marketing. ^b The costs of training are shared evenly by the Government of the Czech Republic and the EU. Assistance and advice currently cover financial restructuring and productivity improvement. As a means of providing assistance to accessing finance, results of the training programme are to be presented to private sector bankers with the aim of promoting the financing of the trained electronics suppliers. These programmes aim to improve the selected suppliers' financial, production and inventory management, as well as their capacity to undertake purchasing and quality control.

Initially, the Government of the Czech Republic had financed the operational costs of the programme (about \$3 million for a three-year period), with co-funding from the EU's Phare programme. The Government plans to continue the Supplier Development Programme during the EU accession negotiations, and expects that it would subsequently qualify for the EU's Structural Fund programmes. The Ministry of Labour has indicated to CzechInvest that it would contribute funds to support the development of investment in areas with high rates of unemployment. CzechInvest periodically evaluates the progress made by the suppliers .

- intensifying interaction among firms in a cluster of industries or in a (spatially dispersed) network of enterprises;
- creating an environment conducive to continuous technological upgrading;
- enhancing the quality of FDI and rooting foreign affiliates more firmly in the local economy.

Cluster-oriented programmes seek to build on location specific capabilities and use “third generation” investment promotion strategies. (See conclusion, Part One.) They therefore exploit the two-way interaction between clusters and FDI, one strengthening the other. The emphasis is on moving up the value chain and linking local value chains with global ones. Several programmes that began as national programmes have evolved into cluster-oriented programmes (e.g. that of Scotland).

In cluster-oriented programmes, linkages between local firms and foreign affiliates are considered an (automatic) by-product, not the primary objective. The measures used are broader than in the special national programmes. They typically encompass matchmaking, institution building and strengthening the competitiveness of

suppliers. The main instruments are technology policy, with R&D and technical support for local firms. Emphasis is placed on the good functioning of such institutions as standards and quality bureaux, business networks and professional associations. Examples of this approach are the Global Supplier Programme of Penang state, Malaysia, the Mexican national and local level programmes, the high-technology linkage programme in Costa Rica, as well as the regional programmes in the United Kingdom, namely that in northeastern England, the Source Wales programme and several initiatives under the Scottish Enterprise Network (see box V.5 and annex to chapter V).

There is a third, broader category of programmes, which is not within the focus of this chapter but nevertheless merits mention. These programmes are not exclusively geared to linking foreign and local firms, but have an indirect impact on linkages. Examples range from the supplier development and “ancillarization” initiatives in India to the SME schemes of most developing economies.

Linkage programmes can be located in different agencies. Some come under the auspices of foreign investment promotion agencies as in Thailand and the Czech

Box V.10 The Czech Republic’s National Supplier Development Programme (concluded)

Institutionally, CzechInvest is linked to other parts of the Government, notably the Ministry of Industry, one of the SME promotion agencies, an export development agency and a technical university. Suppliers and foreign affiliates, industry associations (such as the Confederation of Industry and Transportation, the Chamber of Commerce, the Electro-technical Industry Association) and others represent the private sector. Service providers, including the standards institute, quality centres, the technical university, training centres and financial institutions (banks, venture capital funds) are also engaged in the CzechInvest schemes. For instance, the Czech Export Bank is prepared to finance exports of the Czech electronics industry, and the Czech Guarantee Bank envisages providing soft loans to suppliers.

CzechInvest’s strategy for 2000-2004 now covers support to domestic investment as well. This ties in well with its mission to promote linkages. Other adaptations in the programme are an increasing attention to training and financial assistance. Moreover, similar to many of the other linkage programmes, the creation of clusters and supply-chain management are receiving more attention.

Source: UNCTAD, based largely on information provided by CzechInvest.

^a When CzechInvest receives a request from an investor, it identifies potential suppliers from the database and provides their data to the investor, together with a one-page questionnaire. As a follow-up, if the investor is interested in any of the potential suppliers, CzechInvest introduces the foreign investor to the potential supplier and negotiates a deal on behalf of the investor.

^b The trainers are drawn from Sheffield Hallam University in the United Kingdom. The training programme has 60 candidate companies, of which 20 had to be selected by October 2001 for full training. The others will have access to low-cost training in specific areas.

Republic. Others are integral parts of economic development agencies such as the Economic Development Board of Singapore, Enterprise Ireland, the Malaysian Ministry of International Trade and Industry and its operational arm, the Malaysian Industrial Development Authority; and the Ministry of Economic Affairs of Hungary. Yet others are part of regional development strategies as in the northeastern England, Scottish and Welsh programmes in the United Kingdom.

In most instances, as in Ireland, Wales, Singapore or Thailand, the public agency liaises with the private sector, via a joint steering committee or through consultations. The northeastern England programme has an interesting variation. It involves the local and national government, the business community and trade unions; interaction with regional universities is especially well established.

Funding sources for linkage programmes are mixed. In most special national and cluster- and network-development programmes, the bulk of funding is provided by the government agency concerned. In some programmes, staff is seconded from within the agency, but not provided with financial resources (e.g. the BUILD programme in Thailand). Other programmes have succeeded in raising considerable finance from international and domestic public sources (Czech Republic, Mexico, Costa Rica).

It is difficult to make a full evaluation of government linkage programmes. Each takes place in a specific economic environment, and it is not possible to ascribe the establishment or deepening of linkages to any particular measure. There are always many other factors that may influence the process. (For a review of various attempts to measure linkages, see box V.11).

In general, the effectiveness of a linkage programme is largely context specific, predicated on the economic environment and institutional setting. If local firms have well-functioning linkages among themselves, it is more likely that they

will actively engage in a linkage programme. Similarly, active programme implementation may be helped by the presence of effective domestic and international chambers of commerce, or other groups representing enterprises (the case of Thailand, for example), or a strong involvement of the Government (the cases of Costa Rica, Malaysia and the United Kingdom). Assessments of the programmes in Singapore and Thailand have found these to have been successful in that they have contributed to an increased number of linkages, higher productivity, more local value added, and/or improved capabilities and productivity of local suppliers.²⁸

More generally, the main ingredients of successful linkages programmes are:

- Strong political commitment. Programmes pursued at the sub-national level may have more impact, particularly in large countries, since they allow for a focused approach and a bundling of resources, and are more amenable to close interaction among stakeholders.
- Clear delineation of the lines of responsibility, with coherence among goals and measures. Some linkage programmes, notably in the newer generation of cluster-oriented programmes, tend to have conflicting or overlapping lines of authority, with overall policy responsibility and implementation situated in different ministries and agencies. Such a situation calls for special efforts to coordinate.
- Effective public-private partnerships. Linkages will only be sustained if they are technically viable and commercially profitable for the firms involved. Suppliers can induce governments to assist them by encouraging local sourcing by affiliates. Foreign affiliates and their parent companies can help the government identify the scope for local sourcing and give advice on programmes needed. To be convincing and generate mutual trust, linkage programmes need to be staffed by professionals with the appropriate skills and background.

Finally, the more linkage promotion programmes are embedded in policies that facilitate enterprise development in general

Box V.11. Measuring linkages and their economic impact – an overview

Collecting and analysing evidence on linkages is a crucial prerequisite for evaluating policies on linkages. Linkages may be measured in different ways. One set of measures relates to the *extent* of linkages in an economy. Another focuses on the economic *impact* of linkages in terms of increased competitiveness of local firms, contribution to growth and employment, and so on.

Extent of linkages. The simplest indicator of the extent of linkages is the number of linkages. One way to do this is to simply count the number of relationships between foreign affiliates and domestic suppliers. This was one of the indicators used to evaluate the Singaporean LIUP (Mathews, 1999). A similar approach was used in Hungary to evaluate the Subcontractors' Target Programme: the share of domestic firms in the number of suppliers to affiliates. This indicator was also used in Costa Rica to estimate linkages between local suppliers and free-zone firms. Another frequently used measure is the value of contracts of local suppliers; this was used in Thailand to assess the BUILD programme.

Measuring the share of affiliates' locally sourced inputs in total inputs (in value terms) shows the importance of local sourcing but does not indicate the role of local firms in such sourcing. This measure was used in Ireland to evaluate the National Linkage Programme in the electronics industry (Crone, 2001). Other studies, for Sweden (Ivarsson, 1996), Malaysia (Giroud, 2001b), Thailand (Supapol, 1995) and Scotland and Northern Ireland, also used this indicator.

The share of locally sourced inputs is part of the "retained value" measure, the purpose of which is to measure the embeddedness of foreign affiliates in the local economy and host economies' share in value-added. "Retained value" is the sum of the local wages paid by a foreign affiliate, inputs sourced locally, profits accruing to local shareholders and local taxes paid.

A variation of this is the share of value added by local suppliers in total value added by foreign affiliates. The local content of foreign affiliate production (the inverse of the ratio of imports to production) is sometimes used to capture the degree to which affiliates link with the host economy; studies in Thailand, Malaysia, India and China have used this indicator. Local content does not, however, capture linkages properly since it includes affiliates' in-house production. Indicators that allow this distinction are therefore preferable. It is also desirable to measure linkages with locally owned firms rather than with affiliates of foreign suppliers. Such data, however, are often difficult to collect.

Depth of linkages. This set of measures is more complex. The impact of linkages falls into two broad categories: macro and micro. At the macro level, the effect of linkages can be assessed by their contribution to increases in employment, output or exports. These are difficult to calculate unless a realistic counterfactual (what would have happened in the absence of the linkages) assessment can be posited.

At the micro level, the contribution of linkages can be measured by the growth in supplier productivity, improvements in the quality of their products and the shift into higher value products. Such indicators are also used to measure productivity, technology-intensity and so on by other types of analysis. The challenge is to distinguish the effects of linkages from those of other factors that also affect productivity, technological capacity and product range. While it is almost impossible to obtain definite answers on the basis of quantitative data, surveys of foreign affiliates and their suppliers can provide useful information in this regard.

Because of data availability, efforts to assess linkage programmes have focused on the first group of indicators. The number of supplier contracts resulting from linkages supported by the programmes has been used to measure outreach. Some programmes use evidence on the use of different components of the programmes. In Costa Rica, a study (Monge; 2000) of linkages in free zones uses evidence on companies collaborating with local suppliers and on those transmitting technical specifications or providing training to suppliers.

Little evidence is available on how agencies that run linkage programmes measure the economic impact of their programmes. It is difficult to establish a clear link between macro or micro indicators and linkage programmes. A question related to the cost effectiveness of programmes is whether any increase in linkages would have been achieved in any event, i.e. without government intervention.

Source: UNCTAD.

(figure V.2), the higher is the likelihood that they will succeed. It is vital to have well-functioning institutions to channel two-way flows of information between governments and stakeholders and to provide industrial services. At the political level, institutions also comprise business associations of various kinds, as well as representatives of trade unions and possibly of other local interest groups.

* * *

There is clearly scope for government support to promote linkages between foreign affiliates and local suppliers. The above analysis shows how wide the range of policy measures is, although the effectiveness of the measures used cannot be fully assessed with the evidence at hand. Moreover, the more specific measures are embedded in broader policies aimed at strengthening the domestic enterprise sector, the more difficult it becomes to isolate the specific effects of linkage promotion policies. At the same time, the space for policy interventions that directly influence the operations of foreign affiliates of relevance to linkage formation has now become more limited than it was a decade or two ago. In this new context, measures that are in line with market forces are at a premium, correcting of course for structural weaknesses that are characteristic of developing countries. In particular, governments are increasingly relying on measures that address market failures and reduce the costs and risks for linkage partners. This requires the full involvement and cooperation of the linkage partners – foreign affiliates and domestic suppliers – and their associations.

Notes

¹ Examples include free trade agreements and autonomous or negotiated preferential trade schemes, such as the Generalized System of Preferences (GSP), the Global System of Trade Preferences (GSTP) among developing countries, the Cotonou Agreement and the Caribbean Basin Initiative.

² As noted earlier (box IV.2), attracting foreign suppliers can also have advantages. When foreign suppliers are involved, there can be secondary effects on domestic suppliers if they source from second- or third-tier suppliers.

³ For example, stringent rules (e.g. with very high domestic content requirements) may discourage investment, particularly in least developed countries. When the same rules of origin apply to a number of countries, what may suit the capacity of some may be difficult to achieve for others. To mitigate some of these problems and facilitate the use of trade preferences, rules of origin may allow for the “cumulation” of inputs originating in other developing countries participating in the preferential scheme (see UNCTAD, 1998b, for a more detailed analysis of cumulation rules). Furthermore, in the case of autonomous preferential trade schemes, rules of origin are decided unilaterally by the preference-giving country.

⁴ No systematic recent data are available. A 1989 survey of 31 developing countries showed that 23 had local content requirements (and four had trade-balancing requirements). In nine countries, local content requirements applied in all industries and, in one country, in all but one industry (mining and petroleum extraction). These figures do not take into account ad hoc local content requirements negotiated with individual foreign investors, usually in exchange for incentives; thus the actual figures may be higher (United States Trade Representative, “1989 TRIMs Survey”, cited in Battat et al., 1996, table 2, p. 14); On the other hand, a 1977 benchmark survey of United States foreign affiliates found that, in that year, only 3 per cent of the foreign affiliates of United States TNCs were subject to minimum local content requirements (UNCTC, 1991, p.14). Foreign affiliates located in developing countries were subject to such requirements twice as often (6 per cent) as the world average. The same survey carried out in 1982 found a lower usage of local content requirements, both worldwide (around 2 per cent) and in developing countries (2 per cent, *ibid.*, p. 15). The two data series are nevertheless not directly comparable since firms with sales of less than \$3 million were not included in the later survey. In 1982, a United States International Trade Commission study of United States-owned motor vehicles, chemicals and high-technology TNCs revealed major differences across industries in terms of being subject to local content requirements (*ibid.*, pp. 16-17). In motor vehicles, a high percentage of United States-owned affiliates (37) was subject to such requirements. In the meantime, in chemicals, the comparable ratio was 3 per cent and in office equipment, computers and accounting machines, it was only 10 per cent.

⁵ In the context of the Uruguay Round agreements implementation discussions some developing countries have proposed that they should have

- another opportunity to notify existing TRIMs which they would then be allowed to maintain until the end of a new transition period.
- 6 See also below, the section on technology upgrading.
- 7 An example is the Center-Satellite Factory System in Taiwan Province of China which includes a package of fiscal (tax depreciation) and financial incentives to encourage large firms – foreign and domestic – to engage in local supplier relations (Dahlman and Sananikone, 1990, pp. 108-109).
- 8 A value-added tax can be a source of encouragement for establishing backward linkages. Traditional turnover taxes levied on the full value of products and services transacted between firms may deter linkages (and favour radical integration) by raising tax liabilities on stages of production spread over independent firms. By contrast, value-added taxes, imposed only on additional value at each stage may favour linkages. This consideration appeared to have played a role when Thailand introduced a value-added tax (Battat et al., 1996).
- 9 Thus, Driffield and Mohd Noor (1999) found that foreign affiliates that have been given pioneer status incentives have stronger backward linkages in the local economy. The success of the Centre-Satellite Factory System of Taiwan Province of China has been attributed to the incentive package as much as to the fact that the island's SMEs were competitive; the incentive package was combined with advisory services to strengthen local suppliers (Altenburg, 2000, p. 56; Dahlman and Sananikone, 1990, pp. 108-109).
- 10 Up to mid-1996, both the number of domestic suppliers and their share in the supply of parts and materials of Skoda decreased. On the other hand, the absolute value of supplies from Czech suppliers increased, and these suppliers became increasingly internationally competitive (Zemplerova, 1996; Havas, 2000).
- 11 Some suppliers are unwilling to receive support from a buying firm. This may be because they are reluctant to share information related to costs and processes; they may not be aware of the need for improvement; or there may be a lack of trust between the two firms involved (Handfield et al., 2000).
- 12 Information provided by the Government of India on its Ancillary Development Programme.
- 13 In 1996, UNIDO helped the Government of India to set up a subcontracting exchange jointly with the Indian Small Industries Development Organization (SIDO). By 2000, the exchange had included 1,100 subcontractors in its database.
- 14 It is often argued that the relevance of intellectual property protection in connection with transfer of technology is strong where high, easily imitable technology is at stake, such as the case of computer software; it is also strong in cases where “tacit”, non-codified knowledge is essential to put a technology into operation (Correa, 2000).
- 15 However, as stated by one scholar (Maskus, 1997, p. 16): “economists cannot be entirely optimistic about the implications of stronger IPRs for technology transfer”.
- 16 The measure did provide access to foreign technologies, but very often not state-of-the-art technologies. Over time, the measure was perceived to be a liability, as the end-result would be a transfer of out-of-date technologies, while discouraging foreign firms to invest in the Republic of Korea. (Information obtained through informal discussion with an official of the Government of the Republic of Korea.)
- 17 See UNCTAD 2000c; UNCTAD 2001c; UNCTAD 2001d; UNCTAD forthcoming a; UNCTAD forthcoming b.
- 18 Communication from the Government of the Republic of Korea.
- 19 Information obtained from the Korea Federation of Small Business.
- 20 In Taiwan Province of China, the Center-Satellite (CS) Factory System, aimed at strengthening relationships between large enterprises and their “satellite” suppliers, includes training among its programmes (Battat et al., 1996). Initially, the CS Development Center (CSD) – a government agency – tried to persuade firms to establish a CS factory system. Then, “center factories” and the CSD assisted satellite firms draw up plans to help suppliers in various ways, including training key personnel and increasing awareness of best practice by arranging visits by supplier personnel to plants locally and overseas. In Malaysia and Thailand, national productivity councils act as catalyzers and organizers in setting up training courses for suppliers and inducing foreign affiliates to become involved in the training courses.
- 21 Information provided by UNIDO.
- 22 Information on the Special Tax Treatment Control Law provided by the Government of the Republic of Korea.
- 23 Information obtained from http://www.nafin.com.mx/Gran_empresa_y_gobierno/Geg_fide.htm; see also the text on Mexico in the annex to this chapter.
- 24 Information obtained from the Japan Bank for International Cooperation.
- 25 FDI as a share of gross fixed capital formation has consistently exceeded the respective region's average in, for example, Ireland, the United Kingdom, Malaysia, Singapore, Costa Rica, Hungary and the Czech Republic.
- 26 See the annex to this chapter for information on the programmes in Thailand, Hungary and Costa Rica.

- ²⁷ The analytical underpinning of this type of linkage programme is based on ideas similar to those in the work on competitive advantage and on clusters (see Part One). At the political level, several of these programmes build on a clear “vision” or development strategy; examples include the Malaysian Vision 2020 Manifesto of 1991 (which had pinpointed the need to deepen and upgrade the industrial structure, see Felker and Jomo, 2000, p. 22) and the Industry 21 Initiative in Singapore (Singapore, EDB, 2001a).
- ²⁸ See, for example, Battat et al., 1996 on Singapore. On Thailand, Board of Investment reply to the UNCTAD 2000 survey; the Thai Board of Investment survey examined linkages between and among foreign affiliates, local firms and joint ventures.

Annex to chapter V. Additional country programmes

This annex contains descriptions of other government programmes that promote linkages, not included in chapter V. A summary of all programmes reviewed is provided in table 2.

1. United Kingdom: the regional development agency for the northeast¹

“One Northeast” is the regional development agency for the northeastern region of England in the United Kingdom.² Its aim is to further “the economic development of the region, by encouraging new investment and entrepreneurial growth, the expansion and development of educational opportunities, and the redevelopment of the region’s industrial, logistics, and urban and rural infrastructures” (One Northeast, 2001, p. 1). The programme is part of a greater Regional Action Plan and the Regional Economic Strategy.

The objectives of One Northeast are to link existing FDI with local suppliers and to attract new FDI that matches the local suppliers’ potential. It works notably with local firms towards upgrading their productive capacity, and assists affiliates in identifying suppliers. Activities include:

- *Information provision.* An electronic database lists regional manufacturing firms (8,500 companies) and summarizes their capabilities (One Northeast, 2001). The focus is on industries and industrial activities with high potential, including chemicals; food and beverages and agriculture-related industries; the life sciences; and specialized business services, tourism and other services.
- *Consultancy services.* One Northeast consultant teams identify potential suppliers, prepare profiles of their capabilities and assist them in becoming suppliers.
- *Benchmarking.* The agency offers benchmarking services. To identify and select suitable local suppliers, sub-contracting firms can avail themselves of

a management tool named the Supplier Capability Assessment Tool (SCAT), developed by One Northeast together with Glasgow University (see box 1).

Funding for One Northeast as a whole averages £6 million per annum, of which the supplier development activities account for around £450,000 (One Northeast, 2001; Harding et al., 1996, p. 57). Roughly one-third comes from the Department of Trade and Industry, the Invest in Britain Bureau and the Regional Supply Office; one-third from the local authority and private sector contributions, sponsorship and sales of business services; and the remainder from the European Union and other donors (Loewendahl, 2001). One Northeast has 190 staff members, of whom 10 persons work specifically on supplier benchmarking and development (as of mid-2001).

The agency gauges success by the number of jobs created and by the increases in the turnover of local firms. According to One Northeast, the expenditure on supply chain programmes has generated considerable new contracts for the region’s SMEs (Loewendahl, 2001).

2. United Kingdom: the Scottish Enterprise programme³

The programme of Scottish Enterprise (a government agency that reports directly to the Ministry of Enterprise) seeks to attract FDI and to foster economic development.⁴ Scottish Enterprise is designed as a “fully integrated economic development agency”.⁵ Its activities embrace economic and social goals, notably to:

- support business start-ups and help existing companies to expand;
- make Scotland a more competitive location through the provision of business sites and premises and in improving the business environment;
- promote and encourage exports;
- attract inward investment;

- develop skills, break down barriers to employment and ensure that disadvantaged groups and areas are included.

Enterprises, local authorities and other public institutions, trade unions, as well as educational bodies, are active partners in the agency, brought together via a set of Local Enterprise Fora created in 2000. Scottish Enterprise is publicly funded. The annual budget for the entire agency was £440 million in 2000/2001. It is expected to generate a proportion of its own revenue through returns on investment and the sale and lease of property. Fifteen of the agency's staff work directly on supplier development activities.

Since 1997, Scottish Enterprise has been pursuing a cluster-oriented approach to regional economic development. It targets those industries in which Scotland is particularly strong, so as to strengthen linkages and to encourage investment in leading-edge technologies generated in local universities. The approach includes giving

increasing attention to second- and third-tier suppliers. Clusters have been promoted in oil and gas, food and beverages, forestry industries, microelectronics (including optoelectronics), semiconductors, biotechnology and services (such as tourism and software, including multimedia) (Scottish Enterprise Network, 2001).

The first Scottish Supplier Development Programme dates from 1989, followed by the Scottish Supplier Base Forum established shortly thereafter. The original objective was to accelerate growth in the Scottish economy by creating an infrastructure of excellence, comprising component manufacturing and sub-assembly as well as manufacturing. In this initial phase, the industry focus was on the plastic moulding and sheet metal industries.

Since 1989, surveys have been undertaken periodically to ascertain weaknesses in the Scottish supplier base and examine the requirements of electronics TNCs. Scottish Enterprise finances supplier audits, performed by contracted consultants

Box 1. The Supplier Capability Assessment Tool

The Supplier Capability Assessment Tool (SCAT) guides audits of potential suppliers and assists both subcontractors and supplier firms in finding linkage opportunities. It provides procurement managers of inward investor enterprises with comparative information not readily available. SCAT assesses the potential supplier firms' culture and gives an indication of the long-term stability of the management team. The range of skills in companies is profiled, as are the recruitment and training strategies and staff turnover. Together with the audited accounts and the firms' organigramme, this allows a "holistic view" of the audited firms' performance and potential at the time of assessment. A two standard-method questionnaire is used:

- "SCAT 1", compiled in a short factory tour;
- "SCAT 2", which is a more comprehensive assessment and takes a full day to complete.

It examines production processes and explores the performance of manufacturing methods, such as just-in-time production, continuous improvement and quality control, and benchmarking, logistics and e-commerce applications. Environmental performance is also scrutinized, such as recycling provisions. This assessment entails a tour of the entire plant (manufacturing area, offices, canteen, rest rooms, reception area and grounds). The assessment is consolidated electronically. The software allows for an instant comparison among the firms assessed. Both the potential supplier and clients receive the report; clients also receive a more detailed assessment which includes a financial appraisal. Typically, three to four companies tendering for a particular contract from an inward investor or a domestic company would be assessed. It is a client who then selects a supplier. One Northeast is not commercially involved at any time, but it finances the process. The client is obliged to inform One Northeast of all ensuing contracts and to register any increase in jobs. Such information is reported to the Department of Trade and Industry of the Government of the United Kingdom, and to the European Union, and can also be used as a tool to assess the programme itself.

Source: UNCTAD, based on Archie Workman, One Northeast.

working to a set of standard questions developed at the agency. The audits, which typically engage three consultants for a one-month period, are available to current or potential suppliers to foreign affiliates. Based on the consultants' reports, Scottish Enterprise, together with suppliers and foreign affiliates, develops a strategy for supplier upgrading which continues over a two-to-three-year period. Monthly meetings monitor progress.

The Supplier Base Forum currently has approximately 100 members: foreign affiliates and local suppliers that have at least 50 per cent of their business activities in the electronics sector. Membership is by invitation or by application. The Steering Committee is made up of Scottish Enterprise as the initiator of the Forum and elected members. The Forum organizes supplier development; moreover, it provides an opportunity for formal and informal networking, and sharing information on the sourcing requirements and patterns of foreign affiliates.

The Supplier Base Forum was complemented in 1993 by the Scottish Electronics Forum. It comprises original equipment manufacturers in the electronics industry. Various associations provide institutional support to this Forum. They include the National Microelectronics Institute (owned by major United States and European semiconductor companies), the Scottish Opto-Electronics Association, the Scottish Advanced Manufacturing Centre, Edutronic (a specialist industry-led surface mount training facility) and the Microelectronics Imaging and Analysis Centre (Peters et al., 2000).

As a means of indirect evaluation, Scottish Enterprise tracks the share of local purchasing in annual purchasing patterns of original equipment manufacturers in the electronics industry. The goal is for local sourcing (from domestically or foreign-owned suppliers) to reach 40 per cent for any given product (Krause and Handfield, 1999). The agency not only supports local suppliers but is also active in attracting foreign suppliers to support foreign affiliates' sourcing needs.

According to selective interviews conducted by an academic research team (Krause and Handfield, 1999), some foreign affiliates require their suppliers to be involved in Scottish Enterprise programmes. This suggests that foreign affiliates assess the programme favourably.

3. Costa Rica's High Technology Supplier Project ⁶

Since the late 1990s, Costa Rica's FDI initiatives have focused on the development of high-technology industries, notably semiconductors, health care and communication/information industries. ⁷ In this connection, the country adopted a linkages-related programme in 2000, the project Costa Rica Provee – Development of Suppliers for Multinational High Technology Enterprises. The overall objective of this programme is to develop an internationally-competitive local supplier base, in close cooperation with foreign affiliates in the country and by encouraging linkages between the high-technology relevant foreign affiliates and domestic suppliers. This interaction is meant to expedite the technological upgrading of local SMEs and to increase local value added in the operations of foreign affiliates in high-technology activities. The project was triggered by the observation that high-technology affiliates were sourcing only 5-7 per cent of their intermediate inputs from local suppliers.

The project is sponsored and implemented jointly by a group of public and private sector institutions: the Costa Rican Investment Board, the Costa Rica Foreign Trade Corporation, the National High Technology Center Foundation (a private institute with a link to the Government), the Costa Rica Chamber of Industry and the Ministry of Economy, Industry and Trade. For the initial three-year period, the Inter-American Development Bank provided financial support (\$900,000), which complements the \$600,000 of local funds.

The Costa Rica Provee has structured the linkage-providing process into three phases, each consisting of several steps:

Analysis of demand. The project reviews all high-technology affiliates located in Costa Rica, and pre-selects affiliates, based on their size, technological level and whether they have a methodology for supplier evaluation in place. In the first round, of ten high-technology affiliates identified by the project, six indicated their interest in and willingness to participate in the programme. They identified the areas of metals and mechanics, containers, moulds, packaging material and plastic products as those where they would be willing to source locally. Their sourcing requirements were analysed and matched with Costa Rica Provee's database of local suppliers.

Project development. The initial phase is followed by an evaluation of potential suppliers, undertaken jointly by Costa Rica Provee and representatives of the participating high-technology affiliates. The affiliates and the suppliers agree upon a series of business development activities. A bidding process then identifies providers of technical assistance and training services in response to the suppliers' requirements.

Project execution. The supplier receives technical assistance and training, sponsored by Costa Rica Provee, followed by another audit carried out by the high-technology affiliate, to assess the suppliers' ability to meet the previously specified requirements. This then leads to an actual contract.

The first such linkage activity was initiated in early 2001. BabyliSS Conair, an affiliate of Conair (United States), needed a supplier of metallic bodies for its production of hairdryers. The project's database identified five potential suppliers. The project's Executive Unit and BabyliSS Conair representatives jointly undertook intensive factory visits (over a three-week period), auditing and screening the potential supplier firms. At the end of the process, BabyliSS Conair selected Leogar S.A. and awarded a contract of over \$750,000 for the supply of 35,000 metallic bodies for the production of hairdryers during 2001. Costa Rica Provee will provide technical assistance and training to Leogar at an estimated cost of \$20,000.⁸ As a result of the contract, Leogar's turnover is expected to increase by about 18 per cent. This also led to a

follow-on contract with Tecnimatriz y Motrosa, established through BabyliSS Leogar, to design and produce inputs, at a value of about \$150,000. BabyliSS Conair is considering continuing cooperation with Leogar S.A. (Egloff, 2001; IADB, 2001; Larraín et al., 2001).

It is too early for an assessment of the Costa Rica Provee Project as the programme became operational only in 2000. Nevertheless, the Executive Unit is already reviewing the project's design, reflecting on the lessons learned during the first months of its operation. Only a limited number of high-technology foreign affiliates appeared in a position to enhance linkages with local suppliers effectively. On the supplier side, domestic SMEs were finding it difficult to meet the priority needs of high-technology foreign affiliates and were rarely in a position to outperform competing foreign suppliers because of their own higher unit production costs. Moreover, domestic suppliers had problems in terms of access to finance. Therefore, at present, considerations are under way to redesign the project. The aim is to ensure that the linkage programme matches the country's strategic objectives, and concentrates on the quality of linkages in terms of their technological content.

4. Linkage-related programmes in Mexico⁹

Recognizing the lack of linkages resulting from the particular logic of the *maquiladoras* programme,¹⁰ the Government of Mexico began pursuing a more proactive supplier development policy in the early 1990s, notably encouraging foreign affiliates to source from local companies. The National Industrial Modernization and Foreign Trade Programme (1990-1994), for example, was designed to promote locally-embedded industrial clusters. Policy elements included a new standardization and quality policy; promotion of total quality control through various meso-institutions; technological modernization based on industrial reorganization schemes; and strategies to favour outsourcing (Sanchez Ugarte, et al., 1994).

In 1993, another programme designed to facilitate linkages with domestic suppliers was introduced — the *empresas integradoras*

Table 1. The main public and private agencies relevant to linkage development in Tijuana, Baja California Norte, Mexico, 2001

Institution	Public	Private
Development Council of Tijuana (Consejo de Desarrollo de Tijuana (CDT))	X	X
Educational Linkage Committee (Comité de Vinculación Educativa)	X	X
Ministry of the Economy (Secretaría de Economía)	X	
Secretariat of Economic Development, State Government (Secretaría de Desarrollo Económico-Gobierno del Estado de Baja California Norte)	X	
National Finance Agency (Nacional Financiera-Financiamiento y Asistencia a la Pequeña Empresa)	X	
Border Governors Forum (Foro de Gobernadores Fronterizos)	X	
Entrepreneur Coordination Council (Consejo Coordinador Empresarial (CCE))		X
United States-Mexico Chamber of Commerce		X
National Industry Chamber (Cámara Nacional de la Industria y la Transformación (CANACINTRA))		X
Maquiladora Industry Association- West Coast (Asociación de la Industria Maquiladora Zona Costa)		X
Economic and Industrial Development Council of Tijuana (Desarrollo Económico e Industrial de Tijuana (DEITAC))		X
Western Maquiladora Trade Association		X
Japanese Maquiladora Trade Association		X
Korean Maquiladora Trade Association		X
National Chamber of the Electronics, Telecommunications and Informatics Industries (Cámara Nacional de la Industria Electrónica, Telecomunicaciones e Informática (CANIETI))		X
ProduCen (Productivity Centre for the Electronics Industry of Baja California)		X

Source: UNCTAD, based on Carrillo, 2001.

programme. It encourages cooperation among suppliers in the form of joint ventures. These enjoy a simplified corporate tax system, preferential access to credit lines of the National Finance Agency and assistance in technology and training (Altenburg et al., 1998).

Complementing this, the Government reformed in 1995 the export promotion programmes that had been instituted in the 1980s. Inputs from Mexico were exempted from value-added tax in order to remove disadvantages to local suppliers.

Building on these developments, the Industrial Policy and Foreign Trade Programme, introduced in 1996, aimed at developing highly competitive regional and industrial clusters with increasing numbers of micro, small and medium-sized firms. Simultaneously, the Government adopted a Programme for the Development of Suppliers. Some 500 large companies are registered in this programme, among them many major foreign affiliates. This Programme has two main components: first, financial assistance for suppliers through the National Finance Agency; and, second, information and matchmaking activities, such as databanks and trade fairs where potential suppliers can present their products.¹¹ A comprehensive internet-based

supplier database, established in 1997, consolidates information from various existing registers.¹²

These federal programmes are complemented by a number of initiatives at the sub-national level to promote FDI, speed up paperwork, provide information, create matchmaking databases and organize regional subcontracting fairs. The Secretariat of Industrial Development of the state of Baja California Norte has been particularly active. It cooperates closely with other public-sector agencies and institutions, such as employment services, a project on quality and modernization called *Calidad Integral y Modernización*,¹³ with the National Finance Agency, the Bancomex, as well as with the private sector, including *maquiladora* associations and local business organizations.

In Tijuana, for example, a broad alliance of private and public sector institutions have coalesced to support the cluster's development (table 1). Funding is provided in large measure by the "Fondo Tijuana", coordinated by the Development Council of Tijuana. This fund, a ten-year project launched in 2000, is co-financed by the Inter-American Development Bank, the National Finance Agency and private investors from Mexico as well as from the United States. It is meant to enable local

companies (old or newly established ones) to become suppliers in the electronics cluster. The funding comprises \$2.7 million for technical cooperation and \$12 million in the form of a venture capital fund for firms that want to become suppliers to the *maquila* industry. In the first phase, 17 firms were to receive support (7 existing firms and 10 newly established firms).

In summary, Mexico has a number of measures and programmes for the promotion of supplier linkages. However, these programmes may need to be better coordinated to achieve more impact and become integrated into an overall framework. With respect to Tijuana, feedback from various surveys suggests that neither foreign affiliates nor Mexican suppliers were sufficiently aware of existing initiatives (Carrillo et al., 1997; Escamilla, 2000, pp. 221-222; Carrillo, 2001). There was a general opinion among private associations that industrial policy needed to be reinforced, with a focus on developing specific industries and products and to increase technological sophistication, competitiveness and value-added activities. In a similar vein, several companies interviewed mentioned the lack of clarity in customs regulations and *maquila* status as obstacles for sourcing inputs from Mexican companies (Carrillo, 2001).¹⁴ It may be that these shortcomings will be addressed as the *maquiladora* programme is phased out, and the various recent linkage-related and supplier development initiatives come on stream.

5. Thailand's BUILD programme¹⁵

In the context of its activities on promoting domestic and foreign investment, the Board of Investment of Thailand (BOI), situated in the Office of the Prime Minister, created a linkage programme in 1992. It is managed by the BOI's Unit for Industrial Linkage Development (BUILD). The programme is designed to "act as an intermediary between manufacturers of ready-made products and small and medium-sized manufactures of parts, which will result in the linkage of industries and the transfer of production technology" (Thailand, BOI, p. 6), thus linking large

enterprises – foreign or domestic – with SMEs. The main objectives are to strengthen the assembler and parts supplier relationship; to promote the development of suppliers, notably SMEs; to increase production efficiency and quality; and to promote cooperation among foreign investors, Thai parts manufacturers and the Thai Government towards this end.

The programme encompasses five main activities: providing information about subcontracting opportunities, notably via a comprehensive computerized database; matchmaking services for individual firms; technical and management assistance to local suppliers interested in developing subcontracting relationships; provision of detailed technical and market information on establishing supplier industries in areas with high potential; and the organization and coordination of training courses to upgrade the marketing and technological capability of small and medium-sized local suppliers (BOI, p. 7).

To date, BUILD has concentrated its activities mostly on information provision and matchmaking services. Two specific activities were launched in 1997:¹⁶ the *Vendors Meet Customers Programme* (VMC) and the *ASEAN Supporting Industry Database* (ASID).

The VMC Programme was established to stimulate domestic sourcing of parts and components, particularly automotive and electronics parts. BOI acts as a broker to match buyers or assemblers and vendors or suppliers. The programme arranges for suppliers to visit assembly plants. Such visits enable potential suppliers to learn about the product and process requirements of assemblers, while assemblers make contact with potential local subcontractors. It can also be an opportunity for suppliers to agree on strategic alliances or a sharing of orders when the scale exceeds their individual firm's capacity to deliver components to an assembler. As a consequence, a group of roughly 70 domestic suppliers, members of the BUILD programme,¹⁷ established a Subcontracting Promotion Club in 1999. Members share information on incoming orders and subcontract each other.

Assemblers submit lists of imported parts to BUILD, allowing parts makers capable of producing listed parts to participate in the factory visit, and meet with the purchasing department. Since the programme began in 1997, there have been close to 50 visits to factories. During its first three years, BUILD focused on local assemblers. In 2001, BUILD started to expand its activities to overseas markets. In early May 2001, the Unit organized a mission to Germany focusing on the automotive industry. Various meetings between BUILD members and industry associations in Germany were arranged.

ASID provides information on over 12,000 manufacturers in various ASEAN industries, of which roughly 7,000 firms are in Thailand. It is one of ASEAN's initiatives to increase awareness of supplier industries in member countries. Investment promotion organizations in the ASEAN member countries are responsible for developing this web-based database, and updating the data to permit free global access to ASEAN industry information.

With regard to technical and management assistance, BUILD has informal relationships with various organizations, such as the Industrial Finance Corporation of Thailand, the Market for Alternative Investment – which is Thailand's version of the United States NASDAQ – and the National Science and Technology Development Agency, to assist supplier companies in solving difficulties and meeting customers' demand. BUILD has developed formal connections with the vocational education system, but depends on informal connections with most other government agencies providing services or support to SMEs. However, to some extent, BUILD is constrained by its inability, and indeed its lack of mandate, to provide *direct* support to strengthening the managerial and technical capacity of Thai suppliers, which is why it relies on other government programmes in this area.

The BUILD programme is part of the BOI and has eight full-time staff members and a budget averaging some five million baht annually. There are plans to make it self-supporting in the future by charging

firms for their participation in BUILD promotion activities.

The BOI of Thailand has assessed BUILD's impact, using the cumulated transaction values of business deals as a proxy to measure the programme's success. Three evaluations have been carried out to date through interviews and questionnaires.¹⁸ The BOI surveyed approximately 400 firms, including 100 per cent Thai-owned companies, joint ventures and wholly foreign-owned companies.

At the time of the first evaluation, six companies had established industrial linkages, with business deals accounting for 120 million baht. By the time of the second evaluation, industrial linkage deals increased to a value of 1,030 million baht, covering 58 companies. In the third evaluation, 98 companies were identified as successful, with business deals accounting for 2,638 million baht. This amounts roughly to a 200-fold increase in the value of contracts generated over a short period of three years. It is also of interest to note that, of the 98 firms that had recorded supplier contracts in 1999-2000, a majority (59 firms) were wholly Thai-owned. These 98 companies had established business deals predominantly with assemblers which are TNCs (62 per cent of the value of business deals registered). Approximately a quarter of the transactions established were among members of the BUILD database and 10 per cent of deals was with overseas contractors. These comprised wholly Thai-owned firms as well as joint ventures. Thus, one of the expected benefits to Thailand – to expand industrial activity through FDI – was met.

6. Hungary's Integrators' Subcontracting Programme¹⁹

In 1998, the Ministry of Economic Affairs of the Government of Hungary introduced the Subcontractors Target Programme. It was subsequently relaunched as the Integrators' Subcontracting Programme and designated as one of the central programmes within a national development plan.²⁰ The promotion of supplier links is partly driven by the need

to prepare local industry for competition within the European Union before the country becomes a full member.

The Programme initially aimed at promoting direct linkages between final assemblers and local SMEs, regardless of ownership. Currently, its focus is on promoting links between first tier suppliers – called “integrators” – and their second- and third-tier suppliers (Hungary, 2001a). Most of the first-tier firms in the priority industries are foreign-owned, and roughly 80 per cent of the second-tier supplier firms are fully Hungarian-owned. Thus, the programme is de facto a programme promoting linkages between foreign affiliates and domestic firms. Originally, the programme focused on the automobile industry, electronics and rubber and plastics; it subsequently added textiles, furniture, building materials, services and retail trade to the list of priority industries.

The Integrators’ Subcontracting Programme gives priority to relatively advanced supplier firms: half of the resources are provided to firms that are already suppliers to foreign affiliates, and another 40 per cent to firms that are very close to that status. Specifically, the following types of services are available:

- *Access to a national subcontracting database and related information services*, managed jointly by the Ministry of Economic Affairs and the Hungarian Investment and Trade Development Agency. The database contains screened data on 1,500 potential and existing subcontracting enterprises in the machinery, vehicles, electronics, rubber and plastics industries. The data are collected by Supplier Information Centres whose tasks are to inform participating firms about the Programme, collect information on buyer needs, identify potential and existing subcontractors, and help subcontractors logistically and in improving their management.
- *Education, training, consultancy services*. The main areas for training and education are: strategic business management and management training; quality assurance (with special emphasis on the introduction of a new version of ISO 9000); the

implications of, and conditions for, accession to the European Union; logistics; and e-business and e-commerce.²¹

- *Promotion of the international presence of Hungarian firms*. These activities organize or catalyse business contacts and meetings between potential suppliers and buyers and facilitate Hungarian participation in relevant international fairs and exhibitions.
- *Financial support and grants from the Ministry of Economic Affairs*. The Ministry of Economic Affairs offers grants to existing and potential subcontractors. In 2001, two additional sources of finance were introduced: a grant covering up to 30 per cent of the costs of quality management and insurance, expansion of production or product range, development of logistics and informatics; and a grant covering up to 50 per cent of the costs involved in cluster development. The Government also financially supports supplier audits, covering up to 75 per cent of the cost, with a ceiling of HUF 400,000.²²

Moreover, innovation centres, as well as universities and research institutes indirectly support the Integration Subcontracting Programme by coordinating relevant aspects of research and development.

The Integrators’ Subcontracting Programme – and its precursors – have reached a fairly extensive network of firms. In mid-1999, the programme covered 1,438 supplier firms, representing 110,000 employees (14 per cent of the total employment in manufacturing). The value of deals contracted and signed through the then National Subcontracting Information Network reached HUF 1.4 billion (\$6 million) in 1999. The duration of contracts varied between 6 and 12 months. Between 1998 and 2000, a number of key foreign affiliates (e.g. Opel, Audi, Suzuki, Ford, General Electric, Nokia and Electrolux) signed 76 supplier contracts under the programme. The value of 21 of the contracts publicly announced was HUF 5.9 billion (\$24.5 million) per annum.²³ According to latest estimates, the share of Hungarian firms among the suppliers to foreign affiliates increased from 16 per cent in 1999 to 21 per cent in 2000 (Peredi, 2000).

Notes

- 1 This section is based on information from One Northeast and an abridged version of Loewendahl, 2001.
- 2 It succeeded the Northern Development Company, established as a tripartite body in 1986, comprising representatives from local political parties, the business community and trade unions (Loewendahl, 2001).
- 3 This part A draws largely on information provided by Scottish Enterprise and Krause and Handfield, 1999.
- 4 Scottish Enterprise was established in 1991 under the Enterprise and New Towns (Scotland) Act of 1990, combining the former Scottish Development Agency and the Training Agency in Scotland.
- 5 The programme also has social goals, with a focus on employment and on creating an “inclusive society”. The annual report states: “Our purpose is to help the people of Scotland create and sustain jobs, prosperity and a high quality of life” (Scottish Enterprise Network, 2001, p. 1).
- 6 Based on information provided by the Costa Rica Provee, 2001; Monge, 2000; Egloff, 2001; ECLAC, 2000; IADB 2001.
- 7 At its inception, the Costa Rican Investment Board pursued an investment promotion strategy focused on textiles. As wage levels increased, and competition from lower-wage emerging markets rose in the early 1990s, it began to target other industries such as the electrical, electronic and telecommunication industries. It is against the background of this shift into targeting high-technology that the country successfully attracted Intel in 1996. For a detailed analysis of the evolution of Costa Rica’s FDI policy, see for example ECLAC, 2000.
- 8 In particular, this will consist in training regarding electrostatic painting environment, environment protection guidelines and new production floor layout, as well as accompanying workshops and conferences and the establishment of a permanent information network with the foreign affiliate. As a result, Leogar was able to improve in production technology which has also enhanced its potential to become a supplier to other foreign affiliates in the future.
- 9 The following is based on Carrillo, 2001 and information from SECOFI.
- 10 The *maquiladoras* programme, through low tariffs on component imports, has favoured the processing of these components for re-exports, with limited opportunities to create linkages with domestic suppliers.
- 11 Apart from those organized under the Programme for the Development of Suppliers, a variety of other fairs have been introduced. They include: input exhibits by potential suppliers; exhibits by *maquila* clients; firms that completely “dismantle” their products so that visitors can identify the components; highly specialized exhibits, such as plastic injection and packing; and exhibits promoted by one TNC only, such as Sony (Altenburg et al., 1998; Carrillo, 2001).
- 12 It provides a computer-based matchmaking programme as well as data on size of firms and capacity. However, some firms have been hesitant to register in it for fear of disclosing too much information.
- 13 The “Calidad Integral y Modernización” initiative is designed to address the lack of competitiveness of local SMEs, resulting from poor education or management techniques. The project, launched in 1987 by the World Bank, trains industrial workers. Since 1993, supplier development has been integrated into the programme and has been carried out jointly with regional agencies. Advisory services and training in the areas of information, financing and technology are provided by private consultants and, depending on the size of the participating company, subsidized up to 70 per cent by the project. An example is the cooperation between Volkswagen de Mexico and its suppliers with the initiative.
- 14 For example, the changes stipulated by Article 303 of the NAFTA imposes import duties, as of 1 January 2001, on all components, materials, equipment and tools imported from outside of NAFTA, but destined to the NAFTA countries. This eliminated the “no-duty” status of the Mexican *maquiladora* industry which had hitherto applied to merchandise exported to the United States or Canada.
- 15 The following is based on Office of the Prime Minister (BOI), 2001, and on other information provided by the Board of Investments (BOI).
- 16 This became pressing when the economic crisis of 1997-1998 offered an opportunity for potential suppliers as they had cost advantages vis-à-vis imported intermediate inputs as a result of the currency devaluation. At that time, subcontracting linkages were also perceived as a step towards initiating joint venture arrangements, which could serve to replenish the capital of ailing domestic firms.
- 17 Firms register to become members of BUILD; there is no screening, and fees are not levied. The programme foresees, for a later time, classifying participating firms into three divisions.
- 18 Information provided by the BOI.
- 19 Based on information provided by the Ministry of Economic Affairs of Hungary.
- 20 “The primary objective of the...subprogram[s] is to loosen up the current dual structure of

the Hungarian economy, and to continue to strengthen Hungarian SMEs' links to multinational companies with a foothold in Hungary in terms of production, innovation and information" Hungary, Ministry of Economic Affairs, 2001, p. 1.

²¹ The latter is provided by the Hungarian Investment and Trade Development Agency with a view to preparing Hungarian suppliers for Internet-based bidding for international contracts.

²² In 1999, 28 supplier firms applied for such audits, of which 27 received assistance, for a total value of HUF 5.4 million. Another 61 firms applied for assistance, of which 31 firms received assistance, for the value of HUF 84.9 million.

²³ The value of the other contracts was kept confidential.

Table 2. Key elements in specific linkage programmes

Region/ country/ element	Agency and institutional specifics	Industry focus	Effective coverage of database or of the supplier development programme	Information through fairs etc.	Subcontracting exchange and matchmaking	Supplier development in cooperation with foreign affiliates		Staffing/ Funding	Evaluation programme
						Identification and selection	Upgrading		
National Linkage Programme: Ireland , since 1998, replacing a 1995 programme.	Enterprise Ireland, government's enterprise development agency.	Electronics, engineering, healthcare, also pharmaceuticals, natural resource-based products.	Database covering firms in 20 industries.	▲	▲	Identify supply opportunities and affiliate requirements.	Support through development advisers, network building, and market development.	15 staff	▲
One Northeast since 1999 Newcastle Upon Tyne, United Kingdom (succeeding the Northern Development Company 1986-1999).	Regional development agency with private sector and trade union involvement, also donor funding. Sub-national programme with a cluster element.	Automotive, plastics and rubber, chemicals, consumer white goods, food and beverage and agro-industries, micro-electronics, military equipment, life sciences, various services such as accounting.	8,000 firms in electronic database.	▲		Benchmarking and auditing activities.	4 Consultancy on upgrading of.	Circa 10 staff members and circa £450,000 for supplier development.	Measured by turnover of local firm and employment gains.
Scottish Enterprise, Edinburgh, Scotland .	Government agency with private sector involvement. Sub-national programme with a cluster element.	Microelectronics, semi-conductors, energy, foods, biotechnology.				Scottish Supplier Base Forum (since 1991), Scottish Electronics Forum (1993).	Supplier audits and consultancy services to develop upgrading strategies.	15 staff on supplier development.	
Source Wales, Cardiff, United Kingdom .	Welsh Development Agency, regional development agency. Sub-national programme with a cluster element.	Electronics, aerospace, automotive services, garments industries.	4,300 firms in database.			▲	Extensive training programmes to improve quality and performance of suppliers.	▲	
Development of Suppliers for Multinational High Technology Enterprises (Costa Rica Provee), Costa Rica since 2000.	Public sector in cooperation with foreign affiliates and with donor support.	High-technology industry.	All high-technology foreign affiliates involved in supplier development.		Supplier database, Analysis of affiliates' requirements.	Screening and auditing of potential suppliers	Technical assistance, project development and training to suppliers selected by foreign affiliates, Consultancy in upgrading.	\$900,000 from the Inter-American Development Bank and \$600,000 from the Government of Costa Rica; 4 staff.	Continuous project revision and adaptation.
Industrial Linkage Programme of the Industrial Master Plan (1996-2005), Malaysia since 1996.	Ministry of International Trade and Industry, Malaysian Industrial Development Authority and the Small and Medium Industries Corporation; private sector participation via the Industrial Coordination Council.	Electrical and electronics products, chemicals, petrochemicals, pharmaceuticals, textiles and apparel, autos, motor cycles, marine and aerospace development; machinery and equipment; resource-based industries.			SME directory by region and industry.	▲	Global Supplier Programme of the Small and Medium Industries Development Corporation; training and upgrading in Penang, Perang Skills Development Centre provides skills upgrading programmes with affiliate interventions.		Not systematically.
National Industrial Modernization and Foreign Trade Programme (IPFT) (1990-1994), revamped in 1996, and Programme for Suppliers (1995), Mexico .	Public sector with private sector involvement.		Almost 500 large companies registered in the Web page of the Programme for Development of Suppliers.	Industry and firm specific fairs.	Within the Programme for Suppliers, matchmaking in especially arranged fairs.	Suppliers selected receive special financing from the National Finance Agency.	Worker and Manager Training under the CIMO (Calidad Integral y Modernización 1991).	\$1.2 billion budgeted for 2001 for credit under the Programme for Development of Suppliers.	

Table 2. Key elements in specific linkage programmes

Region/ country/ element	Agency and institutional specifics	Industry focus	Effective coverage of database or of the supplier development programme	Programme components				Staffing/ Funding	Evaluation programme
				Information through fairs etc.	Subcontracting exchange and matchmaking	Supplier development in cooperation with foreign affiliates			
						Identification and selection	Upgrading		
Tijuana Fund, Mexico since 2000.	Public and private.	Maquiladora industry, in particular the electronics sector.	17 local firms receiving support.			Technical assistance and finance.	\$14.7m in total, co-financed by the IADB, the National Finance Agency and private investors from Mexico and the United States.		
Local Industry Upgrading Programme (LIUP), Singapore since 1986.	Economic Development Board, National development agency with public-private interaction.	Electronics, chemicals, engineering, medical products, petroleum and related products, information technology.	30 foreign affiliates; 11 large local firms; 670 supplier firms.			Organizational and financial support, with the involvement of foreign affiliates: - Improvement of overall operational efficiency - Transfer of new products and processes to local enterprises. - Joint R&D with foreign affiliates			
Board of Investment Unit on Industrial Linkage Development (BUILD), Thailand since 1992.	Investment promotion agency, in the office of the Prime Minister.	Electronics, automotive components.	ASEAN Supporting Industry Database (ASID) – computerized database of contractors and suppliers, circa 12,000 ASEAN companies in the database, of which 7,000 firms in Thailand.	Market information; plant visits, trade fair visits.	Vendor Meets Customer Programme – subcontracting; individual matchmaking.	Not directly: supplier development is provided under other ministries, or through other service providers.	8 full-time staff; 5 million Thai baht annually.	Periodical reviews or participating firms, using the cumulated transaction values of business deals.	
Supplier Development Programme, Czech Republic since 1999.	CzechInvest, government investment promotion agency, together with the Ministry of Industry, Chamber of Commerce and various business associations.	Electronics, engineering.	circa 1,000 supplier firms in the database.	Seminars, exhibitions; concrete matchmaking proposals	"Meet-the buyer" events.	"Twinning Programme": supplier development programmes, promotion agencies.	CZK 100 million, \$3 million, 5 persons, co-funded by the	Evaluation of suppliers' progress.	
Integrators' Subcontracting Programme, Hungary since 1998.	Ministry of Economic Affairs, jointly with Hungarian Investment and Trade Development Agency. Programme not limited to foreign affiliates.	Originally electronics, automobile industry, rubber and plastics; in 2001, textiles, furniture, etc. added.	Screened data on 1,500 firms in the database; 1,438 participant supplier firms in the programme (in 1999). Database on CD-ROM.	▲	Data are collected by Supplier Information Centres.	Education, training and consultancy services, e.g. on standards, e-business, logistics. Also financial support and grants.		▲	

Source: UNCTAD.

Note: For details, see boxes V.4, V.5, V.8, V.9, V.10 and annex to chapter V.

CHAPTER VI.

KEY ELEMENTS OF

A LINKAGE PROMOTION PROGRAMME

In conclusion, the extent and nature of backward linkages between foreign affiliates and domestic supplier firms depend on many factors. Trends in the global environment encourage firms to concentrate on their core activities and rely more on other firms for non-core functions and inputs. Where the mutual self-interest of foreign affiliates and domestic firms with supplier capabilities leads to the creation and deepening of linkages, no further encouragement by governments is needed. Indeed, evidence shows that linkages evolve over time, as foreign affiliates become more integrated in the local economy.

However, this does not always happen. In fact, it is a reasonable assumption that, whatever the given level of linkages, this can be increased in many cases. Hence there is a role for judicious policy intervention to promote the creation and deepening of linkages, as a strategic tool to promote the development of domestic enterprises. Governments can promote the creation and deepening of linkages in many ways.

In formulating linkage promotion policies, governments need to understand the main determinants involved (chapter IV). Not all of them are amenable to policy influence. For example, it is difficult for governments to influence corporate strategies or the technical characteristics of the activities of foreign affiliates. They can, however, influence other factors affecting the costs and benefits of linkage development.

To do so, they must be aware of TNC procurement strategies and the competitive setting of each industry in which firms operate. The increased concentration of TNCs on core activities creates new opportunities for independent suppliers, but it also raises greater challenges for domestic firms. Uncompetitive domestic suppliers

may find themselves excluded in the increasingly demanding environment of rationalized supply chains. This is particularly true when it comes to foreign affiliates that are part of integrated international production systems, for which scale, standards requirements and technological demands are particularly high. Some activities and TNCs are more amenable to the outsourcing of inputs than are others, and governments that understand the competitive needs and strategies of TNCs can attract new investments more effectively and root them more deeply in their economies.

The role of policy is most significant where there is an “information gap” on the part of both buyers and suppliers about linkage opportunities, a “capability gap” between the requirements of buyers and the supply capacity of suppliers and where the costs and risks of setting up linkages or deepening them can be reduced. While the international regulatory framework is still evolving, the challenge for policy makers is to make use of the options available within the current framework and use other policy measures which are not subject to multilateral rules to encourage and accelerate the linkage formation process. Governments are refocusing their policy intervention towards addressing market failures and reducing the costs involved for linkage partners to create and deepen linkages, with the ultimate aim of strengthening the productive capabilities and competitiveness of domestic suppliers. Such intervention needs to be undertaken in close partnership with the private sector.

Whereas there is no universally accepted best practice in linkage promotion policy, important lessons can be drawn from past experience. Linkage promotion policies, like other development policies, are often highly context-specific and need to be adapted to the particular circumstances prevailing in each host country. They need

to be an integral part of broader development strategies, and their success often depends on factors that may not appear in a narrow assessment of linkage policies. Much also depends on how policies are designed, coordinated and implemented in practice.

There are two basic (mutually not exclusive) approaches through which linkages can be promoted. One involves encouraging linkages through various measures to bring domestic suppliers and foreign affiliates together and to strengthen their linkages in the key areas of information, technology, training and finance. This is a broad approach – it basically improves the enabling framework for linkage formation. A range of measures can be utilized here among which governments can pick and choose in light of their objectives and circumstances. (Table VI.1 contains a number of measures that are relevant here.)

The other approach goes further in that it involves the establishment of a

specific linkage promotion programme combining a number of the measures just mentioned. This is a proactive approach which is typically focused on a selected number of industries and firms dedicated to increasing and deepening linkages between foreign affiliates and domestic firms. As with other policies that span a range of productive factors, activities and enterprises, it is advisable for policy makers that choose this approach to “start small” (perhaps with a pilot scheme) and to build policy monitoring, flexibility and learning into any programme. The need for starting small is all the greater when resources are scarce. Moreover, it is essential for any programme to seek close collaboration with the private sector, both foreign affiliates and local suppliers, in design and implementation.

The general features of a specific Linkage Promotion Programme are set out below. This programme should be seen more as a set of building blocks that countries might “mix and match” according to their specific circumstances, rather than a ready-

Table VI.1. Specific government measures to create and deepen linkages

Information and Matchmaking	Technology upgrading	Training	Finance
<p><i>Provision of information:</i></p> <ul style="list-style-type: none"> • Handouts and brochures. • Constantly updated electronic databases. • Linkage information seminars, exhibitions and missions. <p><i>Matchmaking:</i></p> <ul style="list-style-type: none"> • Acting as honest broker in negotiations. • Supporting supplier audits. • Providing advice on subcontracting deals • Sponsoring fairs, exhibitions, missions and conferences. • Organizing meetings, visits to plants. 	<ul style="list-style-type: none"> • Technology transfer as a performance requirement. • Partnership with foreign affiliates. • Incentives for R&D cooperation. • Home-country incentives. 	<ul style="list-style-type: none"> • Promoting supplier associations. • Collaboration with the private sector for one-stop service, including training. • Support for private sector training programmes. • Collaboration with international agencies. 	<ul style="list-style-type: none"> • Legal protection against unfair contractual arrangements and other unfair business practices. • Encouraging a shortening of payment delays through tax measures. • Limiting payment delays through legislation. • Guaranteeing the recovery of delayed payments. • Indirect financing to suppliers channeled through their buyers. • Tax credits or tax reductions and other fiscal benefits to firms providing long-term funds to suppliers. • Co-financing development programmes with the private sector. • Direct role in providing finance to local firms. • Mandatory transfer of funds from foreign affiliates to local suppliers. <p>Home country measures</p> <ul style="list-style-type: none"> • Two-step loans. • Using ODA.

Source: UNCTAD.

made prescription that all countries can apply. Clearly, the choice of measures and the way they are combined must reflect the level of development, policy capabilities, resources and objectives of each country – indeed it must take into account the principal determinants outlined earlier (chapter IV). Even countries at similar levels of development may choose different configurations of policy according to their enterprise and institutional capabilities.

The starting point for an effective linkage programme is a clear vision of how FDI fits into the overall development strategy and, more specifically, a strategy to build production capacity. The vision has to be based on a clear understanding of the strengths and weaknesses of an economy and of the challenges facing it in a globalizing world. A linkage programme should, in particular, address the competitive needs of domestic enterprises and the implications they have for policies, private and public support institutions and support measures (including skills- and technology-upgrading).

A precondition for linkage formation is of course that there is inward FDI and that there are capable suppliers (or suppliers with the potential for upgrading). Where this is the case, the steps that need to be followed in designing a linkage programme include:

1. setting the policy objectives of a linkage programme;
2. identifying the specific measures to be adopted;
3. identifying the targets of the programme;
4. setting up an appropriate institutional and administrative framework to implement and monitor the programme.

Naturally, experience with respect to programmes of this sort in other countries can be helpful when considering the actions to be taken in connection with each of these steps. (The principal characteristics of linkage programmes in a number of countries are summarized in chapter V.D). Moreover, at each step of the implementation of a programme, the government needs to have a clear idea about the costs involved and the resources available.

A. Setting policy objectives

The starting point is a clear vision of a development strategy, supported by a coherent set of economic policies in the areas of investment, trade, technology and enterprise development. In particular, linkage programmes are at the intersection of two subsets of programmes and policies: those geared towards enterprise development (especially SME development) and those related to FDI promotion. The former are desirable in and by themselves, as a vibrant enterprise sector is the bedrock of economic growth and development; in the context of the promotion of linkages, the capabilities of local firms are the single most important determinant of success. FDI promotion, in turn, increasingly focuses not only on the quantity of FDI, a country attracts but also on its quality, including linkage opportunities.

Linkage programmes can have two broad objectives: to increase domestic sourcing by foreign affiliates (i.e. create new backward linkages) and to deepen and upgrade existing linkages, both with the ultimate aim of upgrading the capacities of local suppliers to produce higher value-added goods in a competitive environment. These objectives are interdependent: deepening may spin off new linkages, and spreading linkages may change their quality and depth.

A government's objectives should be shared with all principal stakeholders, as their active participation is needed for the success of any programme. Active dialogue and consultations are advisable right from the very beginning. This requires first and foremost:

- Initiating a public-private sector dialogue (perhaps in a "Linkage Forum") with stakeholders, including foreign affiliates (and especially their procurement officers), supplier industry associations, chambers of commerce, banks, service providers, trade unions and government agencies (such as investment promotion agencies, development corporations, industrial zone authorities, industry development agencies).

- Disseminating “best practice” experiences based on companies’ programmes and actions and experiences of government programmes and measures in other countries.

B. Identifying the targets

Governments, in cooperation with private sector institutions, need to define the targets of a programme in terms of the industries and, within them, the foreign affiliates and domestic suppliers to be involved.

- **Industries** can be selected according to:
 - the sectoral development priorities of a country, taking into account the extent of the presence of foreign affiliates and capable domestic firms;
 - the degree of match between local capabilities and the input requirements of foreign affiliates;
 - the nature of international production systems within the industry selected, which partly determines the degree of autonomy of foreign affiliates with respect to local sourcing (foreign affiliates that are part of integrated international production systems are likely to be more dependent on global corporate sourcing policies);
 - the technology content of the activity and the scope for moving up the value-added chain.

Such an analysis is essential for any linkage strategy – without it, a government cannot decide how to allocate scarce resources. It also has to take into account trends in the growth and spread of international production networks and their implications for domestic producers, drawing, among others, on continuous dialogue with key stakeholders.

- **Foreign affiliates** can be selected according to their willingness and potential

to establish beneficial linkages. Beyond that – and as part of their FDI promotion – governments can target TNCs that are particularly interested in developing strong supply links with domestic enterprises. The linkage programme may even support local managers of foreign affiliates in lobbying their head offices to allow greater autonomy in sourcing. In-depth consultations with foreign affiliates can then identify their specific linkage needs.

- **Suppliers** can be selected on the basis of their commitment and capabilities (or potential capabilities) to meet the needs of foreign affiliates. “Commitment” can be tested through certain self-improvement requirements, with some external guidance and minimal support during the initial stage of selection. Other criteria that can be used involve technological benchmarking and skills audits. Specific criteria that have been used include the size of firms, production capabilities, ISO certification and the age of firms. However, one of the most important elements to take into account is the commitment of key managers (and especially the chief executive officer) to the idea of continuous improvement and their willingness to upgrade their operations to meet international standards required for successful linkages. The active cooperation of chambers of commerce, business associations, support centres, service providers and other private sector institutions is very important here, as is the cooperation of SME development programmes, be they local or international. (UNCTAD’s EMPRETEC programme is an example of the latter.) “Linkage Workshops” for representatives of foreign affiliates and local enterprises could provide the mechanism through which eventual programme participants can be narrowed down. Subsequent “Business Clinics” for Linkage Workshop participants could allow for one-to-one consultations for pairs of linkage partners. Firms prepared to go further could thus undertake operational and management audits to determine the strengths and weaknesses of domestic partners.

C. Areas for specific policy measures

Governments need to be aware of actions already taken by foreign affiliates and domestic firms. Some of these may need to be encouraged and supported. A number of such possible actions were listed earlier in this Part of this report (chapter IV and its annex); for ease of reference, they are listed in table VI.2. Governments can also act as facilitators and catalysts and ensure that private institutions have the incentives and resources needed. They can be particularly proactive in the following key areas of linkage formation:

- information and matchmaking;
- technology upgrading;
- training;
- finance.

The range of measures that can be taken under each heading is wide. Their principal purpose is to encourage and support foreign affiliates and domestic firms to strike up and deepen linkages. They were outlined – individually and as contained in programmes – earlier in this Part of the report (chapter V and its annex); for ease of reference, these measures are listed in table VI.1. They constitute a menu from which governments can mix and match. Specific choices depend on the results of earlier consultations with existing support institutions and relevant programmes in the public and private sectors, as well as with key stakeholders on the specific needs of an industry or set of firms. The results of the Linkage Fora, Linkage Workshops and Business Clinics mentioned earlier and the identification of promising domestic firms are also of help here. Governments could also encourage participating foreign affiliates to agree to a coaching and mentoring arrangement with promising local firms (see box VI.1).

Box VI.1. Coach an SME!

As part of its efforts to promote backward linkages, a government can encourage foreign affiliates to adopt promising domestic firms (typically SMEs) that are (or have the potential to become) suppliers and assist them in the continuous upgrading of management skills and technology. The specific activities and results of such an effort would be agreed between the foreign affiliates and the domestic firms. It could be, say, a three-year commitment with regular reviews to ensure that specific targets are met. This calls for an investment of time and a commitment by both the foreign and domestic firms.

Possible activities include:

- Participating TNCs give one or a few selected domestic suppliers access to their innovation centres and corporate training programmes.
- Engineers and management consultants from the foreign affiliates visit the firms on a regular basis and provide advice.
- The foreign affiliates assign a few staff members to the firms for a limited period.
- Foreign affiliates give opportunities for the manufacturing of inputs or the provision of services to the firms on a limited basis and increase such opportunities gradually.
- Foreign affiliates assess progress together with the supplier firms; a process of continuous managerial, technological and human-resource improvement is developed.
- Foreign affiliates share market information and strategy with the supplier firms so that the latter can pre-position themselves ready for changes ahead.
- Foreign affiliates provide firms with additional business opportunities through business matching, brokering strategic alliances, trade fairs and exhibitions.
- Foreign affiliates encourage their partners to diversify their customer base.

An approach along these lines has been successfully implemented in Penang, Malaysia (Wong, 2000).

Source: UNCTAD.

These measures can be underpinned by efforts to strengthen the negotiating position of local firms vis-à-vis foreign affiliates. For instance, guidelines or making model contracts available. Special informal mechanisms can also help resolve problems and disputes and contribute to more lasting linkage relationships.

The result should be a clear and feasible programme of action.

D. Organizational and institutional framework

Governments can choose from a number of options in designing the institutional framework for a linkage programme:

- Making the programme a distinct part of an existing body or even to set up a special national-level linkage programme under an independent body to act as the focal point for all relevant activities by different departments and institutions.

Table VI.2. Measures by foreign affiliates to create and deepen linkages

Finding new local suppliers	Transferring technology	Providing training	Sharing information	Giving financial support
<ul style="list-style-type: none"> • Making public announcements about the need for suppliers and the requirements that firms must meet on cost and quality. • Supplier visits and quality audits. 	<p>Product technology:</p> <ul style="list-style-type: none"> • Provision of proprietary product know-how. • Transfer of product designs and technical specifications. • Technical consultations with suppliers to help them master new technologies. • Feedback on product performance to help suppliers improve performance. • Collaboration in R&D. <p>Process technology:</p> <ul style="list-style-type: none"> • Provision of machinery and equipment to suppliers. • Technical support on production planning, quality management, inspection and testing. • Visits to supplier facilities to advise on lay-out, operations and quality. • Formation of "cooperation clubs" to interact with suppliers on technical issues. • Assistance to employees to set up their own firms. <p>Organization and managerial know-how assistance:</p> <ul style="list-style-type: none"> • Assistance with inventory management (and the use of just-in-time and other systems). • Assistance in implementing quality assurance systems. • Introduction to new practices such as network management or financial, purchase and marketing techniques. 	<ul style="list-style-type: none"> • Training courses in affiliates for suppliers' personnel. • Offering access to internal training programmes in affiliates or abroad. • Sending teams of experts to suppliers to provide in-plant training. • Promotion of cooperative learning among suppliers. 	<ul style="list-style-type: none"> • Informal exchanges of information on business plans and future requirements. • Provision of annual purchase orders. • Provision of market information. • Encouraging suppliers to join business associations. 	<ul style="list-style-type: none"> • Providing special or favourable pricing for suppliers' products. • Helping suppliers' cash flow through advance purchases and payments, prompt settlements and provision of foreign exchange. • Long-term financial assistance through the provision of capital; guarantees for bank loans; the establishment of funds for working capital or other suppliers needs; infrastructure financing; sharing of the costs of specific projects with suppliers; and leasing.

- Leave the design and implementation of the linkage programme to local authorities, with central advice, encouragement and support from the central government. This approach might be preferable in large countries or where resources for linkage programmes are limited or where regions have distinct combinations of locational advantages to offer.
- Involve the private sector as the main executing agency for the linkage programme. Suppliers, affiliates or their associations may set up such a body. The role of the government would be to act as catalyst and fulfil regulatory and information functions.

The size of a programme depends on the objectives sought and the resources available. Some programmes benefit from external funding through financial assistance provided by donor countries. In the longer term, the financial sustainability of linkage programmes, directly run by governments, requires adequate government funding. Moreover, cost sharing by participating firms (both buyers and suppliers) is desirable, not only for funding purposes but also for assuring self-commitment of the participants; this is feasible, especially when a programme has demonstrated its usefulness and is recognized for its services. Needless to say, to create trust and credibility among enterprises, a programme must be staffed by professionals with the appropriate private-sector related skills and background.

Linkage programmes can only work if they are networking effectively with efficient intermediate institutions providing support in skill building, technology development, logistics and finance. These include standards and metrology institutes, testing laboratories, R&D centres and other technical extension services, productivity and management training centres and financial institutions. These can be public or private. It is also important that linkage programmes work closely with relevant private associations – chambers of commerce and industry, manufacturers associations, investor associations and so on. Trade unions and various interest groups are other important stakeholders.

Finally, it is important to have a monitoring system in place to evaluate the success of a programme. Often, in a learning-by-doing process, a programme needs to be adjusted and refined as experiences accumulate and situations change. The system could include benchmarks and surveys of users (see box V.11 for an overview of existing approaches on measuring the impact of linkage programmes). Criteria could include the following:

- Outreach: the number of companies included in the programme over time.
- Impact: the impact of the programme can be judged by such indicators as the number of suppliers linked up with foreign affiliates over time, the value of deals and changes in these over time; the share of domestic suppliers in procurement by foreign affiliates, the extent to which R&D activities are being undertaken by domestic suppliers over time (including those resulting in patents); changes in export volumes; the improvements in the productivity or value-added at the firm or industry level; and whether a local supplier establishes itself abroad.
- Cost effectiveness: the cost of the programme in light of the results achieved and the benefits obtained as defined by the objectives laid out at the beginning of the programme.

It is worth repeating that a linkage programme should be seen as part of a broader set of FDI and SME policies. As networks of viable suppliers often prosper in clusters of firms, attention needs to be given to the development of such clusters, particularly for knowledge-intensive industries and activities. The third generation of FDI promotion policy (see the conclusion of Part One) – targeting foreign investors at the level of industries and firms and using clusters to attract FDI and, in turn, strengthening clusters through it – has a role to play here. In fact, the more linkage promotion policies go hand-in-hand with SME development and targeted FDI promotion policies (and, for that matter, a number of other policies – see figure V.2), the more they are likely to be successful.

REFERENCES

- Aitken, B. and Anne Harrison (1991). "Are there spillovers from foreign direct investment? Evidence from panel data for Venezuela" (Cambridge, MA: Massachusetts Institute of Technology (MIT) and Washington D.C.: The World Bank), November, mimeo.
- Altenburg, Tilman (2000). "Linkages and spillovers between transnational corporations and small and medium-sized enterprises in developing countries: opportunities and policies", in UNCTAD, *TNC-SME Linkages for Development: Issues-Experiences-Best Practices* (New York and Geneva: United Nations), United Nations publication, UNCTAD/ITE/TEB/1, pp. 3-61.
- _____ and Jörg Meyer-Stamer (1999). "How to promote clusters: policy experiences from Latin America", *World Development*, 27, 9, pp. 1693-1713.
- _____, Dörte Bosse, Thorsten Brunzema, Jacqueline Eckhardt, Barbara Unger and Stefan Zeeb (1998). *Entwicklung und Förderung von Zulieferindustrien in Mexiko* (Berlin: Deutsches Institut Für Entwicklungspolitik).
- Aoki, A. and D. Tachiki (1992). "Overseas Japanese business operations: the emerging role of regional headquarters", *RIM Pacific Business and Industries*, 1, pp. 28-39.
- Bagchi-Sen, S. and J.O. Wheeler (1989). "A spatial and temporal model of foreign direct investment in the United States", *Economic Geography*, 65, pp. 113-129.
- Balasubramanyan, V. N. (1991). "Putting TRIMs to good use", *World Trade*, 19, 9, pp. 1215-1224.
- Balcet, Giovanni and Aldo Enrietti (1998). "Regionalisation and globalisation in Europe: the case of Fiat Auto Poland and its suppliers", Working Paper (University of Turin), March.
- _____ (2000). "Partnership and global production: Fiat's strategy in Turkey", paper prepared for a Gerpisa International Colloquium (Paris), 8-10 June, mimeo.
- Bale, Harvey E. and David Walter (1986). "Investment policy aspects of U.S. and global trade interests", *Looking Ahead* (Washington: National Planning Association), Pamphlet No. 9.
- Baranson, Jack and Robin Roark (1985). "Trends in North-South transfer of high technology", in Nathan Rosenberg and Claudio Frischtak, eds., *International Technology Transfer: Concepts, Measures, and Comparisons* (New York: Praeger), pp. 24-52.
- Barkley, David L. and Kevin McNamara (1994). "Local input linkages: A comparison of foreign-owned and domestic manufacturers in Georgia and South Carolina", *Regional Studies*, 28, 7, pp. 725-737.
- Barnes, Justin and Raphael Kaplinksy (2000). "Globalization and the death of the local firms: the automobile components sector in South Africa", *Regional Studies*, 34, 9, pp.797-812.
- Battat, Joseph, Isaiah Frank and Xiaofaug Sheu (1996) "Suppliers to multinationals: linkage programs to strengthen local companies in developing countries", Foreign Investment Advisory Services (FIAS), Occasional Paper 6 (Washington, D.C.: The World Bank).
- Belderbos, René, Giovanni Capannelli and Kyoji Fukao (2001). "Backward vertical linkages of foreign manufacturing affiliates: Evidence from Japanese multinationals", *World Development*, 29, 1, pp. 189-208.
- Bell, M. and M. Albu (1999) "Knowledge systems and technological dynamism in industrial clusters in developing countries", *World Development*, 27, 17, pp. 1715-1733.

- Best, M. (2000). "Silicon Valley and the resurgence of route 128: systems integration and regional innovation", in J.H. Dunning, ed., *Regions, Globalisation and the Knowledge-based Economy* (Oxford and New York: Oxford University Press), pp. 459-484.
- Blomström, Magnus, Ari Kokko and Mario Zejan (2000). *Foreign Direct Investment: Firm and Host Country Strategies*, (London: Macmillan Press and New York: St. Martin's Press).
- Bloom, David E. et al. (2001). "Jamaica: globalisation, liberalisation and sustainable human development", prepared for the UNCTAD/UNDP Programme on Globalisation, Liberalisation and Sustainable Human Development (Geneva: Unctad), mimeo.
- Bloom, Matthew C. (1992). *Technological Change in the Korean Electronics Industry*. (Paris: Development Centre Studies, OECD).
- Blum, Ronald (2001). "A note on lean strategies and the distribution of value-added in the U.S. auto industry" (Detroit: United Auto Workers Research Department), mimeo.
- Borges Lemos, Mauro, Clelio Campolina Diniz, et al. (2000). "Arranjos e sistemas produtivos locais e as novas políticas de desenvolvimento industrial e tecnológico" (Belo Horizonte: CEDEPLAR, Faculty of Economics, Universidad Federal de Minas Gerais), mimeo.
- Brannon, J., J. Dilmus and G.W. Lucker (1994). "Generating and sustaining backward linkages between maquiladoras and local suppliers in Northern Mexico", *World Development*, 22, 12, pp. 1933-1945.
- Breathnach, Marcus and Daragh Kelly (1999). "Multinationals, subcontracting linkages and the innovative performance of indigenous firms: some Irish evidence", paper presented at the European Network on Industrial Policy International Conference (Dublin), 9-10 December.
- Brimble, Peter (2001). "The Thai Hard Disk Drive Industry", case study prepared for UNCTAD (Geneva: UNCTAD), mimeo.
- British Invisibles (2001), *Banking: City Business Series 2000 Statistical Update* (London: British Invisibles).
- Burnes, B. and P. Whittle (1995). "Supplier development: getting started", *Logistics Focus*, 3, 1, pp. 10-24.
- Burt, Tim (2001). "Components of an output revolution", *Financial Times*, 10 April 2001.
- Cantwell, J. (1995). "The globalisation of technology: what remains of the product cycle model?", *Cambridge Journal of Economics*, 19, 1, pp. 155-174.
- _____ and G. D. Santangelo (1998). "The frontier of international technology networks: sourcing abroad the most highly tacit capabilities", *International Investment and Management*, 261 (Reading: Reading University, Department of Economics).
- _____ and S. Iammarino (2000). "Multinational corporations and the location of technological innovation in the UK regions", *Regional Studies*, 34, 4, pp. 317-332.
- Capannelli, G. (1999). "Technology transfer from Japanese consumer electronics firms via buyer-supplier relations", in K. S. Jomo, Greg Felker and Rajah Rasiah, eds., *Industrial Technology Development in Malaysia: Industry and firm studies* (London and New York: Routledge), pp. 191-230.
- Carrillo, Jorge (2001). "Foreign direct investment and local linkages: experiences and the role of policies. The case of the Mexican television industry in Tijuana", case study prepared for UNCTAD (Geneva: UNCTAD), mimeo.
- _____ and S. González (1999). *Empresas automotrices alemanas en México: Relación cliente-proveedor*, Cuaderno del Trabajo 17 (Mexico: Secretaria del Trabajo y Prevision Social).

- _____, Marta Miker and Julio Cesar Morales (2001). *Empresarios y redes locales: Autopartes y confección en el Norte de México* (Mexico: Editorial Plaza y Valdez and Ciudad Juárez, UACJ), forthcoming.
- _____, Michael Mortimore and J. Alonso (1997). "Transnational corporations and industrial restructuring in Mexico: the auto parts and television receiver industries" (Tijuana: El Colegio de la Frontera Norte and Santiago, Chile: ECLAC/UNCTAD Joint Unit), mimeo.
- Castellani, D. and Antonello Zanfei (1998). "Multinational growth and the creation of linkages with local firms: evidence from the electronics industry", paper presented at the IRD&P workshop on the Economics of Science and Technology: Micro-Foundations and Policy (Italy, University of Urbino), 5-6 June.
- Chew, Yoke-Tong and Henry Wai-Chung Yeung (2001). "The SME advantage: adding local touch to foreign transnational corporations in Singapore", *Regional Studies*, 35, forthcoming.
- China, Ministry of Foreign Trade and Economic Cooperation (2000). *Almanac of China's Foreign Economic Relations and Trade* (Hong Kong: China Resources Advertising Co.).
- Chung, Wilbur, Will Mitchell and Bernard Yeung (1994). "Foreign direct investment and host country productivity: the case of the American automotive components industry", Discussion paper No. 367 (Ann Arbor: Research Forum on International Economics, University of Michigan).
- Collis, C. and P. Roberts (1992). "Foreign direct investment in the West Midlands: an analysis and evaluation", *Local Economy*, 7, pp. 114-130.
- Correa, Carlos (2000). "Technology Transfer in the WTO Agreements", in UNCTAD, ed., *A Positive Agenda for Developing Countries: Issues for Future Trade Negotiations*. (New York and Geneva, United Nations), pp. 439-456.
- Costa Rica Provee (2001). "Proyecto de Desarrollo de Proveedores Locales para Empresas Multinationales de Alta Tecnología inaugura su primer encadenamiento" (San José, Costa Rica: Costa Rica Provee), 9 January, mimeo.
- Coughlin C., J. V. Terza and V. Arromdee (1991). "State characteristics and the location of foreign investment within the United States", *Review of Economics and Statistics*, 73, pp. 675-683.
- Crone, Mike (1999). "Multinational enterprises, material input linkages and the regional economy" (Sheffield: University of Sheffield), unpublished PhD thesis.
- _____. (2000). "Local sourcing by multinational enterprise plants: evidence from the UK regions and its policy implications", Working Paper Series 48 (Belfast: Northern Ireland Economic Research Centre - NIERC).
- _____. (2001). "The Irish national linkages programme", study prepared for UNCTAD (Geneva: UNCTAD), February 2001.
- _____ and Doug Watts (2000). "MNE supply linkages and the local SME sector", Working Paper Series 57 (Belfast: Northern Ireland Economic Research Centre NIERC).
- _____ and Stephen Roper (1999). "Knowledge transfers from multinational plants in Northern Ireland: local learning in the supply chain", NIERC Report Series, No. 15, (Belfast: Northern Ireland Economic Research Centre- NIERC).
- _____. (2001). "Local learning from multinational plants: Knowledge transfers in the supply chain", *Local Economy*, 15, 4, pp. 325-337.
- Culverwell, Malaika (2000). "The mining cluster in Antofagasta: integrating small and medium suppliers into the productive chain" (Cambridge: Judge Institute of Management Studies, University of Cambridge), mimeo.

- Czech Republic (2001). "Suppliers", <http://www.czechinvest.org>, mimeo.
- Dahlman, Carl J. and O. Sananikone (1990). *Technology Strategy in the Economic Development of Taiwan: Exploiting Foreign Linkages and Investing in Local Capability* (Washington D.C.: World Bank).
- De Vet, J.M. and A.J. Scott (1992). "The Southern Californian medical device industry: innovation, new firm formation, and location", *Research Policy*, 21, pp. 145-161.
- Deutscher Industrie- und Handelstag (DIHT) (2000). "Wirtschaftslage und Erwartungen. Ergebnisse der DIHT-Umfrage bei den Industrie- und Handelskammern, Herbst 2000" (Bonn: DIHT).
- Dicken, Peter (1998). *Global Shifts: Transforming the World Economy* (London: Paul Chapman Publishing).
- _____ and C. Kirkpatrick (1991). "Service-led development in ASEAN: transnational regional headquarters in Singapore", *The Pacific Review*, 4, 2, pp. 174-184.
- Doner, Richard and Ben Ross Schneider (2000). "Business associations and economic development" (Atlanta: Emory University and Evanston: Northwestern University), mimeo.
- Driffield, Nigel and Abd Halim Mohd Noor (1999). "Foreign direct investment and local input linkages in Malaysia", *Transnational Corporations*, 8,3, pp. 1-24.
- Dunning, John H. (1993). *Multinational Enterprises and the Global Economy* (Harlow: Addison-Wesley).
- _____, ed. (2000). *Regions, Globalisation and the Knowledge-based Economy* (Oxford and New York: Oxford University Press).
- _____ and G. Norman (1983). "The theory of the multinational enterprise: an application to multinational office location", *Environment and Planning*, 15, pp. 675-692.
- Dussel, Enrique (1999). "La subcontratación como proceso de aprendizaje: el caso de la electrónica en Jalisco (México) en la década de los noventa", Serie Desarrollo Productivo 55 (Santiago, Chile: ECLAC).
- Egloff, Enrique (2001). "La inversión de INTEL y "políticas micro" para fortalecer la competitividad en Costa Rica", paper presented at the seminar "Camino a la competitividad: el nivel meso y microeconómico", ECLAC/IADB (San José, Costa Rica), 15 March, mimeo.
- Enright, M. J. (1995). "Organisation and coordination in geographically concentrated industries", in R.N. Lamoreaux and M.G.D. Raff, eds., *Coordination and Information: Historical Perspectives on the Organisation of Enterprise* (Chicago and London: The University of Chicago Press), pp. 103-146.
- _____ (2000). "The globalisation of competition and the localisation of competitive advantage: policies towards regional clustering", in N. Hood and S. Young, eds., *The Globalisation of Multinational Enterprise Activity and Economic Development* (London: Macmillan, Houndmills), pp. 303-331.
- Ernst, Dieter (1997). "From partial to systemic globalization: international production networks in the electronics industry", Working Paper No. 98, (Berkeley: Berkeley Roundtable on the International Economy, University of California).
- Escamilla, Barajas and Maria del Rocio (2000). "Global production networks in an electronics industry: the case of the Tijuana-San Diego binational region" (University of California, Irvine, CA), PhD dissertation.

- European Central Bank (ECB) (2000). *Mergers and Acquisitions Involving the EU Banking Industry - Facts and Implications* (Frankfurt am Main: European Central Bank), December.
- Eurostat (2000a). *European Union Foreign Direct Investment, Yearbook 2000, Vol. I: Analytical Aspects, Vol. II: Data* (Luxembourg: Office for Official Publications of the European Communities).
- _____ (2000b). *Foreign-owned Enterprises in the EU-Results for Eight Member States* (Luxembourg: Office for Official Publications of the European Communities).
- Felker, Greg and K.S. Jomo (2000). "New approaches to investment policy in the ASEAN 4", Asian Development Bank Institute; available on the Internet at: <http://www.adbi.org/para2000/papers/Jomo.pdf>.
- Ferencikova, Sonia and Andrej Koperdan (2001). "Case study on VW Slovakia" (Geneva: UNCTAD), mimeo.
- Fiat (2001). "Fiat Auto Poland S.A.: linkages with local suppliers", case study prepared for UNCTAD (Geneva: UNCTAD), mimeo.
- Floyd, David (2000). "FDI through cross-border acquisitions and greenfield sites, their impact on development and policy implications for the Polish economy", paper presented at the UNCTAD and OeNB Seminar on FDI and Privatization in Central and Eastern Europe (Vienna, 2-3 March), mimeo.
- Foreign Investment Advisory Service (FIAS) (1991). *Backward Linkages of Foreign Direct Investment - Selected Countries' Experience and the Case of Thailand* (Washington, D.C.: The World Bank).
- France, Ministère de l'Économie des Finances et de l'Industrie (1999). *L'Implantation Étrangère dans l'Industrie Française* (Paris: Service des Études et des Statistiques Industrielles).
- Friedman, J., D. A. Gerlowski and J. Silberman (1992). "What attracts foreign multinational corporations? Evidence from branch plant location in the United States", *Journal of Regional Science*, 32, 4, pp. 403-418.
- Frischtak, Claudio (1986). "Brazil", in Francis W. Rushing and Carole Ganz Brown, eds., *National Policies for Developing High Tech Industries: International Comparisons* (Boulder and London: Westview Press), pp. 31-69.
- Frost, Tony, Julian Birkinshaw and Scott Ensign (1999). "Centers of excellence in multinational corporations", Paper submitted to the *Strategic Management Journal*, October, mimeo.
- Fujita, Masataka (1998). *The Transnational Activities of Small and Medium-sized Enterprises* (Boston, Dordrecht and London: Kluwer Academic Publishers).
- G. Tóth, Ilda (2000). "Vállalati fölvásárlások Magyarországon: Nem szerelmi házasságok" [Acquisitions in Hungary: Marriages not for love], *HVG*, Budapest, 22, 44 (4 November), pp. 78-85.
- Galina, Simone Vasconcelos Ribeiro (2001). "Global product development in the telecommunication industry: involvement of equipment suppliers' subsidiaries located in Brazil" (Brazil: University of Sao Paulo and Sweden: Research Policy Institute, Lund University), mimeo.
- Ganiatsos, Tom (2000). "Global component outsourcing in developing countries' electronics and automotive industries", paper submitted to the UNCTAD Expert Meeting on the Relationship between SMEs and TNCs to ensure the competitiveness of SMEs (Geneva), 27-29 November, mimeo.
- Gazprom (1999). "Otkrytoye aktsionernoye obshchestvo «Gazprom», prospekt emissii 3.000.000 (tryokh millionov) kuponnykh dokumentarnykh obligatsiy na predyavitelya serii A1 nominalnoy stoimostyu 1.000 (ódna tysyacha) rubley kazhdaya", [bond issue prospectus], 23 April, Moscow, mimeo.

- Gerschenberg, I (1987). "The training and spread of managerial know-how: a comparative analysis of multinational and other firms in Kenya", *World Development*, 15, pp. 931-939.
- Giroud, Axèle (2000). "Japanese transnational corporations' knowledge transfer to Southeast Asia: the case of the electrical and electronics sector in Malaysia", *International Business Review*, 9, pp. 571-586.
- _____ (2001a). "Case study on linkages between TNC affiliates and local suppliers in the electronics industry of Malaysia" (Geneva: UNCTAD), mimeo.
- _____ (2001b). "Upgrading endogenous production capabilities in less developed countries: an evaluation of information flows between transnational corporations' subsidiaries and their local suppliers" (Bradford: University of Bradford Management Centre), mimeo.
- Glickman, N. J. and D. P. Woodward (1988). "The location of foreign direct investment in the United States: patterns and determinants", *International Regional Science Review*, 11, pp. 131-154.
- Goldstein, A. (2000). "Big business and the wealth of South Africa: policy issues in the transition from apartheid" (Paris: OECD Development Centre), mimeo.
- Gong, H. (1995). "Spatial patterns of foreign investment in China's cities, 1980-1989", *Urban Geography*, 16, 3, pp. 198-209.
- Görg, Holger and Frances Ruane (1998). "Linkages between multinationals and indigenous firms: evidence for the electronics sector in Ireland", Trinity Economic Papers, Technical Paper 13 (Dublin: Trinity College).
- Grant Thornton International (GTI) (1997). *European Business Survey of Small and Medium-sized Businesses* (London: Grant Thornton International).
- Gray, H. Peter and Ingo Walter (1984). "Investment-related trade distortions in petrochemicals", *Journal of World Trade Law* (January), pp. 283-307.
- Green, Raúl and Tozanli Selma (2001). "La Stratégie de Carrefour et McDonald's, auprès de leurs fournisseurs locaux en Argentine", Working paper, April 2001 (Montpellier, France: CIHEAM-IAMM).
- Gultom-Siregar, Miranda (1995). "Indonesia", in ESCAP and UNCTAD, *Transnational Corporations and Backward Linkages in Asian Electronics Industries* (New York: United Nations), pp. 131-174.
- Hackett, S. C. and K. Srinivasan (1998). "Do supplier switching costs differ across Japanese and US multinational firms?", *Japan and the World Economy*, 10, pp.13-32.
- Halbach, Axel J. (1989). "Multinational enterprise and subcontracting in the third world: a study of inter-industrial linkages", Working Paper 58, Multinational Enterprise Programme (Geneva: ILO).
- Handfield, Robert B., and Daniel R. Krause (1999). "Think globally, source locally", *Supply Chain Management Review*, Winter 1999, pp. 36-49.
- _____, Thomas V. Scannel and Robert M. Monczka (2000). "Avoid pitfalls in supplier development", *Sloan Management Review*, 41, 2, pp. 37-49.
- Harrison, Bennett (1994). *Lean and Mean. The Changing Landscape of Corporate Power in the Age of Flexibility* (New York: Basic Books).
- Havas, Attila (2000). "Changing patterns of inter- and intra-regional division of labour: the long and winding road of Central Europe's automotive industry", in John Humphrey, Yveline Leclerc and Mario Salerno, eds., *Global Strategies and Local Realities: The Auto Industry in Emerging Markets* (Basingstoke: Macmillan), pp. 234-262.

- Head, C. K., J. C. Ries and D. L. Swenson (1995). "Agglomeration benefits and locational choice: evidence from Japanese manufacturing investments in the United States", *Journal of International Economics*, 38, pp. 223-247.
- _____ (1999). "Attracting foreign manufacturing: investment promotion and agglomeration", *Regional Science and Urban Economics*, 29, 2, pp. 197-218.
- Heinrich, Andreas (2001). "Internationalisation, market structures and enterprise behaviour: the Janus-faced Russian gas monopoly Gazprom", in Kari Liuhto, ed., *East Goes West: The Internationalization of Eastern Enterprises* (Lappeenranta, Finland: Lappeenranta University of Technology), pp. 51-87.
- Hobday, Michael (1995). "East Asian latecomer firms: learning the technology of electronics", *World Development*, 23, 7, pp. 1171-1193.
- _____ (1999). "Understanding Innovation in Electronics in Malaysia", in K. S. Jomo, Greg Felker and Rajah Rasiah, eds., *Industrial Technology Development in Malaysia: Industry and firm studies*. (London and New York: Routledge), pp. 76-106.
- Holm, Ulf and Torben Pedersen (2000). *The Emergence and Impact of MNC Centers of Excellence: A Subsidiary Perspective* (Houndmills: Macmillan Press Ltd).
- Hong Kong, China, Census and Statistics Department (2001a). *2000 Survey of Regional Offices Representing Overseas Companies in Hong Kong* (Hong Kong: the Government of the Hong Kong Special Administrative Region, China).
- _____ (2001b). *Balance of Payments Statistics of Hong Kong* (Hong Kong: the Government of the Hong Kong Special Administrative Region, China).
- Howenstine, Ned G. (2001). "Foreign direct investment in the United States: new investment in 2000", *Survey of Current Business*, 81, 6, pp. 27-34.
- Humphrey, J. (1998). "Globalization and supply chain networks in the auto industry: Brazil and India", paper presented at the international workshop on Global Production and Local Jobs, 9-10 March (Geneva: ILO), mimeo.
- Hungary (2001a). "Összefoglaló a Beszállítói Célprogram eredményeiről – 1999", summary of the results of the Subcontractors Target Programme in 1999 (Budapest: Hungarian Enterprise Development Fund), mimeo.
- _____ (2001b). "Subcontracting programme", <http://www.gm.hu/kulfold/english/sme/subcontract:htm>, mimeo.
- _____, Ministry of Economic Affairs (2001c). "The Sezchenyi Plan"; information available on the Internet: <http://www.gm.hu/kulfold/english/economy/szechenyi.htm>.
- Iannone, D.T. (1989). "Policy implication of foreign business recruitment as an economic development strategy", *Ohio Economic Trends Review*, 8, 4, pp. 20-35.
- Letto-Gillies, Grazia (1998). "Different conceptual frameworks for the assessment of the degree of internationalization: an empirical analysis of various indices for the top 100 transnational corporations", *Transnational Corporations*, 7, 1, pp. 17-39.
- Institute of Developing Economies (1994). *The Role of Japanese Direct Investment in Developing Countries: India, Indonesia, Taiwan* (Tokyo), March.
- Intel (2001). "Intel's linkages to suppliers in Malaysia", case study prepared for UNCTAD (Geneva: UNCTAD), mimeo.
- Inter-American Development Bank (IADB) (2000); information available on the Internet: <http://www.iadb.org/>.

- _____ (2001). "Programa de Desarrollo de Proveedores para Empresas Multinacionales de Alta Tecnología 'Costa Rica Provee' con apoyo del IADB" (San José, Costa Rica: Costa Rica Provee); available on the Internet at: <http://www.iacb.org/mif/projects>.
- International Labour Organization (ILO) (1998). ILO Declaration on Fundamental Principles and Rights at Work and its Follow-up (Geneva: ILO).
- _____ (2001a). "Seventh survey on the effect given to the Tripartite Declaration of Principles concerning multinational enterprises and social policy : analytical report of the Working Group on the reports submitted by governments and by employers' and workers' organizations", Part I (Geneva: ILO).
- _____ (2001b). Tripartite Declaration of Principles concerning Multinational Enterprises and Social Policy (Geneva: ILO).
- International Trade Centre (ITC) (1998). "Synthesis of conclusions and recommendations of 10 studies on industrial backward linkages for exports in selected Asian countries" (Geneva: ITC), Document ITC/DTCC/98/2378.
- Invest in Sweden Agency (ISA) (1999). *I huvudet på ett företag: Om huvudkontorens roll och lokalisering* (Stockholm: ISA).
- Ireland, Minister for Finance (2000). "National Development Plan 2000-2006", <http://www.irlgov.ie/finance/ndpindex.htm>.
- _____, Enterprise Ireland (2001). <http://www.enterprise-ireland.gov.ie>.
- _____ (2001a). "National Linkages Programme", <http://www.commerce.ie/linkage>, mimeo.
- _____ (2001b). "The national policy and advisory board for enterprise, trade, science, technology & innovation (Forfas)", <http://www.forfas.ie>.
- Ismail, M. N. (1999). "Foreign firms and national technological upgrading: the electronics industry in Malaysia", in K. S. Jomo, Greg Felker and Rajah Rasiah, eds., *Industrial Technology Development in Malaysia: Industry and firm studies* (London and New York: Routledge), pp. 21-37.
- Ivarsson, Inge (1996). *Integrated international production: A study of foreign transnational corporations in Sweden* (Gothenburg: School of Economics and Commercial Law, University of Gothenburg).
- Izushi, Hiro (1999). "Can a development agency foster co-operation among local firms? The case of the Welsh Development Agency's supplier association programme", *Regional Studies*, 33, 8, pp. 739-750.
- Jang, Y. J. (1999). "Inward FDI and trade" (Seoul, Korea Institute for Industrial Economics and Technology), mimeo.
- Japan External Trade Organization (JETRO) (2001). *Toshi Hakusho 2001* (Tokyo: JETRO).
- Japan, Ministry of International Trade and Industry (MITI) (2000). *Dai 32-kai Gaishi-kei Kigyo no Doko* (Tokyo: Ministry of Finance Printing Bureau).
- _____, Ministry of Economy, Trade and Industry (METI) (2001). "Dai-29 kai Wagakuni Kigyo no Kaigai Jigyo Katsudo" (Tokyo: Ministry of Finance Printing Bureau).
- Jo, S. -H. (1980). "Direct foreign private investment", in Chong Kee Park, ed., *Macroeconomic and Industrial Development in Korea* (Seoul: Korea Development Institute), pp. 129-182.
- Jomo, K. S., Greg Felker and Rajah Rasiah (1999). *Industrial Technology Development in Malaysia: Industry and firm studies* (London and New York: Routledge).

- Juneja, J. S. (2000). "TNC-SME co-operation: the experience of India", in UNCTAD, *TNC-SME Linkages for Development: Issues-Experiences-Best Practices* (New York and Geneva: United Nations), United Nations publication, UNCTAD/ITE/TEB/1, pp. 85-97.
- Kagami, Mitsuhiro and Akifumi Kuchiki (2000). "Silicon Valley in the South: new management networks emerging in Guadalajara", paper prepared for the International Workshop on a Study on Industrial Networks in Asia, organized by the Institute of Developing Economies (Chiba: JETRO), 26-27 January, mimeo.
- Kalotay, Kálmán and Gábor Hunya (2000). "Privatization and FDI in Central and Eastern Europe", *Transnational Corporations*, 9, 1, pp. 39-66.
- Kalyankar, S. V. (2000). "Co-operation between SMEs and MNC's", presentation prepared by LG Electronics India Ltd., for the World Association for Small and Medium Enterprises (Noida, Uttar Pradesh, India, WASME), 10 October, mimeo.
- Katz, J.M. (1987). *Technology Creation in Latin American Manufacturing Industries* (New York: St. Martin's Press).
- Kelegama, S. and F. Foley (1999). "Impediments to promoting backward linkages from the garment industry in Sri Lanka", *World Development*, 27, 8, pp. 1445-1460
- Kian Wie, Thee (1994). "Indonesia", in Saha Dhevan Meyanathan, ed., *Industrial Structures and the Development of Small and Medium Enterprise Linkages: Examples from Asia* (Washington, D.C.: World Bank), pp. 95-120.
- Kilvits, Kaarel and Alari Purju (2001). "Estonian direct investment abroad: sources, targets and adjustment to conditions", in Kari Liuhto, ed., *East Goes West: The Internationalization of Eastern Enterprises* (Lappeenranta, Finland: Lappeenranta University of Technology), pp. 233-264.
- Kim, June-Dong (1999). "Inward FDI Regime and Some Evidence of Spillover Effects in Korea", KIEP Working Paper 99-09 (Seoul: Korea Institute for International Economic Policy).
- Kokko, Ari (1994). "Technology, market characteristics and spillovers", *Journal of Development Economics*, 43, pp. 279-293.
- Komoda, F. (1986). "Japanese studies on technology transfer to developing countries, *Developing Economies*, 24, 3, pp. 459-462.
- Krause, Daniel and Robert Handfield (1999). "Developing a world class supply base", Center for Advanced Purchasing Studies, National Association of Purchasing Management (Tempe, Arizona).
- Kumar, Rajiv (1990). *Multinational Enterprises in India* (London: Routledge).
- _____ (1995). "India", in ESCAP and UNCTAD, *Transnational Corporations and Backward Linkages in Asian Electronics Industries* (New York: United Nations), pp. 93-129.
- Kuramoto, Juana (2000). "Las aglomeraciones productivas alrededor de la minería: el caso de la Minera Yanacocha S.A.", Serie Desarrollo Productivo 67 (Santiago, Chile: United Nations), United Nations publication, Sales No. S.00.II.G.12.
- Lall, Sanjaya (1980). "Vertical inter-firm linkages in LDCs: an empirical study", *Oxford Bulletin of Economics and Statistics*, 42, pp. 203-226.
- _____ (2001). *Competitiveness, Technology and Skills* (Cheltenham: Edward Elgar).
- Landi, J. (1986) "The sourcing policies of MNEs: a case study of Nigeria"(University of Reading), PhD thesis.

- Larraín, Felipe, F. López-Calva and A. Rodríguez-Claire (2001). "Intel: A case study of foreign direct investment in Central America", in Felipe Larraín, ed. *Economic Development in Central America, vol. I: Growth and Internationalization* (Cambridge: Harvard University Press).
- Lim, Linda Y. C. and P. E. Fong (1991). *Foreign Direct Investment and Industrialisation in Malaysia, Singapore, Taiwan and Thailand*. (Paris: Development Centre Studies, OECD).
- Liuhto, Kari (2001). "A Russian oil and gas giant goes West", in Kari Liuhto, ed., *East Goes West: The Internationalization of Eastern Enterprises* (Lappeenranta: Lappeenranta University of Technology, 2001), pp. 1-50.
- Loewendahl, Henry B. (2001). *Bargaining with Multinationals: The Investment of Siemens and Nissan in North East England* (London: Palgrave).
- Lowe, Nichola and Martin Kenney (1999). "Foreign investment and the global geography of production: Why the Mexican consumer electronics industry failed", *World Development*, 27, 8, pp. 1427-1443.
- Lukoil (2000). "Lukoil to acquire Getty in first acquisition of publicly held US company by a Russian corporation", press release, 3 November (Moscow, Lukoil), mimeo.
- Mair, A., R. Florida and M. Kenney (1988). "The new geography of automobile production: Japanese transplants in North America", *Economic Geography*, 64, pp. 352-373.
- Malaysia, The Malaysian Industrial Development Authority (MIDA) (2001). "List of promoted products and activities - industrial linkages programme", <http://www.mida.gov.my>., mimeo.
- _____, Ministry of International Trade and Industry (MITI) (2001). "Investors' Guide", <http://www.jaring.my/yes/tomtax/invest2.htm>, mimeo.
- Mansfield, E. (1995). "Intellectual property protection, direct investment, and technology transfer: Germany, Japan and the United States", Discussion Paper 27 (Washington, D.C: International Finance Corporation).
- Markusen, A. (1996). "Sticky places in slippery space: a typology of industrial districts", *Economic Geography*, 72, 3, pp. 293-313.
- Marshall, Alfred (1936). *Principles of Economics, 7th edition* (London: Macmillan Company).
- Maskus, Keith E. (1997). "The role of intellectual property rights in encouraging foreign direct investment and technology transfer", paper prepared for the Conference on Public-private initiatives after TRIPS: designing a global agenda (Brussels), 16-19 July, mimeo.
- Mathews, John A. (1999). "A Silicon Island of the East: creating a semiconductor industry in Singapore", *California Management Review*, 41, 2, pp. 55-78.
- _____, and D.S. Cho (1999). *Tiger Technology: The Creation of a Semiconductor Industry in East Asia* (Cambridge: Cambridge University Press).
- McAleese, Dermott and Donogh McDonald (1978). "Employment growth and the development of linkages in foreign-owned and domestic manufacturing enterprises", *Oxford Bulletin of Economics and Statistics*, 40, pp. 321-339.
- McGrew, A.G. and P.G. Lewis, ed. (1992). *Global Policies: Globalization and the Nation State* (Cambridge: The Policy Press).
- McKinsey & Company (1997). *Modernising the Indian Food Chain: Food and Agricultural Integrated Development Action (FAIDA)* (New Delhi: Ajanta Offset & Packaging Ltd.).

- Meyanathan, Saha Dhevan, ed. (1994). *Industrial Structures and the Development of Small and Medium Enterprises Linkages: Examples from East Asia*, Seminar Series, Economic Development Institute of the World Bank (Washington, D.C.: The World Bank).
- Monge, Ricardo (2000). *Inversión Extranjera Directa y Desarrollo: El Caso del Parque Industrial Zona Franca de Cartago* (San José, Costa Rica: Costa Rica Investment Board (CINDE) and Costa Rican Foreign Trade Corporation (PROCOMER)).
- Moomaw, R.L. (1998). "Agglomeration economies: are they exaggerated by industrial agglomeration?", *Regional Science and Urban Economics*, 28, 2, pp. 199-211.
- Moran, Theodore H. (1998). *Foreign Direct Investment and Development: The New Policy Agenda for Developing Countries and Economies in Transition* (Washington, D.C.: Institute for International Economics).
- _____ (1999). "A positive agenda for TRIMS negotiations: options for developing countries" (Geneva: UNCTAD), mimeo.
- Morgan, K. (1997). "The learning region: institutions, innovations and regional renewal", *Regional Studies*, 31, pp. 491-504.
- Mortimore, Michael (1997). "The Asian challenge to the world automotive industry", *Revista de Economía Contemporánea*, 2 (July-December), pp. 67-91.
- Motorola (2001). "Motorola's linkages to suppliers in China", case study prepared for UNCTAD (Geneva: UNCTAD), mimeo.
- Muramatsu, Yoshiaki (2000). "Toyota's strategy towards SME suppliers", in *TNC-SME Linkages for Development: Issues-experiences-best practices* (New York and Geneva: United Nations) United Nations publication, UNCTAD/ITE/TEB/1, pp. 67-72.
- Nachum, L. (2000). "Economic geography and the location of TNCs: financial and professional service FDI to the USA", *Journal of International Business Studies*, 31, 3, pp. 367-385.
- _____ and D. Keeble (1999). "Neo Marshallian nodes, global networks and firm competitiveness: the media cluster of Central London", Working Paper 138 (Cambridge: University of Cambridge, ESRC Centre for Business Research), mimeo.
- _____ (2000a). "Localised clusters and the eclectic paradigm of FDI: film TNCs in Central London", *Transnational Corporations*, 9, 1, pp. 1-37.
- _____ (2000b). "TNCs external linkages and local clusters: foreign and indigenous firms in the media cluster of Central London" (Cambridge: Cambridge University, ESRC Centre for Business Research), mimeo.
- Nadvi, K. (2001). *Industrial Clusters and International Competitiveness* (Basingstoke: Palgrave).
- Narayanan, S. (1999). "Factors favouring technology transfer to supporting firms in electronics: empirical data from Malaysia", *Asia-Pacific Development Journal*, 6, 1, pp. 55-72.
- Nestlé (2001). "Case study on Nestlé's linkages to suppliers in China" (Geneva: UNCTAD), mimeo.
- O'Farrell, P. N. and B. O'Loughlin (1981). "The impact of new industry enterprises in Ireland: an analysis of service linkages", *Regional Studies*, 15, 6, pp. 439-458.
- One NorthEast (2001). Regional Development Agency for the North East of England, information available on the Internet: <http://www.onenortheast.co.uk/>.
- Oesterreichische Nationalbank (ONB) (1996). *Austrian Outward and Inward Direct Investment, Reports and Summaries* (Vienna: ONB).

- Organisation for Economic Co-operation and Development (OECD) (1994). "Globalisation and local & regional competitiveness", OECD working papers no. 16 (Paris: OECD), mimeo.
- PA Cambridge Economic Consultants (PACEC) (1995). *Assessment of the wider effects of foreign direct investment in manufacturing in the UK* (London: Department of Trade and Industry).
- Patel P. and K. Pavitt (1991). "Large firms in the production of the world's technology: an important case of non-globalisation", *Journal of International Business Studies*, 22, pp. 1-21.
- Penrose, Edith T. (1959). *The Theory of the Growth of the Firm* (Oxford: Basil Blackwell).
- Pepsi Foods Limited (2000). "Partners in progress" and "Pepsi Foods Ltd. India" (New Delhi: Corporate Communications Department), June, mimeo.
- Peredi, Ágnes, (2000). "Erosödo hazai beszállítók" [Strengthening local suppliers], *Népszabadság*, 2 April, 57, 77, p. 3.
- Peres Nunez, Wilson (1990). *Foreign Direct Investment and Industrial Development in Mexico* (Paris: OECD).
- Peru, Sociedad Nacional de Minería, Petróleo y Energía (SNMPE) (1999). *Mining, Oil and Energy* (Lima: SNMPE).
- Peters, Ewen, Neil Hood and Stephen Young (2000). "Policy partnership in the development of knowledge industries in Scotland", in John H. Dunning, ed., *Regions, Globalization and the Knowledge Based Economy* (Oxford: Oxford University Press), pp. 259-285.
- Petri, P. A. (1994). "The regional clustering of foreign direct investment and trade", *Transnational Corporations* 3, 1-24.
- Phelps, Nicholas A. (1993). "Contemporary industrial restructuring and linkage change in an older industrial region: examples from the northeast of England", *Environment and Planning A*, 25, pp. 863-882.
- _____ (1996). "Collaborative buyer-supplier relations and the formation of centralised networks", *Geoforum*, 27, 3, pp. 393-407.
- _____ (1997). "Multinationals and European integration: trade, investment and regional development" (London: Jessica Kingsley, Regional Studies Association).
- _____ and Danny MacKinnon (2000). "Industrial enclaves or embedded forms of economy activity? Overseas Manufacturing in Wales", in R. W. Jones, ed., *Contemporary Wales*, 13 (Cardiff: University of Wales Press), pp. 46-67.
- Porter, Michael E. (1990). *The Competitive Advantage of Nations* (New York: The Free Press).
- _____ (1994). "The role of location in competition", *Journal of the Economics of Business*, 1, 1, pp. 35-39.
- _____ (1998). "Clusters and competition: new agendas for companies, governments and institutions", working paper 98-080 (Cambridge: Harvard Business School), mimeo.
- Pries, L. (1999). "Die Globalisierung der deutschen Autohersteller und deren Sogeffekte für die Automobilzulieferer", in H. Kipfler and L. Pries, eds., *Die Globalisierungsspirale der deutschen Automobilindustrie* (Munich), pp. 25-55.
- Pyke, F. and W. Sengenberger, eds. (1992). *Industrial Districts and Local Economic Regeneration* (Geneva: International Institute for Labour Studies, ILO).
- _____ and G. Becattini, eds. (1990), *Industrial Districts and Inter-Firm Co-operation in Italy* (Geneva: International Institute for Labour Studies, ILO).

- Rabellotti R. (1997), *External Economies and Cooperation in Industrial Districts: A Comparison of Italy and Mexico* (London: Macmillan).
- Rasiah, Rajah (1994). "Flexible production systems and local machine tool subcontracting: electronics components transnationals in Malaysia", *Cambridge Journal of Economics*, 18, 3, pp. 279-298.
- _____ (1999). "Government-business co-ordination and the development of engineering hardware", in K. S. Jomo, Greg Felker and Rajah Rasiah, eds., *Industrial Technology Development in Malaysia: Industry and firm studies* (London and New York: Routledge), pp. 231-246.
- Reddy, Prasada (2000). *Globalization of Corporate R&D – Implications for innovation systems in host countries* (London and New York: Routledge).
- Reuber, G. L., H. Crookell, M. Emerson and G. Gallais-Hamonno (1973). *Private foreign investment in development* (Oxford: Clarendon Press).
- Richardson, G.B. (1972). "The organization of industry", *Economic Journal*, 82, 327, pp. 883-896.
- Saint Gobain (2001). "Case study on Saint Gobain's linkages to suppliers in India" (Geneva: UNCTAD), mimeo.
- Sanchez Ugarte, F., M. Fernandez Pérez and E. Pérez Motta (1994). *La politica industrial ante la apertura* (Mexico City: Fondo de Cultura Económica (FCE)).
- Saxenian, A. L. (1994). *Regional Advantage: Culture and Competition in Silicon Valley and Route 128* (Boston, MA: Harvard University Press).
- Schachmann, K. and P. Fallis (1989). "External control and regional development within the Federal Republic of Germany", *International Regional Science Review*, 12, pp. 245-261.
- Schmitz, Hubert (1995). "Collective efficiency: growth path for small-scale industry", *Journal of Development Studies*, 31, 4, pp. 529-566.
- _____ (1999). "Global competition and local cooperation: success and failure in the Sinos Valley, Brazil", *World Development*, 27, 9, pp.1627-1650.
- Schweitzer, András (2001). "Beszállítók Magyarországon: Alkatrészeredmények" [Suppliers in Hungary: spare part(ial) results], *HVG*, 14 April, pp. 77-80.
- Scott, A.J. (1992). "The role of large producers in industrial districts: a case study of high technology system houses in Southern California", *Regional Studies*, 26, 3, pp. 265-275.
- Scottish Enterprise Network (2001). *Annual Report 1999-2000*; available on the Internet at: <http://www.scottish-enterprise.com/dblink/>.
- Scott-Kennel, Joanna and Peter Enderwick (2001). "The degree of linkage of foreign direct investment in New Zealand industry" (Wellington: Victoria University of Wellington), mimeo.
- Shaver, M. J. (1998). "Do foreign-owned and US-owned establishments exhibit the same location patterns in US manufacturing industries?", *Journal of International Business Studies*, 29, 3, pp. 469-492.
- Singapore, Economic Development Board (EDB) (2001a). "Logistic and Supply Chain Management", <http://www.sedb.com/edbcorp/flushed.html>, mimeo.
- _____, Economic Development Board (EDB) (2001b). "EDB economic history in the making"; available on the Internet at: <http://www.edb.gov.sg>.

- Sison, Gerardo Roberto D. (2000). "TNCs and SMEs relationship", Paper submitted to the Expert Meeting on the Relationships between SMEs and TNCs to Ensure the Competitiveness of SMEs (Geneva: UNCTAD), mimeo.
- Skoda Auto (2001). Information available on the Internet at: <http://www.skoda-auto.com/company/index.htm>.
- Smith, D. F. and R. Florida (1994). "Agglomeration and industrial location: an econometric analysis of Japanese affiliated manufacturing establishments in automotive-related industries", *Journal of Urban Economics*, 36, pp. 23-41.
- Sturgeon, T. J. (1997). "Turnkey production networks: a new American model of industrial organisation?", Berkeley Roundtable on the International Economy, BRIE Working Paper 92A; available on the Internet at: <http://brie.berkeley.edu>.
- Supapol, Atipol Bhanich (1995). "Thailand", in ESCAP and UNCTAD, *Transnational Corporations and Backward Linkages in Asian Electronics Industries* (New York: United Nations), pp. 249-287.
- Suzuki, (2001), "Case study on Suzuki's linkages to suppliers in Hungary" (Geneva: UNCTAD), mimeo.
- Swedish National Board for Industrial and Technical Development (NUTEK) (2000). *International Business: Foreign Owned Enterprises 1999* (Stockholm: NUTEK)
- Swisscontact (1996). "Small and medium enterprise promotion in Indonesia", project document (Zurich: Swisscontact), mimeo.
- Tan, B.W. (1990). "Using the supplier relationship to develop the support industry", *Omega International Journal of Management Science*, 18, 2, pp. 151-158.
- Thailand, Office of the Board of Investment / Office of the Prime Minister (BOI) (2001). The BOI unit for industrial linkages development; information available on the Internet at: <http://www.boi.go.th>.
- Thant, M. and M. Tang (1996). *Indonesia-Malaysia-Thailand Growth Triangle* (Manila: Asian Development Bank).
- Torres-Zorrilla, Jorge (2000). "Una estrategia de desarrollo basada en recursos naturales: análisis cluster del complejo de cobre de la Southern Perú", Serie Desarrollo Productivo 70 (Santiago, Chile: United Nations), United Nations publication, Sales No. S.00.II.G.13.
- Tóth, István János (2000). "Outstanding expectations, more balanced growth: the business situation and perspectives of the Hungarian largest exporting manufacturing firms in January 2000", Business Cycles Research Papers No. 1/2000 (Budapest: TÁRKI Research Institute), mimeo.
- Toyo Keizai (1998). *Kaigai Shinshutsu Kigyo Soran 1998* (Tokyo: Toyo Keizai Shimposha).
- Turok, Ivan (1993). "Inward investment and local linkages: how deeply embedded is 'Silicon Glen'?", *Regional Studies*, 27, 5, pp. 401-417.
- _____ (1997). "Linkages in the Scottish electronics industry: further evidence", *Regional Studies*, 31, 7, pp. 705-711.
- Unilever (2001). "Case study on Unilever's linkages to suppliers in Viet Nam" (Geneva: UNCTAD), mimeo.
- United Kingdom (2000). "Eliminating world poverty: making globalisation work for the poor. White paper on international development", presented to Parliament by the Secretary of State for International Development by Command of Her Majesty (London: HMSO).

- United Nations Centre on Transnational Corporations (UNCTC) (1981). *Transnational Corporation Linkages in Developing Countries. The Case of Backward Linkages via Subcontracting* (New York: United Nations), United Nations publication, Sales No.81.II.A.4.
- _____ (1991). *The Impact of Trade-Related Investment Measures on Trade and Development: Theory, Evidence and Policy Implications*, (New York and Geneva: United Nations), United Nations publication, sales No. E.91.II.A.19.
- United Nations Conference on Trade and Development (UNCTAD) (1993 – WIR93). *World Investment Report: Transnational Corporations and Integrated International Production* (New York: United Nations), United Nations publication, Sales No. E.93.II.A.14.
- _____ (1994 – WIR94). *World Investment Report: Transnational Corporations, Employment and the Workplace* (New York: United Nations), United Nations publication, Sales No. E.94.II.A.14.
- _____ (1995 – WIR95). *World Investment Report: Transnational Corporations and Competitiveness* (New York and Geneva: United Nations), United Nations publication, Sales No. E.95.II.A.9.
- _____ (1996 – WIR96). *World Investment Report: Investment, Trade and International Policy Arrangements* (New York and Geneva: United Nations), United Nations publication, Sales No. E.96.II.A.14.
- _____ (1997 – WIR97). *World Investment Report: World Investment Report: Transnational Corporations, Market Structure and Competition Policy* (New York and Geneva: United Nations), United Nations publication, Sales No. E.97.II.D.10.
- _____ (1998 – WIR98). *World Investment Report: Trends and Determinants* (New York and Geneva: United Nations), United Nations publication, Sales No. E.98.II.D.5 and Corr.1.
- _____ (1999 – WIR99). *World Investment Report: Foreign Direct Investment and the Challenge for Development* (New York and Geneva: United Nations), United Nations publication, Sales No. E.99.II.D.3 and Corr.1.
- _____ (2000 – WIR00). *World Investment Report: Cross-border Mergers and Acquisitions and Development* (New York and Geneva: United Nations), United Nations publication, Sales No. E.00.II.D.20.
- _____ (1993). *Intellectual Property Rights and FDI*, UNCTAD Current Studies, Series A, No. 24 (New York and Geneva: United Nations), United Nations publication, Sales No. E.93.II.A.10.
- _____ (1995). *Foreign Direct Investment in Africa* (New York and Geneva: United Nations), United Nations publication, Sales No. E.95.II.A.6.
- _____ (1998a). *Handbook on Foreign Direct Investment by Small and Medium-sized Enterprises: Lessons from Asia* (New York and Geneva: United Nations), United Nations publication, Sales No. E.98.II.D.4.
- _____ (1998b). *Globalization and the International Trading System: Issues Relating to Rules of Origin* (New York and Geneva: United Nations), UNCTAD/ITCD/TSB/2.
- _____ (1999). *Investment-related Trade Measures*, UNCTAD Series on issues in international investment agreements (New York and Geneva: United Nations), United Nations publication, Sales No. E.99.II.D.12.
- _____ (2000a). *The Competitiveness Challenge: Transnational Corporations and Industrial Restructuring in Developing Countries* (New York and Geneva: United Nations), United Nations publication, Sales No. E.00.II.D.35.

- _____ (2000b). *TNC-SME Linkages for Development: Issues-Experiences-Best Practices* (New York and Geneva: United Nations), United Nations publication, UNCTAD/ITE/TEB/1.
- _____ (2000c). *Investment Policy Review: Peru* (New York and Geneva: United Nations), United Nations publication, Sales No. E.00.II.D.7.
- _____ (2000d). *Investment Policy Review: Uganda* (New York and Geneva: United Nations), United Nations publication, Sales No. E.99.II.D.24.
- _____ (2000e). *Positive Agenda and Future Trade Negotiations* (New York and Geneva: United Nations), United Nations publication, Sales No. E.00.II.D.8.
- _____ (2001a). *FDI in Least Developed Countries* (New York and Geneva: United Nations), UNCTAD/IYE/IIA/3.
- _____ (2001b). “Home country measures”, note by the UNCTAD Secretariat, TD/B/COM.2/EM.8/2, April 6, 2001.
- _____ (2001c). “International arrangements on transfer of technology and capacity building: best practices for access to and measures to encourage transfer of technology with a view to capacity building, specially in least developed countries”, an issues note by the secretariat, TD/B/COM.2/EM.9./2., June.
- _____ (2001d). “Compendium of international arrangements on transfer of technology: selected instruments”, UNCTAD/ITE/IPC/Misc.5
- _____ (forthcoming a). *Host Country Operational Measures*. UNCTAD Series on issues in international investment agreements, (New York and Geneva: United Nations).
- _____ (forthcoming b). *Transfer of Technology*. UNCTAD Series on issues in international investment agreements, (New York and Geneva, United Nations).
- _____ (forthcoming c). *Investment Policy Review: Ethiopia* (New York and Geneva: United Nations).
- _____ and the International Chamber of Commerce (UNCTAD-ICC) (2000a). *An Investment Guide to Ethiopia: Opportunities and Conditions* (New York and Geneva: United Nations), UNCTAD/ITE/IIT/Misc.19.
- _____ (2000b). *An Investment Guide to Bangladesh: Opportunities and Conditions*, (New York and Geneva: UNCTAD), UNCTAD/ITE/IIT/Misc.29.
- _____ (2001a) *Guide D’Investissement au Mali* (New York and Geneva: United Nations), UNCTAD/ITE/IIT/Misc.24.
- _____ (2001b). *An Investment Guide to Uganda: Opportunities and Conditions* (New York and Geneva: UNCTAD).
- _____ (forthcoming). *An Investment Guide to Mozambique: Opportunities and Conditions* (New York and Geneva: UNCTAD).
- United Nations Development Programme (UNDP) (1993). *Technology Transfer to Malaysia – Reports Phase I and II – Electronics and Electrical and the Supporting Industries in Penang*. (Kuala Lumpur: UNDP).
- United Nations Industrial Development Organisation (UNIDO) (2000). Information available on the Internet at: <http://www.unido.org/ssites/partner/>.
- _____ (2001). *World Industrial Development Report 2001* (New York and Vienna: United Nations Industrial Development Organisation).

- United Nations, Economic Commission for Latin America and the Caribbean (ECLAC) (2000). *Foreign Investment in Latin America and the Caribbean: 1999 Report* (Santiago, Chile: United Nations), United Nations publication, Sales No. E.00.II.G.4.
- _____ (2001). *Foreign Investment in Latin America and the Caribbean: 2000 Report* (Santiago: de Chile: United Nations), United Nations publication, Sales No. E.01.II.G.12.
- United Nations, Economic and Social Commission for Asia and the Pacific and United Nations Conference on Trade and Development (ESCAP/UNCTAD) (1995). *Transnational Corporations and Backward Linkages in Asian Electronics Industries* (New York: United Nations), ST/ESCAP/1528.
- United States, Commercial Services (2001). "India, Country Commercial Guide - Investment Climate"; also available on the Internet at: http://www.state.gov/www/about-_state/business/com_guides/2001/sa/india_ccg2001.pdf
- _____, Department of Commerce (1997). *Foreign Direct Investment in the United States Establishment Data for 1992*, Washington, D.C.: U.S. Government Printing Office).
- Wei, Y. *et al.* (1998). "The regional distribution of foreign direct investment in China", in C. Millar and C.J. Choi, eds., *International Business and Emerging Markets* (London: City University Business School), pp. 697-716.
- Wells, L. T. and A.G. Wint (1990). "Marketing a country: promotion as a tool for attracting foreign investment", Occasional Paper 1 (Washington, D.C.: Foreign Investment Advisory Service).
- Westphal, Kirsten (2000). "Russische Energiepolitik: Ent- und Neuverflechtung von Staat und Wirtschaft", Nomos Universitätschriften Politik, Bd. 112, Baden-Baden, Nomos, mimeo.
- Wheeler, D. and A. Mody (1992). "International investment location decisions: the case of U.S. firms", *Journal of International Economics*, 33, pp. 57-76.
- Wong, P. K. (1992). "Technological development through subcontracting linkages: evidence from Singapore", *Scandinavian International Business Review*, 1, 3, pp. 28-40.
- Wong, S. H. (2000). "Intel's experiences in building linkages for SME development", in UNCTAD, *TNC-SME Linkages for Development: Issues-Experiences-Best Practices* (New York and Geneva: United Nations), United Nations publication, UNCTAD/ITE/TEB/1, pp. 73-76.
- Workman, Archie (2001). "The Supplier Capability Assessment Tool (SCAT)", One NorthEast, paper prepared for UNCTAD (Geneva: UNCTAD), mimeo.
- World Association of Investment Promotion Agencies (WAIPA) (2001) *Annual Report 2000-2001* (Geneva: UNCTAD, WAIPA Secretariat).
- World Trade Organization (WTO) (1995). *The Results of the Uruguay Round of Multilateral Trade Negotiations: The Legal Texts*. (Geneva: WTO).
- Xia, Youfu and Lu Yuebing (2001). "FDI and host country linkages: assessing the effectiveness and development impact of the policy measures: The case of the automobile industry in China", paper prepared for UNCTAD (Geneva: UNCTAD), mimeo.
- Yoon, Heon-Deok (1994). "An evaluation of the contribution of transnational corporations to the development of backward linkages in the Korean electrical and electronics industries", *Public Enterprise*, 14, 3-4, pp. 379-403.
- Zanfei, Antonello (2000). "Transnational firms and the changing organisation of innovative activities", *Cambridge Journal of Economics*, 24, pp. 515-542.

Zemplinerova, Alena (1996). "Skoda Auto-VW revisited", paper presented at the Sixth OECD/CCET Plenary Meeting on Incentives Policies for Foreign Direct Investment in Transitional Economies (Slovenia, Bled), 3-4 June, mimeo.

Zhan, X. James (1995). "Transnationalization and outward investment: the case of Chinese firms". *Transnational Corporations*, 4, 3, pp. 67-100.

_____ (2001). "Hong Kong's Transit FDI involving the Greater China and tax haven, and its implications" (Geneva: UNCTAD), mimeo.

ANNEXES

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Annex table A.I.1. Main international instruments^a dealing with FDI, 1998-2000

Year ^b	Title	Setting	Level	Form	Status
1998	Agreement between the European Communities and the Government of the United States of America on the Application of Positive Comity Principles in the Enforcement of their Competition Laws	European Community-United States	Bilateral	Binding	Adopted
1998	Agreement Establishing the Free Trade Area between the Caribbean Community and the Dominican Republic	Caribbean Community-Dominican Republic	Regional	Binding	Adopted
1998	Free Trade Agreement between Chile and Mexico	Chile-Mexico	Bilateral	Binding	Adopted
1998	Protocol Amending the Treaty Establishing the Caribbean Community. Protocol III: Industrial Policy.	Caribbean Community	Regional	Binding	Adopted
1998	Framework Agreement on the ASEAN Investment Area	ASEAN	Regional	Binding	Adopted
1998	Trade and Investment Cooperation Arrangement between Canada and MERCOSUR	Canada & MERCOSUR	Regional	Binding	Adopted
1998	Memorandum of Understanding on Trade and Investment between the Governments Canada, Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua	Canada and Central American countries	Regional	Non-binding	Adopted
1998	OECD Council Recommendation on Counteracting Harmful Tax Competition	OECD	Regional	Non-binding	Adopted
1998	OECD Council Recommendation Concerning Effective Action Against Hard Core Cartels	OECD	Regional	Non-binding	Adopted
1998	Draft Multilateral Agreement on Investment	OECD	Regional	Binding	Not adopted
1998	ILO Declaration on fundamental Principles and Rights at Work	International Labour Office	Multilateral	Non-binding	Adopted
1998	Draft International Agreement on Investment	Consumer Unity & Trust Society	Non-Governmental	Non-binding	Not adopted
1998	Towards a Citizens' MAI: an Alternative Approach to Developing a Global Investment Treaty Based on Citizen's Rights and Democratic Control	Council of Canadians	Non-Governmental	Non-binding	Adopted
1999	Resolution of the European Parliament on European Union Standards for European Enterprises Operating in Developing Countries: towards a European Code of Conduct	European Parliament	Regional	Non-binding	Adopted
1999	Criminal Law Convention on Corruption	Council of Europe	Regional	Binding	Adopted
1999	OECD Principles of Corporate Governance	OECD	Regional	Non-binding	Approved
1999	Model Clauses for Use in Contracts Involving Transborder Data Flows	International Chamber of Commerce	Model	Non-binding	Adopted
1999	Core Standards	World Development Movement	Non-Governmental	Non-binding	Not adopted
1999	Rules and Recommendations on Extortion and Bribery in International Business Transactions (1999 Revised Version)	International Chamber of Commerce	Non-Governmental	Non-binding	Adopted
1999	Civil Law Convention on Corruption	Council of Europe	Regional	Binding	Adopted
1999	The Treaty Establishing the East African Community	East African Community	Regional	Binding	Adopted
1999	Agreement between the Government of the United States of America and the Government of Australia on Mutual Antitrust Enforcement Assistance	Australian- United States	Bilateral	Binding	Adopted
1999	Agreement between the Government of the United States of America and the Government of the Federative Republic of Brazil Regarding Cooperation Between Their Competition Authorities in the Enforcement of Their Competition Laws	Brazil- United States	Bilateral	Binding	Adopted

Annex table A.I.1. Main international instruments^a dealing with FDI, 1998-2000 (concluded)

Year ^b	Title	Setting	Level	Form	Status
1999	Agreement between the European Communities and the Government of Canada Regarding the Application of their Competition Laws	Canada- European Union	Bilateral	Binding	Adopted
1999	Agreement between the Government of the United States of America and the Government of Japan Concerning Cooperation on Anticompetitive Activities	Japan- United States	Bilateral	Binding	Adopted
1999	Short-Term Measures to Enhance ASEAN Investment Climate	ASEAN	Regional	Binding	Adopted
2000	Free Trade Agreement between Mexico, El Salvador, Guatemala and Honduras	The Northern Triangle	Regional	Binding	Adopted
2000	Revised OECD Declaration on International Investment and Multilateral Enterprises (including the Revised Guidelines for Multinational Enterprises and commentaries)	OECD	Regional	Binding/ non-binding	Adopted
2000	Revised United Nations Model Taxation Convention between Developed and Developing Countries	United Nations	Multilateral	Model	Adopted
2000	Agreement between New Zealand and Singapore on Closer Economic and Partnership	New Zealand- Singapore	Bilateral	Binding	Adopted
2000	Protocol VIII: Competition Policy, Consumer Protection, Dumping and Subsidies amending the Treaty of Chaguaramas	Caribbean Community	Regional	Binding	Adopted
2000	Revised Partnership Agreement between the Members of the African, Caribbean and Pacific Group of States of the One Part, and The European Community and Its Member States, of The Other Part	African, Caribbean and the Pacific-European community	Regional	Binding	Adopted

Source: UNCTAD. The instruments listed here are reproduced in whole or in part in UNCTAD, *International Investment Instruments: A Compendium*, vols. IV, V and VI (United Nations publication, Sales Nos. E.00.II.D.13, 14, and forthcoming).

^a Bilateral treaties for the promotion and protection of investment (BITs) and for the avoidance of double taxation (DTTs) are not included in this table. For an up-to-date list of BITs, as of 1 January 2000, see *Bilateral Investment Treaties, 1959-1999* (UNCTAD/DITE/IIA/2), available on the Internet: www.unctad.org/en/pub/poiteliad2.en.htm. The list of bilateral association, partnership and cooperation agreements signed by the European Community and/or the European Free Trade Association and third countries, and including investment provisions, is available in a separate table.

^b Dates given relate to original adoption. Subsequent revisions of instruments are not included, unless explicitly stated.

Bilateral association, cooperation, framework and partnership agreements signed by the European Community, by the European Free Trade Association and by the United States with third countries, including investment-related provisions
(1998-January 2001)

Country/territory/group of countries	Date of signature	Date of entry into force
<i>European Community and its member States</i>		
Turkmenistan	25 May 1998	Not yet in force
South Africa	11 October 1999	Not yet in force
Mexico	19 March 2000	..
<i>European Free Trade Association and its member States</i>		
Palestine Authority	30 November 1998	1 July 1998
The Former Yugoslav Republic of Macedonia	19 June 2000	Not yet in force
Mexico	27 November 2000	Not yet in force
<i>Untied States</i>		
Egypt ^a	1 July 1999	1 July 1999
Ghana	26 February 1999	26 February 1999
Jordan	24 October 2000	..
South Africa	18 February 1999	18 February 1999
Nigeria	16 February 2000	..
Viet Nam	13 July 2000	..

Source: UNCTAD.

^a Investment Incentive Agreement between the Government of the United States and the Government of the Arab Republic of Egypt.

**Annex table A.I.2. Number of parent corporations and foreign affiliates,
by area and economy, latest available year**
(Number)

Area/economy	Year	Parent corporations based in economy ^a	Foreign affiliates located in economy ^a
Developed economies		49 944 ^b	95 485 ^b
Western Europe		38 733 ^b	62 729 ^b
European Union		33 249 ^b	53 753 ^b
Austria	1997	896	2 464
Belgium/Luxembourg	1997	988	1 504
Denmark	1998	9 356	2 305
Finland	2000	1 200	2 006
France	1998	1 695	9 494
Germany	1998	8 492	12 042
Greece	1991	..	798
Ireland	1998	39	1 140
Italy	1997	806	1 769
Netherlands	1993	1 608	2 259
Portugal	1999	1 100	3 500
Spain	1998	857	7 465
Sweden ⁱ	2000	5 118	4 324
United Kingdom ^m	1998	1 094	2 683
Other Western Europe		5 484 ^b	8 976 ^b
Gibraltar	1999	..	14
Iceland	1999	78	47
Liechtenstein	1999	..	41
Norway	1998	900	3 100
Switzerland	1995	4 506	5 774
North America		5 109 ^b	23 665 ^b
Canada	1997	1 722	4 562
United States	1997	3 387	19 103
Other developed countries		6 102 ^b	9 091 ^b
Australia	1999	610	2 539
Israel	1999	..	81
Japan	1998	4 334	3 321
New Zealand	1998	217	1 106
South Africa	1998	941	2 044
Developing economies		12 588 ^b	489 504 ^b
Africa		167 ^b	4 669 ^b
Algeria	1999	..	6
Angola	1999	..	21
Benin	1999	..	5
Botswana	1999	..	8
Burkina Faso	1999	..	8
Burundi	1999	..	3
Central African Republic	1999	..	4
Chad	1999	..	3
Congo	1999	..	20
Cote d'Ivoire	1999	..	91
Democratic Republic of the Congo	1999	..	4
Djibouti	1999	..	8
Egypt	1999	..	99
Equatorial Guinea	1999	..	1
Ethiopia	1998	..	21
Gabon	1999	..	33
Gambia	1999	..	5
Ghana	1999	..	54
Guinea-Bissau	1999	..	1
Kenya	1999	..	96
Lesotho	1999	..	411
Madagascar	1999	..	17
Malawi	1999	..	1
Mali ^s	1999	3	33
Mauritania	1999	..	2

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**Annex table A.I.2. Number of parent corporations and foreign affiliates,
by area and economy, latest available year**
(Number)

Area/economy	Year	Parent corporations based in economy ^a	Foreign affiliates located in economy ^a
Mauritius	1999	..	20
Morocco	1999	..	156
Mozambique	1999	..	12
Namibia	1999	..	2
Niger	1999	..	5
Nigeria	1999	..	48
Rwanda	1999	..	2
Senegal	1999	..	27
Seychelles	1998	..	30
Sierra Leone	1999	..	1
Sudan	1999	..	3
Swaziland	2000	12	53
Togo	1999	..	5
Tunisia	2000	142 ^{aj}	2 086
United Republic of Tanzania	1999	..	27
Uganda	1999	..	22
Zambia	1999	2 ^t	1 179
Zimbabwe	1998	8	36
Latin America and the Caribbean		2 019^b	26 784^b
Antigua and Barbuda	1999	..	6
Aruba	1999	..	19
Argentina	1999	..	635
Bahamas	1999	..	55
Barbados	1999	..	42
Belize	1999	..	4
Bermuda	1999	..	147
Bolivia	1996	..	257
Brazil	1998	1 225	8 050
British Virgin Islands	1999	..	36
Cameroon	1999	..	47
Cayman Islands	1999	..	188
Chile	1998	478 ^u	3 173 ^v
Colombia	1995	302	2 220
Costa Rica	1999	..	111
Dominica	1999	..	7
Dominican Republic	1999	..	92
Ecuador	1999	..	121
El Salvador	1990	..	225
Grenada	1999	..	8
Guatemala	1985	..	287
Guyana	2000	4 ^s	59
Haiti	1999	..	6
Honduras	1999	..	30
Jamaica	1998	..	177
Mexico	1993	..	8 420
Netherlands Antilles	1999	..	143
Nicaragua	1999	..	21
Panama	1999	..	279
Paraguay	1995	..	109
Peru	1997	10 ^w	1 183 ^x
St. Kitts and Nevis	1999	..	5
Saint Lucia	1999	..	15
Saint Vincent and the Grenadines	1999	..	4
Suriname	1999	..	9
Trinidad and Tobago	1999	..	65 ^y
Uruguay	1997	..	123
Venezuela	1999	..	406
Developing Europe		70^b	1 637
Bosnia and Herzegovina	1999	..	7
Croatia	1997	70	353
Malta	1999	..	82
Slovenia	1997	..	1 195 ^{az}

**Annex table A.1.2. Number of parent corporations and foreign affiliates,
by area and economy, latest available year**
(Number)

Area/economy	Year	Parent corporations based in economy ^a	Foreign affiliates located in economy ^a
Asia		10 332 ^b	456 414 ^b
South, East and South-East Asia		9 883 ^b	445 929 ^b
Afghanistan	1999	..	3
Bangladesh	1999	..	161 ^z
Bhutan	1997	..	2
Brunei	1999	..	27
Cambodia	1997	..	598 ^{aa}
China	1999	379 ^{ab}	364 345 ^{ac}
Hong Kong, China	1998	819 ^{ad}	6 247 ^{ae}
India	1995	187 ^{af}	1 416
Indonesia	1995	313	2 241 ^{ae}
Lao People's Democratic Republic	1997	..	669 ^{ag}
Macau	1999	..	86
Malaysia	1999	..	15 567 ^{ah}
Maldives	1999	..	2
Mongolia	1998	..	1 400
Myanmar	1998	..	299 ^{ai}
Nepal	1999	..	224
Pakistan	1998	59	644
Philippines	1995	..	14 802 ^{ak}
Republic of Korea	1999	7 460	6 486
Singapore	1997	..	24 114
Sri Lanka	1998	..	305 ^{al}
Taiwan Province of China	1994	666 ^{am}	2 026
Thailand	1998	..	2 721 ^{an}
Viet Nam	1996	..	1 544
West Asia		449 ^b	2 227 ^b
Bahrain	1999	..	28
Cyprus	1999	..	118
Iran	1999	..	16
Jordan	1999	..	8
Kuwait	1999	..	6
Lebanon	1999	..	24
Oman	1995	92 ^{ao}	351 ^{ao}
Qatar	1999	..	11
Saudi Arabia	1989	..	1 461
Syrian Arab Republic	1999	..	5
Turkey	1995	357	136
United Arab Emirates	1999	..	59
Yemen	1999	..	4
Central Asia		-	7 669
Armenia	1999	..	1 604 ^{ap}
Azerbaijan	1999	..	2
Georgia	1998	..	190 ^{aq}
Kazakhstan	1999	..	1 865 ^{ar}
Kyrgyzstan	1998	..	4 004 ^{as}
Uzbekistan	1999	..	4
The Pacific		-	589
Fiji	1997	..	151
Kiribati	1999	..	1
New Caledonia	1999	..	1
Papua New Guinea	1998	..	345 ^{at}
Samoa	1999	..	9
Solomon Islands	1996	..	56 ^{au}
Tonga	1999	..	4
Vanuatu	1999	..	22
Central and Eastern Europe		780 ^b	236 829 ^b
Albania	1995	..	2 422 ^{av}
Belarus	1994	..	393
Bulgaria	1994	26	918
Czech Republic	1999	660 ^t	71 385 ^{ax}
Estonia	1999	..	3 066 ^{ay}
Hungary	1998	..	28 772 ^{az}

/...

**Annex table A.I.2. Number of parent corporations and foreign affiliates,
by area and economy, latest available year (concluded)**
(Number)

Area/economy	Year	Parent corporations based in economy ^a	Foreign affiliates located in economy ^a
Latvia	1999	..	107
Lithuania	1999	16 ^{ab}	1 893
Poland	1998	58 ^f	35 840 ^{bb}
Romania	1998	20 ^f	71 318 ^{bc}
Russian Federation	1994	..	7 793
Slovakia	1997	..	5 560 ^{bd}
Ukraine	1999	..	7 362
World		63 312	821 818

Source: UNCTAD, based on national sources.

^a Represents the number of parent companies/foreign affiliates in the economy shown, as defined by that economy. Deviations from the definition adopted in the *World Investment Report* (see section on definitions and sources in the annex B) are noted below.

Venezuela, Samoa, Yemen are from *Who Owns Whom CD-Rom 2000* (London, Dun & Bradstreet).

^b Includes data for only the countries shown below.

^c Provisional figures by Banque Nationale de Belgique.

^d Directly and indirectly owned foreign affiliates (subsidiaries and associates), excluding branches.

^e Does not include the number of foreign-owned holding companies in Germany which, in turn, hold participating interests in Germany (indirect foreign participating interests).

^f As of 1994.

^g Refers to the number of foreign-owned affiliates in Ireland which receive assistance from the Industrial Development Authority (IDA).

^h Relates to parent companies and foreign affiliates in agriculture and industrial activities (source: REPRINT database, Polytechnics University of Milano/CNEL).

ⁱ As of October 1993.

^j Preliminary estimate. The number of foreign affiliates in Portugal as of 1998.

^k Includes those Spanish parent enterprises which, at the same time, are controlled by a direct investor.

^l Data provided by Sveriges Riksbank. Includes those Swedish parent companies which, at the same time, are controlled by a direct investor. The number of foreign affiliates relates only to majority-owned firms.

^m Data on the number of parent companies based in the United Kingdom, and the number of foreign affiliates in the United Kingdom are based on the register of companies held for inquiries on the United Kingdom FDI abroad, and FDI into the United Kingdom conducted by the Central Statistical Office. On that basis, the numbers are probably understated because of the lags in identifying investment in greenfield sites and because some companies with small presence in the United Kingdom and abroad have not yet been identified.

ⁿ Approximation by Norges Bank. The number of parent companies as of 1997.

^o Represents a total of 2,618 non-bank parent companies in 1996 and 60 bank parent companies in 1994 with at least one foreign affiliate whose assets, sales or net income exceeded \$3 million, and 709 non-bank and bank parent companies in 1994 whose affiliate(s) had assets, sales and net income under \$3 million. Each parent company represents a fully consolidated United States business enterprise, which may consist of a number of individual companies.

^p Data for 1996. Represents a total of 13,108 bank and non-bank affiliates in 1996 whose assets, sales or net income exceeded \$1 million, and 5,551 bank and non-bank affiliates in 1992 with assets, sales and net income under \$1 million, and 534 United States affiliates that are depository institutions. Each affiliate represents a fully consolidated United States business enterprise, which may consist of a number of individual companies.

^q Only foreign affiliates that have over 20 per cent stake in their affiliates located in Japan, plus the number of foreign affiliates, insurance and real estate industries in November 1995 (284).

^r Represents the number of foreign affiliates that received permission to invest during 1992-May 1998.

^s As of 1988.

^t As of 1997.

^u Estimated by Comité de Inversiones Extranjeras.

^v Number of foreign companies registered under DL600.

^w Less than 10.

^x Out of this number, 811 are majority-owned foreign affiliates, while 159 affiliates have less than 10 per cent equity share.

^y An equity stake of 25 per cent or more of the ordinary shares or voting power.

^z Number of investment projects registered with the Board of Investment.

^{aa} Number of projects approved, both domestic and foreign, since August 1994.

^{ab} As of 1989.

^{ac} Cumulative number of registered industrial enterprises with foreign capital.

^{ad} Number of regional headquarters as of 1 June 1998.

^{ae} As of 1996.

^{af} As of 1991.

^{ag} Number of projects licensed since 1988 up to end 1997.

^{ah} May 1999. Refers to companies with foreign equity stakes of 51 per cent and above. Of this, 3,787 are fully owned foreign affiliates.

^{ai} Number of permitted foreign enterprises up to end-February 1998.

^{aj} As of 1999.

^{ak} This figure refers to directly and indirectly owned foreign affiliates.

^{al} Number of projects approved under section 17 of the BOI law which provides for incentives.

^{am} Number of approved new investment projects abroad in 1998.

^{an} Data refer to the number of BOI-promoted companies which have been issued promotion certificates during the period 1960-1998, having at least 10 per cent of foreign equity participation.

^{ao} As of May 1995.

^{ap} Accumulated number of joint ventures and foreign enterprises registered as of 1 November 1999.

^{aq} Number of cases of approved investments of more than 100,000 dollars registered during the period of January 1996 up to March 1998.

^{ar} Joint ventures and foreign firms operating in the country.

^{as} Joint venture companies established in the economy.

^{at} Number of applications received since 1993.

^{au} Number of foreign investment projects approved in 1996.

^{av} 1,532 joint ventures and 890 wholly-owned foreign affiliates.

^{aw} The number refers to the registered firms.

^{ax} Out of this number 53,775 are fully-owned foreign affiliates. Includes joint ventures.

^{ay} As of 15 March 1999. Only registered affiliates with the Estonian Commercial Register.

^{az} Data are for the number of investment projects.

^{ba} As of 1998.

^{bb} Number of firms with foreign capital.

^{bc} The number of affiliates established during December 1990-December 1999.

^{bd} Includes joint ventures with local firms.

Note: The data can vary significantly from preceding years, as data become available for countries that had not been covered before, as definitions change, or as older data are updated.

Annex table A.I.3. Annual average FDI growth rate in LDCs, 1986-2000
(Percentage)

Growth rate	Economy
More than 30%	Afghanistan; Bangladesh; Bhutan; Cape Verde; Comoros; Djibouti; Eritrea; Ethiopia; Lao People's Democratic Republic; Lesotho; Malawi; Mozambique; Myanmar; Samoa; Sao Tome and Principe; Senegal; United Republic of Tanzania; Tuvalu; and Uganda
20-29.9%	Benin; Chad; Nepal; Sudan; and Togo
10-19.9%	Angola; Burkina Faso; Cambodia; Democratic Republic of Congo; Equatorial Guinea; Gambia; Guinea; Guinea-Bissau; Kiribati; Maldives; Mali; Somalia; Vanuatu; Yemen; and Zambia
0-9.9%	Madagascar; Sierra Leone; and Solomon Islands
Decline	Burundi; Central African Republic; Haiti; Liberia; Mauritania; Niger; and Rwanda

Source: UNCTAD, FDI/TNC database.

Annex table A.I.4. Cross-border M&A deals with values of over \$1 billion completed in 2000

Rank	Value (\$ billion)	Acquiring company	Home economy	Industry of the acquiring company	Acquired company	Host economy	Industry of the acquired company
1	202.8	Vodafone AirTouch PLC	United Kingdom	Radiotelephone communications	Mannesmann AG	Germany	Radiotelephone communications
2	46.0	France Telecom SA	France	Telephone communications, except radiotelephone	Orange PLC (Mannesmann AG)	United Kingdom	Telephone communications, except radiotelephone
3	40.4	Vivendi SA	France	Water supply	Seagram Co Ltd	Canada	Motion picture and video tape production
4	27.2	BP Amoco PLC	United Kingdom	Petroleum refining	ARCO	United States	Petroleum refining
5	25.1	Unilever PLC	United Kingdom	Creamery butter	Bestfoods	United States	Dried fruits, vegetables and soup mixes
6	19.4	Zurich Allied AG	Switzerland	Life insurance	Allied Zurich PLC	United Kingdom	Life insurance
7	16.5	UBS AG	Switzerland	Banks, non-US chartered	PaineWebber Group Inc	United States	Security brokers, dealers and flotation companies
8	14.4	Vodafone AirTouch PLC	United Kingdom	Radiotelephone communications	Airtel SA	Spain	Radiotelephone communications
9	13.5	Credit Suisse First Boston	United States	Security brokers, dealers and flotation companies	Donaldson Lufkin & Jenrette	United States	Commodity contracts brokers and dealers
10	11.8	Cap Gemini SA	France	Business consulting services, nec	Ernst & Young-Consulting Bus.	United States	Business consulting services, nec
11	11.1	HSBC Holdings PLC	United Kingdom	Banks, non-US chartered	Crédit Commercial de France	France	Banks, non-US chartered
12	11.0	NTL Inc	United States	Cable and other pay television services	CWC ConsumerCo	United Kingdom	Telephone communications, except radiotelephone
13	10.2	Telefónica SA	Spain	Telephone communications, except radiotelephone	Telecomunicacoes de Sao Paulo	Brazil	Telephone communications, except radiotelephone
14	9.4	BellSouth GmbH (KPN, BellSouth)	Netherlands	Telephone communications, except radiotelephone	E-Plus Mobilfunk GmbH (Otelo)	Germany	Radiotelephone communications
15	8.3	America Online Inc	United States	Prepackaged Software	AOL Europe, AOL Australia	Germany	Information retrieval services
16	7.7	Chase Manhattan Corp. NY	United States	National commercial banks	Robert Fleming Holdings Ltd.	United Kingdom	Security brokers, dealers and flotation companies
17	7.6	ING Groep NV	Netherlands	Life insurance	Aena-Fin' I Svcs & Int' I Bus.	United States	Security and commodity services, nec
18	7.1	British American Tobacco PLC	United Kingdom	Cigarettes	Imasco Ltd	Canada	Eating places
19	7.1	Alcatel SA	France	Telephone and telegraph apparatus	Newbridge Networks Corp	Canada	Telephone and telegraph apparatus
20	7.1	Nortel Networks Corp	Canada	Aircraft parts, equipment	Aliteon Websystems Inc	United States	Electronic components, nec
21	6.7	DaimlerChrysler Aerospace AG	Germany	Aircraft	Aerospatiale Matra	France	Aircraft
22	6.3	RWE AG	Germany	Electric and other services combined	Thames Water PLC	United Kingdom	Water supply
23	6.2	Terra Networks (Telefonica SA)	Spain	Information retrieval services	Lycos Inc	United States	Information retrieval services
24	6.0	ING Groep NV	Netherlands	Life insurance	ReliaStar Financial Corp	United States	Life insurance
25	5.7	NTT Communications Corp	Japan	Telephone communications, except radiotelephone	Verio Inc	United States	Data processing services
26	5.4	PowerGen PLC	United Kingdom	Electric services	LG&E Energy Corp	United States	Electric services
27	5.3	CLT-UFA (Cie Luxembourgeoise)	Luxembourg	Radio broadcasting stations	Pearson Television (Pearson)	United Kingdom	Television broadcasting stations
28	5.2	Leconport Estates	Multi-National	Investors, nec	MEPC PLC	United Kingdom	Land subdividers and developers, except cemeteries
29	5.0	British Telecommunications	United Kingdom	Telephone communications, except radiotelephone	AT&T-Worldwide Assets, Ops	United States	Telephone communications, except radiotelephone
30	5.0	WPP Group PLC	United Kingdom	Advertising agencies	Young & Rubicam Inc	United States	Advertising agencies
31	4.9	Stora Enso Oyj	Finland	Paper mills	Consolidated Papers Inc	United States	Paperboard mills
32	4.9	Tiscali SpA	Italy	Telephone communications, except radiotelephone	World Online International NV	Netherlands	Information retrieval services
33	4.8	Nordbanken Holding AB	Sweden	Offices of holding companies, nec	Merita Oy	Finland	Banks, non-US chartered
34	4.8	Alcan Aluminum Ltd	Canada	Aluminum foundries	Aluisse Lonza Group Ltd	Switzerland	Packaging paper & plastics film, coated & laminated
35	4.6	Telefónica SA	Spain	Telephone communications, except radiotelephone	Endemol Entertainment NV	Netherlands	Motion picture and video tape production

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Annex table A.I.4. Cross-border M&A deals with values of over \$1 billion completed in 2000 (continued)

Rank	Value (\$ billion)	Acquiring company	Home economy	Industry of the acquiring company	Acquired company	Host economy	Industry of the acquired company
36	4.4	MeritaNordbanken	Finland	Banks, non-US chartered	Unidamark A/S	Denmark	Banks, non-US chartered
37	4.4	Tyco International Ltd	Bermuda	General industrial machinery and equipment	Mallinckrodt Inc	United States	In vitro and in vivo diagnostic substances
38	4.3	France Telecom SA	France	Telephone communications, except radiotelephone	Global One Co	United States	Telephone communications, except radiotelephone
39	4.3	Sema Group PLC	United Kingdom	Computer related services, nec	LHS Group Inc	United States	Computer programming services
40	4.3	Investor Group	France	Investors, nec	TPSA	Poland	Radiotelephone communications
41	4.2	National Grid Group PLC	United Kingdom	Electric services	New England Electric System	United States	Electric services
42	4.0	Alliance Capital Management	United States	Investment advice	Sanford C Bernstein & Co Inc	United States	Investment advice
43	3.9	BASF AG	Germany	Industrial organic chemicals, nec	American Cyanamid Agri Product	United States	Pesticides & agricultural chemicals, nec
44	3.7	NTL Inc	United States	Cable and other pay television services	Cablecom Holding AG	Switzerland	Cable and other pay television services
45	3.6	France Telecom SA	France	Telephone communications, except radiotelephone	MobilCom AG	Germany	Telephone communications, except radiotelephone
46	3.6	Koninklijke Ahold NV	Netherlands	Grocery stores	US Foodservice Inc	United States	Groceries, general line
47	3.6	NTT Mobile Communications Network Inc	Japan	Telephone communications, except radiotelephone	KPN Mobile (KPN Telecom NV)	Netherlands	Telephone communications, except radiotelephone
48	3.6	Comring Inc	United States	Telephone and telegraph apparatus	Pirelli SPA-Optical Components	Italy	Drawing & insulating of nonferrous wire
49	3.5	AXA	France	Life insurance	Sun Life and Provincial	United Kingdom	Life insurance
50	3.5	Interbrew SA	Belgium	Malt beverages	Bass PLC-Brewing Operations	United Kingdom	Malt beverages
51	3.4	WPD Holdings UK	United Kingdom	Electric services	Hyder PLC	United Kingdom	Engineering services
52	3.4	Rodamco North America NV	Netherlands	Real estate investment trusts	Urban Shopping Centers Inc	United States	Real estate investment trusts
53	3.3	Noriel Networks Corp	Canada	Telephone and telegraph apparatus	Xros Inc	United States	Telephone and telegraph apparatus
54	3.3	Noriel Networks Corp	Canada	Telephone and telegraph apparatus	Otera Corp	United States	Telephone and telegraph apparatus
55	2.9	Hellenic Bottling Co SA	Greece	Bottled & canned soft drinks and carbonated waters	Coca-Cola Beverages PLC	United Kingdom	Bottled & canned soft drinks and carbonated waters
56	2.8	Cemex	Mexico	Cement, hydraulic	Southdown Inc	United States	Cement, hydraulic
57	2.8	Global Crossing Ltd	Bermuda	Telephone communications, except radiotelephone	IPC Communications (Citicorp)	United States	Information retrieval services
58	2.8	Investor Group	United States	Investors, nec	Deutsche Telekom AG-North	Germany	Telephone communications, except radiotelephone
59	2.8	MeritaNordbanken	Finland	Banks, non-US chartered	Christiania Bank	Norway	Banks, non-US chartered
60	2.8	Havas Advertising SA	France	Advertising agencies	Snyder Communications Inc	United States	Business services, nec
61	2.7	Preussag AG	Germany	Travel agencies	Thomson Travel Group PLC	United Kingdom	Tour operators
62	2.7	Norske Skogindustrier AS	Norway	Pulp mills	Fletcher Challenge Paper	New Zealand	Pulp mills
63	2.7	Ford Motor Co	United States	Motor vehicles and passenger car bodies	Land Rover (BMW)	United Kingdom	Motor vehicles & passenger car bodies
64	2.6	Flextronics International Ltd	Singapore	Printed circuit boards	DIT Group	United States	Electronic components, nec
65	2.6	General Sekiyu (Esso Eastern)	Japan	Petroleum refining	Tonen Corp (Exxon Mobil)	Japan	Petroleum refining
66	2.5	Hanson PLC	United Kingdom	Men's footwear, except athletic	Pioneer International Ltd	Australia	Ready-mixed concrete
67	2.5	Dexia Belgium	Belgium	Security brokers, dealers and flotation companies	Finl Security Assurance Hldgs	United States	Surety insurance
68	2.5	Pearson PLC	United Kingdom	Books: publishing, or publishing & printing	National Computer Systems Inc	United States	Computer peripheral equipment, nec
69	2.5	Tyco International Ltd	Bermuda	General industrial machinery and equipment	Lucent Tech Inc-Power Sys Unit	United States	Electronic components, nec
70	2.5	Carrefour SA	France	Grocery stores	Gruppo GS SpA (Schemaventumo)	Italy	Variety stores
71	2.5	Bayer AG	Germany	Medicinal chemicals and botanical products radiotelephone	Lyondell Chemical-Polyis Bus	United States	Petroleum refining production

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Annex table A.I.4. Cross-border M&A deals with values of over \$1 billion completed in 2000 (continued)

Rank	Value (\$ billion)	Acquiring company	Home economy	Industry of the acquiring company	Acquired company	Host economy	Industry of the acquired company
72	2.4	Telefónica SA	Spain	Telephone communications, except radiotelephone	Telesudeste Celular	Brazil	Telephone communications, except radiotelephone
73	2.4	General Motors Corp	United States	Motor vehicles and passenger car bodies	Fiat Auto SpA (Fiat SpA)	Italy	Motor vehicles & passenger car bodies
74	2.3	Atos SA	France	Computer programming services	Origin (Philips Electronics NV)	Netherlands	Prepackaged Software
75	2.3	T-Online International AG	Germany	Information retrieval services	Club Internet (Lagardere Group)	France	Information retrieval services
76	2.3	General Electric Capital Corp	United States	Personal credit institutions	Toho Mutual Life	Japan	Life insurance
77	2.3	Unilever NV	Netherlands	Creamery butter	Slim-Fast Foods Co	United States	Food preparations, nec
78	2.2	Investor Group	Belgium	Investors, nec	EPON NV (EDON, NUON)	Netherlands	Electric services
79	2.2	Investor Group	Hong Kong, China	Investors, nec	ETSA Utilities, ETSA Power	Australia	Electric services
80	2.2	Telefonica Internacional SA	Spain	Telephone communications, except radiotelephone	CEI Citicorp Equity Holdings	Argentina	Offices of holding companies, nec
81	2.2	Salomon Smith Barney Holdings	United States	Security brokers, dealers and flotation companies	Schroders-Worldwide Investment	United Kingdom	Security brokers, dealers and flotation companies
82	2.2	CDC Asset Management Europe	France	Management investment offices, open-end	NVEST LP	United States	Investment offices, nec
83	2.2	Investor Group	United Kingdom	Investors, nec	Mark IV Industries Inc	United States	Rubber and plastics hose and belting
84	2.2	Thomson-CSF	France	Guided missile and space vehicle parts, nec	Racal Electronics PLC	United Kingdom	Electronic computers
85	2.2	BT Haworth Ltd	United Kingdom	Telephone communications, except radiotelephone	Esat Telecom Group PLC	Ireland	Communications services, nec
86	2.1	Cisco Systems Inc	United States	Computer peripheral equipment, nec	Pirelli-Fibre Optic Operations	Italy	Optical instruments and lenses
87	2.1	Metsa-Setla Oy	Finland	Paper mills	MoDo Paper AB	Sweden	Paper mills
88	2.1	Rio Tinto Ltd	Australia	Iron ores	North Ltd	Australia	Gold ores
89	2.1	Siemens Corp (Siemens AG)	United States	Communications equipment, nec	Shared Medical Systems Corp	United States	Computer facilities management services
90	2.0	Cie de Saint-Gobain SA	France	Abrasive products	Meyer International PLC	United Kingdom	Lumber, plywood, millwork and wood panels
91	2.0	Finalrealm	France	Food preparations, nec	United Biscuits (Holdings) PLC	United Kingdom	Frozen specialties, nec
92	2.0	Rexam PLC	United Kingdom	Sanitary paper products	American National Can Group	United States	Metal cans
93	2.0	Worms et Cie	France	Life insurance	Arjo Wiggins Appleton PLC	United Kingdom	Paper mills
94	2.0	AXA	France	Life insurance	Nippon Dantai Life Insurance	Japan	Life insurance
95	1.9	Allianz AG	Germany	Life insurance	PIMCO Advisors Holdings LP	United States	Investment advice
96	1.9	DaimlerChrysler AG	Germany	Motor vehicles and passenger car bodies	Mitsubishi Motors Corp	Japan	Motor vehicles & passenger car bodies
97	1.9	Nortel Networks Corp	Canada	Telephone and telegraph apparatus	Core Tek Inc	United States	Telephone and telegraph apparatus
98	1.9	Telenor AS	Norway	Telephone communications, except radiotelephone	Sonofon	Denmark	Telephone communications, except radiotelephone
99	1.9	Nortel Networks Corp	Canada	Telephone and telegraph apparatus	Clarify Inc	United States	Prepackaged Software
100	1.8	Suez Lyonnaise des Eaux SA	France	Water supply	United Water Resources Inc	United States	Water supply
101	1.8	British Telecommunications PLC	United Kingdom	Communications services, nec	Telfort	Netherlands	Radiotelephone communications
102	1.8	NTT DoCoMo Inc	Japan	Telephone communications, except radiotelephone	Hutchison 3G UK Holdings Ltd	United Kingdom	Telephone communications, except radiotelephone
103	1.8	Nelcom AB	Sweden	Communications services, nec	Société Européenne de Commun	Luxembourg	Telephone communications, except radiotelephone
104	1.8	Alcatel SA	France	Telephone and telegraph apparatus	Genesys Telecommun Labs	United States	Prepackaged Software
105	1.8	Koninklijke Numico NV	Netherlands	Dry, condensed & evaporated dairy products radiotelephone	Rexall Sundown Inc	United States	Pharmaceutical preparations production

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Annex table A.1.4. Cross-border M&A deals with values of over \$1 billion completed in 2000 (continued)

Rank	Value (\$ billion)	Acquiring company	Home economy	Industry of the acquiring company	Acquired company	Host economy	Industry of the acquired company
106	1.8	Amvescap PLC	United Kingdom	Investment advice	Trimark Financial Corp	Canada	Security brokers, dealers and flotation companies
107	1.7	Clariant AG	Switzerland	Alkalies and chlorine	BTP PLC	United Kingdom	Industrial inorganic chemicals, nec
108	1.7	Investor Group	United States	Investors, nec	Shoppers Drug Mart(Imasco Ltd)	Canada	Drug stores and proprietary stores
109	1.7	Publicis SA	France	Advertising agencies	Saatchi & Saatchi PLC	United Kingdom	Advertising agencies
110	1.7	Elan Corp PLC	Ireland	Pharmaceutical preparations	Dura Pharmaceuticals Inc	United States	Pharmaceutical preparations
111	1.7	Skandinaviska Enskilda Banken	Sweden	Banks, non-US chartered	Bank für Gemeinwirtschaft AG	Germany	Banks, non-US chartered
112	1.7	BAE SYSTEMS North America	United States	Aircraft engines and engine parts	Lockheed Martin-Aerospace	United States	Search, detection, and navigation equipment
113	1.7	AES Corp	United States	Electric services	CA La Electricidad de Caracas	Venezuela	Electric services
114	1.6	Nationwide Mutual Insurance Co	United States	Fire, marine, and casualty insurance	Garmore Investment Management	United Kingdom	Investment offices, nec
115	1.6	EM, TV & Merchandising AG	Germany	Motion picture and video tape distribution	SLEC Holdings Ltd	United Kingdom	Offices of holding companies, nec
116	1.6	Fortis (NL) NV	Netherlands	Life insurance	Banque Generale du Luxembourg	Luxembourg	Banks, non-US chartered
117	1.6	Volkswagen AG	Germany	Motor vehicles and passenger car bodies	Scania AB (Investor AB)	Sweden	Truck and bus bodies
118	1.6	BP Amoco PLC	United Kingdom	Petroleum refining	Vastar Resources Inc	United States	Crude petroleum and natural gas
119	1.6	US Foodservice Inc	United States	Groceries, general line	PYAMonarch Inc	United States	Groceries, general line
120	1.6	Spirit PLC	United Kingdom	Electronic components, nec	Hekimian Labs Inc	United States	Electrical apparatus and equip
121	1.6	Banco Santander Central Hispan	Spain	National commercial banks	Cia de Seguros Mundial	Portugal	Life insurance
122	1.5	Banco Santander Central Hispan	Spain	National commercial banks	Grupo Financiero Serfin SA de	Mexico	Banks, non-US chartered
123	1.5	Volvo AB	Sweden	Motor vehicles and passenger car bodies	Renault VIMack (Renault SA)	France	Industrial trucks, tractors, trailers and stackers
124	1.5	British Sky Broadcasting Group	United Kingdom	Cable and other pay television services	KirchPayTV GmbH (Kirch Gruppe)	Germany	Cable and other pay television services
125	1.5	Saudi Telecommunications Co	Saudi Arabia	Telephone communications, except radiotelephone	FLAG Telecom Holdings Ltd	Bermuda	Telegraph and other message communications
126	1.5	Adacco SA	Switzerland	Employment agencies	Olisten Corp	United States	Help supply services
127	1.5	Old Mutual PLC	South Africa	Life insurance	United Asset Management Corp	United States	Investment advice
128	1.5	Cadbury Schweppes PLC	United Kingdom	Candy and other confectionary products	Snapple Beverage Group Inc	United States	Bottled & canned soft drinks and carbonated waters
129	1.4	Foster's Brewing Group Ltd	Australia	Malt beverages	Beinger Wine Estates Holdings	United States	Wines, brandy, and brandy spirits
130	1.4	Citizens Financial Group, RI	United States	Savings institutions, not federally chartered	UST Corp, Boston, MA	United States	State banks, member fed reserve
131	1.4	Corning Inc	United States	Telephone and telegraph apparatus	Siemens AG-Optical Fiber, Cable	Germany	Drawing and insulating of nonferrous wire
132	1.4	Littauer Technologies Co Ltd	Republic of Korea	Computer related services, nec	AsiaNet(Linkage On-Line)	Hong Kong, China	Information retrieval services
133	1.4	Investor Group	Hong Kong, China	Investors, nec	Powercor Australia (PacifiCorp)	Australia	Electric services
134	1.4	Smurfit-Stone Container Corp	United States	Paperboard mills	St Laurent Paperboard Inc	Canada	Paperboard mills
135	1.4	BNP Paribas SA	France	Banks, non-US chartered	Cie Benelux Paribas SA	Belgium	Misc business credit
136	1.4	Koninklijke PTT Nederland NV	Netherlands	Telephone communications, except radiotelephone	Hutchison 3G UK Holdings Ltd	United Kingdom	Telephone communications, except radiotelephone
137	1.3	Dimension Data Holdings PLC	South Africa	Prepackaged Software	Comparex-Eur Networking Ops	Germany	Computer programming services
138	1.3	Standard Chartered PLC	United Kingdom	Investment advice	ANZ Grindlays Bank Ltd	Australia	Banks, non-US chartered
139	1.3	Standard Chartered PLC	United Kingdom	Investment advice	Chase Manhattan-HK Banking	Hong Kong, China	Banks, non-US chartered
140	1.3	Telia AB	Sweden	Telephone communications, except radiotelephone	NetCom ASA	Norway	Investors, nec
141	1.3	AES Corp	United States	Electric services	Gener SA	Chile	Electric services
142	1.3	BT Bumi Modern	Indonesia	Crude petroleum and natural gas radiotelephone	Gallo Oil Ltd	United States	Crude petroleum and natural gas production

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Annex table A.I.4. Cross-border M&A deals with values of over \$1 billion completed in 2000 (concluded)

Rank	Value (\$ billion)	Acquiring company	Home economy	Industry of the acquiring company	Acquired company	Host economy	Industry of the acquired company
143	1.3	Vivendi SA	France	Water supply	Elektrim Telekomunikacja Sp	Poland	Telephone communications, except radiotelephone
144	1.3	Singapore Power Pte Ltd	Singapore	Electric services	GPU PowerNet Pty Ltd	Australia	Combination utilities, nec
145	1.3	Eni SpA	Italy	Crude petroleum and natural gas	British Borneo Oil & Gas PLC	United Kingdom	Crude petroleum and natural gas
146	1.3	Intel Corp	United States	Semiconductors and related devices	Giga A/S (NKT Holding)	Denmark	Electronic components, nec
147	1.2	Telia AB	Sweden	Telephone communications, except radiotelephone	NetCom ASA	Norway	Investors, nec
148	1.2	Infosources SA	France	Information retrieval services	Belgacom Skynet SA	Belgium	Information retrieval services
149	1.2	Assa Aloy AB	Sweden	Hardware, nec	Williams PLC-Yale Locks	United Kingdom	Hardware, nec
150	1.2	Reliant Energy	United States	Electric services	Energieproduktbedrijf UNA NV	Netherlands	Electric services
151	1.2	Unicredito Italiano	Italy	Banks, non-US chartered	Pioneer Group Inc	United States	Investment advice
152	1.2	Heidelberger Zement AG	Germany	Cement, hydraulic	Cimenteries CBR (Heidelberger)	Belgium	Cement, hydraulic
153	1.2	Investor Group	Germany	Investors, nec	Fairchild Aerospace Corp	United States	Aircraft
154	1.2	GN Store Nord A/S	Denmark	Radio & TV broadcasting and communications equi	Photonics SA	France	Measuring&controlling devices
155	1.2	Morgan Stanley Real Estate	United States	Real estate investment trusts	Fonspa-Non-Performing Loans	Italy	Personal credit institutions
156	1.2	K-L Holdings Inc (KKR)	United States	Investors, nec	Laporte-Non Speciality Organic	United Kingdom	Inorganic pigments
157	1.1	Investor Group	United States	Investors, nec	Long Term Credit Bank of Japan	Japan	Banks, non-US chartered
158	1.1	Danzas Holding AG	Switzerland	Arrangement of transportation of freight and cargo	Air Express International Corp	United States	Arrangement of transportation of freight and cargo
159	1.1	Allianz AG	Germany	Life insurance	PIMCO Advisors LP	United States	Investment advice
160	1.1	Deutsche Telekom AG	Germany	Radiotelephone communications	Polska Telefonia Cyfrowa Sp	Poland	Communications services, nec
161	1.1	Billion PLC	United Kingdom	Miscellaneous metal ores, nec	Rio Algom Ltd	Canada	Uranium-radium-vanadium ores
162	1.1	Danone Group	France	Fluid milk	McKesson Water Products Co	United States	Bottled & canned soft drinks and carbonated waters
163	1.1	Thomson Corp	Canada	Newspapers; publishing or publishing and printing	Primark Corp	United States	Computer related services, nec
164	1.1	Thames Water PLC	United Kingdom	Water supply	E-town Corp	United States	Water supply
165	1.1	Falck Holding A/S	Denmark	Defective, guard and armored car services	Group 4 Securitas (Intl) BV	Netherlands	Defective, guard and armored car services
166	1.1	Diamond Technology Partners	United States	Management consulting services	Cluster Consulting	Spain	Business consulting services, nec
167	1.1	United Pan-Europe Comm NV	Netherlands	Communications services, nec	Eneco C&T	Netherlands	Cable and other pay television services
168	1.1	General Motors Corp	United States	Motor vehicles and passenger car bodies	Fuji Heavy Industries Ltd	Japan	Motor vehicles and passenger car bodies
169	1.1	Bipop-Cairre	Italy	Banks, non-US chartered	Enrium Direct Bankers AG	Germany	Information retrieval services
170	1.0	Koninklijke Philips Electronic	Netherlands	Household audio and video equipment	MedQuist Inc	United States	Data processing services
171	1.0	Amdocs Ltd	United Kingdom	Computer programming services	Solect Technology Group	Canada	Prepackaged Software
172	1.0	Wengen Acquisition PLC	United States	Investors, nec	Wassall PLC	United Kingdom	Motor vehicle parts and accessories
173	1.0	Investor Group	Spain	Investors, nec	Cia Energetica de Pernambuco	Brazil	Electric services
174	1.0	Kyocera Corp	Japan	Semiconductors and related devices	QUALCOMM-Land-Based Wirele	United States	Radiotelephone communications
175	1.0	Banco Santander Central Hispan	Spain	National commercial banks	Banco Bozano Simonsen SA	Brazil	Banks, non-US chartered

Source : UNCTAD, cross-border M&A database, based on data provided by Thomson Financial Securities Data Company.

Annex table A.I.5. Geographical sources of FDI inflows into selected Central and Eastern European countries, 2000
(Millions of dollars)

Home region and country	Bulgaria	Czech Republic	Estonia	Hungary	Latvia	Poland	Romania	Russian Federation	Slovakia	Ukraine	Total
	a	b	c	d	e	f	g	h	i	j	k
Central and Eastern Europe	53	29	120	-4	-28	133	178	-15	187	27	681
of which:											
Croatia	..	..	1	..	..	..	..	..	..	..	14
Czech Republic	..	..	..	1	..	..	..	..	31	..	4
Estonia	..	..	..	..	139	..	..	..	..	..	139
Hungary	2	7	45	..	..	..	..	..	156	..	210
Poland	..	..	4	2	1	..	..	..	..	..	7
Russian Federation	51	..	-	-5	-6	174	..	..	..	27	240
Slovakia	..	..	63	..	..	..	..	..	..	..	63
Slovenia	..	23	6	..	..	4	..	..	..	..	33
Developed countries	911	808	4 338	386	1 603	10 715	555	3 504	1 227	208	24 475
European Union	854	669	3 759	362	1 337	8 224	541	1 745	1 180	125	18 936
Austria	89	142	938	-14	19	373	43	22	184	..	1 790
Belgium	40	-	113	1	185	298	-12	..	25	..	651
Denmark	1	1	51	5	..	200	-1	15	..	..	244
Finland	..	..	27	149	98	42	..	87	..	..	439
France	29	3	172	7	65	4 046	69	97	12	..	4 501
Germany	72	68	1 011	13	290	-174	189	341	518	8	2 417
Greece	241	..	3	..	..	500	27	..	..	..	772
Ireland	1	-	18	-10	47	211	3	23	..	..	255
Italy	340	65	80	4	-2	210	23	31	23	..	773
Luxembourg	0	306	47	1	15	6	18	..	..	..	392
Netherlands	17	40	1 006	17	474	992	154	610	487	61	3 864
Portugal	..	..	1	..	..	51	-1	..	..	..	50
Spain	1	..	34	-	..	119	7	..	..	..	161
Sweden	-	22	129	184	42	1 239	-11	257	..	..	1 976
United Kingdom	23	22	130	5	104	113	32	262	-68	56	651
Other Western Europe	19	40	242	23	29	162	27	410	-	36	1 047
of which:											
Gibraltar	11	3	..	3	265	282	112
Norway	8	2	..	36	-	16	579
Switzerland	15	39	187	6	29	123	8	115	..	36	..

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Annex table A.I.5. Geographical sources of FDI inflows into selected Central and Eastern European countries, 2000 (concluded)
(Millions of dollars)

Home region and country	Bulgaria	Czech Republic	Estonia	Hungary	Hungary	Latvia	Poland	Romania	Russian Federation	Slovakia	Ukraine	Total
Other developed countries	38	99	337	1	237	23	2 329	-13	1 348	46	46	4 492
of which:												
Canada	..	..	119	-	5	5	-50	-7	..	..	..	73
Israel	..	..	3	..	..	-	78	-3	..	..	..	77
Japan	1	..	66	1	15	-	102	-	107	..	..	292
United States	37	99	149	-	217	20	2 197	-3	1 241	46	46	4 050
Developing countries	29	8	134	11	24	-32	11	44	791	-	206	1 226
Latin America and the Caribbean	14	8	9	5	3	-17	-	-11	113	-	30	154
of which:												
Virgin Islands	..	..	4	-	..	6	..	3	65	..	30	108
Developing Asia	15	..	125	5	21	-7	1	54	678	-	176	1 069
of which:												
Cyprus	-11	..	123	-	..	1	..	57	678	..	176	1 024
Turkey	20	..	-	..	..	-	..	2	..	..	..	22
Other and not specified	107	23	2	6	8	-37	-303	-4	135	39	155	130
Total	1 100	868	4 595	398	1 607	285	10 601	581	4 429	1 452	595	26 512

Source: UNCTAD, FDI/TNC database.

a FDI commitment data provided by the Bulgarian Foreign Investment Agency.

b FDI equity paid in cash only. Data for Central and Eastern Europe include data for other Europe.

c Estimated on the basis of the difference between FDI stocks in 2000 and 1999.

d Based on the difference between FDI stocks in 2000 and 1999, on commitment basis.

e Based on the difference between FDI stocks in 2000 and 1999, on commitment basis.

f Based on Goskomstat data on FDI commitments.

g Based on the difference between stocks in 2000 and 1999.

h Based on the difference between stocks in 2000 and 1999.

Annex table A.I.6. Selected private cross-border M&As in Hungary, 1999-April 2001

Month/ Year	Buyer	Seller	Target firm	Value (million \$)	Share acquired (%)	Notes
Jan 1999	Gala Italia (Italy)	Avonmore Foods Corp. (Netherlands)	Pásztó Tejfeldolgozó és-forgalmazó Kft. (milk and dairy)	not revealed	100.0	
Mar 1999	CG Sat/Matel (France)	not available	Jásztel Rt. (telephone)	not revealed	100.0	Previous owners asked for \$ 30 million.
Jun 1999	Friesland Europe Holding Beheer (Netherlands)	not available	Mizo-Baranyatej (milk and dairy)	not revealed	40.0	
Jul 1999	Irisbus (joint venture of Iveco Italy and Renault France / Fiat Group)	not available	Ikarus Rt. (bus production)	19.5	75.0	Irisbus additionally spent \$ 10 million on reducing Ikarus' debts.
Sep 1999	PSINet (United States)	not available	Elender Rt. (internet service)	32.0	100.0	
Nov 1999	VNU Budapest Rt. (VNU Netherlands)	not available	Egyesült Kiadói Holding Rt. (publishing)	not revealed	100.0	Estimated value: \$32-60 million.
Nov 1999	Delhaize-Le Lion S.A. (Belgium)	Julius Meinl International (Austria)	Csemege Julius Meinl Rt. and Kft. (supermarkets)	196.1		98.4 % of the supermarkets (Rt.) and 35.7 % of the logistics unit (Kft.)
Nov 1999	United Pan-Europe Communications (United States) Magyarország Kft.	not available	Monor Telefon Társaság Rt.	45.0	48.0	Increased UPC's share to 95 %.
Jan 2000	Perrier Vittel S.A. (France)	Lucienne Investments Ltd. (Jersey)	Kékkúti Ásványvíz Rt. (mineral water)	not revealed	31.1	
Feb 2000	Magic Software Enterprises (Israel)	not available	Onyx Softwarehouse Kft.	not revealed	51.0	
Apr 2000	Perrier Vittel S.A. (France)	public purchase offer	Kékkúti Ásványvíz Rt. (mineral water)	8.1	37.1	Increased Perrier's share to 68.2 %.
Apr 2000	Net.IPO AG (Germany) & German Investment Rt.	not available	Index.hu Rt.	2.9	25.1	
May 2000	Net.IPO AG (Germany)	not available	NET Média Kft.	not revealed	35.0	
Jul 2000	Deutsche Telekom (Germany)	SBC/ Ameritech (United States)	Matáv Rt.	2 200.0	29.8	Increased Deutsche Telekom's share to 59.5%.
Jul 2000	ING Bank (Netherlands)	Citibank Rt.	ING's retail business and 12 Hungarian branch offices	not revealed	100.0	
Sep 2000	Milford Holdings Ltd. (Ireland; controlled by Russian Gazprom)	Croesus Capital Management; Franklin Templeton Investments	Borsodchem Rt.	not revealed	24.8	Hostile bid; legality of transaction under investigation by the Hungarian Financial Supervisory Authority.
Sep 2000	Media Development Loan Fund (United States-Czech Republic)	Private investors	Magyarnarancs.hu Lapkiadó Kft. (newspaper)	not revealed	47.0	Paid in capital: \$ 10 thousand.
Oct 2000	Schneider Electric Industries S.A. (France)	not available	Prodax Elektromos Szerelvénygyártó Rt. (electric equipment)	not revealed	100.0	Sales in 1999: \$ 6 million; paid in capital: \$0.3 million.
Dec 2000	Generali-Providencia Biztosító Rt.	Postabank Értékpapír-forgalmazási és Befektetési Rt.	Első Hazai Pénztárszervező és Működtető Rt. (pension fund)	not revealed	100.0	Paid in capital: \$ 0.3 million.
Dec 2000	Neckermann (Germany)	MOL Hungarian Oil & Gas Plc.	MOL Travel	not revealed	100.0	Sales in 2000: \$ 2.7 million.
Dec 2000	Deutsche Investitions-und Entwicklungsgesellschaft GmbH	Shares bought on the stock exchange	Globus Rt. (canning factories)	6.2	30.0	Committed to \$ 7 million capital increase.
Dec 2000	Electricité de France International S.A.	Fortum Power (Finland); Tomen Corporation (Japan)	Budapesti Erőmű Rt. (power generation)	not revealed	89.0	Sales in 1999: \$ 101 million; paid in capital: \$ 46 million.
Jan 2001	Group 4 Securitas (Netherlands)	private persons	Banktech Security Pénzszállító Szolgálat Rt.	not revealed	100.0	Paid in capital: \$ 80 thousand.
Jan 2001	Salina Investment BV (Netherlands; affiliate of Emerging Europe Capital Investors/United States)	not available	Láng Kiadó és Holding Rt. (publishing)	13.8	minority	
Mar 2001	Canal+ (France)	Private investors	Minimax (broadcasting)	not revealed	80.0	
Apr 2001	Cogne Acciai Speciali s.r.l. (Italy)	Receiver	Diósgyőri Acélművek Rt. (steel)	14.3	100.0	

Source: UNCTAD, based on G. Tóth, 2000.

Annex table A.I.7. Geographical distribution of FDI outflows from selected Central and Eastern European countries, 2000

Host region and country	Croatia	Czech Republic	Estonia	Hungary ^a	Total
Central and Eastern Europe	42.0	100.4	137.4	334.0	613.8
Albania	0.1	..	..	..	0.1
Belarus	..	-	-0.1	..	-0.1
Bosnia and Herzegovina	19.9	-	..	..	19.9
Bulgaria	..	0.1	..	..	0.1
Croatia	..	0.7	..	3.2	3.9
Czech Republic	-	..	..	43.1	43.1
Hungary	0.5	1.5	..	..	2.0
Latvia	..	..	110.8	..	110.8
Lithuania	..	0.1	23.5	..	23.6
Macedonia, TFYR	5.2	..	..	..	5.2
Poland	16.4	30.3	0.8	4.1	51.6
Romania	..	-	..	8.4	8.4
Russian Federation	..	18.7	2.2	10.0	31.0
Slovakia	-1.2	44.5	..	265.2	308.5
Slovenia	1.1	..	..	..	1.1
Ukraine	..	1.8	0.1	..	1.9
Yugoslavia	-	2.7	..	..	2.7
Developed countries	-9.9	13.2	-7.0	198.3	194.6
European Union	7.9	10.5	-7.0	197.7	209.1
Austria	2.6	1.3	..	30.1	34.0
Denmark	..	..	..	118.5	118.5
Finland	..	..	-7.5	..	-7.5
France	..	-1.5	..	..	-1.5
Germany	0.1	2.6	..	40.5	43.2
Italy	1.4	-	..	1.4	1.4
Luxembourg	-0.3	1.4	..	..	1.1
Netherlands	..	2.1	0.3	8.7	11.1
Spain	..	0.4	..	..	0.4
Sweden	..	0.2	0.2	..	0.4
United Kingdom	4.2	3.9	..	..	8.1
Other Western Europe	-0.3	-0.5	-	-5.6	-6.4
Switzerland	-0.3	-0.5	..	-5.6	-6.4
Other developed countries	-17.5	3.2	-	6.2	-8.1
United States	-17.5	3.2	..	6.2	-8.1
Developing countries	-8.2	4.0	2.4	24.3	22.5
Africa	-6.6	-	-	-	-6.6
Liberia	-6.6	..	..	..	-6.6
Latin America and the Caribbean	-1.6	4.6	-	0.3	3.3
Antigua	-1.6	..	..	..	-1.6
Virgin Islands	..	4.6	..	..	4.6
Developing Asia	-	-0.6	2.4	24.0	25.8
Azerbaijan	..	0.1	..	..	0.1
China	..	0.1	..	..	0.1
Cyprus	..	..	2.4	34.6	37.0
Kazakhstan	..	-0.8	..	..	-0.8
Korea, Republic of	..	..	..	-11.1	-11.1
The Pacific	-	-	-	-	-
Other and not specified	0.2	0.5	24.3	-7.3	17.8
Total	24.1	118.1	157.0	549.3	848.6

Source: UNCTAD.

^a FDI equity paid in cash only. Data for Central and Eastern Europe include data for other Europe.

Annex table A.I.8. Employment of foreign affiliates in selected Central and Eastern European countries, 1998 and 1999

Country	1998			1999		
	Total employment	Employment of foreign owned firms	As a percentage of total employment	Total employment	Employment of foreign owned firms	As a percentage of total employment
Bulgaria	2 086 291	80 325	3.9	1 994 284	106 822	5.4
Czech Republic	4 865 700	154 223	3.2	4 764 099	196 550	4.1
Hungary	3 697 700	580 701	15.7	3 811 500	584 059	15.3
Latvia	1 043 000	107 000	10.3	1 037 800	107 500	10.4
Macedonia, TFYR	405 726	10 038	2.5	413 205	11 488	2.8
Romania	8 812 600	55 300	0.6	8 419 600	72 600	0.9
Russian Federation	57 860 000	969 000	1.7	60 631 000	1 034 000	1.7
Slovakia	2 032 109	60 243	3.0	1 988 187	72 142	3.6
Slovenia	745 169	40 223	5.4	758 473	40 557	5.3
Total	81 548 295	2 057 053	2.5	83 818 148	2 225 718	2.7

Source: UNCTAD, based on national sources.

Annex table A.I.9. Value added of foreign affiliates in the Czech Republic, Hungary and Slovenia, 1998 and 1999

Country	1998			1999		
	Total value added	Value added of foreign owned firms	As a percentage of total value added	Total value added	Value added of foreign owned firms	As a percentage of total value added
Czech Republic (korun million)	1 640 254	150 336	9.2	1 674 300	..	..
Hungary (forint million)	10 087 434	2 436 100	24.1	11 436 500	2 734 700	23.9
Slovenia (tolar million)	2 790 898	152 401	5.5	3 110 409	126 717	4.1

Source: UNCTAD, based on national sources.

Annex table A.I.10. The Inward FDI Index, 1988-1990 and 1998-2000

Economy	1988-1990				Economy	1998-2000			
	FDI inflow share over:					FDI inflow share over:			
	GDP share ^a	Employment share ^b	Exports ^c	Ratio		GDP share ^a	Employment share ^b	Exports ^c	Ratio
Singapore	12.7	26.5	1.4	13.5	Belgium and Luxembourg	8.5	40.8	2.6	17.3
Belgium and Luxembourg	3.8	16.8	1.0	7.2	Hong Kong, China	6.3	24.5	1.1	10.6
Seychelles	6.7	9.2	2.4	6.1	Ireland	5.1	20.3	1.2	8.9
Hong Kong, China	5.0	11.8	0.7	5.9	Sweden	4.4	18.8	2.2	8.5
New Zealand	3.9	10.6	2.8	5.8	Netherlands	3.5	13.5	1.3	6.1
Lesotho	7.5	0.9	7.9	5.4	Malta	4.5	9.3	1.2	5.0
Netherlands	3.0	11.3	1.1	5.1	Lesotho	7.4	0.9	6.2	4.8
United Kingdom	3.0	9.7	2.5	5.1	Denmark	1.9	9.3	1.2	4.2
Australia	2.7	9.4	3.2	5.1	Angola	7.7	1.1	2.8	3.9
Spain	2.4	7.5	2.6	4.2	United Kingdom	2.0	7.7	1.7	3.8
Swaziland	6.4	3.0	1.6	3.7	Finland	2.0	8.1	1.2	3.7
Portugal	3.0	3.6	2.1	2.9	Azerbaijan	5.6	0.5	4.9	3.6
Switzerland	1.3	6.6	0.7	2.9	Singapore	2.2	7.5	0.3	3.3
Papua New Guinea	4.9	1.4	2.3	2.9	Argentina	1.3	3.8	3.3	2.8
Belize	4.5	2.5	1.5	2.8	Seychelles	3.1	4.5	0.9	2.8
United States	1.1	4.7	2.2	2.7	Canada	1.8	5.7	1.0	2.8
Malaysia	4.3	2.4	1.1	2.6	Bolivia	3.1	1.0	3.9	2.7
Bahrain	1.9	5.3	0.3	2.5	Trinidad and Tobago	3.0	3.4	1.5	2.6
Chile	3.5	2.1	2.0	2.5	Switzerland	1.1	5.7	0.6	2.5
Fiji	3.5	2.8	1.2	2.5	Germany	1.2	5.3	0.9	2.5
Zambia	4.1	0.8	2.4	2.4	Bahrain	2.1	4.7	0.6	2.5
France	1.1	4.8	1.0	2.3	Norway	1.1	5.4	0.7	2.4
Canada	1.2	4.7	0.9	2.3	United States	0.9	4.3	1.8	2.3
Malta	2.2	3.4	0.5	2.1	Chile	2.4	2.4	2.1	2.3
Trinidad and Tobago	2.3	2.7	1.0	2.0	Mozambique	1.9	0.1	4.2	2.1
Cyprus	1.8	3.2	0.7	1.9	Armenia	2.6	0.5	3.1	2.0
Nigeria	3.7	0.4	1.5	1.9	Czech Republic	2.7	2.3	1.0	2.0
Norway	0.9	4.2	0.5	1.9	Brazil	1.2	1.0	3.7	2.0
Sweden	0.9	3.8	0.6	1.8	France	0.8	3.9	0.7	1.8
Benin	2.5	0.3	2.5	1.8	Nicaragua	2.9	0.3	1.9	1.7
Costa Rica	2.4	1.2	1.4	1.7	Israel	1.0	3.3	0.6	1.7
Argentina	1.1	1.7	2.1	1.7	Spain	1.0	3.1	0.8	1.6
Greece	1.2	2.3	1.3	1.6	Estonia	2.5	1.5	0.7	1.6
Egypt	2.6	0.7	1.4	1.6	Panama	2.3	1.7	0.6	1.5
Guatemala	1.9	0.6	2.1	1.5	Jamaica	2.2	1.2	1.2	1.5
Myanmar	0.5	0.1	4.0	1.5	Swaziland	2.7	1.1	0.7	1.5
Thailand	2.4	0.6	1.4	1.5	Austria	0.8	3.3	0.4	1.5
Denmark	0.8	3.2	0.4	1.5	Qatar	0.7	3.2	0.5	1.5
Botswana	2.0	1.7	0.6	1.4	Kazakhstan	2.1	1.0	1.3	1.5
Gabon	1.2	2.0	0.6	1.3	Sudan	1.0	0.1	3.1	1.4
Mexico	1.3	1.0	1.3	1.2	New Zealand	1.0	2.4	0.8	1.4
Dominican Republic	1.9	0.5	1.1	1.2	Croatia	1.6	1.6	0.9	1.4
Jamaica	1.8	0.8	0.7	1.1	Poland	1.5	1.1	1.3	1.3
Italy	0.5	2.2	0.5	1.1	Bulgaria	1.9	0.7	1.0	1.2
Finland	0.5	2.2	0.4	1.1	Dominican Republic	1.8	0.8	0.9	1.2
Ireland	0.7	2.2	0.2	1.0	Bahamas	1.0	2.1	0.5	1.2
Mauritius	1.5	1.2	0.4	1.0	Venezuela	1.2	1.0	1.3	1.2
Philippines	1.6	0.3	1.1	1.0	Zambia	1.7	0.2	1.6	1.2
Ecuador	1.4	0.6	0.9	1.0	Uganda	1.1	0.1	2.3	1.2
Colombia	1.1	0.5	1.1	0.9	Georgia	1.1	0.2	2.1	1.1
Taiwan Province of China	0.9	1.5	0.3	0.9	Lithuania	1.7	0.8	0.9	1.1
Honduras	1.3	0.3	0.7	0.8	Latvia	1.7	0.8	0.8	1.1
China	1.0	0.1	1.3	0.8	Guyana	2.2	0.5	0.5	1.1
Rwanda	0.6	0.1	1.5	0.7	Slovakia	1.5	1.0	0.6	1.0
Austria	0.4	1.6	0.2	0.7	Malaysia	1.6	1.0	0.3	1.0
Bolivia	1.0	0.3	0.9	0.7	Costa Rica	1.5	0.9	0.5	1.0
Malawi	1.1	0.1	0.9	0.7	Hungary	1.2	1.2	0.5	1.0
Bahamas	0.5	1.3	0.2	0.6	El Salvador	1.2	0.5	1.1	1.0
Togo	1.0	0.2	0.7	0.6	China	1.3	0.1	1.3	0.9
Iceland	0.3	1.3	0.2	0.6	Gabon	1.0	1.1	0.6	0.9
Barbados	0.6	0.9	0.2	0.6	Moldova, Republic of	1.8	0.1	0.8	0.9
Israel	0.4	1.1	0.2	0.6	Papua New Guinea	1.6	0.3	0.7	0.9
Chad	0.7	0.1	0.8	0.5	Australia	0.5	1.6	0.6	0.9
Brazil	0.4	0.3	0.9	0.5	Ecuador	1.1	0.5	1.0	0.9
Paraguay	0.6	0.6	0.3	0.5	Portugal	0.7	1.2	0.6	0.8
Indonesia	0.8	0.1	0.6	0.5	Peru	0.7	0.5	1.3	0.8
Morocco	0.6	0.2	0.6	0.5	United Republic of Tanzania	0.9	0.1	1.5	0.8
Tunisia	0.7	0.4	0.3	0.5	Iceland	0.4	1.7	0.3	0.8
Saudi Arabia	0.3	0.9	0.2	0.5	Cambodia	1.3	0.1	1.0	0.8
Pakistan	0.5	0.1	0.8	0.5	Romania	1.1	0.3	0.9	0.8
Turkey	0.5	0.3	0.6	0.5	Colombia	0.8	0.5	1.0	0.8
Germany	0.3	0.9	0.2	0.5	Jordan	1.0	0.7	0.5	0.7
Uruguay	0.5	0.3	0.4	0.4	TFYR Macedonia	0.9	0.8	0.5	0.7
Hungary	0.6	0.4	0.3	0.4	Mexico	0.8	0.7	0.6	0.7
Korea, Republic of	0.4	0.5	0.3	0.4	Togo	1.1	0.1	0.9	0.7
Venezuela	0.5	0.4	0.3	0.4	Namibia	1.0	0.6	0.4	0.7
Senegal	0.6	0.1	0.4	0.4	Honduras	1.1	0.2	0.6	0.6
Syrian Arab Republic	0.4	0.3	0.3	0.4	Mauritius	0.8	0.9	0.3	0.6
Madagascar	0.5	0.0	0.5	0.3	Saudi Arabia	0.3	1.3	0.2	0.6
Guyana	0.7	0.1	0.2	0.3	Tunisia	0.9	0.5	0.5	0.6
Jordan	0.4	0.4	0.2	0.3	Korea, Republic of	0.6	0.9	0.3	0.6
Kenya	0.5	0.1	0.4	0.3	Malawi	1.0	0.0	0.8	0.6
Sri Lanka	0.5	0.1	0.3	0.3	Kyrgyzstan	0.9	0.1	0.7	0.5

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Annex table A.I.10. The Inward FDI Index, 1988-1990 and 1998-2000

Economy	1988-1990				Economy	1998-2000			
	FDI inflow share over:					FDI inflow share over:			
	GDP share ^a	Employment share ^b	Exports ^c	Ratio		GDP share ^a	Employment share ^b	Exports ^c	Ratio
Mozambique	0.3	0.0	0.5	0.3	Ethiopia	0.6	0.0	1.0	0.5
Namibia	0.4	0.3	0.1	0.3	Myanmar	0.1	0.0	1.4	0.5
Côte d'Ivoire	0.4	0.1	0.3	0.3	Thailand	0.9	0.3	0.4	0.5
Haiti	0.3	0.0	0.4	0.3	Guatemala	0.6	0.2	0.7	0.5
El Salvador	0.2	0.1	0.2	0.2	Zimbabwe	0.9	0.1	0.5	0.5
Ghana	0.2	0.0	0.2	0.2	Nigeria	0.8	0.1	0.6	0.5
Peru	0.2	0.1	0.2	0.1	Paraguay	0.5	0.3	0.5	0.5
Burkina Faso	0.1	0.0	0.2	0.1	Côte d'Ivoire	0.8	0.2	0.4	0.5
Ethiopia	0.1	0.0	0.2	0.1	Chad	0.5	0.0	0.6	0.4
India	0.1	0.0	0.2	0.1	Senegal	0.6	0.1	0.5	0.4
United Republic of Tanzania	0.1	0.0	0.1	0.1	Fiji	0.5	0.4	0.2	0.4
Nepal	0.1	0.0	0.1	0.1	Mongolia	0.7	0.1	0.3	0.4
Poland	0.1	0.0	0.0	0.0	Egypt	0.4	0.2	0.6	0.4
Nicaragua	0.1	0.0	0.0	0.0	Italy	0.2	0.7	0.2	0.4
Kuwait	0.0	0.0	0.0	0.0	Taiwan Province of China	0.3	0.6	0.1	0.4
Algeria	0.0	0.0	0.0	0.0	Benin	0.5	0.1	0.5	0.4
Bangladesh	0.0	0.0	0.0	0.0	Morocco	0.4	0.2	0.4	0.3
Japan	0.0	0.0	0.0	0.0	Uruguay	0.3	0.4	0.3	0.3
Macau, China	0.0	0.0	0.0	0.0	Tajikistan	0.8	0.0	0.2	0.3
Angola	0.0	0.0	0.0	0.0	Philippines	0.6	0.1	0.3	0.3
Uganda	0.0	0.0	-0.1	0.0	Greece	0.2	0.5	0.2	0.3
South Africa	0.0	-0.1	0.0	-0.1	South Africa	0.2	0.4	0.2	0.3
Iran, Islamic Republic of	-0.1	-0.1	0.0	-0.1	Slovenia	0.3	0.5	0.1	0.3
Sudan	-0.1	0.0	-0.3	-0.1	Ukraine	0.5	0.1	0.3	0.3
Zimbabwe	-0.2	0.0	-0.1	-0.1	Cyprus	0.2	0.5	0.1	0.3
Qatar	-0.1	-0.3	0.0	-0.2	Belize	0.3	0.3	0.2	0.2
Cameroon	-0.3	-0.1	-0.3	-0.2	Botswana	0.3	0.3	0.2	0.2
Panama	-2.7	-1.9	-0.6	-1.7	Sri Lanka	0.4	0.1	0.2	0.2
Suriname	-24.9	-20.9	-7.3	-17.7	Ghana	0.4	0.0	0.2	0.2
					Barbados	0.2	0.3	0.1	0.2
					Russian Federation	0.3	0.1	0.2	0.2
					Madagascar	0.3	0.0	0.3	0.2
					Pakistan	0.2	0.0	0.3	0.2
					India	0.2	0.0	0.3	0.2
					Uzbekistan	0.2	0.0	0.2	0.2
					Belarus	0.4	0.1	0.0	0.2
					Japan	0.1	0.3	0.1	0.2
					Haiti	0.1	0.0	0.2	0.1
					Turkey	0.1	0.1	0.1	0.1
					Burkina Faso	0.1	0.0	0.2	0.1
					Bangladesh	0.1	0.0	0.2	0.1
					Rwanda	0.1	0.0	0.3	0.1
					Cameroon	0.2	0.0	0.1	0.1
					Kenya	0.1	0.0	0.1	0.1
					Kuwait	0.1	0.1	0.0	0.1
					Syrian Arab Republic	0.1	0.1	0.0	0.1
					Nepal	0.1	0.0	0.1	0.0
					Iran, Islamic Republic of	0.0	0.0	0.0	0.0
					Algeria	0.0	0.0	0.0	0.0
					Eritrea	0.0	0.0	0.0	0.0
					Macau, China	0.0	0.0	0.0	0.0
					Suriname	-0.3	-0.2	-0.2	-0.2
					Indonesia	-0.7	-0.1	-0.4	-0.4
					Yemen	-1.3	-0.2	-0.9	-0.8

Source: UNCTAD, FDI/TNC database.

^a The ratio of the economy's share of world FDI inflows to the economy's share of world GDP.

^b The ratio of the economy's share of world FDI inflows to the economy's share of world employment.

^c The ratio of the economy's share of world FDI inflows to the economy's share of world export.

Annex table A.I.11. Share of regions in global FDI inflows, GDP and exports, 1988-1990 and 1998-2000
(Percentage)

Region/country	FDI inflows		GDP		Exports ^a	
	1988-1990	1998-2000	1988-1990	1998-1999	1988-1990	1998-1999
Developed countries	82.7	76.3	79.9	76.8	73.6	68.4
Western Europe	43.3	45.3	32.2	29.6	45.6	41.8
European Union	41.4	43.8	30.6	28.2	42.6	39.4
Other developed countries	39.4	31.0	47.7	47.2	28.0	26.6
Developing countries and economies	17.1	21.4	17.7	20.8	21.9	27.5
Africa	1.8	0.8	1.7	1.4	2.4	1.6
North Africa	0.7	0.2	0.9	0.8	1.2	0.7
Other Africa	1.1	0.6	0.8	0.6	1.2	0.8
Latin America and the Caribbean	4.7	9.2	5.2	6.9	4.3	5.1
South America	2.5	6.1	3.7	4.9	2.5	2.4
Other Latin America and the Caribbean	2.1	3.2	1.6	2.0	1.7	2.7
Asia and the Pacific	10.6	11.1	10.2	12.3	14.7	20.4
Asia	10.5	11.1	10.2	12.3	14.6	20.4
West Asia	0.6	0.4	2.4	2.3	4.0	2.9
Central Asia	0.0	0.3	0.2	0.2	0.0	0.2
South, East and South-East Asia	9.9	10.4	7.7	9.8	10.5	17.2
The Pacific	0.1	0.0	0.0	0.0	0.1	0.1
Central and Eastern Europe	0.2	2.3	2.4	2.5	4.5	4.1
<i>Memorandum</i>						
Least developed countries	0.4	0.4	0.8	0.7	0.6	0.5
Africa	0.4	0.4	0.5	0.3	0.4	0.3
Latin America and the Caribbean	0.00	0.002	0.013	0.013	0.013	0.007
Asia and the Pacific	0.03	0.1	0.3	0.4	0.1	0.2
Asia	0.02	0.05	0.3	0.4	0.1	0.2
The Pacific	0.01	0.004	0.003	0.003	0.006	0.007
Oil-exporting countries	1.5	0.7	3.2	2.7	5.6	3.8
Africa	0.6	0.3	0.7	0.4	1.0	0.6
North Africa	0.1	-0.0	0.4	0.3	0.5	0.3
Other Africa	0.5	0.3	0.2	0.2	0.5	0.3
Latin America and the Caribbean	0.3	0.5	0.3	0.4	0.5	0.4
South America	0.2	0.5	0.3	0.4	0.5	0.4
Other Latin America and the Caribbean	0.1	0.1	0.02	0.02	0.1	0.05
Asia	0.7	-0.1	2.2	1.9	4.1	2.8
West Asia	0.3	0.3	1.7	1.5	3.4	2.1
South, East and South-East Asia	0.4	-0.3	0.5	0.4	0.7	0.7
All developing countries minus China	15.4	17.2	16.0	17.5	20.5	24.4
Southern African Development Community (SADC)	0.2	0.4	0.7	0.6	1.1	0.8
League of Arab States	1.0	0.5	2.2	1.9	3.4	2.4
MENA ^b	1.3	0.6	3.3	3.0	5.2	3.7
World	100.0	100.0	100.0	100.0	100.0	100.0

Source: UNCTAD, FDI/TNC database.

^a Export of goods and non-factor services.

^b Middle East and North Africa (MENA) refers to countries in West Asia and North Africa.

Annex table A.II.1. FDI outward stock, by industry and by region, 1988
(Values in millions of dollars and shares in percentages)

Sector/industry	Developed countries ^a						Developing countries						World ^f			
	Africa ^b		Asia ^c		Latin America and the Caribbean ^d		Total ^e		Value		Share		Value		Share	
	Value	Share	Value	Share	Value	Share	Value	Share	Value	Share	Value	Share	Value	Share	Value	Share
Total	1 004 248	100.0	53	100.0	9 807	100.0	371	100.0	10 583	100.0	1 014 831	100.0	1 014 831	100.0		
Primary	101 101	10.1	1	2.6	499	5.1	14	3.7	517	4.9	101 618	10.0	101 618	10.0		
Agriculture, hunting, forestry and fishing	2 273	0.2	-	-	85	0.9	11	3.0	98	0.9	2 371	0.2	2 371	0.2		
Mining, quarrying and petroleum	98 829	9.8	1	2.6	414	4.2	2	0.6	418	4.0	99 247	9.8	99 247	9.8		
Secondary	462 909	46.1	23	43.8	2 231	22.7	66	17.8	2 467	23.3	465 376	45.9	465 376	45.9		
Food, beverages and tobacco	41 769	4.2	..	..	25	0.3	57	15.4	119	1.1	41 887	4.1	41 887	4.1		
Textiles, clothing and leather	9 189	0.9	..	..	45	0.5	..	0.1	70	0.7	9 260	0.9	9 260	0.9		
Wood and wood products	10 601	1.1	..	..	28	0.3	3	0.7	50	0.5	10 650	1.0	10 650	1.0		
Publishing, printing and reproduction of recorded media	1 145	0.1	..	..	..	..	..	..	4	..	1 149	0.1	1 149	0.1		
Coke, petroleum products and nuclear fuel	65 359	6.5	..	..	..	..	..	..	..	..	65 359	6.4	65 359	6.4		
Chemicals and chemical products	58 327	5.8	..	..	95	1.0	3	0.9	141	1.3	58 468	5.8	58 468	5.8		
Rubber and plastic products	9 398	0.9	..	..	26	0.3	..	..	30	0.3	9 428	0.9	9 428	0.9		
Non-metallic mineral products	7 996	0.8	..	..	18	0.2	1	0.2	17	0.2	8 013	0.8	8 013	0.8		
Metal and metal products	26 260	2.6	..	..	21	0.2	0	0.1	23	0.2	26 283	2.6	26 283	2.6		
Machinery and equipment	23 600	2.4	..	..	6	0.1	2	0.5	22	0.2	23 623	2.3	23 623	2.3		
Electrical and electronic equipment	52 788	5.3	..	..	172	1.8	..	..	174	1.6	52 962	5.2	52 962	5.2		
Precision instruments	8 654	0.9	..	..	..	..	..	..	6	0.1	8 660	0.9	8 660	0.9		
Motor vehicles and other transport equipment	38 603	3.8	..	..	5	0.0	..	..	..	..	38 598	3.8	38 598	3.8		
Other manufacturing	16 143	1.6	..	..	18	0.2	..	..	20	0.2	16 163	1.6	16 163	1.6		
Recycling	..	..	..	..	..	..	..	..	1	0.0	..	..	..	..
Unspecified secondary	93 076	9.3	23	43.8	1 771	18.1	..	..	1 794	17.0	94 870	9.3	94 870	9.3		
Tertiary	416 618	41.5	28	53.6	6 898	70.3	288	77.8	7 418	70.1	424 036	41.8	424 036	41.8		
Electricity, gas and water	1 384	0.1	..	..	..	..	..	..	50	0.5	1 433	0.1	1 433	0.1		
Construction	6 186	0.6	..	..	85	0.9	1	0.2	95	0.9	6 281	0.6	6 281	0.6		
Trade	97 142	9.7	..	..	1 044	10.6	12	3.4	1 097	10.4	98 239	9.7	98 239	9.7		
Hotels and restaurants	1 360	0.1	..	..	..	..	..	..	..	..	1 360	0.1	1 360	0.1		
Transport, storage and communications	12 068	1.2	..	..	202	2.1	8	2.1	239	2.3	12 307	1.2	12 307	1.2		
Finance	196 261	19.5	..	..	4 411	45.0	250	67.5	4 707	44.5	200 968	19.8	200 968	19.8		
Business activities	22 827	2.3	..	..	989	10.1	1	0.2	1 019	9.6	23 846	2.3	23 846	2.3		
Public administration and defence	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Education	87	..	..	..	..	..	..	..	..	..	87	..	87	..		
Health and social services	787	0.1	..	..	..	..	..	..	..	..	787	0.1	787	0.1		
Community, social and personal service activities	1 097	0.1	..	..	..	..	..	..	1	..	1 098	0.1	1 098	0.1		
Other services	48 491	4.8	28	53.6	167	1.7	17	4.4	212	2.0	48 702	4.8	48 702	4.8		
Unspecified tertiary	28 928	2.9	..	..	..	..	..	..	..	..	28 928	2.9	28 928	2.9		
Unspecified	23 620	2.4	..	..	179	1.8	3	0.8	182	1.7	23 801	2.3	23 801	2.3		

Source: UNCTAD, FDI/TNC database.

^a Based on outward stock in Australia (1991), Austria, Canada, Denmark (1991), Finland, France, Germany, Iceland, Italy, Netherlands (1986), Norway, Sweden (1992), Switzerland, the United Kingdom and the United States that accounted for 86 per cent of total outward stock in developed countries in 1988.

^b Based on outward stock in Swaziland that accounted for 0.2 per cent of total outward stock in Africa in 1988.

^c Based on actual outward stock in India (1987), Kazakhstan (1995), Republic of Korea, Singapore (1990) and Thailand, as well as outward stock on an approval basis in Taiwan Province of China.

^d They accounted for 30 per cent of total outward stock in Asia in 1988.

^e Based on outward stock in Colombia accounting for 3 per cent of total outward stock in Latin America and the Caribbean in 1988.

^f Including other developing countries.

^g Not including Central and Eastern Europe.

Annex table A.II.2. FDI outward stock, by industry and by region, 1999
(Values in millions of dollars and shares in percentages)

Sector/industry	Developing countries										Total		Central and Eastern Europe ^e		World	
	Developed countries		Africa ^b		Asia ^c		Latin America and the Caribbean ^d		Total		Central and Eastern Europe ^e		World			
	Value	Share	Value	Share	Value	Share	Value	Share	Value	Share	Value	Share	Value	Share		
Total	3 313 815	100.0	94	100.0	89 259	100.0	3 202	100.0	93 555	100.0	2 098	100.0	3 408 469	100.0		
Primary	285 465	8.6	3	2.9	1 562	1.7	62	1.9	1 626	1.7	30	1.4	287 121	8.4		
Agriculture, hunting, forestry and fishing	1 750	0.1	1	0.8	308	0.3	58	1.8	367	0.4	7	0.3	2 125	0.1		
Mining, quarrying and petroleum	283 715	8.6	2	2.0	1 253	1.4	4	0.1	1 259	1.3	22	1.0	284 996	8.4		
Secondary	1 161 258	35.0	76	80.5	30 787	34.5	321	10.0	31 183	33.3	459	21.9	1 192 900	35.0		
Food, beverages and tobacco	153 310	4.6	..	..	642	0.7	237	7.4	878	0.9	50	2.4	154 239	4.5
Textiles, clothing and leather	23 047	0.7	..	..	941	1.1	3	0.1	946	1.0	17	0.8	24 008	0.7
Wood and wood products	42 346	1.3	..	..	461	0.5	136	4.2	597	0.6	21	1.0	42 964	1.3
Publishing, printing and reproduction of recorded media	4 058	0.1	..	..	..	..	..	..	..	..	14	0.7	4 072	0.1
Coke, petroleum products and nuclear fuel	26 544	0.8	..	..	3	..	..	..	3	..	..	..	26 547	0.8
Chemicals and chemical products	291 719	8.8	..	..	1 430	1.6	83	2.6	1 573	1.6	95	4.5	293 327	8.6
Rubber and plastic products	17 018	0.5	..	..	266	0.3	..	..	267	0.3	10	0.5	17 295	0.5
Non-metallic mineral products	10 338	0.3	..	..	407	0.5	..	..	236	0.3	22	1.0	10 596	0.3
Metal and metal products	88 139	2.7	..	..	1 012	1.1	5	0.2	1 016	1.1	55	2.6	89 211	2.6
Machinery and equipment	62 529	1.9	..	..	102	0.1	28	0.9	130	0.1	17	0.8	62 676	1.8
Electrical and electronic equipment	93 886	2.8	..	..	3 831	4.3	..	..	3 831	4.1	18	0.9	97 735	2.9
Precision instruments	18 850	0.6	..	..	92	0.1	..	..	92	0.1	13	0.6	18 954	0.6
Motor vehicles and other transport equipment	163 581	4.9	..	..	353	0.4	..	..	353	0.4	..	..	163 935	4.8
Other manufacturing	58 633	1.8	..	..	144	0.2	2	..	145	0.2	1	..	58 779	1.7
Recycling	47	..	..	..	..	..	..	..	..	..	1	..	47	..
Unspecified secondary	107 212	3.2	76	80.5	21 103	23.6	..	..	21 179	22.6	124	5.9	128 516	3.8
Tertiary	1 804 744	54.5	16	16.6	56 158	62.9	2 816	88.0	58 990	63.1	1 606	76.5	1 865 341	54.7		
Electricity, gas and water	63 340	1.9	..	..	1 153	1.3	22	0.7	1 175	1.3	93	4.4	63 433	1.9
Construction	13 694	0.4	..	..	11 410	12.8	249	7.8	11 660	12.5	17	0.8	14 886	0.4
Trade	224 292	6.8	..	..	..	..	..	..	..	..	291	13.9	236 242	6.9
Hotels and restaurants	19 623	0.6	..	..	1	0.0	5	0.1	6	..	32	1.5	19 660	0.6
Transport, storage and communications	171 145	5.2	..	..	3 609	4.0	443	13.8	4 051	4.3	240	11.4	175 437	5.1
Finance	897 715	27.1	..	..	29 780	33.4	2 033	63.5	31 814	34.0	673	32.1	930 202	27.3
Business activities	288 313	8.7	..	..	5 320	6.0	52	1.6	5 372	5.7	210	10.0	293 895	8.6
Public administration and defence	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Education	134	..	..	..	..	..	..	..	..	..	..	..	134	..
Health and social services	273	..	..	..	..	..	..	..	..	..	1	..	274	..
Community, social and personal service activities	4 168	0.1	..	..	..	..	13	0.4	13	..	18	0.9	4 198	0.1
Other services	96 004	2.9	16	16.6	4 885	5.5	..	..	4 901	5.2	30	1.4	100 935	3.0
Unspecified tertiary	26 043	0.8	..	..	..	..	..	..	..	..	..	..	26 043	0.8
Unspecified	62 348	1.9	..	..	753	0.8	3	0.1	756	0.8	3	0.1	63 107	1.9

Source: UNCTAD, FDI/TNC database.

^a Based on outward stock in Australia, Austria (1998), Canada (1998), Denmark (1998), Finland (1998), France (1998), Germany (1998), Iceland, Italy (1998), Netherlands (1998), Norway (1997), Sweden, Switzerland (1998), the United Kingdom and the United States (1998) that accounted for 84 per cent of total outward stock in developed countries in 1999.

^b Based on outward stock in Swaziland that accounted for 0.5 per cent of total outward stock in Africa in 1999.

^c Based on actual outward stock in India (1992), Kazakhstan (1998), Republic of Korea (1998), Singapore (1998) and Thailand, as well as outward stock on an approval basis in Taiwan Province of China. They accounted for 35 per cent of total outward stock in Asia in 1999.

^d Based on outward stock in Colombia accounting for 2 per cent of total outward stock in Latin America and the Caribbean in 1999.

^e Based on actual outward stock in Czech Republic (1998), Estonia, Latvia, Slovakia and Slovenia that accounted for 16 per cent of total outward stock in Central and Eastern Europe in 1999.

Annex table A.II.3. FDI inward stock, by industry and by region, 1988
(Values in millions of dollars and shares in percentages)

Sector/industry	Developing countries										World ^f	
	Developed countries ^a		Africa ^b		Asia ^c		Latin America and the Caribbean ^d		Total ^e		Value	Share
	Value	Share	Value	Share	Value	Share	Value	Share	Value	Share		
Total	890 456	100.0	4 513	100.0	65 131	100.0	46 964	100.0	119 016	100.0	1 009 471	100.0
Primary	91 704	10.3	2 338	51.8	8 539	13.1	4 496	9.6	16 309	13.7	108 013	10.7
Agriculture, hunting, forestry and fishing	2 144	0.2	47	1.0	1 419	2.2	601	1.3	2 192	1.8	4 335	0.4
Mining, quarrying and petroleum	89 560	10.1	6	0.1	7 121	10.9	3 895	8.3	11 832	9.9	101 392	10.0
Unspecified primary	-	-	2 286	50.6	-	-	-	-	2 286	1.9	2 286	0.2
Secondary	350 751	39.4	940	20.8	44 851	68.9	30 908	65.8	77 340	65.0	428 091	42.4
Food, beverages and tobacco	29 867	3.4	-	-	2 996	4.6	3 283	7.0	6 325	5.3	36 192	3.6
Textiles, clothing and leather	11 465	1.3	-	-	3 205	4.9	1 151	2.5	4 368	3.7	15 834	1.6
Wood and wood products	9 331	1.0	-	-	2 002	3.1	960	2.0	3 082	2.6	12 413	1.2
Publishing, printing and reproduction of recorded media	9 598	1.1	-	-	158	0.2	-	-	165	0.1	9 763	1.0
Coke, petroleum products and nuclear fuel	57 295	6.4	-	-	3 203	4.9	2.6	4 414	3.7	61 708	6.1	
Chemicals and chemical products	42 936	4.8	-	-	8 303	12.7	6 704	14.3	15 088	12.7	58 024	5.7
Rubber and plastic products	6 028	0.7	-	-	1 019	1.6	1 036	2.2	2 070	1.7	8 097	0.8
Non-metallic mineral products	11 257	1.3	-	-	1 437	2.2	868	1.8	2 332	2.0	13 589	1.3
Metal and metal products	27 839	3.1	-	-	8 032	12.3	2 642	5.6	10 685	9.0	38 523	3.8
Machinery and equipment	29 385	3.3	-	-	2 379	3.7	4 006	8.5	6 468	5.4	35 853	3.6
Electrical and electronic equipment	36 920	4.1	-	-	9 024	13.9	3 044	6.5	12 104	10.2	49 024	4.9
Precision instruments	4 815	0.5	-	-	7	0.0	-	-	16	0.0	4 831	0.5
Motor vehicles and other transport equipment	10 236	1.1	-	-	1 180	1.8	4 655	9.9	5 978	5.0	16 214	1.6
Other manufacturing	8 152	0.9	-	-	1 399	2.1	1 356	2.9	2 759	2.3	10 911	1.1
Unspecified secondary	55 628	6.2	940	20.8	507	0.8	-	-	1 487	1.2	57 115	5.7
Tertiary	417 975	46.9	1 235	27.4	11 128	17.1	11 540	24.6	24 684	20.7	442 659	43.9
Electricity, gas and water	2 180	0.2	-	-	7	0.0	5	-	309	0.3	2 489	0.2
Construction	4 148	0.5	-	-	1 582	2.4	163	0.3	1 747	1.5	5 895	0.6
Trade	128 271	14.4	-	-	1 015	1.6	2 054	4.4	3 292	2.8	131 564	13.0
Hotels and restaurants	6 302	0.7	-	-	2 822	4.3	14	-	2 847	2.4	9 149	0.9
Transport, storage and communications	6 427	0.7	-	-	557	0.9	237	0.5	820	0.7	7 247	0.7
Finance	159 886	18.0	14	0.3	1 723	2.6	3 139	6.7	4 994	4.2	164 881	16.3
Business activities	75 422	8.5	-	-	923	1.4	307	0.7	1 331	1.1	76 753	7.6
Education	4	-	-	-	-	-	-	-	-	-	4	-
Health and social services	323	-	-	-	-	-	-	-	-	-	324	-
Community, social and personal service activities	1 897	0.2	-	-	4	0.0	1	-	7	-	1 904	0.2
Other services	21 422	2.4	80	1.8	2 422	3.7	5 620	12.0	8 124	6.8	29 546	2.9
Unspecified tertiary	11 692	1.3	1 140	25.3	72	0.1	-	-	1 212	1.0	12 904	1.3
Unspecified	30 026	3.4	-	-	613	0.9	20	-	682	0.6	30 708	3.0

Source: UNCTAD, FDI/TNC database.

^a Based on inward stock in Australia (1991), Austria, Canada, Denmark (1991), Finland (1991), France (1989), Germany, Iceland, Italy, Netherlands (1986), Norway, Sweden (1992), Switzerland (1993), the United Kingdom and the United States that accounted for 88 per cent of total inward stock in developed countries in 1988.

^b Based on inward stock in Cape Verde (1990), Namibia (1990), Nigeria and Swaziland that accounted for 21 per cent of total inward stock in Africa in 1988.

^c Based on actual inward stock in Hong Kong (China), India, Indonesia (1992), Kazakhstan (1995), Pakistan, Philippines, Republic of Korea, Singapore and Thailand, as well as inward stock on an approval basis in Bangladesh, Cambodia (1994), Lao People's Dem. Rep., Malaysia, Mongolia (1990), Myanmar (1995), Nepal, Republic of Korea, Sri Lanka, Taiwan Province of China, Viet Nam. They accounted for 73 per cent of total inward stock in Asia in 1988.

^d Based on inward stock in Argentina (1989), Bolivia, Brazil, Colombia, Paraguay (1995), Peru and Venezuela accounting for 58 per cent of total inward stock in Latin America and the Caribbean in 1988.

^e Including other developing countries.

^f Not including Central and Eastern Europe.

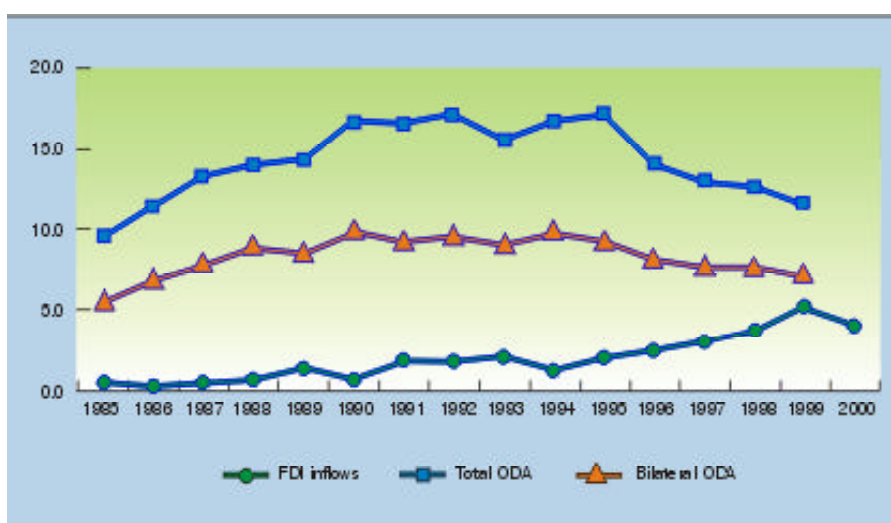
Annex table A.II.4. FDI inward stock, by industry and by region, 1999
(Values in millions of dollars and shares in percentages)

Sector/industry	Developing countries												Central and Eastern Europe ^f		World			
	Developed countries			Africa ^b			Asia ^c			Latin America and the Caribbean ^d			Total ^e		Eastern Europe ^f		World	
	Value	Share		Value	Share		Value	Share		Value	Share		Value	Share	Value	Share	Value	Share
Total	2 520 194	100.0	16 567	100.0	796 615	100.0	193 424	100.0	1 014 657	100.0	98 371	100.0	3 633 223	100.0				
Primary	144 426	5.7	2 256	13.6	28 072	3.5	23 236	12.0	55 016	5.4	2 419	2.5	201 867	5.5				
Agriculture, hunting, forestry and fishing	4 605	0.2	612	3.7	10 736	1.3	1 048	0.5	12 528	1.2	456	0.5	17 590	0.5				
Mining, quarrying and petroleum	139 821	5.5	332	2.0	17 336	2.2	22 188	11.5	41 176	4.1	1 963	2.0	182 961	5.0				
Unspecified primary	- 1	- 0.0	1 312	7.9	-	-	-	-	1 312	0.1	-	-	1 311	-				
Secondary	916 347	36.4	7 196	43.4	479 422	60.2	63 354	32.8	553 004	54.5	42 773	43.5	1 512 124	41.6				
Food, beverages and tobacco	68 361	2.7	-	-	10 754	1.3	10 863	5.6	21 917	2.2	11 514	11.7	101 792	2.8				
Textiles, clothing and leather	23 981	1.0	-	-	9 534	1.2	1 689	0.9	11 254	1.1	1 020	1.0	36 255	1.0				
Wood and wood products	36 823	1.5	-	-	9 848	1.2	3 546	1.8	13 693	1.3	2 835	2.9	53 351	1.5				
Publishing, printing and reproduction of recorded media	36 123	1.4	-	-	451	0.1	140	0.1	606	0.1	1 084	1.1	37 813	1.0				
Coke, petroleum products and nuclear fuel	53 567	2.1	-	-	14 292	1.8	22	-	14 314	1.4	879	0.9	68 760	1.9				
Chemicals and chemical products	190 707	7.6	-	-	32 547	4.1	13 074	6.8	46 802	4.6	4 181	4.3	241 689	6.7				
Rubber and plastic products	18 269	0.7	-	-	2 378	0.3	1 649	0.9	4 186	0.4	949	1.0	23 404	0.6				
Non-metallic mineral products	24 116	1.0	-	-	6 000	0.8	2 979	1.5	9 361	0.9	4 233	4.3	37 710	1.0				
Metal and metal products	77 814	3.1	-	-	23 267	2.9	5 042	2.6	28 371	2.8	1 975	2.0	108 160	3.0				
Machinery and equipment	73 017	2.9	-	-	9 220	1.2	5 085	2.6	14 453	1.4	4 338	4.4	91 809	2.5				
Electrical and electronic equipment	81 803	3.2	-	-	42 205	5.3	3 003	1.6	45 355	4.5	2 207	2.2	129 365	3.6				
Precision instruments	48 268	1.9	-	-	353	-	237	0.1	662	0.1	178	0.2	49 108	1.4				
Motor vehicles and other transport equipment	92 338	3.7	-	-	4 744	0.6	7 658	4.0	12 595	1.2	5 642	5.7	110 575	3.0				
Other manufacturing	22 033	0.9	-	-	7 103	0.9	502	0.3	7 608	0.7	112	0.1	29 752	0.8				
Recycling	65	-	-	-	-	-	13	-	13	-	13	-	92	-				
Unspecified secondary	69 061	2.7	7 196	43.4	306 728	38.5	7 853	4.1	321 815	31.7	1 613	1.6	392 490	10.8				
Tertiary	1 399 302	55.5	7 114	42.9	267 503	33.6	101 003	52.2	378 727	37.3	49 252	50.1	1 827 282	50.3				
Electricity, gas and water	57 938	2.3	-	-	6 021	0.8	21 715	11.2	27 749	2.7	3 385	3.4	89 072	2.5				
Construction	11 075	0.4	637	3.8	20 093	2.5	990	0.5	21 769	2.1	2 711	2.8	35 556	1.0				
Trade	322 803	12.8	75	0.5	32 730	4.1	12 013	6.2	45 379	4.5	12 699	12.9	380 882	10.5				
Hotels and restaurants	28 344	1.1	-	-	9 542	1.2	528	0.3	10 094	1.0	803	0.8	39 241	1.1				
Transport, storage and communications	155 089	6.2	1 702	10.3	18 234	2.3	13 772	7.1	34 873	3.4	9 625	9.8	199 588	5.5				
Finance	518 841	20.6	3 484	21.0	14 037	1.8	23 834	12.3	42 263	4.2	13 353	13.6	574 456	15.9				
Business activities	205 737	8.2	-	-	142 263	17.9	27 699	14.3	170 319	16.8	3 231	3.3	379 287	10.4				
Public administration and defence	-	-	-	-	20	-	-	-	20	-	50	-	70	-				
Education	35	-	-	-	99	-	1	-	101	-	4	-	140	-				
Health and social services	6 320	0.3	-	-	4 427	0.6	51	-	4 479	0.4	1 764	1.8	12 564	0.3				
Community, social and personal service activities	8 431	0.3	-	-	26	-	218	0.1	271	-	279	0.3	8 981	0.2				
Other services	70 688	2.8	905	5.5	17 405	2.2	90	-	18 401	1.8	18	-	89 107	2.5				
Unspecified tertiary	14 002	0.6	310	1.9	2 606	0.3	92	-	3 008	0.3	1 330	-	18 340	0.5				
Unspecified	60 119	2.4	-	-	21 618	2.7	5 831	3.0	27 910	2.8	3 927	4.0	91 956	2.5				

Source: UNCTAD, FDI/TNC database.

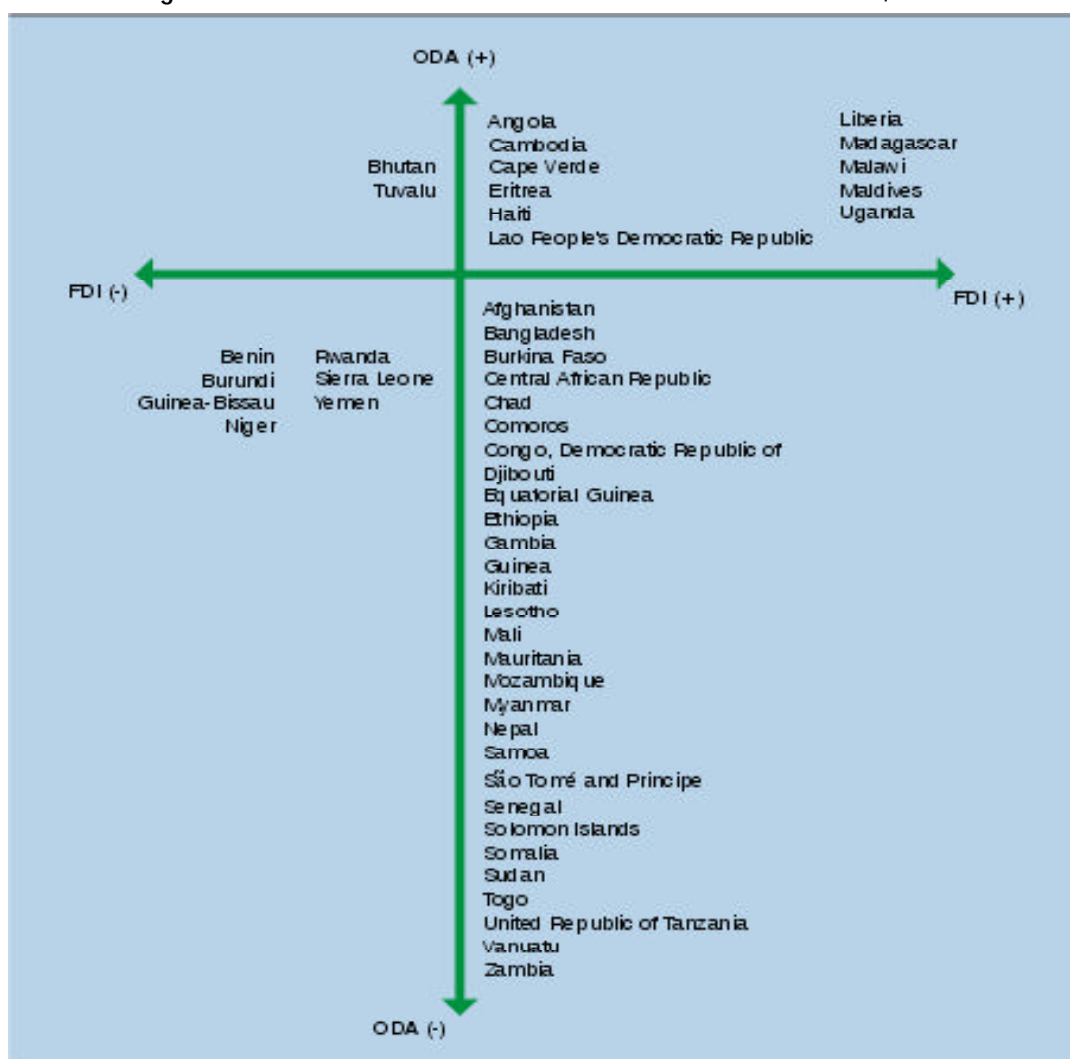
- ^a Based on inward stock in Australia, Austria (1998), Canada (1998), Denmark (1998), Finland (1998), France (1998), Germany (1998), Iceland, Italy (1998), Netherlands (1998), Norway, Portugal (1996), Sweden, Switzerland (1998), the United Kingdom and the United States that accounted for 84 per cent of total inward stock in developed countries in 1999.
- ^b Based on inward stock in Cape Verde (1995), Namibia (1994), Nigeria (1992) and Swaziland (1993) that accounted for 42 per cent of total inward stock in Africa in 1999.
- ^c Based on actual inward stock in Georgia (1998), Hong Kong (China) 1997, India (1995), Indonesia (1996), Kazakhstan (1998), Kazakhstan (1997), Philippines, Singapore and Thailand, as well as inward stock on an approval basis in Bangladesh, Cambodia (1997), China (1997), Lao People's Dem. Rep., Malaysia (1997), Mongolia, Myanmar (1998), Nepal, Republic of Korea (1998), Sri Lanka (1998), Taiwan Province of China and Viet Nam (1996). They accounted for 93 per cent of total inward stock in Asia in 1999.
- ^d Based on inward stock in Argentina, Bolivia (1990), Colombia, Paraguay, Peru and Venezuela accounting for 58 per cent of total inward stock in Latin America and the Caribbean in 1999. Including other developing countries.
- ^e Based on actual inward stock in Belarus (1998), Bulgaria (1998), Croatia, Czech Republic (1998), Estonia, Hungary (1998), Latvia, Lithuania, FYR Macedonia (1998), Republic of Moldova (1998), Poland, Romania, Russian Federation, Slovakia (1998), Ukraine (1998), that accounted for 98 per cent of total inward stock in Central and Eastern Europe in 1999.

Annex figure A.I.1. FDI inflows and ODA flows to LDCs, 1985-2000
(Billions of dollars)



Source: UNCTAD, FDI/TNC database and OECD Development Assistance Committee, International Development Statistics, online databases.

Annex figure A.I.2. Growth trends in FDI and bilateral ODA flows, 1990-1999



Source: UNCTAD, 2000a, p. 4.

^a Calculated as the slope of the linear regression for FDI and ODA flows between 1990 and 1999.

Annex figure A.II.1. The distribution of foreign affiliates in the semiconductor industry, 1985



Source: UNCTAD, FDI/TNC database, on the basis of *Who Owns Whom CD-Rom 2000* (Dun and Bradstreet).

Note: On the basis of 94 majority-owned foreign affiliates identified.

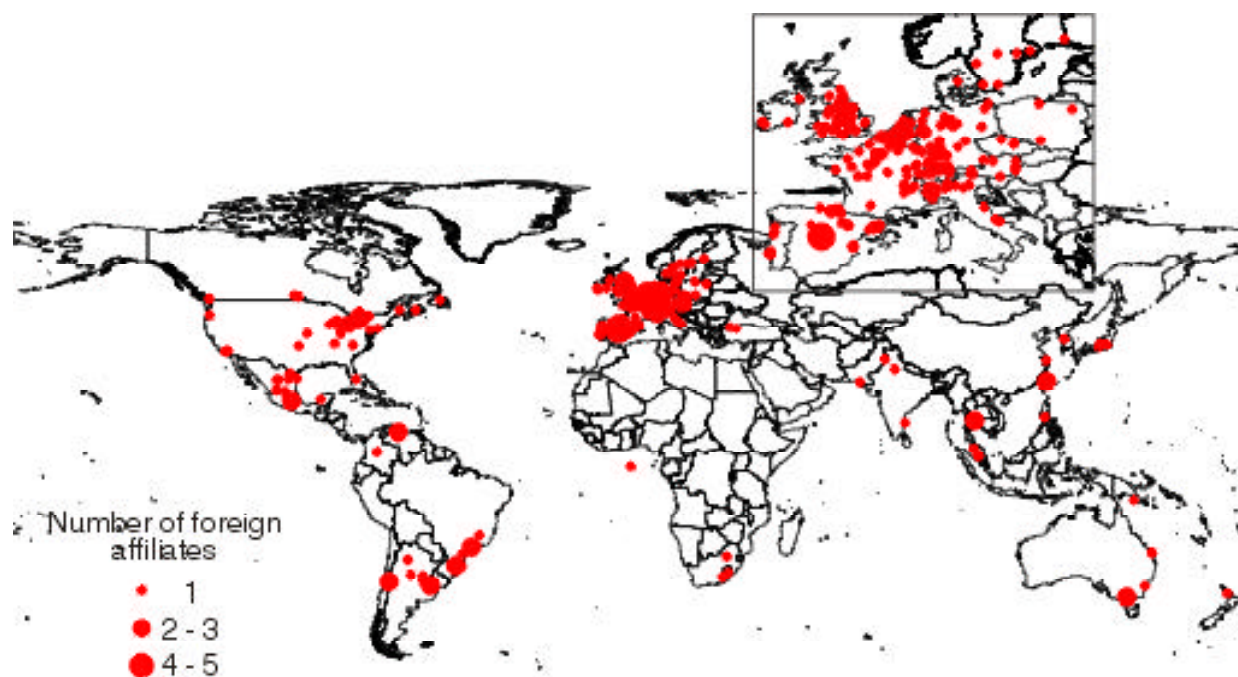
Annex figure A.II.2. The distribution of foreign affiliates in the biotechnology industry, 1985



Source: UNCTAD, FDI/TNC database, on the basis of *Who Owns Whom CD-Rom 2000* (Dun and Bradstreet).

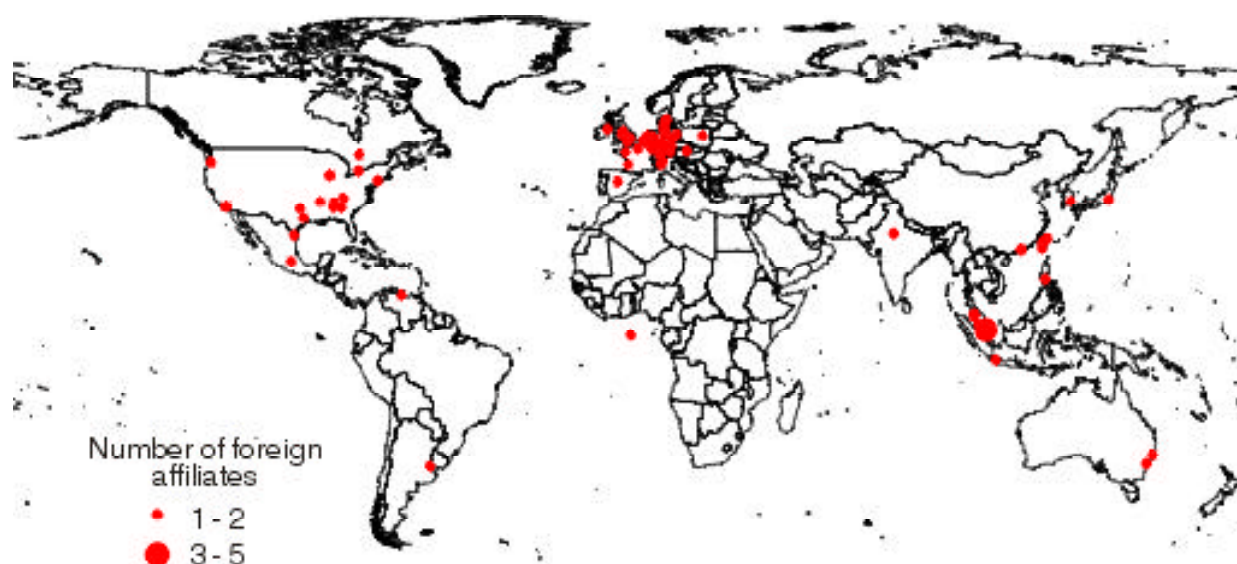
Note: On the basis of 70 majority-owned foreign affiliates identified.

Annex figure A.II.3. The distribution of foreign affiliates in the automobile industry, 1985



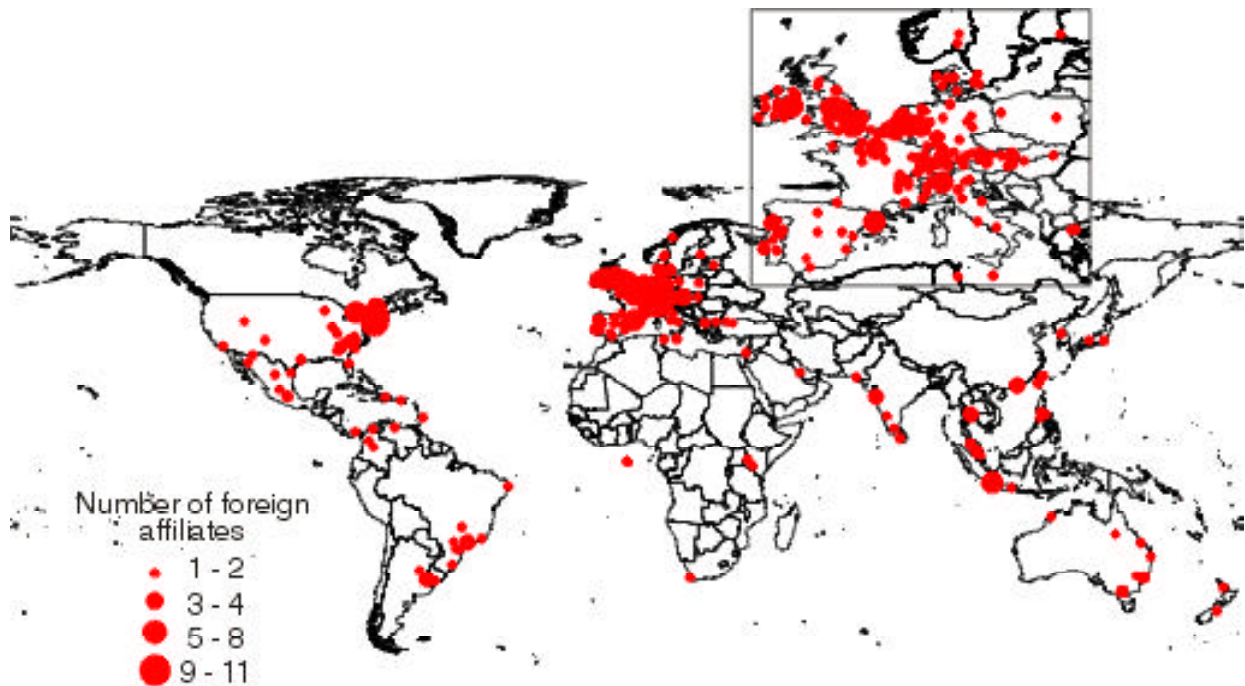
Source: UNCTAD, FDI/TNC database, on the basis of *Who Owns Whom CD-Rom 2000* (Dun and Bradstreet).
Note: On the basis of 494 majority-owned foreign affiliates identified.

Annex figure A.II.4. The distribution of foreign affiliates in the TV and radio receivers industry, 1985



Source: UNCTAD, FDI/TNC database, on the basis of *Who Owns Whom CD-Rom 2000* (Dun and Bradstreet).
Note: On the basis of 105 majority-owned foreign affiliates identified.

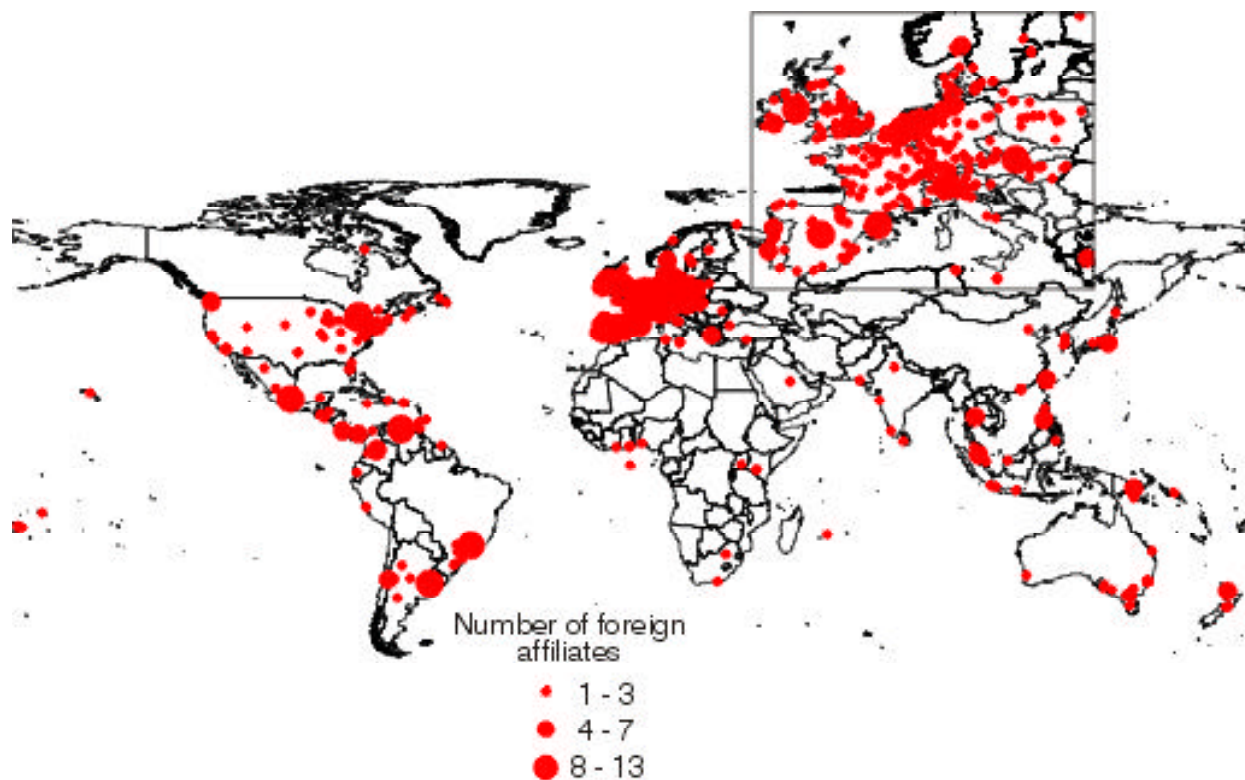
Annex figure A.II.5. The distribution of foreign affiliates in the textile and clothing industry, 1985



Source: UNCTAD, FDI/TNC database, on the basis of *Who Owns Whom CD-Rom 2000* (Dun and Bradstreet).

Note: On the basis of 624 majority-owned foreign affiliates identified.

Annex figure A.II.6. The distribution of foreign affiliates in the food and beverage industry, 1985

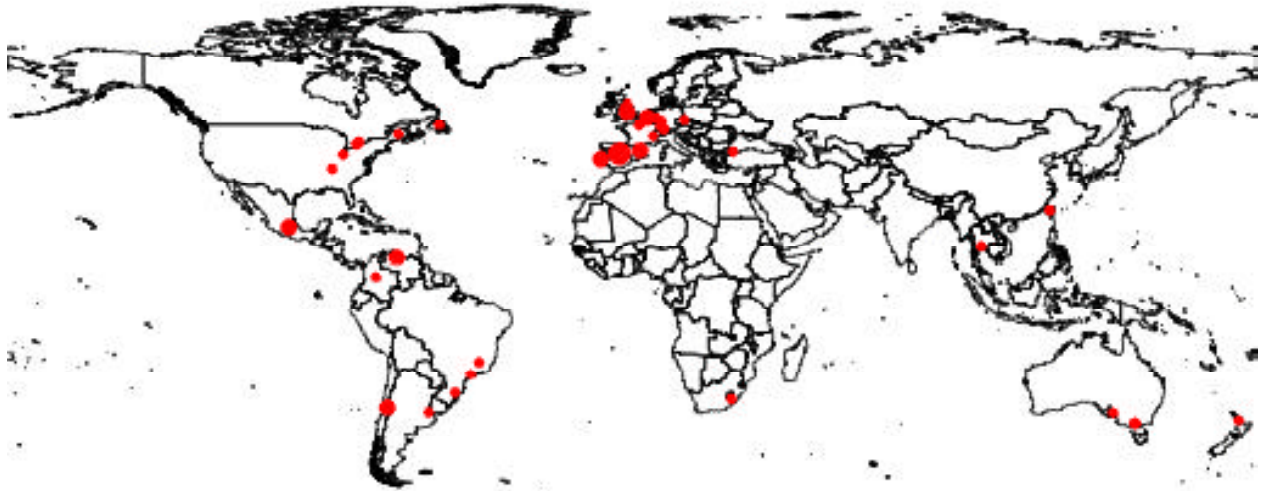


Source: UNCTAD, FDI/TNC database, on the basis of *Who Owns Whom CD-Rom 2000* (Dun and Bradstreet).

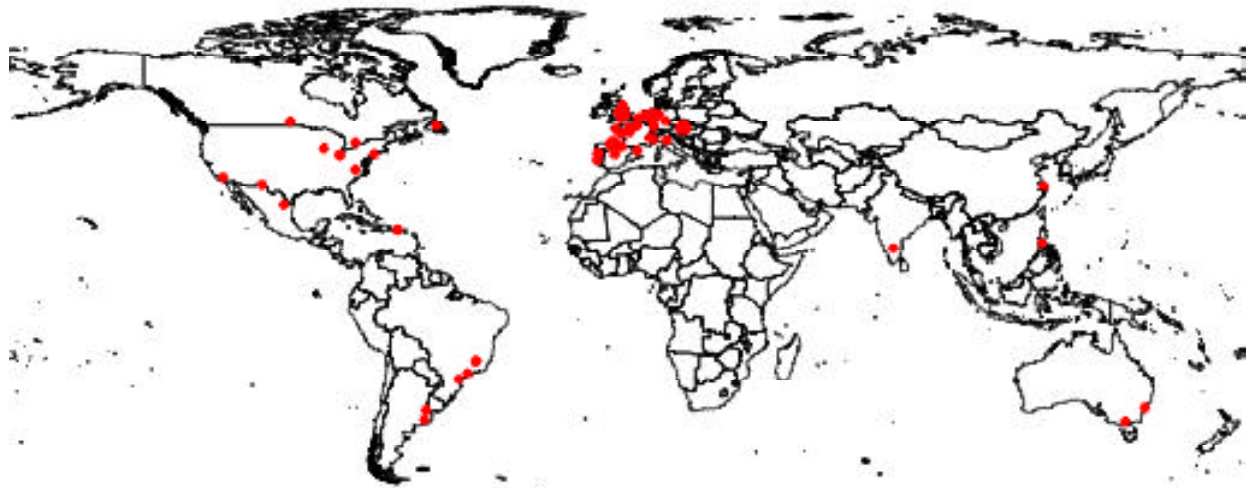
Note: On the basis of 1,003 majority-owned foreign affiliates identified.

Annex figure A.II.7. The distribution of foreign affiliates of the largest ten automobile TNCs, by function, 1985

Assembly



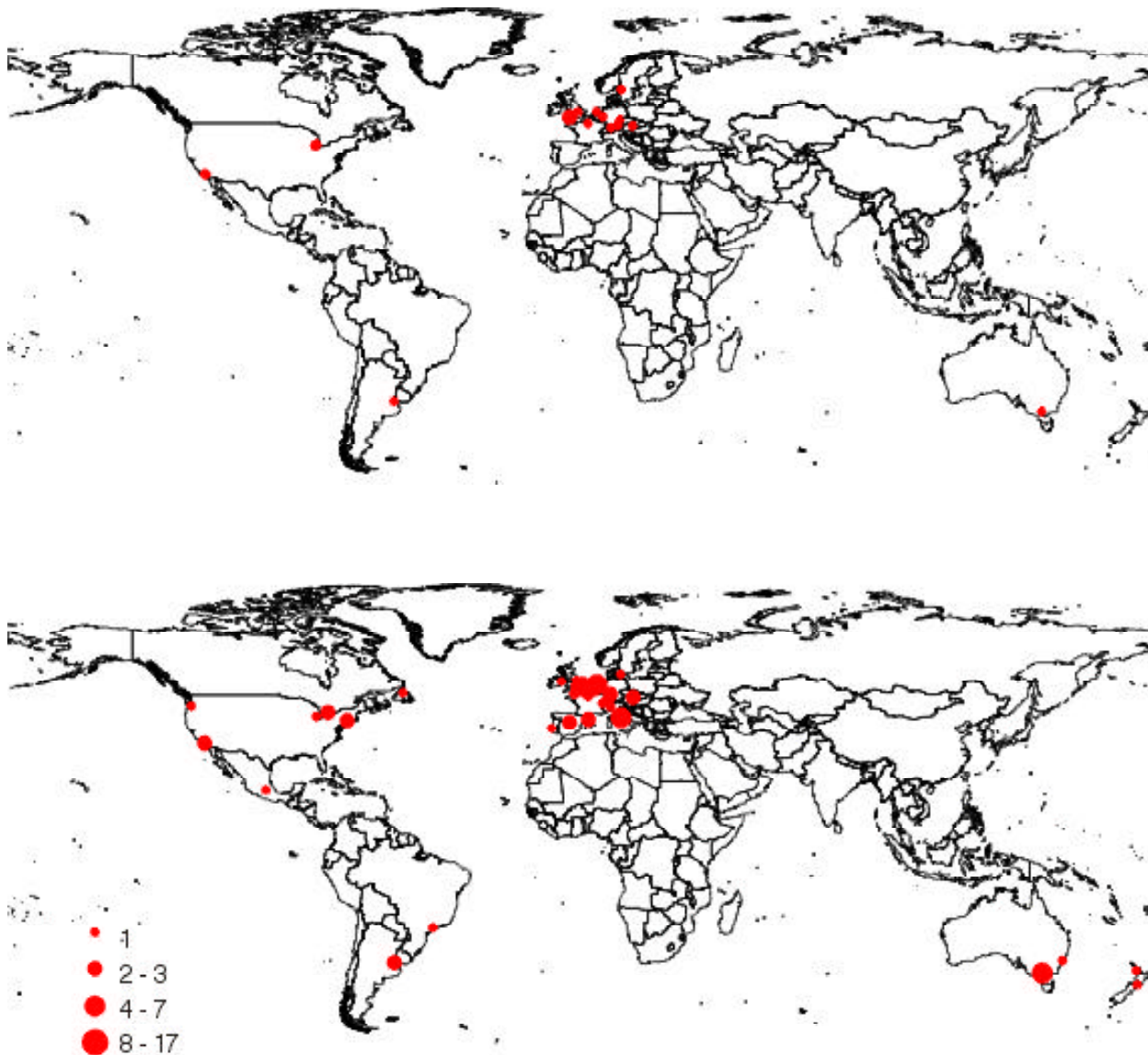
Equipment and parts supplies



Distribution, marketing and sales



Annex figure A.II.7. The distribution of foreign affiliates of the largest ten automobile TNCs, by function, 1985 (concluded)



Source: UNCTAD, FDI/TNC database, on the basis of *Who Owns Whom CD-Rom 2000* (Dun and Bradstreet).

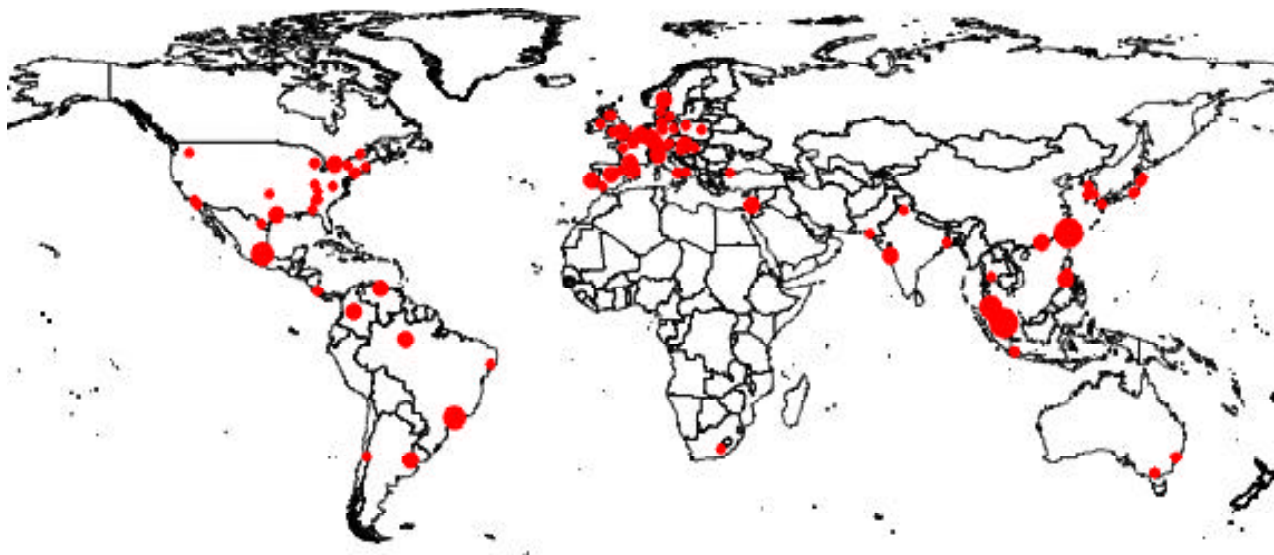
Note: On the basis of 688 majority-owned foreign affiliates identified for ten large automobile TNCs (DaimlerChrysler AG, Ford Motor Company Inc, General Motors Corporation, Giovanni Agnelli E.C. Società' In Accomandita Per Azioni (FIAT), Honda Motor Co. Ltd., Nissan Motor Co. Ltd., Peugeot SA, Renault, Toyota Motor Corp. and Volkswagen AG.).

The SIC codes used for the different functions are the following:

Assemblers: 3711-3713.
 Equipment and parts supplies: 3519-3592, 3824, 3999, 2221-3499, 3613-3699 and 3714.
 Distribution, marketing and sales: 4013-4789, 4813-484, 5012-5013, 5511-5599 and 7513-7515.
 R&D and other professional services: 8731-8734, 8711-8721 and 8741-8742.
 Finance and insurance: 6011-6411.

Annex figure A.II.8. The distribution of foreign affiliates of the largest ten electronics TNCs, by function, 1985

Production of equipment and parts



Distribution, marketing and sales



Annex figure A.II.8. The distribution of foreign affiliates of the largest ten electronics TNCs, by function, 1985 (concluded)

R&D and other professional services



Finance and insurance



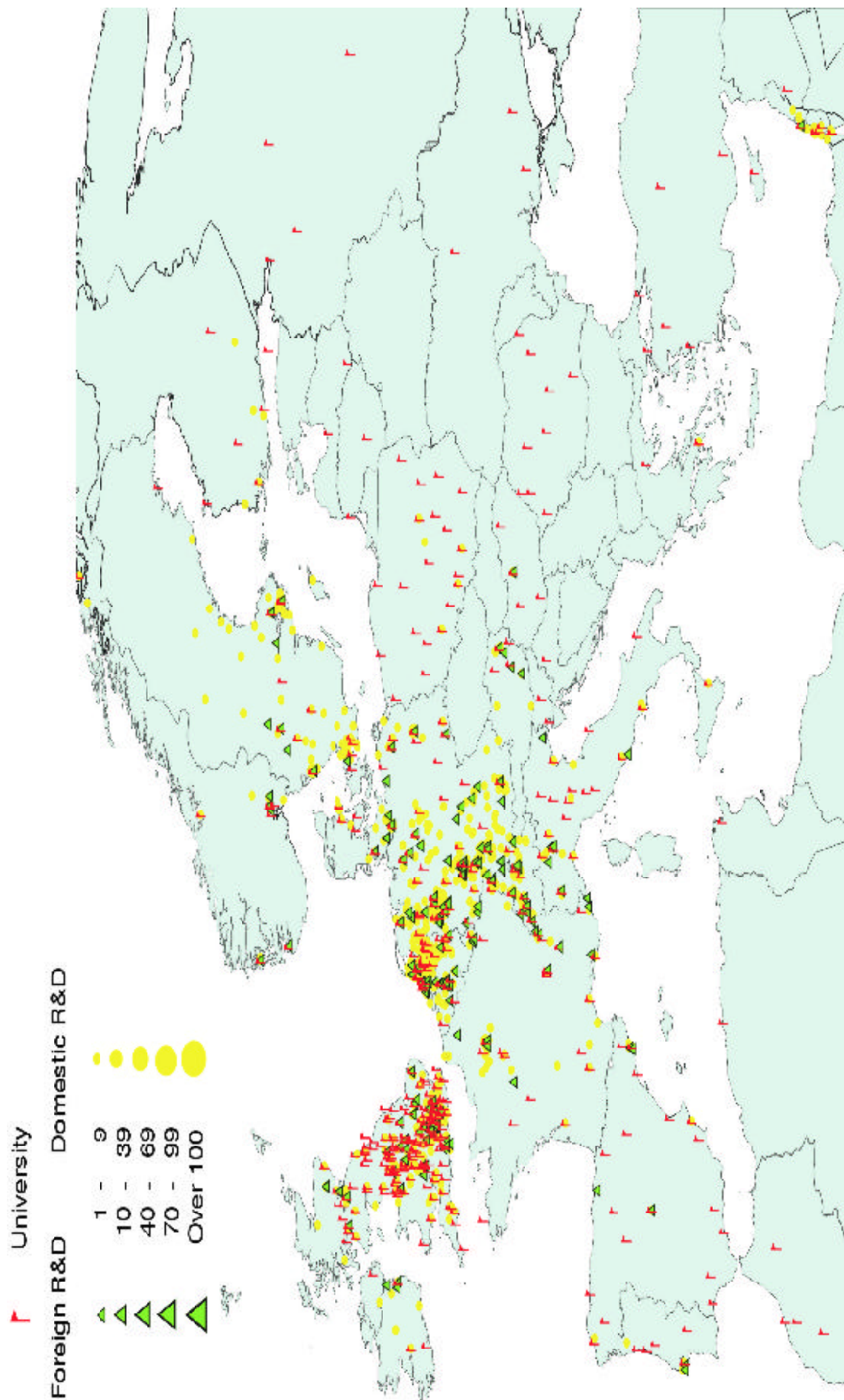
Source: UNCTAD, FDI/TNC database, based on *Who Owns Whom CD-Rom 2000* (Dun and Bradstreet).

Note: On the basis of 616 majority-owned foreign affiliates identified for ten large electronics TNCs (Hitachi, Intel, Matsushita, Mitsubishi, Motorola, NEC, Philips, Siemens, Sony and Toshiba).

The SIC codes used for the different functions are the following:

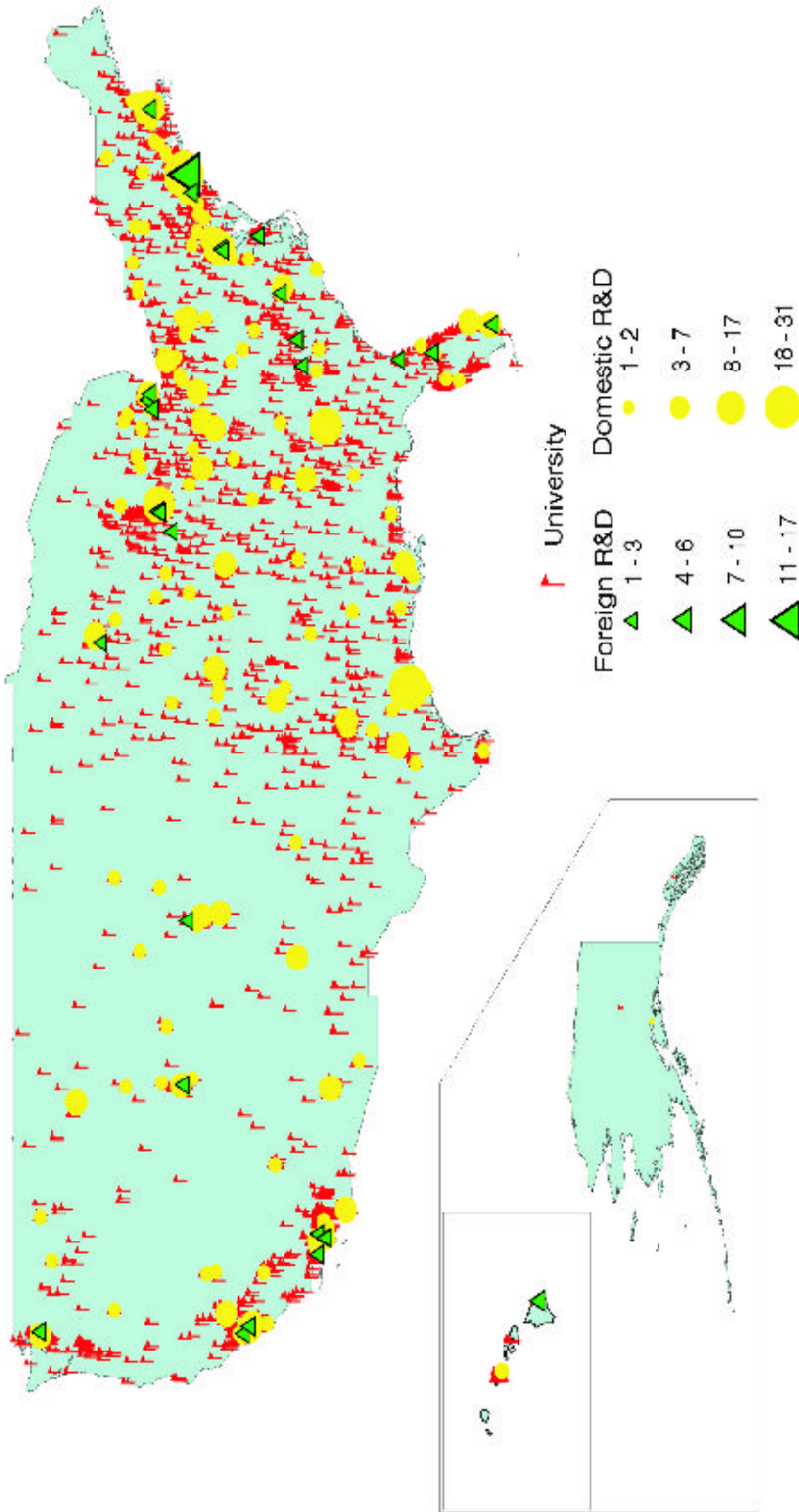
Production of equipment and parts: 3519-3592, 3824, 3999, 2221-3499, 3613-3699 and 3714.
 Distribution, marketing and sales: 4013-4789, 4813-484, 5012-5013, 5511-5599 and 7513-7515.
 R&D and professional services: 8731-8734, 8711-8721 and 8741-8742.
 Finance and insurance: 6011-6411.

Annex figure A.II.9. The distribution of R&D facilities and location of major universities in Europe, 1985



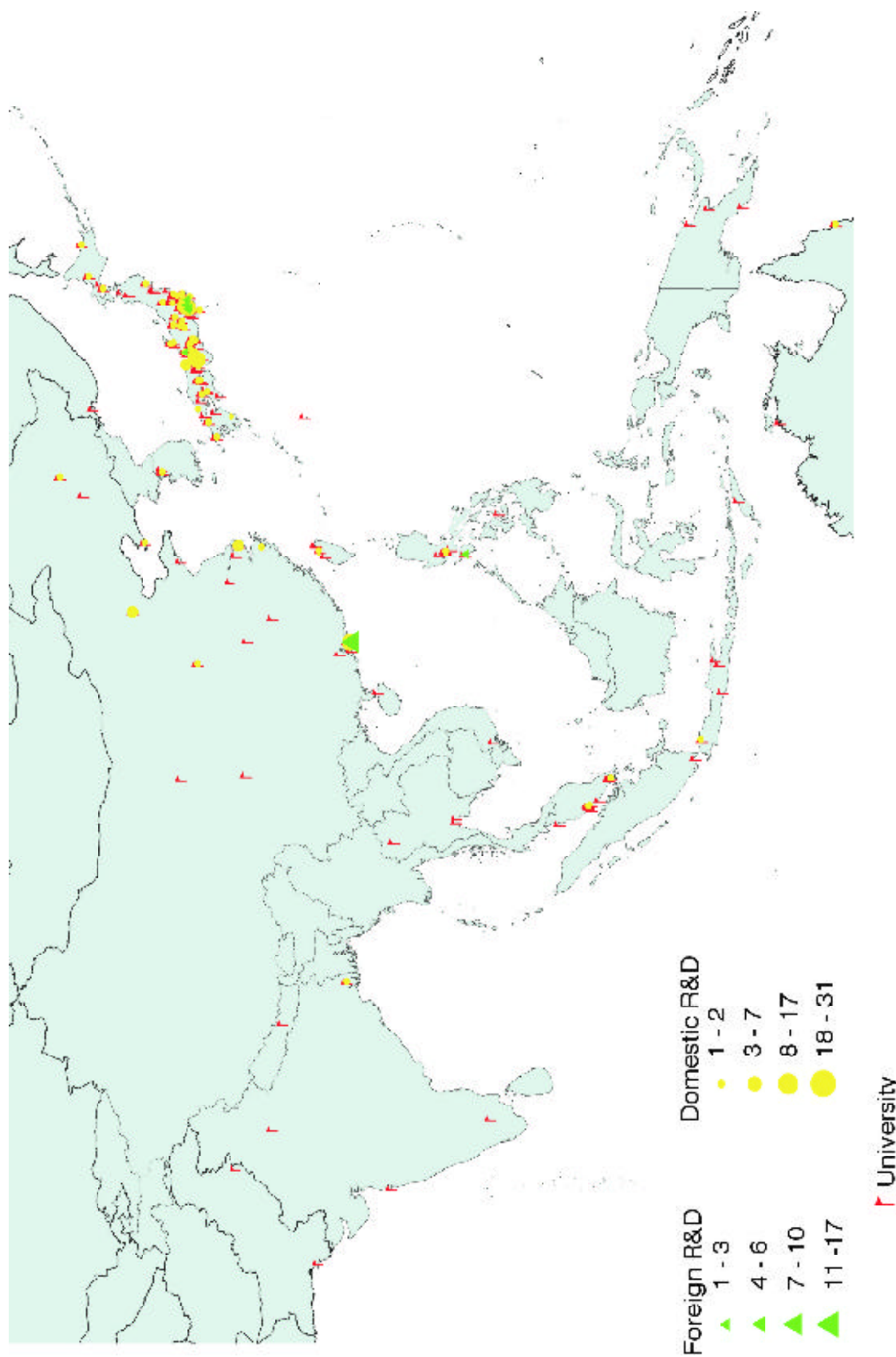
Source: UNCTAD, FDI/TNC database, on the basis of Who Owns Whom CD-Rom 2000 (Dun and Bradstreet).
 Note: On the basis of 242 majority-owned foreign R&D facilities and 1,055 domestic R&D facilities identified.

Annex figure A.II.10. The distribution of R&D facilities and location of major universities in United States, 1985



Source: UNCTAD, FDI/TNC database, on the basis of Who Owns Whom CD-Rom 2000 (Dun and Bradstreet).
 Note: On the basis of 66 majority-owned foreign R&D facilities and 585 domestic R&D facilities identified.

Annex figure A.II.11. The distribution of R&D facilities and location of major universities in Asia, 1985



Source: UNCTAD, FDI/TNC database, on the basis of Who Owns Whom CD-Rom 2000 (Dun and Bradstreet).
 Note: On the basis of 58 majority-owned foreign R&D facilities and 190 domestic R&D facilities identified.

Annex B: Statistical annex

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DEFINITIONS AND SOURCES

A. General definitions

1. Transnational corporations

Transnational corporations (TNCs) are incorporated or unincorporated enterprises comprising parent enterprises and their foreign affiliates. A *parent enterprise* is defined as an enterprise that controls assets of other entities in countries other than its home country, usually by owning a certain equity capital stake. An equity capital stake of 10 per cent or more of the ordinary shares or voting power for an incorporated enterprise, or its equivalent for an unincorporated enterprise, is normally considered as a threshold for the control of assets.¹ A *foreign affiliate* is an incorporated or unincorporated enterprise in which an investor, who is resident in another economy, owns a stake that permits a lasting interest in the management of that enterprise (an equity stake of 10 per cent for an incorporated enterprise or its equivalent for an unincorporated enterprise). In the *World Investment Report*, subsidiary enterprises, associate enterprises and branches are all referred to as *foreign affiliates* or *affiliates*.

- *Subsidiary*: an incorporated enterprise in the host country in which another entity directly owns more than a half of the shareholder's voting power and has the right to appoint or remove a majority of the members of the administrative, management or supervisory body.
- *Associate*: an incorporated enterprise in the host country in which an investor owns a total of at least 10 per cent, but not more than a half, of the shareholders' voting power.
- *Branch*: a wholly or jointly owned unincorporated enterprise in the host country which is one of the following: (i) a permanent establishment or office of the foreign investor; (ii) an unincorporated partnership or joint venture between the foreign direct investor and one or more third parties; (iii) land, structures (except structures owned by government entities), and /or immovable equipment and objects directly owned by a foreign resident; (iv) mobile equipment (such as ships, aircraft, gas- or oil-drilling rigs) operating within a country other than that of the foreign investor for at least one year.

2. Foreign direct investment

Foreign direct investment (FDI) is defined as an investment involving a long-term relationship and reflecting a lasting interest and control of a resident entity in one economy (foreign direct investor or parent enterprise) in an enterprise resident in an economy other than that of the foreign direct investor (FDI enterprise or affiliate enterprise or foreign affiliate).² FDI implies that the investor exerts a significant degree of influence on the management of the enterprise resident in the other economy. Such investment involves both the initial transaction between the two entities and all subsequent transactions between them and among foreign affiliates, both incorporated and unincorporated. FDI may be undertaken by individuals as well as business entities.

Flows of FDI comprise capital provided (either directly or through other related enterprises) by a foreign direct investor to an FDI enterprise, or capital received from an FDI enterprise by a foreign direct investor. There are three components in FDI: equity capital, reinvested earnings and intra-company loans.

- *Equity capital* is the foreign direct investor's purchase of shares of an enterprise in a country other than its own.

- *Reinvested earnings* comprise the direct investor's share (in proportion to direct equity participation) of earnings not distributed as dividends by affiliates or earnings not remitted to the direct investor. Such retained profits by affiliates are reinvested.
- *Intra-company loans* or *intra-company debt transactions* refer to short- or long-term borrowing and lending of funds between direct investors (parent enterprises) and affiliate enterprises.

FDI stock is the value of the share of their capital and reserves (including retained profits) attributable to the parent enterprise, plus the net indebtedness of affiliates to the parent enterprise.³ FDI flow and stock data used in the *World Investment Report* are not always defined as above, because these definitions are often not applicable to disaggregated FDI data. For example, in analyzing geographical and industrial trends and patterns of FDI, data based on approvals of FDI may also be used because they allow a disaggregation at the country or industry level. Such cases are denoted accordingly.

3. Non-equity forms of investment

Foreign direct investors may also obtain an effective voice in the management of another business entity through means other than acquiring an equity stake. These are non-equity forms of FDI, and they include, *inter alia*, subcontracting, management contracts, turnkey arrangements, franchising, licensing and product sharing. Data on transnational corporate activity through these forms are usually not separately identified in balance-of-payments statistics. These statistics, however, usually present data on royalties and licensing fees, defined as "receipts and payments of residents and non-residents for: (i) the authorized use of intangible non-produced, non-financial assets and proprietary rights such as trademarks, copyrights, patents, processes, techniques, designs, manufacturing rights, franchises, etc., and (ii) the use, through licensing agreements, of produced originals or prototypes, such as manuscripts, films, etc."⁴

B. Availability, limitations and estimates of FDI data presented in the *World Investment Report*

1. FDI flows

Data on FDI flows in annex tables B.1 and B.2, as well as most of the tables in the text, are on a net basis (capital transactions' credits less debits between direct investors and their foreign affiliates). Net decreases in assets (FDI outward) or net increases in liabilities (FDI inward) are recorded as credits (recorded with a positive sign in the balance of payments), while net increases in assets or net decreases in liabilities are recorded as debits (recorded with a negative sign in the balance of payments). In the annex tables, as well as in the tables in the text, the negative signs are deleted for practical use. Hence, FDI flows with a negative sign in the *World Investment Report* indicate that at least one of the three components of FDI (equity capital, reinvested earnings or intra-company loans) is negative and not offset by positive amounts of the remaining components. These are instances of reverse investment or disinvestment.

UNCTAD regularly collects published and unpublished national official FDI data directly from central banks, statistical offices or national authorities on an aggregated and disaggregated basis for its FDI/TNC database. These data constitute the main source for the reported data on FDI flows. These data are further complemented by the data obtained from other international organizations such as the International Monetary Fund (IMF), the World Bank, the Organization for Economic Co-operation and Development (OECD), the Economic Commission for Europe (ECE) and the Economic Commission for Latin America and the Caribbean (ECLAC), as well as UNCTAD's own estimates.

For the purpose of assembling balance-of-payments statistics for its member countries, IMF publishes data on FDI inflows and outflows in the *Balance of Payments Statistics Yearbook*. The same data are also available in the *International Financial Statistics* of IMF for certain countries. Data from IMF used in the *World Investment Report* were obtained directly from the CD-ROMs of IMF containing balance-of-payments statistics and international financial statistics. For this year's *Report*, *International Financial Statistics* and *Balance-of-Payments* CD-ROMs, June 2001, were used.

For those economies for which data were not available from national official sources or the IMF or for those for which available data do not cover the entire period of 1980-2000 that is used in the *World Investment Report 2001*, data from the World Bank's *World Development Indicators 2001* CD-ROM were used. This report covers data up to 1999 and reports data on net FDI flows (FDI inflows less FDI outflows) and FDI inward flows only. Consequently, data on FDI outflows, which we report as World Bank data, are estimated by subtracting FDI inward flows from net FDI flows.

For those economies in Latin America and the Caribbean for which the data are not available from one of the above-mentioned sources, data from ECLAC were utilized. Data from ECE were also utilized for those economies in Central and Eastern Europe, Central Asia and selected economies in Developing Europe for which data are not available from one of the above-mentioned sources.

Furthermore, data on the FDI outflows of the OECD, as presented in its publication, *Geographical Distribution of Financial Flows to Developing Countries*, and as obtained from their web databank, are used as proxy for FDI inflows. As these OECD data are based on FDI outflows to developing economies from the member countries of the Development Assistance Committee (DAC) of OECD,⁵ inflows of FDI to developing economies may be underestimated. In some economies, FDI data from large recipients and investors are also used as proxies.

Finally, in those economies for which data were not available from either of the above-mentioned sources or only partial data (quarterly or monthly) were available, estimates were made by annualizing the data if they are only partially available (monthly or quarterly) from either the IMF or national official sources; using data on cross-border mergers and acquisitions (M&As) and their growth rates; and using UNCTAD's own estimates.

The following sections give details of how FDI flow data for each economy used in the *Report* were obtained.

a. FDI inflows

Those economies for which national official sources data were used for the period, 1980-2000, or part of it, are listed below.

Period	Economy
1980-2000	Bolivia; Chile; Colombia; Finland; Republic of Korea; Taiwan Province of China; Thailand and Turkey
1985-2000	Burundi and Senegal
1986-2000	Ecuador; Hungary; Poland and the United States
1987-2000	Netherlands
1988-2000	Iceland; Mauritius and Slovenia
1990-2000	Aruba; Australia; Austria; Bahamas; Belize; Botswana; Brazil; Bulgaria; Canada; Czech Republic; Denmark; Dominican Republic; Egypt; France; Germany; Ghana; Guatemala; Honduras; Indonesia; Jamaica; Malaysia; Mexico; Mozambique; Namibia; Pakistan; Paraguay; Peru; Philippines; Portugal; Seychelles; Singapore; Slovakia; South Africa; Sri Lanka; Swaziland; Switzerland; United Republic of Tanzania; Togo; Trinidad and Tobago; Tunisia; United Kingdom; Yemen; Venezuela and Viet Nam.
1991-2000	Haiti; Nicaragua and Romania

Period	Economy
1992-2000	Albania; Argentina; Estonia; Guyana; Latvia; Republic of Moldova; Russian Federation; Ukraine and Yugoslavia
1993-2000	Croatia and Mali
1994-2000	Kuwait; Kyrgyzstan; TFYR Macedonia; Norway; Spain and Sweden
1995-2000	Costa Rica
1996-2000	Bosnia and Herzegovina; India and Malta
1997-2000	Uruguay
1998-2000	Greece; Hong Kong, China, Morocco and Uganda
1999-2000	Belgium and Luxembourg; Benin; China; El Salvador; Ireland; Italy and Japan
1989-1999	Armenia
1990-1999	Angola; Antigua and Barbuda; Côte d'Ivoire; Dominica; Grenada; Kenya; Lesotho; Madagascar; Rwanda; Saint Kitts and Nevis; Saint Lucia; Saint Vincent and the Grenadines and Zimbabwe
1992-1999	Burkina Faso; Kazakhstan; Mongolia and Niger
1994-1999	Zambia
1995-1999	Anguilla, Montserrat and Oman
1997-1999	Bahrain
1999	Cambodia
1990-1998	Malawi
1992-1998	Ethiopia
1996-1998	Gambia
1997-1998	Tajikistan
1994-1996	Georgia
1995-1996	Uzbekistan
1994-1995	Turkmenistan
1994	Azerbaijan
1992	Belarus and Lithuania

As mentioned above, one of the main sources for annex table B.1 is the IMF. Those economies for which IMF data were used for the period, 1980-2000, or part of it, are listed below.

Period	Economy
1980-2000	Panama
1984-1985, 1989 and 1996-2000	Sudan
1989-2000	Myanmar
1993-2000	Belarus; Lithuania
2000	Kazakhstan
1980-1999	Barbados; Cyprus; Fiji; Israel; Jordan; Libyan Arab Jamahiriya; New Zealand; Nigeria; Papua New Guinea; Saudi Arabia; Solomon Islands and Vanuatu
1981-1984 and 1986-1999	Bangladesh
1986-1999	Guinea and Maldives
1988-1999	Lao People's Democratic Republic
1993-1999	Syrian Arab Republic
1995-1999	Azerbaijan
1996-1999	Nepal
1997-1999	Georgia
1980-1998	Belgium and Luxembourg; China; Ireland; Italy; Japan and Suriname
1980-1995 and 1998	Mauritania
1980-1993 and 1995-1998	El Salvador
1986-1998	Cape Verde
1992-1998	Cambodia
1994-1998	Iran, Islamic Republic of
1980-1997	Greece and Morocco
1991-1997	Uganda
1996-1997	Turkmenistan
1980 and 1982-1996	Bahrain
1980-1981, 1986-1988 and 1993-1996	Uruguay
1989-1996	Equatorial Guinea
1994-1996	Tajikistan
1980-1995	Cameroon; Gabon; Malta; Netherlands Antilles and Sierra Leone
1981, 1987-1989 and 1991-1995	Gambia
1987-1995	Comoros
1991-1995	India

Period	Economy
1992-1995	Djibouti
1980-1994	Central African Republic; Costa Rica and Oman
1980-1984 and 1988-1994	Benin
1981; 1984-1985 and 1990-1994	Brunei Darussalam
1983 and 1985-1994	Kiribati
1984-1994	Chad
1986-1994	Montserrat
1990-1994	Anguilla
1992-1994	Uzbekistan
1994	New Caledonia
1980-1993	Norway; Spain and Sweden
1984-1993	Tonga
1993	Kuwait and Kyrgyzstan
1980-1992	Mali
1980-1991	Algeria; Argentina; Niger and Zambia
1980-1989	Antigua and Barbuda; Australia; Austria; Bahamas; Botswana; Brazil; Burkina Faso; Canada; Côte d'Ivoire; Dominica; Dominican Republic; Egypt; France; Germany; Ghana; Grenada; Guatemala; Haiti; Honduras; Indonesia; Jamaica; Kenya; Lesotho; Mexico; Malaysia; Pakistan; Paraguay; Peru; Philippines; Portugal; Rwanda; Saint Kitts and Nevis; Saint Lucia; Saint Vincent and the Grenadines; Seychelles; Singapore; South Africa; Sri Lanka; Swaziland; Switzerland; Togo; Trinidad and Tobago; Tunisia; United Kingdom; Venezuela; Yemen and Zimbabwe
1980 and 1986-1989	Mozambique
1981-1989	Denmark
1981 and 1984-1989	Belize
1985-1989	Angola
1989	Madagascar and Nicaragua
1980-1988	Congo
1980-1987	Iceland and Mauritius
1980-1981, 1983, 1985 and 1987	Malawi
1982-1987	Liberia
1980-1986	Netherlands
1980-1985	Ecuador; Guyana; Poland and the United States
1982-1985	Somalia
1980-1984	Senegal
1981-1982	Hungary

Those economies for which World Bank data were used for the period, 1980-1999, or part of it, are listed below.

Period	Economy
1981-1999	Democratic Republic of Congo
1991-1999	Congo and Liberia
1992-1999	Algeria and Nepal
1995-1999	Central African Republic; Lebanon; Tonga and Chad
1996-1999	Cameroon; Comoros; Djibouti; Gabon and Sierra Leone
1996-1997 and 1999	Mauritania
1997-1999	Equatorial Guinea
1999	Gambia; Guinea-Bissau; Malawi
1992-1994 and 1998	Samoa
1997	Kiribati and Uzbekistan
1993-1995	Somalia
1992-1993	Zambia
1990-1991	Ethiopia
1991	Burkina Faso
1988-1989	Viet Nam
1981-1984	Burundi
1989	Czech Republic

Those economies for which ECLAC data were used for the period, 1980-2000, or part of it, are listed below.

Period	Economy
1990-1997	Virgin Islands

Those economies for which ECE data were used for the period, 1980-2000, or part of it, are listed below.

Period	Economy
1999-2000	Tajikistan
1998-2000	Turkmenistan and Uzbekistan

Those economies for which FDI inflows data were unavailable from the above-mentioned sources, the estimates of UNCTAD are used by employing the following methodologies:

- *Annualized data*

Estimates were applied by annualizing quarterly data obtained from either national official sources or the IMF for the economies and the years listed below.

(a) National official sources

Year	Latest quarter	Economy
1999	Third quarter	Ethiopia

(b) IMF

Year	Latest quarter	Economy
2000	First quarter	Armenia and New Zealand
	Second quarter	Vanuatu
	Third quarter	Israel
1994	Third quarter	Tonga

- *Proxy*

One of the main methodologies for estimating FDI inflows for economies for which the data are not available is that OECD data on outward flows from DAC member countries are used as proxy for FDI inflows. Those economies, for which this methodology is applied for the period, 1980-2000, or part of it, are listed below (these data were available until 1999 only at the time of the compilation of inflow data).

Period	Economy
1980-1999	Bermuda; Cayman Islands; Gibraltar and United Arab Emirates
1980-1995 and 1997-1999	Iraq
1980 and 1982-1999	Cuba
1980 and 1983-1999	Qatar
1980-1981, 1986-1992 and 1998-1999	Somalia
1980, 1982-1989 and 1998-1999	Virgin Islands
1980-1982, 1987 and 1991-1999	Afghanistan
1982-1983 and 1985-1999	Macau, China
1982-1983, 1987-1988 and 1995-1999	Brunei Darussalam
1983, 1985-1986, 1988-1993, 1995-1996 and 1998-1999	New Caledonia
1987-1999	Democratic People's Republic of Korea
1994, 1996 and 1998-1999	Tuvalu

Period	Economy
1996-1999	Netherlands Antilles
1996 and 1999	Occupied Palestinian Territory
1997-1999	Eritrea
1999	Suriname
1984-1992 and 1994-1998	Guinea-Bissau
1987-1989, 1993 and 1995-1998	São Tomé and Príncipe
1981, 1983-1988, 1990-1991 and 1995-1997	Samoa
1990-1991 and 1995-1997	Bhutan
1995	Bosnia and Herzegovina
1980-1994	Lebanon
1980-1983, 1986-1988 and 1990-1994	Sudan
1994	El Salvador
1980-1993	Iran, Islamic Republic of
1980-1992	Kuwait
1980-1981 and 1983-1992	Syrian Arab Republic
1982-1985 and 1989-1992	Uruguay
1980-1991	Nepal
1980-1987 and 1989-1991	Djibouti
1986-1991	Guyana
1986 and 1991	Mongolia
1991	Albania
1980-1990	India
1980-1981 and 1988-1990	Liberia
1981, 1985-1988 and 1990	Nicaragua
1982-1986 and 1990	Gambia
1980, 1982, 1985 and 1988-1990	Uganda
1989-1990	Congo
1990	Burkina Faso and Haiti
1980-1989	United Republic of Tanzania
1982, 1984, 1986 and 1988-1989	Malawi
1985 and 1987-1989	Namibia
1989	Aruba
1980-1988	Ethiopia and Madagascar
1981-1988	Equatorial Guinea
1980-1987	Yugoslavia (former)
1980, 1983-1984 and 1986-1987	Myanmar
1985-1987	Benin
1981-1982 and 1985-1986	Viet Nam
1980-1985	Maldives
1981-1985	Mozambique
1980-1981 and 1983-1985	Guinea
1980 and 1985	Bangladesh
1985	Lao People's Democratic Republic
1980-1984	Angola
1980-1983	Chad
1981	Bahrain
1980	Burundi and Democratic Republic of Congo

- *Cross-border M&As*

Data on cross-border M&As and their growth rates were used to estimate FDI inflows. Those economies for which this methodology was used are listed below.

Period	Economy
2000	Bahrain; Cape Verde; Chad; Ethiopia; Gabon; Jordan; Kenya; Lebanon and United Arab Emirates

- *Estimates of UNCTAD*

Estimates of UNCTAD using national and secondary sources and information have been applied to the economies or the periods if FDI inflow data from the above-mentioned sources are not available. Those economies, for which estimates of UNCTAD were used for the period, 1980-2000, or part of it, are listed below.

Period	Economy
1995-1996 and 1998-2000	Kiribati
1997 and 2000	New Caledonia
1988 and 2000	Djibouti
1999-2000	Iran, Islamic Republic of; São Tomé and Príncipe and Samoa
2000	Afghanistan; Algeria; Angola; Anguilla; Antigua and Barbuda; Azerbaijan; Bangladesh; Barbados; Bermuda; Brunei Darussalam; Burkina Faso; Cambodia; Cameroon; Cayman Islands; Central African Republic; Comoros; Congo; Democratic Republic of Congo; Côte d'Ivoire; Cuba; Cyprus; Dominica; Equatorial Guinea; Eritrea; Fiji; Gambia; Georgia; Gibraltar; Grenada; Guinea; Guinea-Bissau; Iraq, Democratic People's Republic of Korea; Lao People's Democratic Republic; Lesotho; Liberia; Libyan Arab Jamahiriya; Macau, China; Madagascar; Malawi; Maldives; Mauritania; Mongolia; Montserrat; Nepal; Netherlands Antilles; Niger; Nigeria; Occupied Palestinian Territory; Oman; Papua New Guinea; Qatar; Rwanda; Saint Kitts and Nevis; Saint Lucia; Saint Vincent and the Grenadines; Saudi Arabia; Sierra Leone; Solomon Islands; Somalia; Suriname; Syrian Arab Republic; Tonga; Tuvalu; Virgin Islands; Zambia and Zimbabwe
1999	Cape Verde
1980-1997	Hong Kong, China
1995	Sudan
1989	Ethiopia
1986	Namibia

b. FDI outflows

Those economies for which national official sources data were used for the period, 1980-2000, or part of it, are listed below.

Period	Economy
1980-2000	Chile; Finland; Republic of Korea; Taiwan Province of China; Thailand; United Kingdom and United States
1986-1989 and 1990-2000	Poland
1987-2000	Netherlands and Turkey
1988-2000	Iceland and Mauritius
1990-2000	Australia; Austria; Belize; Botswana; Brazil; Burundi; Canada; Denmark; Egypt; France; Germany; Indonesia; Jamaica; Kuwait; Namibia; Pakistan; Philippines; Portugal; Romania; Senegal; Seychelles; Singapore; South Africa; Swaziland; Switzerland; Togo; Tunisia and Venezuela
1990 and 1998-2000	Morocco
1991-2000	Hungary
1992-2000	Argentina; Aruba; Colombia; Estonia; Latvia; Slovakia and Slovenia
1993-2000	India; Croatia; Czech Republic and Russian Federation
1994-2000	Republic of Moldova; Norway; Spain; Sweden and Ukraine
1995-2000	Bulgaria; Costa Rica; Lithuania and Malta
1996-2000	Benin and Mali
1997-1998 and 2000	Uruguay
1998-2000	Belgium and Luxembourg; Greece; Hong Kong, China; Ireland and Japan
1999-2000	El Salvador; Italy and Trinidad and Tobago
1980-1999	Bolivia and Malaysia
1983-1999	Zimbabwe
1990-1999	Bahamas; Bangladesh; Côte d'Ivoire and Nigeria
1991-1999	Cyprus
1992-1999	Niger
1993-1999	Burkina Faso
1994-1999	Kazakhstan
1995-1999	Kenya
1996-1999	TFYR Macedonia
1997-1999	Bahrain and Belarus
1998-1999	Azerbaijan
1999	Armenia
1992-1998	Albania and Mexico
1998	Tajikistan
1992 and 1995-1997	Bosnia and Herzegovina
1995-1997	Peru
1992-1993 and 1996	Guyana

As mentioned above, one of the main sources for annex table B.2 is the IMF. Those economies for which IMF data were used for the period, 1980-2000, or part of it, are listed below.

Period	Economy
2000	Belarus and Kazakhstan
1980-1999	Barbados; Fiji; Israel and New Zealand
1980-1996 and 1999	Jordan
1980-1982 and 1987-1999	Libyan Arab Jamahiriya
1982-1999	China
1995-1999	Paraguay and Syrian Arab Republic
1998-1999	Kyrgyzstan
1999	Georgia
1980-1998	Italy
1997-1998	Dominica
1998	Armenia and Peru
1980-1997	Belgium and Luxembourg and Japan
1988-1997	Cape Verde
1990-1997	Ireland
1991-1997	Morocco
1990-1996	Bahrain
1993-1996	Dominican Republic
1996	El Salvador and Guinea
1980-1995	Cameroon and Netherlands Antilles
1985-1995	Sri Lanka
1980-1994	Costa Rica and Gabon
1980-1983, 1985-1989 and 1991-1994	Chad
1982-1994	Central African Republic
1990 and 1993-1994	Angola
1993-1994	Malta
1994	Kiribati
1980-1993	Norway; Spain and Sweden
1990-1993	Tonga
1980-1991	Algeria; Colombia and Niger
1980-1983 and 1989-1991	Argentina
1989-1991	Czechoslovakia (former) and Equatorial Guinea
1990-1991	Haiti
1980-1990	Papua New Guinea
1985 and 1987-1990	Cyprus
1990	Comoros
1980-1989	Australia; Austria; Brazil; Canada; Denmark; Egypt; France; Germany; Kenya; Kuwait; Portugal; Senegal; Seychelles; Singapore; South Africa and Swaziland
1981-1989	Tunisia
1982-1989	Venezuela
1983-1989	Switzerland
1984-1989	Pakistan
1989	Bahamas and Burundi
1982-1988	Uruguay
1986-1988	Mauritania
1988	Lesotho
1983-1987	Trinidad and Tobago
1986-1987	Iceland
1980-1986	Burkina Faso and Netherlands
1982-1986	Yemen
1980-1985	Botswana and Poland
1981-1984	Benin
1981	Nigeria

In the case of unavailability of data from the above-mentioned sources, estimates were applied by annualizing quarterly data obtained from either national official sources or the IMF for the economies and the years listed below.

(a) National official sources

Year	Latest quarter	Economy
2000	Second quarter	Malaysia

(b) IMF

Year	Latest quarter	Economy
2000	First quarter	New Zealand
	Third quarter	Israel

The World Bank reports only data on net FDI flows and FDI inward flows. Therefore, for selected economies FDI outward flows were estimated by subtracting FDI inflows from net FDI flows. This methodology was used for the economies and years listed below.

Period	Economy
1988-1989 and 1992-1999	Uganda
1991; 1995 and 1997-1999	Lao People's Democratic Republic
1992-1999	Uzbekistan
1994-1999	Myanmar
1997-1999	Ethiopia
1998-1999	Turkmenistan
1999	Tajikistan
1990-1992 and 1996-1998	Mozambique
1990-1993 and 1997-1998	Oman
1990, 1992-1993 and 1997-1998	Rwanda
1991-1992; 1995 and 1998	Papua New Guinea
1992-1993 and 1998	United Republic of Tanzania
1994-1998	Georgia
1996 and 1998	Mongolia
1997-1998	Jordan and Sri Lanka
1995-1997	Azerbaijan
1996-1997	Kyrgyzstan
1986-1988, 1990-1994 and 1996	Saint Vincent and the Grenadines
1991 and 1995-1996	Angola
1993 and 1995-1996	Belarus and Equatorial Guinea
1990-1995	Sierra Leone
1990-1991 and 1995	Saint Lucia
1990 and 1992-1995	Maldives
1992-1995	Mali
1980-1984, 1990-1991 and 1993-1994	Paraguay
1990-1994	Saint Kitts and Nevis and Trinidad and Tobago
1993-1994	Uruguay
1986-1993	Dominica
1989-1993	El Salvador
1990-1993	Grenada
1993	Nicaragua
1990-1992	Madagascar and Solomon Islands
1992	Bulgaria and Lesotho
1990-1991	Honduras
1991	Comoros and Kenya
1990	Mauritania
1980-1981, 1983, 1985-1987 and 1989	Togo
1986-1989	Bangladesh and Tonga
1987 and 1989	Belize
1984-1987	Mauritius
1980-1983	Pakistan
1980	Mexico and Nigeria

In the case of economies for which FDI outflows data were unavailable from the above-mentioned sources, three methodologies are used to calculate the estimates of UNCTAD.

- *Proxy*

Inflows of FDI to large recipient economies were used as a proxy. Those economies for which this methodology was used for the period, 1980-2000, or part of it, are listed below.

Proxy countries/region	Period	Economy
United States only	1981-2000	Bermuda; Panama and United Arab Emirates
	1982-2000	Lebanon
	1996-2000	Netherlands Antilles and Nicaragua
	1981-1996 and 1999	Saudi Arabia
	1981-1991 and 1999	Mexico
	1992 and 1997-1998	Dominican Republic
	1993-1998	Haiti; Honduras and Virgin Islands
	1994-1998	Guatemala
	1995-1998	Saint Kitts and Nevis and Trinidad and Tobago
	1997-1998	Angola
	1980-1997	Liberia
	1993-1997	Antigua and Barbuda
	1988-1989 and 1994-1996	Oman
	1989-1991 and 1995-1996	Uruguay
	1993-1996	Ecuador
	1995-1996	Gabon
	1984-1989	Ireland
	1994-1995	Guyana
	1995	Central African Republic
	1993-1994	Bosnia and Herzegovina
	1992-1993	Peru
	1981-1986 and 1988-1989	Bahrain
	1982-1989	Nigeria
1981-1988	Bahamas	
1984-1988	Argentina	
United States and Sweden	1997-1998	Saudi Arabia
Germany; Norway; Sweden and the United States	1997	Greece
European Union and the United States	1991-1996	Greece
	1992-1996	Iran, Islamic Republic of
	1980-1992	India
	1980-1989	Philippines and Indonesia
Germany	1997-1998	Iran, Islamic Republic of
China; European Union and the United States	1980-1995	Hong Kong, China
China; European Union; Japan and the United States	1996	Hong Kong, China
Germany; Sweden and the United States	1997	Hong Kong, China

- *Cross-border M&As*

Data on cross-border M&As and their growth rates were used to estimate FDI outflows. Those economies are listed below.

Period	Economy
2000	Kenya and Mexico
1998-1999	Cayman Islands
1999	Peru
1996 and 1998	Ghana
1995-1998	Qatar
1991; 1993 and 1995-1996	Brunei Darussalam
1993	Cambodia

• *Estimates of UNCTAD*

Those economies, for which information from national and secondary sources and information were used for the period, 1980-2000, or part of it, are listed below.

Period	Economy
1980-1997 and 2000	Cayman Islands
1992 and 1999-2000	Haiti
1994 and 2000	Peru
1995-2000	Chad
1995; 1997 and 1999-2000	Mongolia
1996-2000	Central African Republic and Malawi
1997-2000	Brunei Darussalam Gabon
1997 and 1999-2000	Ghana
1998-2000	Cape Verde
1999-2000	Albania; Angola; Antigua and Barbuda; Dominica; Dominican Republic; Ecuador; Guatemala; Guyana; Honduras; Iran, Islamic Republic of; Mozambique; Nicaragua; Oman; Papua New Guinea; Qatar; Rwanda; Saint Kitts and Nevis; Sri Lanka; United Republic of Tanzania and Virgin Islands
2000	Armenia; Azerbaijan; Bahamas; Bahrain; Bangladesh; Barbados; Bolivia; Burkina Faso; China; Côte d'Ivoire; Cyprus; Ethiopia; Fiji; Georgia; Jordan; Kyrgyzstan; Lao People's Democratic Republic; Libyan Arab Jamahiriya; Myanmar; Niger; Nigeria; Paraguay, Saudi Arabia, Syrian Arab Republic; Tajikistan; TFYR Macedonia; Turkmenistan; Uganda; Uzbekistan and Zimbabwe
1999	Uruguay
1992	Czech Republic

Up to 1994, the United States data on FDI outflows and outward stocks were adjusted for the financial sector of the Netherlands Antilles. This is because considerable intra-company loans between United States parent enterprises and their financial affiliates in the Netherlands Antilles are in many respects more akin to portfolio investment than to FDI. Since that year, however, the United States Department of Commerce has changed its methodology in reporting FDI outward flows to the Netherlands Antilles by excluding investment in the finance sector reported under intra-company loans.

2. FDI stocks

Annex tables B.3 and B.4, as well as some tables in the text, present data on FDI stocks at book value or historical cost, reflecting prices at the time when the investment was made.

For a large number of economies (as indicated in the footnotes of annex tables B.3 and B.4), FDI stocks are estimated by either cumulating FDI flows over a period of time or adding flows to an FDI stock that has been obtained for a particular year from national official sources or the IMF data series on assets and liabilities of direct investment.

In this year's *Report* the IMF data on assets and liabilities of direct investment were also used for some countries. Those economies for which IMF data were used for the period, 1980-2000, or part of it, are listed below.

Economy	Inward stock	Outward stock
Australia	1986-1989	None
Austria	1980-1989	1980-1989
Bahrain	1989-1999	1989-1999
Belgium and Luxembourg	1981-1998	1981-1997
Bulgaria	1998-1999	1998-1999
Colombia	None	1980-1991
El Salvador	1996-1999	1996-1999
Estonia	1996	None
France	None	1987-1989
Israel	1997-1999	1999
Italy	None	1980-1998
Japan	1980-1999	1980-1999
Kyrgyzstan	1993-1998	None
Latvia	1995	None
Lithuania	2000	2000
Malaysia	1980-1994	None
Myanmar	1999-2000	None
Namibia	1989	None
Netherlands	1980-1986	1980-1986
New Zealand	1989-2000	1992-2000
Norway	None	1980-1987
Panama	1996-2000	None
Paraguay	None	1995-1999
Peru	1986-2000	1991-2000
Romania	None	1990-1999
Spain	None	1980-1991
Swaziland	1981-1990	1981-1990
Sweden	1982-1985	1982-1985
Switzerland	None	1984-1989
Uruguay	None	1983-1987
Venezuela	None	1980-1999

C. Data revisions and updates

All FDI data and estimates in the *World Investment Report* are continuously revised. Because of the ongoing revision, FDI data reported in the *World Investment Report* may differ from those reported in earlier *Reports* or other publications of UNCTAD. In particular, recent FDI data are being revised in many economies according to the fifth edition of the balance-of-payments manual of IMF. Because of this, the data reported in last year's report may be completely or partly changed in this report.

The country coverage for this year's *World Investment Report* was expanded to include: Bhutan, Eritrea, Occupied Palestinian Territories, São Tomé and Príncipe, Tuvalu and Yugoslavia.

D. Data verification

In compiling data for this year's *Report*, requests for verifications and confirmation were made to national official sources for virtually all economies to reflect the latest data revisions and accuracy. In addition, Web sites of certain national official sources were also consulted. This verification process continued until end of June 2001. Any revisions made after this process are not reflected in the *Report*.

Below is a list of economies for which data were checked through either means. For the economies, which are not mentioned below, the UNCTAD Secretariat could not have the data verified or confirmed by respective governments.

Communiqués

Australia; Austria; Bahamas; Bangladesh; Banque Centrale de l'Afrique de l'Ouest; Belize; Botswana; Brazil; Burundi; Canada; China; Colombia; Costa Rica; Cyprus; Denmark; Egypt; Finland; France; Germany; Ghana; Greece; Guatemala; Guyana; Hong Kong, China; Iceland; India; Indonesia; Iran, Islamic Republic of; Jamaica; Republic of Korea; Kuwait; Mauritius; Mexico; Netherlands; Nicaragua; Oman; Pakistan; Philippines; Portugal; Rwanda; Seychelles; Singapore; South Africa; Spain; Swaziland; Sweden; Switzerland; Taiwan Province of China; Trinidad and Tobago; Tunisia; Turkey; United Kingdom; United Republic of Tanzania; Uganda; Uruguay; United States and Yemen

Web sites

Angola; Argentina; Aruba; Austria; Bahrain; Belgium and Luxembourg; Bolivia; Botswana; Bulgaria; Canada; Chile; Colombia; Costa Rica; Denmark; Dominican Republic; Eastern Caribbean Central Bank; Ecuador; Egypt; El Salvador; Ethiopia; Finland; France; Germany; Guatemala; Haiti; Honduras; Hong Kong, China; Iceland; India; Ireland; Italy; Japan; Republic of Korea; Kyrgyzstan; Malta; Morocco; Mozambique; Namibia; Nicaragua; Netherlands; Norway; Paraguay; Peru; Philippines; Portugal; South Africa; Spain; Sri Lanka; Swaziland; Sweden; Switzerland; Taiwan Province of China; United Republic of Tanzania; Thailand; Tunisia; Turkey; United Kingdom; United States and Venezuela.

E. Definitions and sources of the data in annex tables B.5 - B.10

1. Annex tables B.5 - B.6

These two annex tables show the ratio of inward and outward FDI flows to gross fixed capital formation or gross domestic capital formation (annex table B.5) and inward and outward FDI stock to GDP (annex table B.6), respectively. All of these data are in current prices.

The data on GDP were obtained from UNCTAD Secretariat. For some economies such as Taiwan Province of China, the data are supplemented from national sources. The data on gross fixed capital formation were obtained from IMF's international-financial-statistics CD-ROM, June 2001.

For economies for which data on gross fixed capital formation were unavailable, the following data were used from the above IMF's statistics:

Gross capital formation:

Barbados, Ethiopia, Indonesia, Nigeria, Oman, Romania, Suriname and Syrian Arab Republic

In the case of economies for which gross fixed capital formation data were unavailable for the IMF, such as Taiwan Province of China, the data are supplemented from national sources or World Bank data on gross domestic fixed investment, obtained from the World Development Indicators 2001 CD-ROM.

For annex table B.5, figures exceeding 100 per cent may result from the fact that, for some economies, the reported data on gross fixed capital formation do not necessarily accurately reflect the value of capital formation and that FDI flows do not necessarily translate into capital formation.

Data on FDI are from annex tables B.1-B.4.

2. Annex tables on M&As (B.7 - B.10)

FDI is a balance-of-payment concept, involving, thus, cross-border transfer of funds. Cross-border M&A statistics shown in the report are based on information reported by Thomson Financial Securities Data Company. In some cases, these include M&As between foreign affiliates and firms located in the same host economy. Such M&As conform to the FDI definition as far as the equity share is concerned. However, the data do include purchases via domestic and international capital markets, which should not be considered as FDI flows. Although it is possible to distinguish types of financing used (syndicated loans, corporate bonds, venture capital etc.) for M&As, it is not possible to trace the origin or country sources of the funds used. Therefore, the data used in the report include the funds not categorized as FDI.

FDI flows are recorded on a net basis (capital account credits less debits between direct investors and their foreign affiliates) in a particular year. On the other hand, M&A data are expressed as the total transaction amount of particular deals, not as differences between gross acquisitions and divestment abroad by firms from a particular country. Transaction amounts recorded in the UNCTAD M&A statistics are those at the time of closure of the deals, not at the time of announcement. The M&A values are not necessarily paid out in a single year.

Cross-border M&As are recorded in both directions of transactions; i.e. when a cross-border M&A takes place, it registers as both a sale in the country of the target firm (annex table B.7), and as a purchase in the home country of the acquiring firm (annex table B.8). Data showing cross-border M&A activities on an industry basis are also recorded as sales and purchases (annex tables B.9-B.10). Thus, if a food company acquires a chemical company, this transaction is recorded in the chemical industry in the table on M&As by industry of seller (annex table B.9) and also recorded in the food industry in the table on M&As by industry of purchaser (annex table B.10).

Notes

- ¹ In some countries, an equity stake other than that of 10 per cent is still used. In the United Kingdom, for example, a stake of 20 per cent or more was a threshold until 1997.
- ² This general definition of FDI is based on OECD, *Detailed Benchmark Definition of Foreign Direct Investment*, third edition (Paris, OECD, 1996) and International Monetary Fund, *Balance of Payments Manual*, fifth edition (Washington, D.C., IMF, 1993).
- ³ There are, however, some exceptions. For example, in the case of Germany, loans granted by affiliate enterprises to their parent enterprises are not deducted from the stock.
- ⁴ International Monetary Fund, op. cit., p. 40.
- ⁵ Includes Austria, Belgium, Canada, Denmark, Finland, France, Germany, Italy, Japan, the Netherlands, Norway, Spain, Sweden, the United Kingdom and the United States.

Annex table B.1. FDI inflows, by host region and economy, 1989-2000
(Millions of dollars)

Host region/economy	1989-1994 (Annual average)	1995	1996	1997	1998	1999	2000
World	200 145	331 068	384 910	477 918	692 544	1 075 049	1 270 764
Developed countries	137 124	203 462	219 688	271 378	483 165	829 818	1 005 178
Western Europe	79 757	117 175	114 852	137 516	273 398	485 321	633 163
European Union	76 634	113 480	109 642	127 626	261 141	467 154	617 321
Austria	1 045	1 904	4 426	2 654	4 533	2 975	9 374
Belgium and Luxembourg	9 163	10 689	14 064	11 998	22 691	119 693	87 129
Denmark	1 918	3 194	598	2 472	7 328	11 410	15 748
Finland	646	1 063	1 109	2 119	12 144	4 605	8 228
France	12 357	23 675	21 961	23 173	30 984	47 069	44 152
Germany	3 376	12 025	6 572	12 245	24 277	55 940	176 055
Greece	999	1 053	1 058	984	85	560	1 115
Ireland	912	1 447	2 618	2 743	11 035	14 929	16 320
Italy	3 338	4 842	3 546	3 700	2 635	6 749	11 383
Netherlands	7 242	12 322	16 107	11 169	37 948	42 579	55 011
Portugal	1 912	685	1 494	2 478	3 115	1 145	4 263
Spain	11 123	6 161	6 585	7 697	14 214	15 758	36 615
Sweden	3 366	14 453	5 070	10 968	19 564	60 801	21 499
United Kingdom	19 236	19 969	24 435	33 227	70 590	82 941	130 428
Other Western Europe	3 123	3 695	5 210	9 890	12 257	18 167	15 843
Gibraltar	44	11 ^a	- 22 ^a	126 ^a	- 162 ^a	17 ^a	- 6 ^a
Iceland	8	- 9	84	149	148	61	157
Norway	764	1 470	2 070	2 979	3 331	6 698	6 353
Switzerland	2 307	2 222	3 078	6 636	8 940	11 390	9 339
North America	48 227	68 029	94 090	114 923	197 009	320 126	344 450
Canada	5 692	9 257	9 635	11 525	22 575	25 150	63 335
United States	42 535	58 772	84 455	103 398	174 434	294 976	281 115
Other developed countries	9 139	18 258	10 745	18 938	12 757	24 371	27 565
Australia	5 790	11 970	6 110	7 670	5 983	6 355	11 675
Israel	380	1 349	1 387	1 628	1 754	2 363	5 349 ^a
Japan	969	39	200	3 200	3 268	12 741	8 187
New Zealand	1 940	3 659	2 231	2 624	1 191	1 410	1 477 ^a
South Africa	60	1 241	818	3 817	561	1 502	877
Developing countries and economies	59 578	113 338	152 493	187 352	188 371	222 010	240 167
Africa	3 952	4 694	5 622	7 153	7 713	8 971	8 198
North Africa	1 533	1 209	1 214	2 359	2 299	2 530	2 616
Algeria	12	5	4	7	5	7	6 ^a
Egypt	741	598	636	891	1 076	1 065	1 235
Libyan Arab Jamahiriya	76	- 107	- 135	- 82	- 152	- 128	- ^a
Morocco	352	335	357	1 079	329	847	201
Sudan	- 5	- ^a	-	98	371	371	392
Tunisia	358	378	351	366	670	368	781
Other Africa	2 419	3 485	4 408	4 795	5 415	6 442	5 582
Angola	215	472	181	412	1 114	2 471	1 800 ^a
Benin	56	13	36	27	38	61	30
Botswana	- 29	70	70	100	96	37	30

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Annex table B.1. FDI inflows, by host region and economy, 1989-2000 (continued)

(Millions of dollars)

Host region/economy	1989-1994 (Annual average)	1995	1996	1997	1998	1999	2000
Burkina Faso	7	10	17	13	10	13	12 ^a
Burundi	-	2	-	-	2	-	12
Cameroon	- 31	7	35	45	50	40	45 ^a
Cape Verde	1	26	29	12	9	15 ^a	30 ^a
Central African Republic	- 3	3	5	6	5	13	8 ^a
Chad	13	13	18	15	16	15	50 ^a
Comoros	-	-	2	2	2	1	2 ^a
Congo	4	3	8	9	4	5	6 ^a
Congo, Democratic Republic of	- 2	1	2	1	1	1	1 ^a
Côte d'Ivoire	75	268	302	450	314	279	290 ^a
Djibouti	-	3	5	5	6	5	5 ^a
Equatorial Guinea	16	127	376	20	24	120	55 ^a
Eritrea	..	..	..	..^a	- 2 ^a	1 ^a	.. ^a
Ethiopia	7	14	22	288	261	68 ^a	80 ^a
Gabon	- 16	- 113	312	143	211	200	90 ^a
Gambia	9	8	12	13	14	14	14 ^a
Ghana	72	107	120	82	56	63	110
Guinea	15	-	24	17	18	63	33 ^a
Guinea-Bissau	2	.. ^a	1 ^a	10 ^a	.. ^a	3	5 ^a
Kenya	25	32	13	40	42	42	60 ^a
Lesotho	169	275	286	269	262	136	223 ^a
Liberia	154	21	17	15	16	10	14 ^a
Madagascar	15	10	10	14	16	58	29 ^a
Malawi	12	25	44	22	70	60	51 ^a
Mali	2	123	47	74	36	51	56
Mauritania	6	7	5	3	-	2	2 ^a
Mauritius	24	19	37	55	12	49	277
Mozambique	21	45	73	64	213	382	139
Namibia	70	153	129	84	77	111	124
Niger	17	16	20	25	9	-	11 ^a
Nigeria	1 231	1 079	1 593	1 539	1 051	1 005	1 000 ^a
Rwanda	7	2	2	3	7	2	4 ^a
São Tomé and Príncipe	..	..^a	.. ^a	.. ^a	.. ^a	.. ^a	.. ^a
Senegal	19	35	5	177	60	136	107
Seychelles	20	40	30	54	55	60	56
Sierra Leone	8	- 2	5	4	5	1	3 ^a
Somalia	- 5	1	..	..	..^a	61 ^a	20 ^a
Swaziland	67	44	22	- 15	165	90	- 37
Togo	6	38	27	23	42	70	60
Uganda	23	121	121	175	210	222	254
United Republic of Tanzania	15	150	149	158	172	183	193
Zambia	90	97	117	207	198	163	200 ^a
Zimbabwe	13	118	81	135	444	59	30 ^a
Latin America and the Caribbean	17 506	32 311	51 279	71 152	83 200	110 285	86 172
South America	7 647	19 546	30 694	45 264	53 303	75 863	55 081
Argentina	2 694	5 609	6 949	9 162	7 281	24 147	11 152
Bolivia	96	374	426	879	955	1 014	731
Brazil	1 498	5 475	10 496	18 743	28 480	31 362	33 547
Chile	1 220	2 956	4 633	5 219	4 638	9 221	3 674
Colombia	346	1 321	1 880	2 933	4 186	4 002	273
Ecuador	271	470	491	695	831	636	708
Guyana	57	74	93	53	47	48	67
Paraguay	79	98	144	230	336	66	96
Peru	673	2 048	3 242	1 697	1 880	1 969	556
Suriname	- 82	- 21	19	- 9	9	- 18 ^a	- 12 ^a

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Annex table B.1. FDI inflows, by host region and economy, 1989-2000 (continued)
(Millions of dollars)

Host region/economy	1989-1994 (Annual average)	1995	1996	1997	1998	1999	2000
Uruguay	63	157	137	126	164	229	180
Venezuela	732	985	2 183	5 536	4 495	3 187	4 110
Other Latin America and the Caribbean	9 859	12 765	20 585	25 889	29 898	34 422	31 090
Anguilla	10 ^b	18	33	21	28	40	48 ^a
Antigua and Barbuda	36	31	19	23	27	27	31 ^a
Aruba	34	1	84	196	84	392	- 228
Bahamas	10	107	88	210	147	149	251
Barbados	11	12	13	15	16 ⁱ	17	14 ^a
Belize	16	21	17	12	19	56	28
Bermuda	1 553	641 ^a	3 971 ^a	2 928 ^a	5 395 ^a	6 443 ^a	6 648 ^a
Cayman Islands	179	42 ^a	1 232 ^a	3 151 ^a	4 348 ^a	6 468 ^a	4 783 ^a
Costa Rica	202	337	427	407	612	620	400
Cuba	6	5 ^a	19 ^a	1 ^a	15 ^a	9 ^a	13 ^a
Dominica	17	54	18	21	7	18	16 ^a
Dominican Republic	161	414	97	421	700	1 338	953
El Salvador	12	38	- 5	59	1 104	231	185
Grenada	17	20	19	35	51	46	37 ^a
Guatemala	88	75	77	85	673	155	228
Haiti	4	- 2	4	4	11	30	13
Honduras	48	69	90	128	99	237	282
Jamaica	144	147	184	203	369	524	456
Mexico	6 571	9 526	9 902	13 841	11 612	11 915	13 162
Montserrat	6	3	-	3	3	8	2 ^a
Netherlands Antilles	22	10	2 826 ^a	1 038 ^a	892 ^a	401 ^a	777 ^a
Nicaragua	28	75	97	173	184	300	265
Panama	167	267	410	1 256	1 219	517	393
Saint Kitts and Nevis	25	20	35	20	32	42	38 ^a
Saint Lucia	39	33	18	48	83	94	75 ^a
Saint Vincent and the Grenadines	20	31	43	92	89	46	76 ^a
Trinidad and Tobago	250	299	355	1 000	732	643	662
Virgin Islands	186	470	510	500	1 348 ^a	3 656 ^a	1 483 ^a
Asia and the Pacific	37 888	75 856	94 506	107 347	95 850	100 030	143 763
Asia	37 659	75 293	94 351	107 205	95 599	99 728	143 479
West Asia	2 181	- 2	2 892	5 488	6 580	936	3 427
Bahrain	237	431	2 048	329	180	448	500 ^a
Cyprus	91	82	50	68	56	65	63 ^a
Iran, Islamic Republic of	- 23	17	26	53	24	33 ^a	36 ^a
Iraq	1	2 ^a	..	1 ^a	7 ^a	- 7 ^a	- ^a
Jordan	6	13	16	361	310	158	300 ^a
Kuwait	- 4	7	347	20	59	72	16
Lebanon	10	35	80	150	200	250	180 ^a
Oman	119	29	60	65	101	21	62 ^a
Occupied Palestinian Territory	..	..	4 ^a	..	..	1 ^a	- ^a
Qatar	48	94 ^a	339 ^a	418 ^a	347 ^a	144 ^a	303 ^a
Saudi Arabia	502	- 1 877	- 1 129	3 044	4 289	- 782	1 000 ^a
Syrian Arab Republic	98	100	89	80	80	91	84 ^a
Turkey	708	885	722	805	940	783	982
United Arab Emirates	90	399 ^a	301 ^a	232 ^a	253 ^a	- 13 ^a	100 ^a
Yemen	300	- 218	- 60	- 139	- 266	- 329	- 201
Central Asia	399	1 655	2 053	3 210	3 015	2 568	2 704
Armenia	7	25	18	52	232	130	133 ^a
Azerbaijan	22 ^c	330	627	1 115	1 023	510	883 ^a

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Annex table B.1. FDI inflows, by host region and economy, 1989-2000 (continued)

(Millions of dollars)

Host region/economy	1989-1994 (Annual average)	1995	1996	1997	1998	1999	2000
Georgia	8 ^c	5	45	243	265	82	197 ^a
Kazakhstan	677 ^d	964	1 137	1 321	1 152	1 587	1 249
Kyrgyzstan	24 ^e	96	47	83	109	35	19
Tajikistan	10 ^c	15	16	4	30	21	24
Turkmenistan	100 ^c	100	108	108	64	80	100
Uzbekistan	45 ^d	120	55	285	140	121	100
South, East and South-East Asia	35 078	73 639	89 406	98 507	86 004	96 224	137 348
Afghanistan	. ^f	. ^a	. ^a	- 1 ^a	. ^a	6 ^a	2
Bangladesh	6	2	14	141	190	179	170 ^a
Bhutan	1 ^g	. ^a	1 ^a	. ^a	..	..	..
Brunei Darussalam	6 ^b	13 ^a	- 69 ^a	2 ^a	- 20 ^a	- 38 ^a	- 19 ^a
Cambodia	52 ^d	151	294	204	121	135	153 ^a
China	13 951	35 849	40 180	44 237	43 751	40 319	40 772
Hong Kong, China	4 164	6 213 ^a	10 460 ^a	11 368	14 776	24 591	64 448
India	394	2 144	2 591	3 613	2 614	2 154	2 315
Indonesia	1 524	4 346	6 194	4 677	- 356	- 2 745	- 4 550
Korea, Democratic People's Republic of	119	. ^a	2 ^a	307 ^a	31 ^a	- 15 ^a	108 ^a
Korea, Republic of	869	1 776	2 325	2 844	5 412	10 598	10 186
Lao People's Democratic Republic	19	95	160	91	46	79	72 ^a
Macau, China	- 2	2 ^a	6 ^a	2 ^a	- 18 ^a	9 ^a	- 2 ^a
Malaysia	3 964	5 816	7 296	6 513	2 700	3 532	5 542
Maldives	6	7	9	11	12	12	12 ^a
Mongolia	7 ^f	10	16	25	19	30	25 ^a
Myanmar	135	277	310	387	314	253	240
Nepal	4	8	19	23	12	4	13 ^a
Pakistan	304	719	918	713	507	531	308
Philippines	879	1 459	1 520	1 249	1 752	737	1 489
Singapore	4 798	8 788	10 372	12 967	6 316	7 197	6 390
Sri Lanka	102	65	133	435	206	177	217
Taiwan Province of China	1 229	1 559	1 864	2 248	222	2 926	4 928
Thailand	1 927	2 004	2 271	3 627	5 143	3 562	2 448
Viet Nam	651	2 336	2 519	2 824	2 254	1 991	2 081
The Pacific	229	564	155	142	251	302	284
Fiji	61	70	2	16	107	- 33	30 ^a
Kiribati	-	. ^a	. ^a	1	. ^a	. ^a	. ^a
New Caledonia	12	. ^a	- ^a	10 ^a	. ^a	4 ^a	5 ^a
Papua New Guinea	116	455	111	29	110	296	200 ^a
Samoa	5 ^b	3 ^a	1 ^a	20 ^a	3	2 ^a	8 ^a
Solomon Islands	13	2	6	34	9	10	18 ^a
Tonga	-	2	2	3	2	2	2 ^a
Tuvalu	. ^d	..	- ^a	..	. ^a	. ^a	. ^a
Vanuatu	22	31	33	30	20	20	20 ^a
Developing Europe	232	477	1 085	1 699	1 608	2 723	2 035
Bosnia and Herzegovina	..	. ^a	- 2	1	10	90	117
Croatia	119 ^e	114	511	540	935	1 474	899
Malta	70	132	277	81	267	822	639
Slovenia	71	176	186	321	165	181	181
TFYR Macedonia	24 ^c	10	12	16	118	32	170
Yugoslavia	95 ^c	45	102	740	113	124	29
Central and Eastern Europe	3 444	14 268	12 730	19 188	21 008	23 222	25 419
Albania	33 ^f	70	90	48	45	41	92
Belarus	12 ^d	15	105	352	203	444	90
Bulgaria	50 ^b	90	109	505	537	819	1 002
Czech Republic	563	2 562	1 428	1 300	3 718	6 324	4 595

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Annex table B.1. FDI inflows, by host region and economy, 1989-2000 (concluded)
(Millions of dollars)

Host region/economy	1989-1994 (Annual average)	1995	1996	1997	1998	1999	2000
Estonia	153 ^d	202	151	267	581	305	398
Hungary	1 152	4 453	2 275	2 173	2 036	1 944	1 957
Latvia	95 ^d	180	382	521	357	348	407
Lithuania	24 ^d	73	152	355	926	486	379
Moldova, Republic of	20 ^d	67	24	79	74	39	128
Poland	788	3 659	4 498	4 908	6 365	7 270	10 000
Romania	140 ^f	420	265	1 215	2 031	1 041	998
Russian Federation	850 ^d	2 016	2 479	6 638	2 761	3 309	2 704
Slovakia	137 ^b	195	251	206	631	356	2 075
Ukraine	186 ^d	267	521	624	743	496	595
<i>Memorandum</i>							
Least developed countries^h							
Total	1 430	2 016	2 450	2 976	3 679	5 176	4 414
Africa	890	1 659	1 657	2 170	3 207	4 774	3 894
Latin America and the Caribbean	4	- 2	4	4	11	30	13
Asia and the Pacific	535	359	788	802	461	373	508
Asia	497	323	748	717	429	340	461
West Asia	300	- 218	- 60	- 139	- 266	- 329	- 201
South, East and South-East Asia	197	540	808	855	695	669	662
The Pacific	38	37	41	85	33	33	47
Oil-exporting countriesⁱ							
Total	5 370	6 652	13 198	18 180	13 256	5 250	5 915
Africa	1 521	1 339	1 963	2 028	2 233	3 560	2 902
North Africa	87	- 102	- 131	- 75	- 147	- 121	6
Other Africa	1 434	1 441	2 094	2 103	2 380	3 681	2 896
Latin America and the Caribbean	1 253	1 754	3 030	7 231	6 058	4 466	5 480
South America	1 003	1 455	2 674	6 231	5 326	3 823	4 818
Other Latin America and the Caribbean	250	299	355	1 000	732	643	662
Asia	2 596	3 559	8 205	8 921	4 964	- 2 776	- 2 467
West Asia	1 067	- 800	2 081	4 242	5 340	7	2 102
South, East and South-East Asia	1 529	4 359	6 125	4 679	- 376	- 2 783	- 4 569
All developing countries minus China	45 627	77 489	112 313	143 115	144 620	181 691	199 395
Developed Asia	1 349	1 388	1 588	4 828	5 022	15 104	13 536
Developed Pacific	7 730	15 628	8 340	10 294	7 174	7 764	13 152
Africa including South Africa	4 013	5 936	6 440	10 970	8 274	10 474	9 075
Other Africa including South Africa	2 479	4 727	5 226	8 611	5 976	7 944	6 459
Central and Eastern Europe and Developing Europe (excluding Malta)	3 605	14 612	13 539	20 806	22 348	25 123	26 815

Source: UNCTAD, FDI/TNC database.

^a Estimates. For details, see "definitions and sources" in annex B.

^b Annual average from 1990 to 1994.

^c 1994.

^d Annual average from 1992 to 1994.

^e Annual average from 1993 to 1994.

^f Annual average from 1991 to 1994.

^g Annual average from 1990 to 1991.

^h Least developed countries include: Afghanistan, Angola, Bangladesh, Benin, Bhutan, Burkina Faso, Burundi, Cambodia, Cape Verde, Central African Republic, Chad, Comoros, Democratic Republic of Congo, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gambia, Guinea, Guinea-Bissau, Haiti, Kiribati, Lao People's Democratic Republic, Lesotho, Liberia, Madagascar, Malawi, Maldives, Mali, Mauritania, Mozambique, Myanmar, Nepal, Niger, Rwanda, Samoa, São Tomé and Príncipe, Senegal, Sierra Leone, Solomon Islands, Somalia, Sudan, Togo, Tuvalu, Uganda, United Republic of Tanzania, Vanuatu, Yemen and Zambia.

ⁱ Oil-exporting countries include: Algeria, Angola, Bahrain, Brunei Darussalam, Congo, Ecuador, Gabon, Indonesia, Iran, Islamic Republic of, Iraq, Kuwait, Libyan Arab Jamahiriya, Nigeria, Oman, Qatar, Saudi Arabia, Syrian Arab Republic, Trinidad and Tobago, United Arab Emirates and Venezuela.

Annex table B.2. FDI outflows, by home region and economy, 1989-2000
(Millions of dollars)

Host region/economy	1989-1994 (Annual average)	1995	1996	1997	1998	1999	2000
World	228 281	355 284	391 554	466 030	711 914	1 005 782	1 149 903
Developed countries	203 231	305 847	332 921	396 868	672 027	945 687	1 046 335
Western Europe	114 151	173 624	204 317	242 425	475 226	761 102	820 322
European Union	105 194	159 036	183 180	220 416	454 266	720 052	772 949
Austria	1 334	1 131	1 934	1 987	2 745	3 301	3 346
Belgium and Luxembourg	6 126	11 603	8 026	7 252	28 675	122 304	82 977
Denmark	2 195	2 347	1 984	3 715	44 920	12 557	8 561
Finland	1 750	1 497	3 595	5 278	18 637	6 613	23 154
France	20 448	15 756	30 420	35 583	48 612	120 617	172 478
Germany	19 515	39 049	50 804	41 798	88 581	109 795	48 557
Greece	- 14 ^b	66 ^a	- 18 ^a	4 ^a	262	- 555	- 2 141
Ireland	305	820	727	1 008	3 906	4 267	2 090
Italy	5 634	7 024	8 697	10 414	12 407	6 746	12 098
Netherlands	13 421	20 201	32 115	24 607	37 424	61 264	73 054
Portugal	305	688	784	1 908	3 009	3 340	5 784
Spain	3 125	4 076	5 397	12 626	18 926	42 084	53 716
Sweden	6 796	11 215	4 667	12 648	24 369	21 924	39 481
United Kingdom	24 249	43 562	34 047	61 590	121 794	205 795	249 794
Other Western Europe	8 957	14 588	21 137	22 009	20 960	41 050	47 373
Iceland	14	24	63	55	74	117	382
Norway	1 146	2 354	4 922	4 221	2 120	4 982	7 368
Switzerland	7 798	12 210	16 152	17 732	18 767	35 952	39 623
North America	54 846	103 538	97 523	118 835	165 588	160 966	183 304
Canada	5 822	11 464	13 097	23 066	34 584	18 415	44 047
United States	49 024	92 074	84 426	95 769	131 004	142 551	139 257
Other developed countries	34 234	28 685	31 081	35 608	31 213	23 620	42 709
Australia	2 522	3 284	7 086	6 449	3 381	- 2 906	5 231
Israel	429	733	1 042	795	972	1 030	2 685 ^a
Japan	29 576	22 508	23 442	26 059	24 152	22 743	32 886
New Zealand	1 062	- 337	- 1 533	- 45	928	803	1 342 ^a
South Africa	645	2 498	1 044	2 351	1 779	1 949	564
Developing countries and economies	24 925	48 987	57 584	65 745	37 750	57 978	99 546
Africa	876	509	28	1 704	897	632	744
North Africa	10	194	101	429	372	284	382
Algeria	21	..	..	..	..	..	..
Egypt	29	93	5	129	46	38	51
Libyan Arab Jamahiriya	- 47	83	63	282	304	226	271 ^a
Morocco	23 ^c	15	30	9	20	18	59
Tunisia	4	3	2	9	2	3	2
Other Africa	866	316	- 73	1 275	526	348	362
Angola	.. ^c	-	-	- 1 ^a	- 1 ^a	.. ^a	.. ^a
Benin	12	12	2	23	1
Botswana	9 ^c	41	- 1	4	4	1	4
Burkina Faso	4 ^d	-	-	1	5	5	4 ^a

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Annex table B.2. FDI outflows, by home region and economy, 1989-2000 (continued)
(Millions of dollars)

Host region/economy	1989-1994 (Annual average)	1995	1996	1997	1998	1999	2000
Burundi	-	-	-	-	-	-	-
Cameroon	20	-	..	..	..	..	..
Cape Verde	-	-	-	-	..	..	..
Central African Republic	5	6 ^a	6 ^a	6 ^a	6 ^a	6 ^a	6 ^a
Chad	10	8 ^a	7 ^a	5 ^a	7 ^a	6 ^a	6 ^a
Comoros	..	..	..	..	..	..	..
Côte d'Ivoire	92 ^c	56	33	34	36	27	32 ^a
Equatorial Guinea	..	-	-	..	..	..	..
Ethiopia	..	..	..	8	171	- 46	44 ^a
Gabon	13	- 1 ^a	- 1 ^a	..	..	..	..
Ghana	..	..	150 ^a	50 ^a	30 ^a	77 ^a	52 ^a
Kenya	..	13	25	5	14	30	40 ^a
Lesotho	..	..	..	..	..	..	..
Liberia	105	- 96 ^a	- 430 ^a	1 028 ^a	..	..	..
Madagascar	..	..	..	..	..	..	..
Malawi	..	..	2 ^a	..	6	3 ^a	3 ^a
Mali	..	..	4	5	27	50	6
Mauritania	..	..	..	..	..	..	..
Mauritius	15	4	3	3	14	6	13
Mozambique	..	..	..	..	..	..	..
Namibia	2 ^c	- 4	- 22	1	1	2	2
Niger	9	2	18	8	10	-	6 ^a
Nigeria	538	104	42	58	107	92	86 ^a
Rwanda	..	..	..	..	..	..	..
Senegal	8	- 3	2	-	10	6	18
Seychelles	3	16	13	10	3	9	7
Sierra Leone	..	..	..	..	..	..	..
Swaziland	18	30	- 11	- 10	23	10	- 14
Togo	4	6	13	4	22	41	23
Uganda	30	119	11	15	20	- 8	9 ^a
United Republic of Tanzania	..	..	..	..	..	..	..
Zimbabwe	11	13	51	28	9	9	15 ^a
Latin America and the Caribbean	3 698	7 306	5 549	14 391	8 048	21 753	13 442
South America	1 826	3 779	3 884	8 228	9 045	8 860	9 747
Argentina	482	1 498	1 600	3 654	2 323	1 249	912
Bolivia	2	2	2	2	3	3	2 ^a
Brazil	595	1 163	520	1 660	2 609	1 375	2 984
Chile	314	751	1 188	1 866	2 797	4 855	4 778
Colombia	65	285	68	442	1 041	623	625
Ecuador	- 2 ^d	2 ^a	1 ^a	..	..	..	..
Guyana	..	..	- 1 ^a	..	..	..	..
Paraguay	9 ^c	5	5	6	6	6	6 ^a
Peru	9 ^j	8	- 17	85	24	220 ^a	110 ^a
Uruguay	3	- 26 ^a	11 ^a	13	9	11 ^a	9
Venezuela	357	91	507	500	233	518	321
Other Latin America and the Caribbean	1 872	3 527	1 665	6 163	- 997	12 893	3 695
Antigua and Barbuda	- 1 ^a	- 2 ^a	- 1 ^a	- 2 ^a	..	1 ^a	-
Aruba	3 ^j	2	-	- 2	1	- 8	12
Bahamas	-	-	-	-	1	-	-
Barbados	2	3	4	1	-	1	1 ^a
Belize	2	3	6	4	6	10	10
Bermuda	107	501 ^a	- 144 ^a	1 853 ^a	- 139 ^a	9 737 ^a	74 ^a
Cayman Islands	114	450 ^a	400 ^a	1 800 ^a	100 ^a	100 ^a	667 ^a
Costa Rica	4	6	6	4	5	5	3
Dominica	- 2 ^f	-	2	2	2 ^a

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Annex table B.2. FDI outflows, by home region and economy, 1989-2000 (continued)
(Millions of dollars)

Host region/economy	1989-1994 (Annual average)	1995	1996	1997	1998	1999	2000
Dominican Republic	7 ^j	15	14	1 ^a	1 ^a	6	3 ^a
El Salvador	- ^f	..	2	..	..	54	- 7
Grenada	- ^l	..	..	..	..	..	..
Guatemala	- 20 ⁿ	- 24 ^a	2 ^a	1 ^a	2 ^a	2 ^a	2 ^a
Haiti	- 6 ^c	1 ^a	1 ^a	- ^a	- ^a	- ^a	- ^a
Honduras	- ^c	- 2 ^a	- 2 ^a	- 1 ^a	- 1 ^a	1 ^a	- ^a
Jamaica	47 ^c	66	93	57	82	95	74
Mexico	349	- 263	38	1 108	1 363	1 214 ^a	1 600 ^a
Netherlands Antilles	1	-	- 1 242 ^a	- 2 434 ^a	- 2 712 ^a	36 ^a	1 108 ^a
Nicaragua	- ^o	..	- 9 ^a	..	..	- 2 ^a	- ^a
Panama	216	329 ^a	860 ^a	328 ^a	1 121 ^a	- 124 ^a	- 1 248 ^a
Saint Kitts and Nevis	- ^c	- 2 ^a	- 2 ^a	- 2 ^a	- 1 ^a	- 1 ^a	- 1 ^a
Saint Lucia	- ^e	-	..	..	..	..	..
Saint Vincent and the Grenadines	- ^c	..	-	..	..	..	..
Trinidad and Tobago	- ^c	1 ^a	1 ^a	1 ^a	1 ^a	264	25
Virgin Islands	3 130 ^d	2 444 ^a	1 639 ^a	3 444 ^a	- 830 ^a	1 500 ^a	1 371 ^a
Asia and the Pacific	20 346	41 147	51 934	49 423	28 680	35 474	85 253
Asia	20 335	41 149	51 924	49 393	28 617	35 421	85 204
West Asia	294	- 991	2 273	- 281	- 1 698	656	1 284
Bahrain	63	- 16	305	48	181	163	131 ^a
Cyprus	10	16	35	27	57	166	83 ^a
Iran, Islamic Republic of	25 ^j	3 ^a	- ^a	61 ^a	17 ^a	30 ^a	36 ^a
Jordan	- 13	- 27	- 43	181	121	5	102 ^a
Kuwait	232	- 1 022	1 740	- 969	- 1 867	23	254
Lebanon	1	- 2 ^a	- 2 ^a	- 3 ^a	- 5 ^a	- 1 ^a	- 4 ^a
Oman	-	1 ^a	1 ^a	-	-	10 ^a	3 ^a
Qatar	..	30 ^a	40 ^a	20 ^a	20 ^a	30 ^a	23 ^a
Saudi Arabia	- 28	13 ^a	187 ^a	195 ^a	- 472 ^a	- 125 ^a	- 134 ^a
Syrian Arab Republic	..	- 100	- 89	- 80	- 82	- 263	- 142 ^a
Turkey	28 ^c	113	110	251	367	645	870
United Arab Emirates	- 7	1 ^a	- 11 ^a	- 11 ^a	- 33 ^a	- 27 ^a	61 ^a
Central Asia	1^j	316	- 13	191	329	318	280
Armenia	..	..	..	..	12	13	8 ^a
Azerbaijan	..	175	36	64	137	336	179 ^a
Georgia	- 2 ⁿ	2	- 14	7	44	1	17 ^a
Kazakhstan	- ⁿ	-	-	1	8	4	4
Kyrgyzstan	..	..	-	-	-	-	-^a
Tajikistan	..	..	..	..	-	17	6 ^a
Turkmenistan	..	..	..	..	68	- 45	8 ^a
Uzbekistan	2 ^j	139	- 35	118	60	- 8	57 ^a
South, East and South-East Asia	20 040	41 824	49 663	49 482	29 985	34 447	83 641
Bangladesh	-	2	13	5	30	24	20 ^a
Brunei Darussalam	26 ^p	20 ^a	40 ^a	10 ^a	10 ^a	20 ^a	13 ^a
Cambodia	2 ^o	..	..	..	..	..	..
China	2 154	2 000	2 114	2 563	2 634	1 775	2 324 ^a
Hong Kong, China	9 236	25 000 ^a	26 531 ^a	24 407 ^a	16 973	19 339	63 036
India	19	119	244	113	48	79	336
Indonesia	752	1 319	600	178	44	72	150
Korea, Republic of	1 350	3 552	4 670	4 449	4 740	2 550	3 697
Lao People's Democratic Republic	- ^q	-	..	- 5	-	-	- 2 ^a
Malaysia	681	2 488	3 768	2 626	785	1 640	2 919
Maldives	- ^c	-

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Annex table B.2. FDI outflows, by home region and economy, 1989-2000 (continued)
(Millions of dollars)

Host region/economy	1989-1994 (Annual average)	1995	1996	1997	1998	1999	2000
Mongolia	..	1 ^a	-	2 ^e	-	1 ^a	1 ^a
Myanmar	- 12 ⁿ	- 42	8	- 26	43	59	25 ^a
Pakistan	5	-	7	- 25	5	- 21	- 11
Philippines	139	98	182	136	160	128	95
Singapore	1 915	3 442	6 827	9 360	555	4 011	4 276
Sri Lanka	4	7	..	-	-	5 ^a	2 ^a
Taiwan Province of China	3 578	2 983	3 843	5 243	3 836	4 420	6 701
Thailand	201	835	816	447	124	344	59
The Pacific	12	- 2	10	30	63	53	49
Fiji	15	- 3	10	30	63	53	49 ^a
Kiribati	.. ⁿ	..	..	..	..	..	..
Papua New Guinea	- 4 ^r	-	..	..	-	..^a	.. ^a
Solomon Islands	.. ⁱ	..	..	..	..	..	..
Tonga	.. ^f	..	..	..	..	..	..
Developing Europe	4	24	73	227	125	118	107
Bosnia and Herzegovina	1 ^j	8	29	- 2	..	..	..
Croatia	13 ^d	6	30	186	97	35	28
Malta	.. ^d	5	6	17	15	45	30
Slovenia	- 1 ^j	6	8	26	11	38	48
TFYR Macedonia	..	..	-	1	1	1	1 ^a
Central and Eastern Europe	125	450	1 049	3 417	2 137	2 118	4 022
Albania	12 ^j	12	10	10	1	7 ^a	6 ^a
Belarus	.. ^o	8	3	2	2	-	-
Bulgaria	.. ^h	- 8	- 29	- 2	-	17	- 2
Czech Republic	77 ^j	37	153	25	127	90	118
Czechoslovakia (former)	12 ^g	..	..	..	..	..	..
Estonia	3 ^j	2	40	137	6	83	157
Hungary	22 ^b	43	- 3	431	481	249	532
Latvia	- 22 ^j	- 65	3	6	54	17	8
Lithuania	..	1	-	27	4	9	13
Moldova, Republic of	18 ⁿ	-	-	-	-	-	-
Poland	14	42	53	45	316	31	126
Romania	8 ^c	3	2	-	- 9	16	- 11
Russian Federation	122 ^d	358	771	2 597	1 011	1 963	3 050
Slovakia	13 ^j	8	52	95	146	- 372	23
Ukraine	8 ⁿ	10	- 5	42	- 4	7	1
Memorandum							
Least developed countries ^s							
Total	156	2	- 332	1 065	359	171	169
Africa	162	42	- 354	1 092	286	87	126
Latin America and the Caribbean	- 6	1	1	-	-	-	-
Asia and the Pacific	- 2	- 41	21	- 27	73	84	43
Asia	- 2	- 41	21	- 27	73	84	43
<i>South, East and South-East Asia</i>	- 2	- 41	21	- 27	73	84	43
The Pacific	-	-	-	-	-	-	-
Oil-exporting countries ^t							
Total	1 905	528	3 427	291	- 1 540	1 032	1 097
Africa	515	186	104	339	409	316	355
<i>North Africa</i>	- 37	83	63	282	304	226	271
<i>Other Africa</i>	552	103	41	57	105	90	84

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Annex table B.2. FDI outflows, by home region and economy, 1989-2000 (concluded)
(Millions of dollars)

Host region/economy	1989-1994 (Annual average)	1995	1996	1997	1998	1999	2000
Latin America and the Caribbean	356	94	509	501	234	783	346
<i>South America</i>	357	93	508	500	233	519	321
<i>Other Latin America and the Caribbean</i>	-	1	1	1	1	264	25
Asia	1 034	249	2 813	- 549	- 2 183	- 67	396
<i>West Asia</i>	274	- 1 090	2 173	- 737	- 2 237	- 159	232
<i>South, East and South-East Asia</i>	761	1 339	640	188	54	92	163
All developing countries minus China	22 771	46 987	55 470	63 182	35 116	56 203	97 222
Developed Asia	30 005	23 241	24 484	26 854	25 124	23 773	35 572
Developed Pacific	3 584	2 947	5 553	6 404	4 309	- 2 102	6 573
Africa including South Africa	1 521	3 007	1 072	4 055	2 677	2 581	1 308
<i>Other Africa including South Africa</i>	1 511	2 813	971	3 626	2 305	2 297	926
Central and Eastern Europe and Developing Europe (excluding Malta)	129	469	1 117	3 627	2 247	2 191	4 099

Source: UNCTAD, FDI/TNC database.

^a Estimates. For details, see "definitions and sources" in annex B.

^b Annual average from 1991 to 1994.

^c Annual average from 1990 to 1994.

^d Annual average from 1993 to 1994.

^e Annual average from 1990 to 1991.

^f Annual average from 1989 to 1993.

^g Annual average from 1989 to 1991.

^h 1992.

ⁱ Annual average from 1990 to 1992.

^j Annual average from 1992 to 1994.

^k 1990.

^l Annual average from 1990 to 1993.

^m Annual average from 1992 to 1993.

ⁿ 1994.

^o 1993.

^p Annual average from 1991 to 1993.

^q 1991.

^r Annual average from 1989 to 1992.

^s Least developed countries include: Afghanistan, Angola, Bangladesh, Benin, Bhutan, Burkina Faso, Burundi, Cambodia, Cape Verde, Central African Republic, Chad, Comoros, Democratic Republic of Congo, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gambia, Guinea, Guinea-Bissau, Haiti, Kiribati, Lao People's Democratic Republic, Lesotho, Liberia, Madagascar, Malawi, Maldives, Mali, Mauritania, Mozambique, Myanmar, Nepal, Niger, Rwanda, Samoa, São Tomé and Príncipe, Senegal, Sierra Leone, Solomon Islands, Somalia, Sudan, Togo, Tuvalu, Uganda, United Republic of Tanzania, Vanuatu, Yemen and Zambia.

^t Oil-exporting countries include: Algeria, Angola, Bahrain, Brunei Darussalam, Congo, Ecuador, Gabon, Indonesia, Iran, Islamic Republic of, Iraq, Kuwait, Libyan Arab Jamahiriya, Nigeria, Oman, Qatar, Saudi Arabia, Syrian Arab Republic, Trinidad and Tobago, United Arab Emirates and Venezuela.

Annex table B.3. FDI inward stock, by host region and economy,
1980, 1985, 1990, 1995, 1999 and 2000 ^a
(Millions of dollars)

Host region/economy	1980	1985	1990	1995	1999	2000
World	615 805	893 567	1 888 672	2 937 539	5 196 046	6 314 271
Developed countries	374 968	546 281	1 397 983	2 051 739	3 353 701	4 210 294
Western Europe	200 814	254 139	786 607	1 208 564	1 944 544	2 501 470
European Union	185 738	236 507	739 561	1 131 427	1 835 045	2 376 244
Austria	3 163	3 762	9 884	17 532	23 472	27 400
Belgium and Luxembourg	7 306	18 447	58 388	116 570	285 015 ^b	372 144 ^b
Denmark	4 193	3 613	9 192	23 801	36 420	52 168 ^c
Finland	540	1 339	5 132	8 465	18 315	23 037
France	22 862 ^d	33 636 ^d	100 043	185 374	240 797	266 653
Germany	36 630	36 926	119 619	192 898	284 899	460 953 ^c
Greece	4 524	8 309	14 016 ^e	19 306 ^e	21 993 ^e	23 107 ^e
Ireland	3 749	4 649	5 502 ^f	11 706 ^f	43 031 ^f	59 351 ^f
Italy	8 892	18 976	57 985	63 456	108 542	115 085
Netherlands	19 167	24 952	66 958	112 433	192 578	247 589 ^c
Portugal	3 665 ^g	4 599 ^g	10 571	18 381	22 873	26 560
Spain	5 141	8 939	65 916	130 657	115 495	142 420
Sweden	2 891	4 333	12 461	31 089	74 018	76 980
United Kingdom	63 014	64 028	203 894	199 760	367 598	482 798
Other Western Europe	15 077	17 632	47 045	77 136	109 499	125 225
Gibraltar ^h	33	98	263	432	391	385
Iceland ^{i, j}	..	64 ^j	147	129	476	518
Norway ^k	6 577 ^k	7 412 ^k	12 391	19 513	30 738 ^l	37 091 ^l
Switzerland	8 506	10 058	34 245	57 063	77 893	87 232 ^c
North America	137 195	249 249	507 783	658 734	1 136 615	1 432 948
Canada	54 149	64 634	112 872	123 181	170 983	194 321
United States	83 046	184 615	394 911	535 553	965 632	1 238 627
Other developed countries	36 959	42 893	103 593	184 441	272 542	275 877
Australia	13 173	25 049	73 644	104 074	123 094	113 610
Israel	1 633 ^m	2 038 ^m	2 940 ^m	6 269 ^m	18 000	23 350 ^c
Japan	3 270	4 740	9 850	33 508	46 116	54 303 ^c
New Zealand	2 363	2 043	7 938	25 574	33 555	31 960
South Africa	16 519	9 024	9 221	15 016	51 777	52 654 ^c
Developing countries and economies	240 837	347 237	487 694	849 376	1 740 377	1 979 262
Africa	16 195	24 830	39 427	60 898	88 771	95 381
North Africa	5 567	8 952	15 259	24 337	32 021	33 347
Algeria ^h	1 320	1 281	1 316	1 377	1 400	1 407
Egypt ^h	2 260	5 703	11 043	14 102	17 770	19 005
Libyan Arab Jamahiriya ^h	..	..	..	..	..	..
Morocco ^h	189	440	917	3 034	5 647	5 848
Sudan ^h	28	76	54	53	893	1 285
Tunisia	5 835 ⁿ	6 876 ⁿ	7 259	11 038	12 075	11 566

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Annex table B.3. FDI inward stock, by host region and economy,
1980, 1985, 1990, 1995, 1999 and 2000 ^a (continued)
(Millions of dollars)

Host region/economy	1980	1985	1990	1995	1999	2000
Other Africa	10 627	15 878	24 168	36 561	56 750	62 034
Angola ^h	61	675	1 024	2 921	7 098	8 898
Benin ^h	32	34	159	386	548	578
Botswana	698 ⁿ	947 ⁿ	1 309	1 126	1 387	1 226
Burkina Faso ^h	18	24	39	86	138	150
Burundi ^h	7	24	30	33	36	47
Cameroon ^h	330	1 125	1 044	1 062	1 232	1 277
Cape Verde	..	..	4 ^o	38 ^o	102 ^o	132 ^o
Central African Republic ^h	50	77	95	76	105	113
Chad ^h	123	187	243	305	369	419
Comoros ^p	2	2	17	19	26	28
Congo ^h	314	484	569	586	612	618
Congo, Democratic Republic of ^h	532	444	373	382	387	388
Côte d'Ivoire ^h	530	699	975	1 624	2 968	3 258
Djibouti ^q	3	3	6	14	35	40
Equatorial Guinea	..	6 ^f	25 ^r	239 ^r	779 ^r	834 ^r
Eritrea	..	..	..	..	..^s	.. ^s
Ethiopia ^h	110	114	128	169	808	888
Gabon ^h	512	833	1 208	954	1 820	1 910
Gambia ^h	21	20	36	81	134	147
Ghana ^h	229	272	315	822	1 143	1 253
Guinea ^q	1	2	69	131	254	287
Guinea-Bissau ^t	-	4	8	16	31	36
Kenya ^h	391	481	673	736	873	933
Lesotho ^u	5	26	155	1 343	2 296	2 519
Liberia ^h	599	991	2 184	2 246	2 304	2 318
Madagascar ^h	37	48	104	169	268	297
Malawi ^h	100	137	185	250	446	496
Mali ^v	12	33	38	162	371	427
Mauritania ^h	.. ⁱ	39	57	92	103	104
Mauritius ^h	20	37	163	251	404	681
Mozambique ^h	15	17	42	202	933	1 072
Namibia	1 935 ^d	1 951 ^d	2 047	1 708	1 520	1 644
Niger ^h	188	203	284	361	415	427
Nigeria ^h	2 405	4 417	8 072	14 065	19 254	20 254
Rwanda ^h	54	133	213	231	244	248
São Tomé and Príncipe	..	..	..^o	.. ^o	.. ^o	.. ^o
Senegal ^h	150	188	268	333	712	818
Seychelles ^h	54	105	204	321	521	577
Sierra Leone ^h	77	66	.. ⁱ	.. ⁱ	2	5
Somalia ^h	29	4	.. ⁱ	.. ⁱ	58	78
Swaziland	243 ^w	104	336	535	559	414
Togo ^h	176	210	268	307	469	529
Uganda ^h	9	7	4	272	1 000	1 255
United Republic of Tanzania ^h	47	91	93	325	987	1 180
Zambia ^v	330	425	987	1 256	1 941	2 141
Zimbabwe ^h	186	187	124	342	1 061	1 091
Latin America and the Caribbean	49 960	79 673	116 678	201 616	520 282	606 907
South America	29 253	42 136	66 699	112 159	330 174	385 709
Argentina	5 344	6 563	9 085	27 828	62 289	73 441 ^c
Bolivia	420	592	1 026	1 564	4 843	5 574 ^c
Brazil	17 480	25 664	37 143	42 530	164 105	197 652 ^c
Chile	886	2 321	10 067	15 547	39 258 ^x	42 933 ^x

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**Annex table B.3. FDI inward stock, by host region and economy,
1980, 1985, 1990, 1995, 1999 and 2000 ^a (continued)**
(Millions of dollars)

Host region/economy	1980	1985	1990	1995	1999	2000
Colombia	1 061	2 231	3 500	6 407	19 408	19 682
Ecuador	719	982	1 626	3 434	6 088 ^y	6 796 ^y
Guyana ^h	.. ⁱ	.. ⁱ	.. ⁱ	366	606	673
Paraguay ^h	218	298	396	884	1 661	1 756
Peru	898	1 152	1 330	5 991	8 890	9 900
Suriname ^h	.. ⁱ	40	.. ⁱ	.. ⁱ	.. ⁱ	.. ⁱ
Uruguay ^h	727	794	1 007	1 464	2 120	2 300
Venezuela	1 604	1 548	2 260	6 975	21 736	25 846 ^c
Other Latin America and the Caribbean	20 707	37 536	49 979	89 457	190 108	221 198
Anguilla	..	..	11 ^z	69 ^z	192 ^z	240 ^z
Antigua and Barbuda ^u	23	94	292	437	533	564
Aruba ^{aa}	..	..	132	204	959	732
Bahamas ^h	523	519	562	718	1 313	1 564
Barbados ^h	102	124	169	225	287	301
Belize ^h	12	10	73	153	256	284
Bermuda ^h	5 131	8 053	13 849	23 996	42 733	49 382
Cayman Islands ^{ab}	222	1 479	1 749	2 737	17 936	22 719
Costa Rica	672	957	1 447	2 733 ^y	4 798 ^y	5 198 ^y
Cuba ^h	-	-	2	40	84	97
Dominica ^u	-	11	71	197	260	276
Dominican Republic	239	265	572	1 707 ^y	4 261 ^y	5 214 ^y
El Salvador	154 ^{ac}	181 ^{ac}	212 ^{ac}	293	1 815	2 001 ^c
Grenada ^u	1	13	70	167	319	357
Guatemala ^h	701	1 050	1 734	2 202	3 190	3 418
Haiti ^h	79	112	149	153	202	215
Honduras ^h	92	172	383	646	1 200	1 482
Jamaica ^h	501	458	727	1 504	2 784	3 240
Mexico	8 105 ^a ^{ad}	18 802 ^{ad}	22 424	41 130	78 060	91 222
Montserrat	..	..	40 ^{ae}	62 ^{ae}	75 ^{ae}	77 ^{ae}
Netherlands Antilles ^h	539	27	177	293	5 450	6 227
Nicaragua ^h	109	109	115	354	1 108	1 373
Panama	2 426 ^g	3 107 ^g	2 163 ^g	3 245	6 711	7 104
Saint Kitts and Nevis ^{af}	1	32	160	244	373	411
Saint Lucia ^{ag}	93	197	315	512	756	831
Saint Vincent and the Grenadines ^p	1	9	48	181	451	527
Trinidad and Tobago	976	1 719	2 093	3 634 ^y	6 364 ^y	7 026 ^y
Virgin Islands ^{ag}	1	39	240	1 622	7 636	9 119
Asia and the Pacific	174 526	242 449	330 459	583 601	1 121 869	1 265 513
Asia	173 347	241 266	328 232	580 697	1 118 416	1 261 776
West Asia	..ⁱ	28 393	30 951	41 412	57 309	60 736
Bahrain	61 ^d	399 ^d	552	2 403	5 408	5 908 ^c
Cyprus ^h	460	789	1 146	1 576	1 816	1 879
Iran, Islamic Republic of ^h	2 609	2 427	1 686	1 944	2 079	2 115
Iraq ^h	.. ⁱ	.. ⁱ	.. ⁱ	.. ⁱ	.. ⁱ	.. ⁱ
Jordan ^{ah}	155	493	615	627	1 471	1 771
Kuwait ^h	30	33	26	12	510	527
Lebanon ^v	20	34	53	138	818	998
Oman ^h	481	1 200	1 721	2 208	2 455	2 517
Occupied Palestinian Territory	6 ^{ai}	6 ^{ai}
Qatar ^h	83	77	55	435	1 684	1 987

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Annex table B.3. FDI inward stock, by host region and economy,
1980, 1985, 1990, 1995, 1999 and 2000 ^a (continued)
(Millions of dollars)

Host region/economy	1980	1985	1990	1995	1999	2000
Saudi Arabia ^h	.. ⁱ	21 828	22 500	22 423	27 845	28 845
Syrian Arab Republic ^h	-	37	374	915	1 255	1 338
Turkey	107	360	1 320	5 103 ^y	8 353 ^y	9 335 ^y
United Arab Emirates ^h	409	482	751	1 769	2 542	2 642
Yemen	195 ⁿ	283 ⁿ	180	1 882	1 089	888
Central Asia	..	..	..	3 937	14 384	17 088
Armenia	..	..	..	34 ^m	441	574
Azerbaijan	..	..	..	352 ^{aj}	3 627 ^{aj}	4 510 ^{aj}
Georgia	..	..	..	32	292 ^b	489 ^b
Kazakhstan	..	..	..	2 895 ^{ak}	8 092 ^{ak}	9 341 ^{ak}
Kyrgyzstan	..	..	..	144	419 ^b	438 ^k
Tajikistan	..	..	..	25 ^{aj}	96 ^{aj}	120 ^{aj}
Turkmenistan	..	..	..	200 ^{aj}	560 ^{aj}	660 ^{aj}
Uzbekistan	..	..	..	255 ^{al}	856 ^{al}	956 ^{al}
South, East and South-East Asia	174 872	212 873	297 282	535 348	1 046 724	1 183 952
Afghanistan ^h	11	11	12	12	17	19
Bangladesh	63	112	147 ^{am}	180 ^{am}	703 ^{am}	873 ^{am}
Bhutan	..	..	2 ^z	2 ^z	3 ^z	3 ^z
Brunei Darussalam ^h	19	33	30	68	.. ⁱ	.. ⁱ
Cambodia	191 ⁿ	191 ⁿ	191 ⁿ	498	605	758 ^c
China	6 251 ^m	10 499 ^m	24 762 ^m	137 435 ^m	305 922 ^l	346 694 ^l
Hong Kong, China	138 767 ^{an}	144 231 ^{an}	162 665 ^{an}	188 544 ^{an}	405 327	469 776 ^c
India	1 177	1 075	1 667 ^{am}	5 684 ^{am}	16 656 ^{am}	18 971 ^{am}
Indonesia	10 274	24 971	38 883	50 601	65 188	60 638 ^c
Korea, Democratic People's Republic of	..	..	572 ^o	716 ^o	1 041 ^o	1 149 ^o
Korea, Republic of	1 140	2 160	5 186	9 443	32 143	42 329
Lao People's Democratic Republic ^h	2	-	13	211	587	659
Macau, China ^v	2	10	10	4	3	1
Malaysia	5 169	7 388	10 318	28 732 ^{ao}	48 773 ^{ao}	54 315 ^{ao}
Maldives ^q	5	3	25	61	105	117
Mongolia	..	..	..^{ae}	38 ^{ae}	127 ^{ae}	152 ^{ar}
Myanmar	5 ^{ap}	5 ^{ap}	173 ^{ap}	1 091 ^{ap}	2 287	2 408
Nepal	1	2	12	39	97	111
Pakistan	688	1 079	1 928	5 552	10 303	10 611 ^c
Philippines	1 281	2 601	3 268	6 086	11 199	12 688 ^c
Singapore	6 203	13 016	28 565	59 582	82 859 ^b	89 250 ^b
Sri Lanka	231	517	681 ^{am}	1 297 ^{am}	2 248 ^{am}	2 465 ^{am}
Taiwan Province of China	2 405	2 930	9 735 ^{am}	15 736 ^{am}	22 996 ^{am}	27 924 ^{am}
Thailand	981	1 999	8 209	17 452	21 717 ^{al}	24 165 ^{al}
Viet Nam ^h	7	38	230	6 286	15 875	17 956
The Pacific	1 180	1 183	2 226	2 903	3 453	3 737
Fiji	358	393	402 ^e	739 ^e	831 ^e	860 ^e
Kiribati	..	..^{aq}	.. ^{aq}	1 ^{aq}	4 ^{aq}	5 ^{aq}
New Caledonia ^{ah}	12	12	53	87	100	105
Papua New Guinea	748	683	1 582	1 667	1 911 ^l	2 111 ^l
Samoa ^h	-	1	8	28	54	62
Solomon Islands ^v	28	32	70	126	184	202

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**Annex table B.3. FDI inward stock, by host region and economy,
1980, 1985, 1990, 1995, 1999 and 2000 ^a (continued)**
(Millions of dollars)

Host region/economy	1980	1985	1990	1995	1999	2000
Tonga	..	..^{ar}	.. ^{ar}	7 ^{ar}	16 ^{ar}	19 ^{ar}
Tuvalu	..	..	..	..^{aj}	.. ^{aj}	.. ^{aj}
Vanuatu ^v	33	62	110	249	352	372
Developing Europe	156	286	1 131	3 262	9 455	11 461
Bosnia and Herzegovina	..	..	..	66 ^{an}	165 ^b	282 ^b
Croatia	..	..	..	477 ^g	4 028	4 927 ^c
Malta ^{ah}	156	286	465	922	2 368	3 007
Slovenia	..	..	666 ^{ac}	1 763	2 684	2 865 ^c
TFYR Macedonia	..	..	..	33 ^{aj}	210 ^{aj}	380 ^{aj}
Central and Eastern Europe	..	49	2 996	36 424	101 968	124 715
Albania	..	..	..	201 ^{al}	425 ^{al}	517 ^{al}
Belarus	..	..	..	50 ^{al}	1 153 ^{al}	1 243 ^{al}
Bulgaria	..	..	108 ^{an}	445 ^{an}	2 403	3 404 ^{ac}
Czech Republic	..	..	1 363 ^{as}	7 350	17 552	21 095
Estonia	..	..	..	674 ^{ag}	2 441	2 840 ^{ac}
Hungary	..	49 ^{an}	569	10 007	19 299	19 863
Latvia	..	..	..	616	1 795	2 081
Lithuania	..	..	..	352	2 063	2 334
Moldova, Republic of	..	..	..	93	315	444
Poland	..	..	109	7 843	26 475	36 475 ^c
Romania	..	..	766	1 150	5 441	6 439 ^c
Russian Federation	..	..	..	5 465	16 541	19 245 ^c
Slovakia	..	..	81	1 268	2 817	4 892 ^c
Ukraine	..	..	..	910	3 248	3 843 ^c
<i>Memorandum</i>						
Least developed countries ^{at}						
Total	3 422	5 127	8 273	17 014	30 580	34 874
Africa	2 807	4 312	7 182	12 482	24 289	28 183
Latin America and the Caribbean	79	112	149	153	202	215
Asia and the Pacific	536	704	943	4 379	6 088	6 476
Asia	474	609	755	3 976	5 493	5 834
West Asia	195	283	180	1 882	1 089	888
South, East and South-East Asia	279	326	574	2 094	4 405	4 947
The Pacific	62	95	188	404	595	642
Oil-exporting countries ^{au}						
Total	11 677	57 952	79 388	111 435	167 496	173 411
Africa	548	2 266	6 860	14 636	24 421	27 323
North Africa	.. ⁱ	.. ⁱ	.. ⁱ	.. ⁱ	.. ⁱ	.. ⁱ
Other Africa	3 291	6 409	10 873	18 526	28 784	31 680
Latin America and the Caribbean	3 300	4 248	5 979	14 043	34 188	39 668
South America	2 323	2 529	3 886	10 409	27 824	32 642
Other Latin America and the Caribbean	976	1 719	2 093	3 634	6 364	7 026
Asia	7 829	51 438	66 549	82 755	108 887	106 420
West Asia	.. ⁱ	26 434	27 636	32 086	43 757	45 859
South, East and South-East Asia	10 292	25 004	38 913	50 669	65 130	60 561
All developing countries minus China	234 586	336 739	462 932	711 941	1 434 455	1 632 568

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**Annex table B.3. FDI inward stock, by host region and economy,
1980, 1985, 1990, 1995, 1999 and 2000^a (concluded)**
(Millions of dollars)

Host region/economy	1980	1985	1990	1995	1 999	2 000
Developed Asia	4 903	6 778	12 790	39 777	64 116	77 653
Developed Pacific	15 536	27 092	81 582	129 648	156 649	145 570
Africa including South Africa	32 714	33 853	48 648	75 914	140 548	148 035
<i>Other Africa including South Africa</i>	<i>27 146</i>	<i>24 901</i>	<i>33 389</i>	<i>51 577</i>	<i>108 527</i>	<i>114 688</i>
Central and Eastern Europe and Developing Europe	-	49	3 662	38 764	109 055	133 169

Source: UNCTAD, FDI/TNC database.

- a For the countries for which the stock data are estimated by either cumulating FDI flows or adding flows to FDI stock in a particular year, notes are given below.
- b Estimated by adding flows to the stock of 1998.
- c Estimated by adding flows to the stock of 1999.
- d Stock data prior to 1989 are estimated by subtracting flows.
- e Estimated by adding flows to the stock of 1989.
- f Estimated by adding flows to the stock of 1986.
- g Stock data prior to 1996 are estimated by subtracting flows.
- h Estimated by accumulating flows since 1970.
- i Negative accumulation of flows. However, this value is included in the regional and global total.
- j Stock data prior to 1988 are estimated by subtracting flows.
- k Stock data prior to 1987 are estimated by subtracting flows.
- l Estimated by adding flows to the stock of 1997.
- m Stock data prior to 1997 are estimated by subtracting flows.
- n Stock data prior to 1990 are estimated by subtracting flows.
- o Estimated by accumulating flows since 1987.
- p Estimated by accumulating flows since 1978.
- q Estimated by accumulating flows since 1973.
- r Estimated by accumulating flows since 1982.
- s Estimated by accumulating flows since 1997.
- t Estimated by accumulating flows since 1975.
- u Estimated by accumulating flows since 1977.
- v Estimated by accumulating flows since 1971.
- w Stock data prior to 1981 are estimated by subtracting flows.
- x Estimated by adding flows to the stock of 1995.
- y Estimated by adding flows to the stock of 1990.
- z Estimated by accumulating flows since 1990.
- aa Estimated by accumulating flows since 1989.
- ab Estimated by accumulating flows since 1974.
- ac Stock data prior to 1993 are estimated by subtracting flows.
- ad Stock data prior to 1990 are estimated by accumulating flows since 1970.
- ae Estimated by accumulating flows since 1986.
- af Estimated by accumulating flows since 1980.
- ag Estimated by accumulating flows since 1976.
- ah Estimated by accumulating flows since 1972.
- ai Estimated by accumulating flows since 1996.
- aj Estimated by accumulating flows since 1994.
- ak Estimated by accumulating flows since 1993.
- al Estimated by accumulating flows since 1992.
- am Estimated by adding flows to the stock of 1988.
- an Stock data prior to 1998 are estimated by subtracting flows.
- ao Estimated by adding flows to the stock of 1994.
- ap Stock data prior to 1999 are estimated by accumulating flows since 1971.
- aq Estimated by accumulating flows since 1983.
- ar Estimated by accumulating flows since 1984.
- as Stock data prior to 1992 are estimated by subtracting flows.
- at Least developed countries include: Afghanistan, Angola, Bangladesh, Benin, Bhutan, Burkina Faso, Burundi, Cambodia, Cape Verde, Central African Republic, Chad, Comoros, Democratic Republic of Congo, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gambia, Guinea, Guinea-Bissau, Haiti, Kiribati, Lao People's Democratic Republic, Lesotho, Liberia, Madagascar, Malawi, Maldives, Mali, Mauritania, Mozambique, Myanmar, Nepal, Niger, Rwanda, Samoa, São Tomé and Príncipe, Senegal, Sierra Leone, Solomon Islands, Somalia, Sudan, Togo, Tuvalu, Uganda, United Republic of Tanzania, Vanuatu, Yemen and Zambia.
- au Oil-exporting countries include: Algeria, Angola, Bahrain, Brunei Darussalam, Congo, Ecuador, Gabon, Indonesia, Iran, Islamic Republic of, Iraq, Kuwait, Libyan Arab Jamahiriya, Nigeria, Oman, Qatar, Saudi Arabia, Syrian Arab Republic, Trinidad and Tobago, United Arab Emirates and Venezuela.

Note: For data on FDI stock which are calculated as an accumulation of flows, price changes are not taken into account.

**Annex table B.4. FDI outward stock, by home region and economy,
1980, 1985, 1990, 1995, 1999 and 2000 ^a**
(Millions of dollars)

Home region/economy	1980	1985	1990	1995	1999	2000
World	523 854	707 786	1 717 444	2 879 380	5 004 831	5 976 204
Developed countries	507 366	675 215	1 637 265	2 621 165	4 379 976	5 248 522
Western Europe	235 113	319 299	867 373	1 477 712	2 678 358	3 387 781
European Union	212 997	293 050	790 324	1 312 539	2 448 719	3 110 905
Austria	530	1 343	4 273	11 702	19 127	21 100
Belgium and Luxembourg	6 037	9 551	40 636	88 526	256 667 ^b	339 644 ^b
Denmark	2 065	1 801	7 342	24 703	37 550	46 111 ^b
Finland	737	1 829	11 227	14 993	33 849	53 046
France	23 599 ^d	37 072 ^d	120 179	207 992	348 325	496 741
Germany	43 127	59 909	148 457	258 142	394 254	442 811 ^c
Greece	853 ^e	853 ^e	853 ^e	865 ^e	557 ^e	... ^{b, f}
Ireland	..	202 ^g	2 150 ^g	4 037 ^g	13 94 ^g	16 035 ^g
Italy	7 319	16 600	57 261	109 176	181 871	176 225
Netherlands	42 135	47 772	102 608	167 556	252 827	325 881 ^c
Portugal	511 ^h	583 ^h	900 ^h	3 173 ^h	11 385	17 351
Spain	1 931	4 455	15 652	43 685	106 786	160 202
Sweden	3 721	10 768	49 491	73 143	107 331	115 574
United Kingdom	80 434	100 313	229 294	304 847	684 246	901 769
Other Western Europe	22 115	26 249	77 050	165 173	229 639	276 876
Iceland	63 ⁱ	63 ⁱ	75	180	452	698
Norway	561	1 093	10 888	22 514	36 765 ^j	44 133 ^j
Switzerland	21 491	25 093	66 087	142 479	192 422	232 045 ^c
North America	243 955	294 161	515 350	817 120	1 317 986	1 445 532
Canada	23 777	43 127	84 829	118 105	187 197	200 878
United States	220 178	251 034	430 521	699 015	1 130 789	1 244 654
Other developed countries	28 299	61 755	254 541	326 333	383 632	415 209
Australia	2 260	6 653	30 507	53 009	87 529	83 220
Israel	179 ^k	661 ^k	1 169	3 937	7 177	9 862 ^c
Japan	19 610	43 970	201 440	238 452	248 778	281 664 ^c
New Zealand	529 ^l	1 508 ^l	6 398 ^l	7 630	7 155	6 906
South Africa	5 722	8 963	15 027	23 305	32 993	33 557 ^c
Developing countries and economies	16 484	32 546	79 821	252 861	611 363	710 305
Africa	1 113	6 937	12 475	15 590	18 766	19 440
North Africa	427	576	1 007	1 050	2 224	2 602
Algeria ^m	98	156	183	233	233	233
Egypt ⁿ	39	91	163	365	582	633
Libyan Arab Jamahiriya ^o	162	207	517	175	1 050	1 320
Morocco ⁿ	116	116	130	247	324	383
Tunisia	11 ^k	6 ^k	15	30	35	33
Other Africa	686	6 361	11 468	14 540	16 542	16 837
Benin ^p	-	2	2	2	51	53
Botswana	440 ^k	440 ^k	447	650	597	519
Burkina Faso ^q	3	3	3	12	23	27

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Annex table B.4. FDI outward stock, by home region and economy,
1980, 1985, 1990, 1995, 1999 and 2000 ^a (continued)
(Millions of dollars)

Home region/economy	1980	1985	1990	1995	1999	2000
Burundi	..	..	..^r	.. ^r	2 ^r	2 ^r
Cameroon ^s	23	53	150	227	227	227
Cape Verde	..	..	1 ^t	5 ^t	5 ^t	6 ^t
Central African Republic ^u	-	2	18	46	71	77
Chad ^v	-	1	36	80	105	111
Comoros ^p	..	..	1 ^w	2 ^w	2 ^w	2 ^w
Côte d'Ivoire	..	..	31 ^w	517 ^w	647 ^w	679 ^w
Equatorial Guinea	..	..	..^r	.. ^r	.. ^r	.. ^r
Ethiopia	..	..	..	..	133 ^x	177 ^x
Gabon ^q	78	103	164	206	203	203
Ghana	..	..	..	..	307 ^y	359 ^y
Guinea	..	..	..	..	..^y	.. ^y
Kenya ^u	18	60	99	112	186	226
Lesotho	..	..	..^t	.. ^t	.. ^t	.. ^t
Liberia ^z	48	361	453	717	1 315	1 315
Madagascar	..	..	..	..^{aa}	.. ^{aa}	.. ^{aa}
Malawi	..	..	..	..	11 ^{ab}	15 ^{ab}
Mali ^u	22	22	22	22	107	113
Mauritania	..	..	..^{3ac}	.. ^{3ac}	.. ^{3ac}	.. ^{3ac}
Mauritius	..	..	2 ^{ad}	94 ^{ad}	120 ^{ad}	133 ^{ad}
Mozambique	..	..	..	..^{aa}	.. ^{aa}	.. ^{aa}
Namibia	..	..	80	20	39	41 ^c
Niger ^q	2	8	54	109	145	152
Nigeria ^v	5	5 193	9 653	10 957	11 256	11 341
Rwanda	..	..	..^w	.. ^w	.. ^w	.. ^w
Senegal ^o	7	43	49	96	113	131
Seychelles ^{ae}	14	44	61	94	129	136
Swaziland	19	9	38	136	95	95
Togo ^{af}	8	8	12	40	120	144
Uganda	..	..	..	255 ^{ag}	292 ^{ag}	301 ^{ag}
Zimbabwe	..	10 ^{ah}	88 ^{ah}	137 ^{ah}	234 ^{ah}	249 ^{ah}
Latin America and the Caribbean	9 119	13 920	19 476	48 207	97 864	111 051
South America	7 126	8 217	10 554	24 688	54 607	64 098
Argentina	6 128 ^{ai}	6 079 ^{ai}	6 105 ^{ai}	10 696	19 277	20 189 ^c
Bolivia	.. ^{aj}	.. ^{1aj}	9	18	27	29 ^c
Brazil	652	1 361	2 397	5 941 ^{ak}	12 105 ^{ak}	15 089 ^{ak}
Chile	42	102	178	2 809 ^{al}	13 515 ^{al}	18 293 ^{al}
Colombia	136	301	402	1 027	3 202	3 827
Ecuador	..	..	..	2 ^{am}	4 ^{am}	4 ^{am}
Guyana ^m	..	..	..	2 ^{an}	1 ^{an}	1 ^{an}
Paraguay ^m	126 ^{ao}	138 ^{ao}	137 ^{ao}	179	208	214
Peru	3	38	63	567	494	348
Uruguay ^m	16 ^{ap}	32	42 ^{aq}	20 ^{aq}	64 ^{aq}	73 ^{aq}
Venezuela	23	165	1 221	3 427	5 710	6 031 ^c
Other Latin America and the Caribbean	1 993	5 703	8 922	23 519	43 258	46 953
Aruba ^{an}	..	..	..	10	2	13
Bahamas ^{ar}	285	154	1 535	1 286	2 163	2 164 ^c
Barbados ^m	5	12	23	32	39	40
Belize	..	..	..	12 ^{aa}	37 ^{aa}	47 ^{aa}
Bermuda ^{as}	724	2 002	1 550	2 321	13 628	13 702
Cayman Islands ^{at}	10	740	868	1 940	4 340	5 007
Costa Rica ^v	7	27	44	67	87	90
Dominica	5 ^x	7 ^x
Dominican Republic	38 ^{an}	59 ^{an}	62 ^{an}

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Annex table B.4. FDI outward stock, by home region and economy,
1980, 1985, 1990, 1995, 1999 and 2000 ^a (continued)
(Millions of dollars)

Home region/economy	1980	1985	1990	1995	1999	2000
El Salvador	..	..	54 ^h	53 ^h	58	52 ^c
Grenada	..	..	-^w	- ^w	- ^w	- ^w
Guatemala	..	..	..	..	-^y	9 ^y
Haiti	..	..	..	1 ^{am}	3 ^{am}	3 ^{am}
Jamaica ^m	5	5	42	308	635	709
Mexico	136 ^{au}	533 ^{au}	575 ^{au}	4 132	7 039	8 639
Netherlands Antilles ^{ae}	9	10	21	23	f	f
Nicaragua	..	..	..	-^{an}	.. ^{f, an}	.. ^{f, an}
Panama ^{as}	811	2 204	4 188	4 573	6 758	5 510
Saint Kitts and Nevis	..	..	-^w	f, w	f, w	f, w
Saint Lucia	..	..	-^w	- ^w	- ^w	- ^w
Saint Vincent and the Grenadines	..	..	1 ^{aw}	- ^{aw}	- ^{aw}	- ^{aw}
Trinidad and Tobago	..	15 ^{ah}	20 ^{ah}	21 ^{ah}	288 ^{ah}	313 ^{ah}
Virgin Islands	..	..	..	8 704 ^{an}	14 457 ^{an}	15 828 ^{an}
Asia and the Pacific	6 252	11 690	47 613	187 840	492 971	577 946
Asia	6 240	11 652	47 520	187 701	492 676	577 602
West Asia	1 454	2 137	6 312	5 843	6 793	8 077
Bahrain	628 ^{ax}	657 ^{ax}	719	1 044	1 740	1 871 ^c
Cyprus	..	- ^{ad}	8 ^{ad}	77 ^{ad}	362 ^{ad}	446 ^{ad}
Iran, Islamic Republic of	..	..	..	77 ^{ag}	184 ^{ag}	220 ^{ag}
Jordan ^o	23	26	16	.. ^f	186	288
Kuwait ^u	568	930	3 662	2 802	1 729	1 983
Lebanon ^{as}	1	40	f	f	f	f
Oman ^{as}	1	40	7	5	16	19
Qatar	..	..	..	30 ^{am}	140 ^{am}	163 ^{am}
Saudi Arabia ^{as}	228	420	1 811	1 685	1 470	1 335
Syrian Arab Republic	..	..	..	f, a	f, am	f, am
Turkey	..	..	..	268 ^{aa}	1 641 ^{aa}	2 511 ^{aa}
United Arab Emirates ^{as}	5	19	99	66	f	45
Yemen	..	4 ^{ay}	5 ^{ay}	5 ^{ay}	5 ^{ay}	5 ^{ay}
Central Asia	..	..	..	-	512	704
Armenia	..	..	..	..	25 ^{az}	33 ^{az}
Azerbaijan	..	..	..	..	473 ^{az}	652 ^{az}
Kazakhstan	..	..	..	-	14	18 ^c
Kyrgyzstan	..	..	..	..	-^{az}	1 ^{az}
South, East and South-East Asia	4 785	9 516	41 207	181 858	485 371	568 821
Bangladesh	..	..	6 ^{ac}	9 ^{ac}	81 ^{ac}	100 ^{ac}
Brunei Darussalam	..	..	..	71 ^{aa}	151 ^{aa}	164 ^{aa}
Cambodia	..	..	..	2 ^{an}	2 ^{an}	2 ^{an}
China	39	131	2 489 ^{ba}	15 802 ^{ba}	24 888 ^{ba}	27 212 ^{ba}
Hong Kong, China	148 ^{bb}	2 344 ^{bb}	11 920 ^{bb}	78 833 ^{bb}	321 696	384 732 ^c
India	235 ^l	250 ^l	281 ^l	496 ^{al}	980 ^{al}	1 316 ^{al}
Indonesia	..	49 ^{bc}	25 ^{bc}	1 295	2 189	2 339 ^c
Korea, Republic of	127	461	2 301	10 233	22 337	25 842
Lao People's Democratic Republic	..	..	..	-^{aa}	.. ^{f, aa}	.. ^{f, aa}
Malaysia	197	1 374	2 671	11 143	16 880 ^{ab}	19 799 ^{ab}
Maldives	..	..	-	1 ^w	1 ^w	1 ^w
Mongolia	..	..	..	1 ^{am}	4 ^{am}	5 ^{am}
Myanmar	..	..	..	..^{f, b}	30 ^{bd}	55 ^{bd}
Pakistan	40	129	250	403	501	490 ^c
Philippines	171	171	155	1 220	1 858	1 953 ^c
Singapore	3 718 ^k	4 387 ^k	7 808	35 050	48 940 ^{ab}	53 216 ^{ab}

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Annex table B.4. FDI outward stock, by home region and economy,
1980, 1985, 1990, 1995, 1999 and 2000 ^a (continued)
(Millions of dollars)

Home region/economy	1980	1985	1990	1995	1999	2000
Sri Lanka	..	1 ^{ad}	8 ^{ad}	37 ^{ad}	42 ^{ad}	43 ^{ad}
Taiwan Province of China	97	204	12 888 ^{be}	25 144 ^{be}	42 486 ^{be}	49 187 ^{be}
Thailand	13	14	404	2 173	2 312 ^b	2 371 ^b
The Pacific	13	37	93	139	295	343
Fiji ^{at}	2	15	87	132	287	336
Kiribati	..	..	..	..^{bd}	.. ^{bd}	.. ^{bd}
Papua New Guinea	10	22	7 ^{ba}	7 ^{ba}	8 ^{ba}	8 ^{ba}
Solomon Islands	..	..	..^w	.. ^w	.. ^w	.. ^w
Tonga	..	..	..^{ac}	.. ^{ac}	.. ^{ac}	.. ^{ac}
Developing Europe	..	..	258	1 225	1 762	1 869
Bosnia and Herzegovina	..	..	..	13 ^{an}	40 ^{an}	40 ^{an}
Croatia	..	..	..	703	1 024	1 052 ^c
Malta	..	..	..	5 ^{an}	87 ^{an}	117 ^{an}
Slovenia	..	..	258	504	607	655 ^c
TFYR Macedonia	..	..	..	..	4 ^y	5 ^y
Central and Eastern Europe	4	25	358	5 353	13 492	17 377
Albania	..	..	..	48 ^{ag}	76 ^{ag}	82 ^{ag}
Belarus	..	..	..	8 ^{an}	16 ^{an}	16 ^{an}
Bulgaria	..	..	..	105 ^{bf}	90	88 ^c
Czech Republic	..	..	..	345	698	784
Estonia	..	..	..	68 ^h	272	429 ^c
Hungary	..	..	197	383	1 565	2 012
Latvia	..	..	..	231	244	241
Lithuania	..	..	..	1	26	29
Moldova, Republic of	..	..	..	18	19	19
Poland	4 ^k	25 ^k	95	539	1 365	1 491 ^c
Romania	..	..	66	121	133	122 ^c
Russian Federation	..	..	..	3 015	8 586	11 637 ^c
Slovakia	..	..	..	374	296 ^{ab}	320 ^{ab}
Ukraine	..	..	..	97	105	106 ^c
<i>Memorandum</i>						
Least developed countries ^{bg}						
Total	90	455	666	1 353	2 617	2 788
Africa	90	450	655	1 389	2 502	2 629
Latin America and the Caribbean	..	..	..	1	3	3
Asia and the Pacific	-	4	11	.. ^f	113	156
Asia	-	4	11	.. ^f	113	156
West Asia	..	4	5	5	5	5
South, East and South-East Asia	-	-	7	.. ^f	108	151
The Pacific	-	-	-	-	-	-
Oil-exporting countries ^{bh}						
Total	1 796	7 953	18 082	21 996	25 732	26 830
Africa	343	5 658	10 517	11 571	12 742	13 098
North Africa	260	362	700	408	1 283	1 554
Other Africa	83	5 296	9 817	11 163	11 459	11 544
Latin America and the Caribbean	23	180	1 241	3 450	6 001	6 348
South America	23	165	1 221	3 429	5 714	6 035
Other Latin America and the Caribbean	..	15	20	21	288	313
Asia	1 431	2 115	6 324	6 975	6 989	7 385
West Asia	1 431	2 066	6 299	5 609	4 649	4 881
South, East and South-East Asia	-	49	25	1 366	2 340	2 503

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Annex table B.4. FDI outward stock, by home region and economy,
1980, 1985, 1990, 1995, 1999 and 2000 ^a (concluded)
(Millions of dollars)

Home region/economy	1980	1985	1990	1995	1999	2000
All developing countries minus China	16 445	32 416	77 333	237 060	586 476	683 094
Developed Asia	19 789	44 631	202 609	242 389	255 955	291 527
Developed Pacific	2 788	8 161	36 905	60 639	94 684	90 125
Africa including South Africa	6 835	15 900	27 502	38 895	51 759	52 996
<i>Other Africa including South Africa</i>	<i>6 408</i>	<i>15 325</i>	<i>26 495</i>	<i>37 845</i>	<i>49 535</i>	<i>50 394</i>
Central and Eastern Europe and Developing Europe	4	25	616	6 573	15 167	19 129

Source: UNCTAD, FDI/TNC database.

- ^a For the countries for which the stock data are estimated by either cumulating FDI flows or adding flows to FDI stock in a particular year, notes are given below.
- ^b Estimated by adding flows to the stock of 1997.
- ^c Estimated by adding flows to the stock of 1999.
- ^d Stock data prior to 1987 are estimated by subtracting flows.
- ^e Stock data prior to 1997 are estimated by subtracting flows.
- ^f Negative accumulation of flows. However, this value is included in the regional and global total.
- ^g Estimated by accumulating flows since 1984.
- ^h Stock data prior to 1996 are estimated by subtracting flows.
- ⁱ Stock data prior to 1988 are estimated by subtracting flows.
- ^j Estimated by adding flows to the stock of 1996.
- ^k Stock data prior to 1990 are estimated by subtracting flows.
- ^l Stock data prior to 1992 are estimated by subtracting flows.
- ^m Estimated by accumulating flows since 1970.
- ⁿ Estimated by accumulating flows since 1977.
- ^o Estimated by accumulating flows since 1972.
- ^p Estimated by accumulating flows since 1979.
- ^q Estimated by accumulating flows since 1974.
- ^r Estimated by accumulating flows since 1989.
- ^s Estimated by accumulating flows since 1973.
- ^t Estimated by accumulating flows since 1988.
- ^u Estimated by accumulating flows since 1975.
- ^v Estimated by accumulating flows since 1978.
- ^w Estimated by accumulating flows since 1990.
- ^x Estimated by accumulating flows since 1997.
- ^y Estimated by accumulating flows since 1996.
- ^z Estimated by using the inward stock of the United States as a proxy and accumulating flows since 1994.
- ^{aa} Estimated by accumulating flows since 1991.
- ^{ab} Estimated by adding flows to the stock of 1998.
- ^{ac} Estimated by accumulating flows since 1986.
- ^{ad} Estimated by accumulating flows since 1985.
- ^{ae} Estimated by accumulating flows since 1976.
- ^{af} Estimated by accumulating flows since 1971.
- ^{ag} Estimated by accumulating flows since 1992.
- ^{ah} Estimated by accumulating flows since 1983.
- ^{ai} Stock data prior to 1991 are estimated by subtracting flows.
- ^{aj} Stock data prior to 1986 are estimated by accumulating flows since 1980.
- ^{ak} Estimated by adding flows to the stock of 1990.
- ^{al} Estimated by adding flows to the stock of 1992.
- ^{am} Estimated by accumulating flows since 1995.
- ^{an} Estimated by accumulating flows since 1993.
- ^{ao} Stock data prior to 1995 are estimated by subtracting flows.
- ^{ap} Stock data prior to 1983 are estimated by subtracting flows.
- ^{aq} Estimated by adding flows to the stock of 1987.
- ^{ar} Estimated by using the inward stock of the United States as a proxy and accumulating flows since 1999.
- ^{as} Estimated by using the inward stock of the United States as a proxy and accumulating flows since 1993.
- ^{at} Estimated by accumulating flows since 1980.
- ^{au} Estimated by using the inward stock of the United States as a proxy up to 1991.
- ^{aw} Estimated by accumulating flows since 1987.
- ^{ax} Stock data prior to 1989 are estimated by subtracting flows.
- ^{ay} Estimated by accumulating flows since 1982.
- ^{az} Estimated by accumulating flows since 1998.
- ^{ba} Estimated by adding flows to the stock of 1989.
- ^{bb} Estimated by using the inward stock of the United States as a proxy from 1980 to 1983 and by using the inward stock of the United States and China as a proxy from 1984 to 1997.
- ^{bc} Estimated by using the inward stock of the United States as a proxy up to 1992.
- ^{bd} Estimated by accumulating flows since 1994.
- ^{be} Estimated by adding flows to the stock of 1988.
- ^{bf} Stock data prior to 1998 are estimated by subtracting flows.
- ^{bg} Least developed countries include: Afghanistan, Angola, Bangladesh, Benin, Bhutan, Burkina Faso, Burundi, Cambodia, Cape Verde, Central African Republic, Chad, Comoros, Democratic Republic of Congo, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gambia, Guinea, Guinea-Bissau, Haiti, Kiribati, Lao People's Democratic Republic, Lesotho, Liberia, Madagascar, Malawi, Maldives, Mali, Mauritania, Mozambique, Myanmar, Nepal, Niger, Rwanda, Samoa, São Tomé and Príncipe, Senegal, Sierra Leone, Solomon Islands, Somalia, Sudan, Togo, Tuvalu, Uganda, United Republic of Tanzania, Vanuatu, Yemen and Zambia.
- ^{bh} Oil-exporting countries include: Algeria, Angola, Bahrain, Brunei Darussalam, Congo, Ecuador, Gabon, Indonesia, Iran, Islamic Republic of, Iraq, Kuwait, Libyan Arab Jamahiriya, Nigeria, Oman, Qatar, Saudi Arabia, Syrian Arab Republic, Trinidad and Tobago, United Arab Emirates and Venezuela.

Note: For data on FDI stock which are calculated as an accumulation of flows, price changes are not taken into account.

Annex table B.5. Inward and outward FDI flows as a percentage of gross fixed capital formation, by region and economy, 1989-1999
(Percentage)

Region/economy	1989-1994 (Annual average)	1995	1996	1997	1998	1999
World						
inward	4.1	5.3	5.9	7.5	10.9	16.3
outward	4.9	5.7	6.2	7.4	11.6	15.4
Developed countries						
inward	3.7	4.4	4.8	6.1	10.6	17.0
outward	5.5	6.7	7.2	8.9	14.7	19.4
Western Europe						
inward	5.3	6.6	6.4	8.3	15.6	27.3
outward	7.6	9.7	11.4	14.6	27.0	42.8
European Union						
inward	5.4	6.7	6.5	8.1	15.7	27.7
outward	7.5	9.4	10.8	14.0	27.2	42.6
Austria						
inward	2.7	3.5	8.2	5.5	9.1	5.9
outward	3.6	2.1	3.6	4.1	5.5	6.5
Belgium and Luxembourg						
inward	19.7	17.9	24.3	22.2	40.3	213.4
outward	13.3	19.4	13.9	13.4	50.9	218.0
Denmark						
inward	7.5	9.5	1.7	7.5	20.8	33.0
outward	8.6	6.9	5.8	11.3	127.4	36.3
Finland						
inward	3.5	5.0	5.1	9.6	50.3	20.4
outward	8.2	7.1	16.6	24.0	77.3	29.2
France						
inward	4.8	8.1	7.6	9.2	11.7	17.5
outward	7.9	5.4	10.6	14.1	18.3	45.0
Germany						
inward	1.0	2.2	1.3	2.7	5.4	11.8
outward	5.2	7.1	9.8	9.2	19.6	23.1
Greece						
inward	5.3	4.8	4.4	4.1	-	2.0
outward	-	-	-	-	1.0	-2.0
Ireland						
inward	10.9	12.8	19.2	17.0	58.4	92.0
outward	3.9	7.2	5.3	6.2	20.7	26.3
Italy						
inward	1.6	2.4	1.6	1.8	1.2	3.1
outward	2.6	3.5	3.8	4.9	5.7	3.1
Netherlands						
inward	12.3	15.8	20.6	15.3	50.2	56.4
outward	22.7	26.0	41.1	33.7	49.5	81.1
Portugal						
inward	9.9	2.8	5.8	9.6	11.2	4.0
outward	1.5	2.8	3.0	7.4	10.9	11.5
Spain						
inward	10.1	5.3	5.6	7.0	10.7	13.1
outward	2.9	3.5	4.6	11.5	14.3	35.0
Sweden						
inward	9.4	38.9	12.3	31.1	52.0	153.7
outward	16.3	30.2	11.3	35.8	64.8	55.4
United Kingdom						
inward	10.7	10.9	12.5	15.1	28.7	32.5
outward	14.0	23.7	17.4	28.0	49.5	80.6

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Annex table B.5. Inward and outward FDI flows as a percentage of gross fixed capital formation, by region and economy, 1989-1999 (continued)
(Percentage)

Region/economy	1989-1994 (Annual average)	1995	1996	1997	1998	1999
Other Western Europe						
inward	3.7	3.8	5.5	11.2	13.6	20.7
outward	11.0	15.0	22.3	25.3	23.0	46.8
Iceland						
inward	0.7	-0.8	5.7	9.6	7.4	3.1
outward	1.2	2.0	4.3	3.5	3.7	6.0
Norway						
inward	3.1	4.8	6.2	8.4	9.1	19.7
outward	4.6	7.7	14.7	11.9	5.8	14.6
Switzerland						
inward	4.0	3.4	5.1	13.2	17.1	22.0
outward	14.1	18.6	27.0	35.3	35.8	69.6
North America						
inward	4.8	5.6	7.1	8.0	11.8	18.0
outward	5.4	8.6	7.4	8.3	9.9	9.1
Canada						
inward	5.2	9.4	9.2	9.7	19.2	20.0
outward	5.3	11.7	12.5	19.3	29.5	14.7
United States						
inward	4.8	5.3	7.0	7.9	11.3	17.9
outward	5.4	8.3	7.0	7.3	8.5	8.6
Other developed countries						
inward	0.8	1.1	0.7	1.4	1.1	1.8
outward	3.0	1.8	2.1	2.6	2.8	1.8
Australia						
inward	8.1	14.5	6.7	8.1	6.9	6.7
outward	3.6	4.0	7.8	6.8	3.9	-3.1
Israel						
inward	2.7	6.4	6.1	7.3	8.7	11.9
outward	3.0	3.5	4.6	3.6	4.8	5.2
Japan						
inward	-	-	-	-	-	1.1
outward	2.9	1.5	1.7	2.2	2.4	1.9
New Zealand						
inward	24.2	29.0	16.0	20.0	11.7	11.4
outward	12.0	-2.7	-11.0	-	9.1	6.5
South Africa						
inward	-	5.2	3.5	15.8	2.5	7.6
outward	3.2	10.4	4.5	9.7	8.0	9.8
Developing countries and economies						
inward	5.2	7.7	9.1	10.9	11.7	13.8
outward	2.4	3.3	3.7	3.9	2.8	3.3
Africa						
inward	5.8	6.7	7.6	9.1	8.8	10.4
outward	1.7	1.1	-	3.0	1.4	1.0
North Africa						
inward	3.6	2.9	2.8	5.2	4.5	4.9
outward	-	0.7	-	1.4	1.0	0.8

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Annex table B.5. Inward and outward FDI flows as a percentage of gross fixed capital formation, by region and economy, 1989-1999 (continued)
(Percentage)

Region/economy	1989-1994 (Annual average)	1995	1996	1997	1998	1999
Algeria						
inward	-	-	-	-	-	-
outward	-	..	..	..	..	..
Egypt						
inward	5.7	5.3	5.1	6.1	6.1	5.6
outward	-	0.8	-	0.9	-	-
Libyan Arab Jamahiriya						
inward	2.0	-2.5	-2.7	-1.5	-2.8	-2.5
outward	-0.9	1.9	1.3	5.3	5.6	4.5
Morocco						
inward	5.7	4.7	5.0	15.6	4.1	9.9
outward	-	-	-	-	-	-
Sudan						
inward	-	-	-	3.8	14.7	14.6
outward	..	..	..	..	..	..
Tunisia						
inward	9.2	8.7	7.7	7.8	13.6	7.0
outward	-	-	-	-	-	-
Other Africa						
inward	9.6	11.9	14.4	14.2	14.7	18.9
outward	5.3	1.6	-	4.9	1.8	1.3
Angola						
inward	34.1	51.2	31.2	23.1	73.8	191.5
outward	-	-	-	-	-	-
Benin						
inward	22.8	3.5	9.2	7.1	9.3	13.9
outward	..	..	3.1	3.2	0.5	5.3
Botswana						
inward	-3.0	6.4	6.6	8.8	8.0	2.6
outward	0.8	3.7	-	-	-	-
Burkina Faso						
inward	1.5	1.8	2.6	1.9	1.4	1.8
outward	1.0	-	-	-	0.8	0.6
Burundi						
inward	-	1.9	-	-	3.4	-
outward	-	0.5	-	-	0.7	1.0
Cameroon						
inward	-1.5	0.6	2.5	3.1	3.1	2.7
outward	1.0	-	..	..	..	..
Cape Verde						
inward	1.1	12.6	15.0	6.1	4.5	7.8
outward	0.6	-	-	-	-	-
Central African Republic						
inward	-2.0	2.0	13.5	6.3	3.6	14.8
outward	3.7	4.0	16.6	7.4	4.5	7.1
Chad						
inward	12.9	7.8	9.3	6.8	6.6	6.9
outward	10.5	5.1	3.4	2.4	2.8	2.8
Comoros						
inward	2.7	2.3	5.0	5.2	5.1	2.6
outward	2.4	..	..	..	..	..
Congo						
inward	0.7	-	1.0	1.8	0.8	1.1
outward
Congo, Democratic Republic of						
inward	-	-	-	-	-	-
outward

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Annex table B.5. Inward and outward FDI flows as a percentage of gross fixed capital formation, by region and economy, 1989-1999 (continued)
(Percentage)

Region/economy	1989-1994 (Annual average)	1995	1996	1997	1998	1999
Côte d'Ivoire						
inward	9.2	20.9	22.4	29.6	15.7	17.2
outward	11.5	4.4	2.4	2.3	1.8	1.7
Djibouti						
inward	1.7	7.7	11.2	10.5	13.4	11.0
outward	..	..	..	..	..	..
Equatorial Guinea						
inward	43.8	108.4	135.2	6.5	6.2	37.1
outward	-	-	-	..	..	..
Eritrea						
inward	..	..	..	-	-0.6	0.5
outward	..	..	..	..	..	..
Ethiopia						
inward	0.8	1.6	1.9	27.5	23.4	6.2
outward	..	..	..	0.8	15.3	-4.2
Gabon						
inward	-2.2	-10.5	23.7	10.5	11.8	13.5
outward	1.7	-	-	-	-	-
Gambia						
inward	12.9	10.1	14.4	18.0	18.7	18.2
outward	..	..	..	..	..	..
Ghana						
inward	6.1	7.8	8.4	5.0	3.4	4.0
outward	..	..	10.5	3.1	1.8	4.9
Guinea						
inward	3.1	-	3.3	2.3	2.6	8.8
outward	..	..	-	..	..	..
Guinea-Bissau						
inward	2.3	-	2.0	27.3	1.5	6.2
outward	..	..	..	..	..	..
Kenya						
inward	1.5	1.7	0.7	2.1	2.2	2.6
outward	-	0.7	1.4	-	0.8	1.9
Lesotho						
inward	37.0	48.2	52.0	47.8	60.2	31.4
outward	-	..	..	..	..	..
Liberia						
inward	149.0	21.6	17.6	15.5	16.5	10.3
outward	110.2	-98.7	-444.8	1 064.0	..	..
Madagascar						
inward	4.4	2.8	2.2	3.2	3.4	12.7
outward	-	..	..	..	..	..
Malawi						
inward	4.0	12.3	19.6	8.9	36.1	26.8
outward	..	..	0.9	-	2.9	1.3
Mali						
inward	0.6	20.5	7.6	12.6	5.7	8.4
outward	-	-	0.6	0.8	4.3	8.1
Mauritania						
inward	3.8	3.8	4.0	1.8	-	1.2
outward	-	..	..	..	..	..
Mauritius						
inward	3.2	1.9	3.3	5.0	1.3	4.2
outward	1.7	-	-	-	1.4	0.5
Mozambique						
inward	4.9	8.2	12.9	10.3	24.3	55.5
outward	-	..	-	-	-	-

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Annex table B.5. Inward and outward FDI flows as a percentage of gross fixed capital formation, by region and economy, 1989-1999 (continued)
(Percentage)

Region/economy	1989-1994 (Annual average)	1995	1996	1997	1998	1999
Namibia						
inward	13.4	21.4	17.3	14.2	14.0	17.7
outward	-	-	-2.9	-	-	-
Niger						
inward	6.6	8.3	8.4	11.1	3.5	-
outward	3.8	1.0	7.4	3.6	4.0	-
Nigeria						
inward	37.3	23.9	35.4	25.2	12.7	16.0
outward	15.8	2.3	0.9	1.0	1.3	1.5
Rwanda						
inward	2.4	1.0	1.0	0.9	2.2	0.5
outward	-	..	..	-	-	-
São Tomé and Príncipe						
inward	-1.4	-	1.7	0.8	2.3	1.6
outward	..	..	..	..	..	..
Senegal						
inward	3.2	5.3	0.7	22.4	6.4	16.4
outward	1.2	-0.5	-	-	1.1	0.7
Seychelles						
inward	21.1	26.2	18.0	31.7	26.3	33.0
outward	2.7	10.4	7.9	5.8	1.4	4.9
Sierra Leone						
inward	11.4	-3.1	10.5	29.9	19.2	2.8
outward	-	-0.6	..	..	..	..
Somalia						
inward	-1.2	-	..	..	-	29.0
outward	..	..	..	..	..	..
Swaziland						
inward	32.0	10.3	6.1	-3.5	116.2	28.9
outward	7.7	7.1	-3.1	-2.3	16.2	3.1
Togo						
inward	2.5	19.3	14.1	12.6	20.2	35.8
outward	1.7	2.9	6.7	2.4	10.8	21.0
Uganda						
inward	3.5	11.9	12.5	17.1	20.4	22.1
outward	4.5	11.7	1.1	1.5	1.9	-0.8
United Republic of Tanzania						
inward	1.4	14.6	13.9	14.0	12.8	13.8
outward	-	..	..	..	-	-
Zambia						
inward	23.9	10.5	8.2	14.1	15.6	11.7
outward	..	..	..	..	..	..
Zimbabwe						
inward	0.8	6.8	4.2	8.0	44.0	3.8
outward	0.7	0.8	2.7	1.7	0.9	0.6
Latin America and the Caribbean						
inward	6.2	9.6	12.3	15.9	17.6	27.3
outward	1.0	1.2	1.4	2.5	2.9	3.1
South America						
inward	4.5	7.4	11.3	15.1	18.1	35.4
outward	1.1	1.4	1.4	2.8	3.1	4.1
Argentina						
inward	8.6	12.1	14.1	16.1	12.2	47.7
outward	1.1	3.2	3.3	6.4	3.9	2.5

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Annex table B.5. Inward and outward FDI flows as a percentage of gross fixed capital formation, by region and economy, 1989-1999 (continued)
(Percentage)

Region/economy	1989-1994 (Annual average)	1995	1996	1997	1998	1999
Bolivia						
inward	11.8	35.9	35.6	58.4	49.1	62.3
outward	-	-	-	-	-	-
Brazil						
inward	1.7	3.8	7.0	11.7	18.4	31.3
outward	0.7	0.8	-	1.0	1.7	1.4
Chile						
inward	13.7	19.0	27.1	27.2	24.4	62.4
outward	3.0	4.8	7.0	9.7	14.7	32.8
Colombia						
inward	3.6	6.4	9.0	13.6	24.4	38.6
outward	0.7	1.4	-	2.0	6.1	6.0
Ecuador						
inward	10.3	14.1	14.5	18.5	20.1	16.9
outward	-	-	-	..	..	-
Guyana						
inward	26.3	26.4	30.0	15.9	22.5	17.1
outward	-	..	-	..	..	-
Paraguay						
inward	5.5	4.7	6.6	10.6	17.7	3.9
outward	-	-	-	-	-	-
Peru						
inward	7.9	15.8	25.7	12.0	13.8	17.5
outward	-	-	-	0.6	-	2.0
Suriname						
inward	-22.9	-7.7	6.6	-2.9	3.1	-6.1
outward	..	..	..	..	..	..
Uruguay						
inward	3.4	6.0	4.8	4.1	4.9	7.5
outward	-	-1.0	-	-	-	-
Venezuela						
inward	7.5	7.7	19.6	33.3	24.6	19.6
outward	3.6	0.7	4.6	3.0	1.3	3.2
Other Latin America and the Caribbean						
inward	10.2	18.5	15.7	18.4	16.1	13.5
outward	0.9	-	1.3	1.6	2.4	1.2
Antigua and Barbuda						
inward	25.0	17.3	9.0	10.1	10.3	8.9
outward	-0.7	-1.1	-	-0.9	..	-
Aruba						
inward	..	..	..	..	..	..
outward	..	..	..	..	..	..
Bahamas						
inward	1.6	15.3	14.3	32.7	22.6	23.5
outward	-	-	-	-	-	-
Barbados						
inward	4.7	4.5	5.3	4.4	5.5	5.9
outward	0.7	1.3	1.4	-	-	-
Belize						
inward	12.9	16.0	12.1	8.2	12.4	27.5
outward	1.4	2.0	4.1	2.7	3.6	4.8
Costa Rica						
inward	12.8	15.1	20.9	17.3	21.0	20.6
outward	-	-	-	-	-	-
Dominica						
inward	28.8	74.6	25.4	26.1	8.6	23.9
outward	-2.9	1.1	3.2	2.7

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Annex table B.5. Inward and outward FDI flows as a percentage of gross fixed capital formation, by region and economy, 1989-1999 (continued)
(Percentage)

Region/economy	1989-1994 (Annual average)	1995	1996	1997	1998	1999
Dominican Republic						
inward	8.8	18.1	3.9	14.3	19.1	31.0
outward	-	0.6	0.6	-	-	-
El Salvador						
inward	1.3	2.1	-	3.3	55.6	11.5
outward	-	..	-	..	..	2.7
Grenada						
inward	21.0	22.5	18.7	30.7	39.9	30.9
outward	-	..	..	..	..	..
Guatemala						
inward	6.3	3.5	3.7	3.1	20.7	4.8
outward	-1.1	-1.1	-	-	-	-
Haiti						
inward	-	-0.7	1.0	1.0	2.4	5.7
outward	-3.0	-	-	..	..	-
Honduras						
inward	6.2	7.3	9.5	10.8	6.4	14.2
outward	-	-	-	-	-	-
Jamaica						
inward	12.7	8.9	9.8	9.4	18.6	26.1
outward	4.0	4.0	4.9	2.6	4.1	4.7
Mexico						
inward	10.1	20.6	16.7	17.7	13.2	11.7
outward	0.5	-0.6	-	1.4	1.5	1.2
Nicaragua						
inward	7.8	16.7	19.0	28.3	26.6	31.1
outward	-	..	-1.8	..	..	-
Panama						
inward	17.0	13.0	19.9	54.7	46.4	18.3
outward	49.4	16.0	41.8	14.3	42.7	-4.4
Saint Kitts and Nevis						
inward	31.0	24.2	31.2	16.3	25.9	37.8
outward	-	-2.4	-1.8	-1.7	-0.8	-0.9
Saint Lucia						
inward	35.2	31.2	15.1	33.4	70.9	73.8
outward	-	-	..	..	..	..
Saint Vincent and the Grenadines						
inward	33.8	38.5	54.1	106.2	88.3	51.5
outward	-	..	-	..	..	..
Trinidad and Tobago						
inward	32.3	37.0	37.3	65.2	46.9	47.7
outward	-	-	-	-	-	19.6
Asia and the Pacific						
inward	4.9	7.2	8.2	9.3	9.5	9.6
outward	3.0	4.1	4.7	4.4	2.9	3.5
Asia						
inward	4.9	7.2	8.2	9.3	9.5	9.6
outward	3.0	4.1	4.7	4.4	2.9	3.5
West Asia						
inward	1.3	-	1.9	3.3	4.0	0.6
outward	0.7	-0.8	1.5	-	-1.0	-
Bahrain						
inward	24.9	42.5	271.1	43.3	20.7	49.7
outward	6.1	-1.6	40.4	6.3	20.8	18.1

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Annex table B.5. Inward and outward FDI flows as a percentage of gross fixed capital formation, by region and economy, 1989-1999 (continued)
(Percentage)

Region/economy	1989-1994 (Annual average)	1995	1996	1997	1998	1999
Cyprus						
inward	6.2	4.8	2.8	4.4	3.5	3.9
outward	0.7	0.9	1.9	1.7	3.5	10.0
Iran, Islamic Republic of						
inward	-	-	-	-	-	-
outward	-	-	-	-	-	-
Jordan						
inward	0.5	0.7	0.8	19.3	18.5	9.7
outward	-0.7	-1.4	-2.1	9.7	7.2	-
Kuwait						
inward	-	-	7.9	-	1.4	1.9
outward	8.4	-27.7	39.5	-23.7	-45.4	0.6
Lebanon						
inward	0.8	1.0	2.0	3.8	4.2	5.9
outward	-	-	-	-	-	-
Oman						
inward	6.9	1.4	2.9	2.3	3.0	0.9
outward	-	-	-	-	-	-
Occupied Palestinian Territory						
inward	..	..	-	..	..	-
outward	..	..	..	..	..	..
Qatar						
inward	3.2	3.8	10.7	12.1	11.5	4.5
outward	..	1.2	1.3	0.6	0.7	0.9
Saudi Arabia						
inward	2.1	-7.5	-4.7	11.1	16.6	-3.1
outward	-	-	0.8	0.7	-1.8	-
Syrian Arab Republic						
inward	1.5	0.7	0.6	0.6	0.6	0.6
outward	..	-0.7	-0.6	-0.6	-0.6	-1.8
Turkey						
inward	2.1	2.2	1.6	1.6	1.9	1.9
outward	-	-	-	0.5	0.7	1.6
United Arab Emirates						
inward	0.9	3.7	2.7	1.8	1.9	-
outward	-	-	-	-	-	-
Yemen						
inward	8.2	-9.0	-4.0	-12.0	-16.2	-24.3
outward	..	..	..	..	..	..
Central Asia						
inward	3.8	13.8	15.1	26.6	27.8	21.4
outward	-	3.0	-	1.7	2.5	3.1
Armenia						
inward	2.0	12.2	6.2	19.5	75.7	42.9
outward	..	..	..	..	3.8	4.3
Azerbaijan						
inward	2.5	73.1	67.9	78.0	64.2	38.8
outward	..	38.8	3.9	4.5	8.6	25.5
Georgia						
inward	19.4	3.9	16.4	64.6	66.1	23.5
outward	-4.9	1.4	-5.2	1.8	11.0	-
Kazakhstan						
inward	13.3	25.1	31.4	36.7	30.4	43.3
outward	-	-	-	-	-	-
Kyrgyzstan						
inward	14.7	31.2	11.3	37.2	50.3	17.7
outward	-	-	-	-

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Annex table B.5. Inward and outward FDI flows as a percentage of gross fixed capital formation, by region and economy, 1989-1999 (continued)
(Percentage)

Region/economy	1989-1994 (Annual average)	1995	1996	1997	1998	1999
Tajikistan						
inward	2.1	5.1	3.3	0.9	7.5	4.8
outward	..	..	..	..	-	4.0
Uzbekistan						
inward	1.4	2.0	0.8	5.3	3.6	2.3
outward	-	2.3	-0.5	2.2	1.5	-
South, East and South-East Asia						
inward	5.9	8.2	9.1	10.1	10.4	11.2
outward	3.5	4.8	5.2	5.2	3.7	4.1
Bangladesh						
inward	-	-	-	2.9	3.8	3.2
outward	-	-	-	-	0.6	-
Bhutan						
inward	1.2	-	1.0	-0.5	..	..
outward	..	..	..	..	..	..
Cambodia						
inward	17.1	23.5	36.1	34.7	28.0	22.2
outward	0.7	..	..	..	..	..
China						
inward	7.9	14.7	14.3	14.6	12.9	11.3
outward	1.3	0.8	0.8	0.8	0.8	-
Hong Kong, China						
inward	14.8	14.6	21.7	19.8	29.9	60.2
outward	30.2	58.7	55.1	42.5	34.3	47.4
India						
inward	0.6	2.4	2.9	3.8	2.9	2.4
outward	-	-	-	-	-	-
Indonesia						
inward	4.0	7.6	9.2	7.7	-1.6	-11.0
outward	1.6	2.3	0.9	-	-	-
Korea, Republic of						
inward	0.8	1.0	1.2	1.7	5.7	9.3
outward	1.2	2.0	2.4	2.7	5.0	2.2
Lao People's Democratic Republic						
inward	19.4	20.7	29.4	19.2	14.6	17.8
outward	-	-	..	-1.1	-	-
Macau, China						
inward	-	-	-	-	-1.1	0.6
outward	..	..	..	..	..	..
Malaysia						
inward	19.4	15.0	17.0	15.1	13.9	20.1
outward	2.8	6.4	8.8	6.1	4.0	9.3
Maldives						
inward	8.6	9.6	12.4	15.2	15.3	16.4
outward	-	-	..	..	..	..
Mongolia						
inward	4.5	3.9	5.9	10.0	7.0	11.4
outward	..	-	-	0.8	-	-
Myanmar						
inward	2.8	1.9	1.6	1.6	1.0	0.7
outward	-	-	-	-	-	-
Nepal						
inward	0.6	0.9	1.9	2.2	1.2	-
outward
Pakistan						
inward	3.7	7.1	8.9	7.3	5.7	6.5
outward	-	-	-	-	-	-

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Annex table B.5. Inward and outward FDI flows as a percentage of gross fixed capital formation, by region and economy, 1989-1999 (continued)
(Percentage)

Region/economy	1989-1994 (Annual average)	1995	1996	1997	1998	1999
Philippines						
inward	7.5	8.9	7.8	6.2	12.7	5.1
outward	1.1	0.6	0.9	0.7	1.2	0.9
Singapore						
inward	30.3	31.2	29.7	35.3	20.6	26.1
outward	11.2	12.2	19.6	25.5	1.8	14.5
Sri Lanka						
inward	4.2	1.9	4.0	11.8	5.2	4.1
outward	-	-	..	-	-	-
Taiwan Province of China						
inward	2.9	2.4	3.0	3.4	-	4.4
outward	9.0	4.5	6.1	7.9	6.1	6.7
Thailand						
inward	5.0	2.9	3.0	7.2	20.7	13.7
outward	-	1.2	1.1	0.9	-	1.3
The Pacific						
inward	16.6	44.0	12.1	7.1	29.1	27.2
outward	2.7	-	4.3	12.4	8.8	5.6
Fiji						
inward	30.4	27.3	1.1	6.4	56.3	-15.1
outward	8.3	-1.1	4.3	12.4	32.9	24.1
Kiribati						
inward	0.8	1.4	3.3	4.8	2.4	2.4
outward	-	..	..	..	..	..
Papua New Guinea						
inward	12.6	50.6	12.4	3.8	20.9	40.9
outward	-	-	..	..	-	-
Tonga						
inward	3.9	9.3	9.4	14.0	9.3	9.3
outward	-	..	..	..	..	..
Vanuatu						
inward	42.0	42.8	54.8	48.0	31.3	32.1
outward	..	..	..	..	..	..
Developing Europe						
inward	6.3	3.0	6.4	6.3	9.4	16.4
outward	-	-	-	1.5	0.8	0.8
Croatia						
inward	6.5	3.9	12.6	11.0	18.1	31.3
outward	0.7	-	0.7	3.8	1.9	0.7
Malta						
inward	9.7	12.7	28.9	9.6	31.1	99.6
outward	-	-	0.6	2.0	1.7	5.4
Slovenia						
inward	1.5	1.8	2.0	3.7	1.8	2.0
outward	-	-	-	-	-	-
TFYR Macedonia						
inward	4.6	1.3	1.6	2.4	18.9	5.2
outward	-	-	-	-
Central and Eastern Europe						
inward	4.8	9.3	7.0	10.7	13.7	18.4
outward	-	-	0.6	1.9	1.4	1.7

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Annex table B.5. Inward and outward FDI flows as a percentage of gross fixed capital formation, by region and economy, 1989-1999 (continued)
(Percentage)

Region/economy	1989-1994 (Annual average)	1995	1996	1997	1998	1999
Belarus						
inward	-	-	2.6	9.9	3.5	9.9
outward	-	-	-	-	-	-
Bulgaria						
inward	3.6	4.5	8.1	44.0	37.9	41.4
outward	-	-	-2.1	-	-	0.9
Czech Republic						
inward	6.4	15.4	7.7	8.0	23.6	44.5
outward	0.7	-	0.8	-	0.8	0.6
Estonia						
inward	28.2	21.8	12.9	20.6	38.3	23.6
outward	0.7	-	3.4	10.6	-	6.4
Hungary						
inward	15.7	49.7	23.5	21.4	18.3	18.8
outward	-	-	-	4.2	4.3	2.4
Latvia						
inward	24.0	26.7	41.0	49.3	21.5	21.3
outward	-4.0	-9.7	-	0.6	3.3	1.0
Lithuania						
inward	3.4	5.2	8.4	15.2	35.4	20.3
outward	..	-	-	1.2	-	-
Moldova, Republic of						
inward	3.7	29.1	7.1	20.5	19.7	17.8
outward	3.4	-	-	-	-	-
Poland						
inward	5.2	15.5	15.1	14.5	15.9	17.8
outward	-	-	-	-	0.8	-
Romania						
inward	2.7	5.5	3.3	16.3	25.3	16.6
outward	-	-	-	-	-	-
Russian Federation						
inward	2.2	2.8	2.8	8.0	5.7	11.0
outward	-	-	0.9	3.1	2.1	6.5
Slovakia						
inward	3.5	4.0	3.7	2.8	7.8	5.9
outward	-	-	0.8	1.3	1.8	-6.1
Ukraine						
inward	2.2	3.1	5.6	6.2	9.0	8.1
outward	-	-	-	-	-	-
<i>Memorandum</i>						
Least developed countries ^a						
Total						
inward	5.7	5.2	5.4	5.9	6.2	7.9
outward	1.8	-	-1.0	2.8	0.7	-
Africa						
inward	6.6	11.4	11.0	12.9	18.3	28.3
outward	3.7	0.8	-5.2	12.9	2.8	0.9
Latin America and the Caribbean						
inward	-	-0.7	1.0	1.0	2.4	5.7
outward	-3.0	-	-	..	..	-
Asia and the Pacific						
inward	4.2	1.5	2.6	2.3	1.1	0.7
outward	-	-	-	-	-	-
Asia						
inward	4.0	1.3	2.5	2.2	1.0	0.7
outward	-	-	-	-	-	-

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Annex table B.5. Inward and outward FDI flows as a percentage of gross fixed capital formation, by region and economy, 1989-1999 (continued)
(Percentage)

Region/economy	1989-1994 (Annual average)	1995	1996	1997	1998	1999
West Asia						
inward	8.2	-9.0	-4.0	-12.0	-16.2	-24.3
outward	..	..	..	..	..	..
South, East and South-East Asia						
inward	2.1	2.5	2.9	2.7	1.8	1.4
outward	-	-	-	-	-	-
The Pacific						
inward	30.0	33.6	41.2	37.2	24.3	24.6
outward	-	..	..	..	..	..
Oil-exporting countries b						
Total						
inward	2.8	3.7	6.6	8.5	7.3	2.8
outward	1.5	-	1.8	-	-0.9	0.6
Africa						
inward	6.4	5.8	8.2	7.8	7.4	13.5
outward	2.4	1.7	0.9	2.3	2.4	2.2
North Africa						
inward	-	-0.6	-0.8	-	-0.8	-0.7
outward	-1.9	1.9	1.3	5.3	5.6	4.5
Other Africa						
inward	23.6	19.5	29.1	21.6	19.8	38.6
outward	10.4	1.6	0.6	0.6	0.9	1.0
Latin America and the Caribbean						
inward	9.5	10.4	19.6	33.0	25.3	20.9
outward	3.1	0.6	3.3	2.8	1.2	3.7
South America						
inward	8.1	9.0	18.4	30.6	23.8	19.1
outward	3.3	0.6	3.5	3.0	1.3	2.6
Other Latin America and the Caribbean						
inward	32.3	37.0	37.3	65.2	46.9	47.7
outward	-	-	-	-	-	19.6
Asia						
inward	1.7	2.5	5.1	5.4	3.9	-1.9
outward	1.0	-	1.7	-	-1.7	-
West Asia						
inward	1.0	-1.0	2.2	4.0	5.0	-
outward	0.6	-1.3	2.3	-0.7	-2.1	-
South, East and South-East Asia						
inward	4.0	7.6	9.2	7.7	-1.6	-11.0
outward	1.6	2.3	0.9	-	-	-
All developing countries minus China						
inward	4.7	6.3	7.9	10.0	11.3	14.7
outward	2.6	3.8	4.4	4.6	3.5	4.2
Developed Asia						
inward	-	-	-	-	-	1.3
outward	2.9	1.6	1.8	2.2	2.5	2.0
Developed Pacific						
inward	9.8	16.4	7.9	9.6	7.4	7.3
outward	4.5	3.1	5.3	5.9	4.5	-2.0
Africa including South Africa						
inward	4.6	6.3	6.6	10.6	7.5	9.9
outward	2.3	4.2	1.4	5.0	3.0	3.0

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Annex table B.5. Inward and outward FDI flows as a percentage of gross fixed capital formation, by region and economy, 1989-1999 (concluded)
(Percentage)

Region/economy	1989-1994 (Annual average)	1995	1996	1997	1998	1999
<i>Other Africa including South Africa</i>						
inward	5.5	8.9	9.7	14.9	10.1	14.7
outward	4.1	6.4	2.1	7.2	4.4	4.9
Central and Eastern Europe and Developing Europe (excluding Malta)						
inward	4.7	8.7	6.9	10.4	13.2	17.7
outward	-	-	0.6	1.9	1.3	1.6

Source: UNCTAD, FDI/TNC database.

^a Least developed countries include: Afghanistan, Angola, Bangladesh, Benin, Bhutan, Burkina Faso, Burundi, Cambodia, Cape Verde, Central African Republic, Chad, Comoros, Democratic Republic of Congo, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gambia, Guinea, Guinea-Bissau, Haiti, Kiribati, Lao People's Democratic Republic, Lesotho, Liberia, Madagascar, Malawi, Maldives, Mali, Mauritania, Mozambique, Myanmar, Nepal, Niger, Rwanda, Samoa, São Tomé and Príncipe, Senegal, Sierra Leone, Solomon Islands, Somalia, Sudan, Togo, Tuvalu, Uganda, United Republic of Tanzania, Vanuatu, Yemen and Zambia.

^b Oil-exporting countries include: Algeria, Angola, Bahrain, Brunei Darussalam, Congo, Ecuador, Gabon, Indonesia, Iran, Islamic Republic of, Iraq, Kuwait, Libyan Arab Jamāhīriya, Nigeria, Oman, Qatar, Saudi Arabia, Syrian Arab Republic, Trinidad and Tobago, United Arab Emirates and Venezuela.

Annex table B.6. Inward and outward FDI stocks as a percentage of gross domestic product, by region and economy, 1980, 1985, 1990, 1995 and 1999
(Percentage)

Region/economy	1980	1985	1990	1995	1999
World					
inward	6.0	7.8	9.2	10.3	17.3
outward	5.3	6.4	8.6	10.2	16.7
Developed countries					
inward	4.7	6.1	8.4	9.2	14.5
outward	6.4	7.5	9.8	11.8	19.0
Western Europe					
inward	5.5	8.5	11.1	13.6	22.4
outward	6.5	10.7	12.2	16.6	30.8
European Union					
inward	5.3	8.3	11.0	13.4	22.2
outward	6.2	10.3	11.7	15.5	29.6
Austria					
inward	4.0	5.7	6.2	7.6	11.2
outward	0.7	2.0	2.7	5.1	9.2
Belgium and Luxembourg					
inward	5.9	22.0	28.3	40.1	108.3
outward	4.9	11.4	19.7	30.4	97.5
Denmark					
inward	6.3	6.2	6.9	13.2	20.9
outward	3.7	3.1	5.5	13.7	21.5
Finland					
inward	1.1	2.5	3.8	6.7	14.5
outward	1.4	3.4	8.3	11.9	26.8
France					
inward	3.4	6.4	8.4	12.1	17.1
outward	3.6	7.1	10.1	13.5	24.7
Germany					
inward	4.0	5.3	7.3	8.0	13.7
outward	4.7	8.6	9.1	10.7	18.9
Greece					
inward	11.3	24.9	16.9	16.6	17.7
outward	2.7	2.6	1.0	0.7	0.4
Ireland					
inward	19.5	24.5	12.2	18.6	50.7
outward	..	1.1	4.8	6.4	16.4
Italy					
inward	2.0	4.5	5.3	5.8	9.4
outward	1.6	3.9	5.2	10.0	15.8
Netherlands					
inward	11.1	19.5	23.6	28.4	50.1
outward	24.5	37.3	36.2	42.4	65.7
Portugal					
inward	12.8	19.4	15.3	17.6	21.2
outward	1.8	2.5	1.3	3.0	10.6
Spain					
inward	2.4	5.4	13.4	23.3	20.5
outward	0.9	2.7	3.2	7.8	19.0
Sweden					
inward	2.3	4.3	5.4	13.4	32.7
outward	3.0	10.7	21.5	31.6	47.4
United Kingdom					
inward	11.7	14.0	20.8	18.0	26.8
outward	15.0	21.9	23.4	27.4	49.8

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Annex table B.6. Inward and outward FDI stocks as a percentage of gross domestic product, by region and economy, 1980, 1985, 1990, 1995 and 1999 (continued)
(Percentage)

Region/economy	1980	1985	1990	1995	1999
Other Western Europe					
inward	8.9	11.0	13.4	16.6	26.3
outward	13.1	16.5	22.0	35.8	55.4
Iceland					
inward	-	2.2	2.3	1.8	5.6
outward	1.9	2.2	1.2	2.6	5.3
Norway					
inward	10.4	11.7	10.7	13.3	21.1
outward	0.9	1.7	9.4	15.4	25.3
Switzerland					
inward	8.4	10.8	15.0	18.6	29.9
outward	21.1	27.0	28.9	46.3	73.9
North America					
inward	4.6	5.7	8.3	8.7	12.2
outward	8.2	6.7	8.4	10.7	14.1
Canada					
inward	20.6	18.6	19.7	21.5	27.9
outward	9.0	12.4	14.8	20.6	30.6
United States					
inward	3.1	4.6	7.1	7.6	11.1
outward	8.1	6.2	7.8	9.9	13.0
Other developed countries					
inward	2.8	2.7	3.0	3.2	5.4
outward	2.1	3.8	7.3	5.7	7.6
Australia					
inward	8.8	15.6	24.9	29.4	31.6
outward	1.5	4.2	10.3	15.0	22.5
Israel					
inward	7.5	8.4	5.6	7.2	18.2
outward	0.8	2.7	2.2	4.5	7.2
Japan					
inward	0.3	0.4	0.3	0.7	1.0
outward	1.9	3.3	6.8	4.6	5.7
New Zealand					
inward	10.6	9.1	18.4	42.6	62.6
outward	2.4	6.7	14.8	12.7	13.3
South Africa					
inward	21.3	16.3	8.6	11.2	39.5
outward	7.4	16.2	14.1	17.4	25.2
Developing countries and economies					
inward	10.2	14.1	13.4	15.6	28.0
outward	0.9	1.6	2.6	4.8	10.1
Africa					
inward	4.6	7.4	11.1	18.2	21.0
outward	0.4	2.7	4.4	5.5	4.9
North Africa					
inward	4.1	5.8	8.2	13.6	13.7
outward	0.3	0.4	0.6	0.6	1.0
Algeria					
inward	3.1	2.2	2.1	3.3	3.0
outward	0.2	0.3	0.3	0.6	0.5

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Annex table B.6. Inward and outward FDI stocks as a percentage of gross domestic product, by region and economy, 1980, 1985, 1990, 1995 and 1999 (continued)
(Percentage)

Region/economy	1980	1985	1990	1995	1999
Egypt					
inward	9.9	16.4	25.6	23.9	19.2
outward	0.2	0.3	0.4	0.6	0.6
Libyan Arab Jamahiriya					
inward	-	-	-	-	-
outward	0.4	0.7	1.7	0.9	3.7
Morocco					
inward	1.0	3.4	3.5	9.2	16.0
outward	0.6	0.9	0.5	0.7	0.9
Sudan					
inward	0.4	0.6	0.4	0.7	9.7
outward	..	..	..	..	..
Tunisia					
inward	66.7	83.0	59.0	61.2	57.0
outward	0.1	-	0.1	0.2	0.2
Other Africa					
inward	4.9	8.7	14.3	23.5	29.9
outward	0.5	5.4	10.4	12.8	10.4
Angola					
inward	1.8	9.9	13.2	57.7	121.1
outward	..	..	..	..	..
Benin					
inward	2.2	3.2	8.6	19.2	22.8
outward	-	0.2	-	-	2.1
Botswana					
inward	67.4	78.1	38.7	24.6	23.1
outward	42.5	36.3	13.2	14.2	10.0
Burkina Faso					
inward	1.4	1.7	1.4	3.7	5.2
outward	0.2	0.2	0.1	0.5	0.9
Burundi					
inward	0.7	2.1	2.6	3.3	5.1
outward	..	..	-	-	0.3
Cameroon					
inward	4.9	13.8	9.4	13.3	14.0
outward	0.3	0.6	1.3	2.9	2.6
Cape Verde					
inward	..	..	1.3	9.0	17.6
outward	..	..	0.4	1.1	0.9
Central African Republic					
inward	6.2	8.9	6.4	6.7	10.0
outward	-	0.2	1.2	4.0	6.7
Chad					
inward	11.9	18.9	15.1	21.1	23.4
outward	-	0.1	2.2	5.6	6.7
Comoros					
inward	1.6	1.7	6.8	9.0	13.3
outward	..	..	0.4	0.7	0.8
Congo					
inward	18.4	22.4	20.3	27.9	26.9
outward	..	..	..	..	..
Congo, Democratic Republic of					
inward	3.6	6.2	4.0	6.0	5.9
outward
Côte d'Ivoire					
inward	5.2	10.0	9.0	16.2	26.4
outward	0.3	5.2	5.8

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Annex table B.6. Inward and outward FDI stocks as a percentage of gross domestic product, by region and economy, 1980, 1985, 1990, 1995 and 1999 (continued)
(Percentage)

Region/economy	1980	1985	1990	1995	1999
Djibouti					
inward	1.0	1.0	1.3	2.8	6.9
outward	..	..	..	..	..
Equatorial Guinea					
inward	..	7.0	19.2	145.7	112.0
outward	..	..	0.2	-	-
Eritrea					
inward	..	..	..	..	-
outward	..	..	..	..	..
Ethiopia					
inward	2.7	2.0	1.6	3.1	12.4
outward	..	..	..	..	2.0
Gabon					
inward	12.0	22.7	20.3	19.2	35.1
outward	1.8	2.8	2.7	4.2	3.9
Gambia					
inward	8.5	9.1	11.3	21.1	30.6
outward	..	..	..	..	..
Ghana					
inward	5.2	6.0	5.4	12.7	15.0
outward	..	..	..	..	4.0
Guinea					
inward	-	0.2	2.5	3.6	6.9
outward	..	..	..	..	-
Guinea-Bissau					
inward	0.1	2.7	3.3	6.4	14.1
outward	..	..	..	..	..
Kenya					
inward	5.5	7.8	7.9	8.1	8.2
outward	0.2	1.0	1.2	1.2	1.8
Lesotho					
inward	1.3	10.3	24.9	157.7	262.7
outward	..	..	-	-	-
Liberia					
inward	53.6	90.5	181.7	1123.0	661.8
outward	4.3	33.0	37.7	358.5	377.7
Madagascar					
inward	0.9	1.7	3.4	5.4	7.2
outward	..	..	..	-	-
Malawi					
inward	8.1	12.2	10.2	17.1	24.5
outward	..	..	..	..	0.6
Mali					
inward	0.7	2.7	1.5	6.6	13.7
outward	1.3	1.8	0.9	0.9	4.0
Mauritania					
inward	-	5.7	5.6	8.6	10.7
outward	..	..	0.3	0.3	0.3
Mauritius					
inward	1.8	3.5	6.2	6.3	9.6
outward	..	-	-	2.4	2.8
Mozambique					
inward	0.5	0.5	2.0	10.4	22.4
outward	..	..	..	-	-
Namibia					
inward	85.5	137.2	83.8	51.2	49.4
outward	3.3	0.6	1.3
Niger					
inward	7.4	14.1	11.8	21.9	20.1
outward	-	0.6	2.2	6.6	7.0

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Annex table B.6. Inward and outward FDI stocks as a percentage of gross domestic product, by region and economy, 1980, 1985, 1990, 1995 and 1999 (continued)
(Percentage)

Region/economy	1980	1985	1990	1995	1999
Nigeria					
inward	2.6	5.5	28.3	50.0	44.5
outward	-	6.4	33.9	39.0	26.0
Rwanda					
inward	4.6	7.8	8.2	17.4	12.5
outward	..	..	-	-	-
São Tomé and Príncipe					
inward	..	..	0.8	-	2.5
outward	..	..	..	..	..
Senegal					
inward	5.0	7.3	4.7	7.4	14.9
outward	0.2	1.7	0.9	2.1	2.4
Seychelles					
inward	36.8	62.1	55.4	63.3	95.5
outward	9.4	25.9	16.6	18.5	23.6
Sierra Leone					
inward	6.4	5.5	-	-	0.2
outward	..	..	..	..	..
Somalia					
inward	4.8	0.5	-	-	4.3
outward	..	..	..	..	..
Swaziland					
inward	41.8	28.9	39.1	42.2	45.7
outward	3.3	2.4	4.5	10.7	7.8
Togo					
inward	15.5	27.5	16.5	23.4	31.1
outward	0.7	1.1	0.7	3.0	8.0
Uganda					
inward	-	0.2	0.1	4.7	15.8
outward	..	..	..	4.4	4.6
United Republic of Tanzania					
inward	0.9	1.3	2.2	7.0	11.2
outward	..	..	..	..	..
Zambia					
inward	8.5	18.9	30.0	35.9	58.4
outward	..	..	..	..	..
Zimbabwe					
inward	2.8	3.3	1.4	4.8	18.6
outward	..	0.2	1.0	1.9	4.1
Latin America and the Caribbean					
inward	6.5	10.9	10.3	11.8	25.6
outward	1.3	2.0	1.8	2.9	4.9
South America					
inward	6.0	9.0	8.5	8.5	23.3
outward	1.5	1.8	1.4	1.9	3.8
Argentina					
inward	6.9	7.4	6.4	9.9	22.1
outward	8.0	6.9	4.3	3.8	6.8
Bolivia					
inward	8.4	11.6	21.1	23.3	56.9
outward	-	-	0.2	0.3	0.3
Brazil					
inward	7.4	11.5	8.0	6.0	21.6
outward	0.3	0.6	0.5	0.8	1.6
Chile					
inward	3.2	14.1	33.2	26.2	55.2
outward	0.2	0.6	0.6	4.7	19.0

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Annex table B.6. Inward and outward FDI stocks as a percentage of gross domestic product, by region and economy, 1980, 1985, 1990, 1995 and 1999 (continued)
(Percentage)

Region/economy	1980	1985	1990	1995	1999
Colombia					
inward	3.2	6.4	8.7	8.0	21.9
outward	0.4	0.9	1.0	1.3	3.6
Ecuador					
inward	6.1	8.1	15.2	19.1	32.5
outward	..	..	..	-	-
Guyana					
inward	-	-	-	58.9	93.4
outward	..	..	..	0.3	0.2
Paraguay					
inward	4.9	6.5	7.5	9.8	20.6
outward	2.8	3.0	2.6	2.0	2.6
Peru					
inward	4.3	6.1	4.1	10.1	15.5
outward	-	0.2	0.2	1.0	0.9
Suriname					
inward	-	4.1	-	-	-
outward	..	..	..	..	..
Uruguay					
inward	7.2	16.8	12.0	8.1	10.5
outward	0.2	0.7	0.5	0.1	0.3
Venezuela					
inward	2.7	2.6	4.7	9.0	20.9
outward	-	0.3	2.5	4.4	5.5
Other Latin America and the Caribbean					
inward	7.2	14.5	14.6	22.6	31.2
outward	0.8	2.4	3.0	6.6	7.5
Anguilla					
inward	..	..	54.1	275.9	660.9
outward	..	..	..	..	..
Antigua and Barbuda					
inward	20.9	46.5	74.5	88.6	92.1
outward	..	..	..	..	..
Aruba					
inward	..	..	15.2	16.5	79.3
outward	..	..	..	0.8	0.1
Bahamas					
inward	39.2	22.4	18.1	20.8	33.3
outward	21.3	6.6	49.4	37.2	54.9
Barbados					
inward	11.8	10.3	9.9	12.1	13.2
outward	0.6	1.0	1.3	1.7	1.8
Belize					
inward	6.3	4.9	18.1	26.0	36.2
outward	..	..	..	2.0	5.2
Bermuda					
inward	837.1	774.3	871.0	1176.3	1936.2
outward	118.1	192.5	97.5	113.8	617.5
Cayman Islands					
inward	..	..	355.5	395.5	2075.9
outward	..	..	176.4	280.3	502.3
Costa Rica					
inward	13.9	24.4	25.3	30.3	43.3
outward	0.1	0.7	0.8	0.7	0.8
Cuba					
inward	-	-	-	0.2	0.4
outward

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Annex table B.6. Inward and outward FDI stocks as a percentage of gross domestic product, by region and economy, 1980, 1985, 1990, 1995 and 1999 (continued)
(Percentage)

Region/economy	1980	1985	1990	1995	1999
Dominica					
inward	0.1	10.7	42.9	88.5	108.0
outward	..	..	..	..	2.2
Dominican Republic					
inward	3.6	5.9	8.1	14.3	24.9
outward	..	..	..	0.3	0.3
El Salvador					
inward	4.3	4.7	4.4	3.1	14.8
outward	..	..	1.1	0.6	0.5
Grenada					
inward	1.7	9.8	31.7	60.6	106.6
outward	..	..	-	-	-
Guatemala					
inward	8.9	10.8	22.7	15.0	17.7
outward	..	..	..	..	-
Haiti					
inward	5.4	5.6	5.0	5.8	5.2
outward	..	..	..	-	-
Honduras					
inward	3.6	4.7	12.5	16.3	22.5
outward	..	..	..	..	..
Jamaica					
inward	18.7	22.7	17.1	28.6	45.4
outward	0.2	0.2	1.0	5.9	10.4
Mexico					
inward	3.6	10.4	8.5	14.4	16.4
outward	-	0.3	0.2	1.4	1.5
Netherlands Antilles					
inward	62.3	2.5	11.4	11.9	231.7
outward	1.1	0.9	1.3	0.9	-
Nicaragua					
inward	5.1	4.1	11.4	18.8	48.1
outward	..	..	..	-	-
Panama					
inward	68.4	57.5	40.7	41.0	69.9
outward	22.9	40.8	78.8	57.8	70.4
Saint Kitts and Nevis					
inward	2.1	40.5	102.0	104.8	122.2
outward	..	..	0.1	-	-
Saint Lucia					
inward	70.1	90.7	75.7	93.4	119.4
outward	..	..	-	-	-
St Vincent & the Grenadines.					
inward	2.0	7.5	24.4	68.9	157.9
outward	..	..	0.6	0.4	0.3
Trinidad and Tobago					
inward	15.7	23.7	41.3	68.4	90.9
outward	..	0.2	0.4	0.4	4.1
Virgin Islands					
inward	0.2	3.9	15.3	87.2	408.2
outward	..	..	..	468.0	772.9
Asia and the Pacific					
inward	14.3	17.5	15.5	17.3	30.2
outward	0.7	1.0	2.7	5.7	13.6
Asia					
inward	14.2	17.4	15.4	17.3	30.2
outward	0.7	1.0	2.7	5.7	13.6

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Annex table B.6. Inward and outward FDI stocks as a percentage of gross domestic product, by region and economy, 1980, 1985, 1990, 1995 and 1999 (continued)
(Percentage)

Region/economy	1980	1985	1990	1995	1999
West Asia					
inward	-	7.5	6.0	7.0	9.3
outward	0.6	1.3	3.3	1.0	1.1
Bahrain					
inward	2.0	10.8	13.8	43.8	100.0
outward	20.5	17.7	18.0	19.0	32.2
Cyprus					
inward	21.4	32.6	20.6	17.9	20.1
outward	..	-	0.2	0.9	4.0
Iran, Islamic Republic of					
inward	2.8	3.2	1.8	1.9	2.1
outward	..	..	..	-	0.2
Iraq					
inward	-	-	-	-	-
outward	..	..	..	..	..
Jordan					
inward	4.0	9.6	15.3	9.5	19.3
outward	0.6	0.5	0.4	-	2.4
Kuwait					
inward	0.1	0.2	0.1	-	1.7
outward	2.0	4.3	19.8	10.6	5.8
Lebanon					
inward	0.5	0.9	1.9	1.2	5.5
outward	-	1.1	-	-	-
Oman					
inward	8.1	12.0	16.3	16.1	15.7
outward	-	0.4	-	-	0.1
Occupied Palestinian Territory					
inward	..	..	..	..	0.2
outward	..	..	..	..	..
Qatar					
inward	1.1	1.3	0.8	5.7	16.9
outward	..	..	..	0.4	1.4
Saudi Arabia					
inward	-	25.2	21.5	17.8	20.0
outward	0.1	0.5	1.7	1.3	1.1
Syrian Arab Republic					
inward	-	0.2	1.6	1.8	6.5
outward	..	..	..	-	-
Turkey					
inward	0.2	0.5	0.9	3.0	4.4
outward	..	..	..	0.2	0.9
United Arab Emirates					
inward	1.4	1.8	2.2	4.4	5.3
outward	-	-	0.3	0.2	-
Yemen					
inward	3.7	4.5	3.8	51.0	16.1
outward	..	-	0.1	0.1	-
Central Asia					
inward	..	..	..	8.8	32.0
outward	-	2.2
Armenia					
inward	1.2	23.1
outward	1.3
Azerbaijan					
inward	14.6	81.4
outward	10.6

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Annex table B.6. Inward and outward FDI stocks as a percentage of gross domestic product, by region and economy, 1980, 1985, 1990, 1995 and 1999 (continued)
(Percentage)

Region/economy	1980	1985	1990	1995	1999
Georgia					
inward	..	..	..	1.1	7.0
outward	..	..	..	..	..
Kazakhstan					
inward	..	..	..	14.5	51.9
outward	..	..	..	-	-
Kyrgyzstan					
inward	..	..	..	9.7	23.1
outward	..	..	..	..	-
Tajikistan					
inward	..	..	..	3.9	10.4
outward	..	..	..	..	..
Turkmenistan					
inward	..	..	..	4.6	31.9
outward	..	..	..	..	..
Uzbekistan					
inward	..	..	..	2.5	6.0
outward	..	..	..	..	..
South, East and Southeast Asia					
inward	23.4	21.2	18.4	19.7	34.4
outward	0.8	1.0	2.7	6.8	16.2
Afghanistan					
inward	0.5	0.3	0.2	0.3	1.0
outward	..	..	..	..	..
Bangladesh					
inward	0.4	0.5	0.5	0.5	1.5
outward	..	..	-	-	0.2
Bhutan					
inward	..	..	0.6	0.7	0.8
outward	..	..	..	..	..
Brunei Darussalam					
inward	0.4	0.9	0.8	1.4	-
outward	..	..	..	1.4	2.8
Cambodia					
inward	12.0	10.3	13.4	17.0	19.4
outward	..	..	..	-	-
China					
inward	3.1	3.4	7.0	19.6	30.9
outward	-	-	0.7	2.3	2.5
Hong Kong					
inward	487.0	413.6	217.5	135.4	255.5
outward	0.5	6.7	15.9	56.6	202.8
India					
inward	0.7	0.5	0.6	1.7	3.6
outward	0.1	0.1	-	0.1	0.2
Indonesia					
inward	14.2	28.6	34.0	25.0	46.2
outward	..	-	-	0.6	1.6
Korea, Democratic People's Republic of					
inward	..	..	3.0	12.0	18.7
outward	..	..	..	..	..
Korea, Republic of					
inward	1.8	2.3	2.0	2.1	7.9
outward	0.2	0.5	0.9	2.2	5.5
Lao Peoples Dem. Republic					
inward	0.4	-	1.4	11.9	42.8
outward	-	-

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Annex table B.6. Inward and outward FDI stocks as a percentage of gross domestic product, by region and economy, 1980, 1985, 1990, 1995 and 1999 (continued)
(Percentage)

Region/economy	1980	1985	1990	1995	1999
Macau					
inward	..	0.6	0.3	-	-
outward	..	..	..	..	..
Malaysia					
inward	21.1	23.7	24.1	32.9	65.3
outward	0.8	4.4	6.2	12.8	22.6
Maldives					
inward	11.4	3.9	17.1	22.5	30.2
outward	..	..	0.3	0.4	0.3
Mongolia					
inward	..	..	-	3.9	14.1
outward	..	..	..	0.1	0.5
Myanmar					
inward	-	-	0.7	2.3	4.0
outward	..	..	..	-	-
Nepal					
inward	-	-	0.3	0.9	2.0
outward	..	..	..	..	..
Pakistan					
inward	2.9	3.5	4.8	9.1	17.2
outward	0.2	0.4	0.6	0.7	0.8
Philippines					
inward	3.9	8.5	7.4	8.2	14.9
outward	0.5	0.6	0.3	1.6	2.5
Singapore					
inward	52.9	73.6	76.3	70.0	97.5
outward	31.7	24.8	20.9	41.2	57.6
Sri Lanka					
inward	5.7	8.7	8.5	10.0	14.2
outward	..	-	0.1	0.3	0.3
Taiwan Province					
inward	5.8	4.7	6.1	6.0	8.0
outward	0.2	0.3	8.0	9.7	14.7
Thailand					
inward	3.0	5.1	9.6	10.4	17.5
outward	-	-	0.5	1.3	1.9
Viet Nam					
inward	0.2	0.6	3.6	31.1	55.6
outward	..	..	..	..	..
The Pacific					
inward	22.4	24.3	28.8	25.1	35.0
outward	0.3	1.0	1.9	1.8	5.1
Fiji					
inward	29.7	34.4	30.5	37.0	50.2
outward	0.2	1.3	6.6	6.6	17.3
Kiribati					
inward	..	-	1.2	2.5	6.8
outward	..	..	..	-	-
New Caledonia					
inward	1.0	1.4	2.1	2.4	2.8
outward	..	..	..	..	..
Papua New Guinea					
inward	29.4	28.2	49.1	33.1	53.5
outward	0.4	0.9	0.2	0.1	0.2
Samoa					
inward	0.8	1.3	5.6	17.9	27.8
outward

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Annex table B.6. Inward and outward FDI stocks as a percentage of gross domestic product, by region and economy, 1980, 1985, 1990, 1995 and 1999 (continued)
(Percentage)

Region/economy	1980	1985	1990	1995	1999
Solomon Islands					
inward	24.2	20.3	33.0	38.5	52.8
outward	..	..	-	-	-
Tonga					
inward	..	0.2	0.7	4.5	9.2
outward	..	..	-	-	-
Vanuatu					
inward	29.1	52.4	71.9	105.0	141.0
outward	..	..	..	..	..
Developing Europe					
inward	13.8	28.2	5.8	7.4	18.8
outward	..	..	1.5	2.9	3.5
Bosnia and Herzegovina					
inward	..	..	..	4.5	6.1
outward	..	..	..	0.9	1.5
Croatia					
inward	..	..	..	2.5	20.2
outward	..	..	..	3.7	5.1
Malta					
inward	13.8	28.2	20.1	28.4	65.4
outward	..	..	..	0.1	2.4
Slovenia					
inward	..	..	3.8	9.4	13.0
outward	..	..	1.5	2.7	2.9
TFYR Macedonia					
inward	..	..	..	1.6	6.1
outward	..	..	..	..	0.1
Central and Eastern Europe					
inward	..	0.2	1.5	5.2	13.3
outward	-	-	0.3	0.8	1.8
Albania					
inward	..	..	..	8.3	16.0
outward	..	..	..	2.0	2.9
Belarus					
inward	..	..	..	0.3	8.3
outward	..	..	..	-	0.1
Bulgaria					
inward	..	..	0.5	3.4	19.9
outward	..	..	..	0.8	0.7
Czech Republic					
inward	..	..	4.3	14.5	33.0
outward	..	..	..	0.7	1.3
Estonia					
inward	..	..	..	18.6	47.9
outward	..	..	..	1.9	5.3
Hungary					
inward	..	0.2	1.7	22.4	39.9
outward	0.6	0.9	3.2
Latvia					
inward	13.8	26.9
outward	5.2	3.7
Lithuania					
inward	5.8	19.7
outward	-	0.2

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Annex table B.6. Inward and outward FDI stocks as a percentage of gross domestic product, by region and economy, 1980, 1985, 1990, 1995 and 1999 (continued)
(Percentage)

Region/economy	1980	1985	1990	1995	1999
Moldova, Republic of					
inward	..	..	..	6.5	28.8
outward	..	..	..	1.3	1.7
Poland					
inward	..	..	0.2	6.6	17.2
outward	-	-	0.2	0.5	0.9
Romania					
inward	..	..	2.0	3.2	16.1
outward	..	..	0.2	0.3	0.4
Russian Federation					
inward	..	..	..	1.6	4.4
outward	..	..	..	0.9	2.3
Slovakia					
inward	..	..	0.6	7.3	14.6
outward	..	..	..	2.2	1.5
Ukraine					
inward	..	..	..	2.5	10.5
outward	..	..	..	0.3	0.3
Memorandum					
Least developed countries ^a					
Total					
inward	2.8	4.3	5.0	9.5	14.2
outward	0.6	2.6	1.1	1.0	1.5
Africa					
inward	3.2	5.9	8.0	16.9	27.3
outward	0.6	3.9	2.4	4.2	4.9
America					
inward	5.4	5.6	5.0	5.8	5.2
outward	..	..	..	-	-
Asia and the Pacific					
inward	1.5	1.6	1.3	4.3	5.0
outward	..	-	-	-	-
Asia					
inward	1.4	1.4	1.0	3.9	4.5
outward	..	-	-	-	-
West Asia					
inward	3.7	4.5	3.8	51.0	16.1
outward	..	-	0.1	0.1	-
South, East and Southeast Asia					
inward	0.9	0.9	0.8	2.1	3.8
outward	..	..	-	-	-
The Pacific					
inward	18.1	24.4	34.7	52.6	69.9
outward	..	..	-	-	-
Oil-exporting countries ^b					
Total					
inward	1.6	9.0	12.0	13.8	21.2
outward	0.4	1.7	3.9	2.8	3.3
Africa					
inward	0.3	1.3	5.0	14.4	18.5
outward	0.2	3.3	8.3	12.3	10.3
North Africa					
inward	-	-	-	-	-
outward	0.3	0.4	0.8	0.7	1.7
Other Africa					
inward	3.2	6.8	24.2	46.1	50.9
outward	-	6.3	28.5	33.8	23.6

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Annex table B.6. Inward and outward FDI stocks as a percentage of gross domestic product, by region and economy, 1980, 1985, 1990, 1995 and 1999 (concluded)
(Percentage)

Region/economy	1980	1985	1990	1995	1999
America					
inward	4.3	5.4	9.3	14.0	26.4
outward	-	0.3	2.3	3.4	4.6
South America					
inward	3.3	3.5	6.6	10.9	22.7
outward	-	0.3	2.5	3.6	4.7
Other America					
inward	15.7	23.7	41.3	68.4	90.9
outward	..	0.2	0.4	0.4	4.1
Asia					
inward	1.7	13.3	14.4	13.7	20.6
outward	0.6	0.9	2.2	1.2	1.4
West Asia					
inward	-	8.9	8.0	8.1	11.4
outward	0.6	1.4	3.7	1.5	1.3
South, East and Southeast Asia					
inward	13.3	27.5	33.0	24.5	44.5
outward	..	-	-	0.7	1.6
All developing countries minus China					
inward	10.9	15.7	14.1	15.0	27.5
outward	1.0	1.8	2.8	5.2	11.6
Developed Asia					
inward	0.5	0.5	0.4	0.8	1.4
outward	1.8	3.3	6.7	4.6	5.7
Developed Pacific					
inward	9.0	14.8	24.1	31.4	35.3
outward	1.6	4.5	10.9	14.7	21.4
Africa including South Africa					
inward	7.6	8.6	10.5	16.2	25.4
outward	2.0	5.0	7.0	9.3	10.1
Other Africa including South Africa					
inward	9.2	10.5	12.1	17.8	33.8
outward	3.1	8.8	12.2	15.3	17.1
Central and Eastern Europe and Developing Europe (excluding Malta)					
inward	..	0.2	1.7	5.2	13.4
outward	-	-	0.4	0.9	1.9

Source: UNCTAD, FDI/TNC database.

^a Least developed countries include: Afghanistan, Angola, Bangladesh, Benin, Bhutan, Burkina Faso, Burundi, Cambodia, Cape Verde, Central African Republic, Chad, Comoros, Democratic Republic of Congo, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gambia, Guinea, Guinea-Bissau, Haiti, Kiribati, Lao People's Democratic Republic, Lesotho, Liberia, Madagascar, Malawi, Maldives, Mali, Mauritania, Mozambique, Myanmar, Nepal, Niger, Rwanda, Samoa, São Tomé and Príncipe, Senegal, Sierra Leone, Solomon Islands, Somalia, Sudan, Togo, Tuvalu, Uganda, United Republic of Tanzania, Vanuatu, Yemen and Zambia.

^b Oil-exporting countries include: Algeria, Angola, Bahrain, Brunei Darussalam, Congo, Ecuador, Gabon, Indonesia, Iran, Islamic Republic of, Iraq, Kuwait, Libyan Arab Jamahiriya, Nigeria, Oman, Qatar, Saudi Arabia, Syrian Arab Republic, Trinidad and Tobago, United Arab Emirates and Venezuela.

Annex table B.7. Cross-border M&A sales, by region/economy of seller, 1987-2000
(Millions of dollars)

Region/economy	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
TOTAL WORLD	74 509	115 623	140 389	150 576	80 713	79 280	83 064	127 110	186 593	227 023	304 848	531 648	766 044	1 143 816
Developed countries	72 804	112 749	135 305	134 239	74 057	68 560	69 127	110 819	164 589	188 722	234 748	445 128	681 133	1 057 230
Western Europe	13 209	34 274	48 949	67 370	38 520	45 831	40 598	57 262	79 114	88 512	121 548	194 388	370 468	610 647
European Union	12 761	31 012	47 358	62 133	36 676	44 761	38 537	55 280	75 143	81 895	114 591	187 853	357 311	586 521
Austria	8	253	32	189	244	107	417	540	609	856	2 259	3 551	380	574
Belgium	919	793	805	4 469	814	493	2 201	1 026	1 710	8 469	5 945	6 865	24 984	7 318
Denmark	-	218	225	496	272	99	590	570	199	459	566	3 802	4 615	9 122
Finland	20	80	229	51	463	209	391	550	1 726	1 199	735	4 780	3 144	6 896
France	1 426	3 018	3 338	8 183	2 623	9 150	8 497	16 290	7 533	13 575	17 751	16 885	23 834	35 018
Germany	1 069	1 300	4 301	6 220	3 407	5 521	2 285	4 468	7 496	11 924	11 856	19 047	39 555	246 990
Greece	-	22	-	115	70	413	52	15	50	493	99	21	191	245
Ireland	36	205	735	595	282	81	1 453	242	587	724	2 282	729	4 739	5 246
Italy	621	3 095	3 003	2 165	3 865	3 672	3 754	6 909	4 102	2 764	3 362	4 480	11 237	18 877
Luxembourg	50	5	-	531	82	-	254	380	280	506	3 492	35	7 360	4 210
Netherlands	1 256	1 182	3 965	1 484	3 490	9 362	4 779	2 789	3 607	3 538	19 052	19 359	39 010	33 656
Portugal	9	11	768	213	194	668	356	63	144	793	86	427	211	2 980
Spain	938	723	1 593	3 832	5 373	4 668	1 967	3 615	1 257	1 463	4 074	5 700	5 841	22 248
Sweden	875	192	1 849	4 489	2 478	2 455	1 844	6 016	9 451	3 863	3 327	11 093	59 676	13 112
United Kingdom	5 534	19 917	26 515	29 102	13 020	7 863	9 699	11 807	36 392	31 271	39 706	91 081	132 534	180 029
Other Western Europe	448	3 262	1 591	5 237	1 844	1 070	2 061	1 982	3 971	6 617	6 958	6 535	13 157	24 126
Andorra	-	-	-	-	-	-	-	-	-	-	-	-	-	6
Gibraltar	-	-	-	-	4	-	-	-	-	9	-	-	8	16
Guernsey	-	-	-	-	-	-	-	-	-	-	-	-	26	88
Iceland	-	-	-	-	1	-	-	-	-	4	-	-	-	-
Jersey	-	-	-	-	-	-	-	-	-	-	-	-	31	14
Liechtenstein	-	-	-	-	-	-	-	-	-	-	-	9	-	-
Man Island	-	-	-	-	-	-	-	-	-	-	-	-	-	36
Monaco	-	669	21	-	-	-	-	-	8	-	752	-	276	19
Norway	10	239	601	668	843	487	1 887	397	271	2 198	2 660	1 182	8 703	10 613
Switzerland	438	2 353	969	4 569	997	582	174	1 585	3 692	4 407	3 545	5 344	4 113	13 334
North America	57 918	72 641	79 233	60 427	31 884	18 393	22 291	49 093	64 804	78 907	90 217	225 980	275 884	401 429
Canada	6 153	8 737	10 412	5 731	3 658	2 554	2 313	4 364	11 567	10 839	8 510	16 432	23 950	77 079
United States	51 765	63 904	68 821	54 697	28 226	15 839	19 978	44 730	53 237	68 069	81 707	209 548	251 934	324 350
Other developed countries	1 677	5 834	7 123	6 442	3 654	4 337	6 237	4 464	20 672	21 303	22 983	24 761	34 781	45 154
Australia	1 545	4 380	4 704	2 545	2 592	2 446	3 191	2 975	17 360	13 099	14 794	14 737	11 996	21 699
Israel	-	106	134	44	58	293	18	235	303	541	1 097	1 754	2 854	2 346
Japan	27	29	1 612	148	178	230	93	750	541	1 719	3 083	4 022	16 431	15 541
New Zealand	89	1 320	674	3 704	815	1 157	1 430	317	1 828	4 839	1 346	2 316	1 598	4 397
South Africa	17	-	-	-	10	211	1 506	187	640	1 106	2 664	1 932	1 902	1 171
Developing countries	1 704	2 875	5 057	16 052	5 838	8 119	12 782	14 928	15 966	34 700	64 573	80 755	73 601	69 664
Africa	143	-	1 039	485	37	177	301	154	200	700	1 682	675	1 215	2 028
North Africa	143	-	24	-	1	139	242	100	10	211	680	456	914	956
Algeria	-	-	-	-	1	-	-	-	-	-	-	-	-	42
Egypt	-	-	24	-	-	131	177	17	10	171	102	48	738	528
Morocco	-	-	-	-	-	-	64	83	-	40	578	5	123	-
Sudan	-	-	-	-	-	8	-	-	-	-	-	-	-	-
Tunisia	-	-	-	-	-	-	-	-	-	-	-	402	11	301

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Annex table B.7. Cross-border M&A sales, by region/economy of seller, 1987-2000 (concluded)
(Millions of dollars)

Region/economy	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
South, East and South-East Asia														
Bangladesh	256	1 510	2 029	3 960	2 051	3 411	7 267	4 652	6 278	9 745	18 586	15 842	28 431	21 105
Brunei Darussalam	-	-	-	-	-	-	2	-	-	-	-	33	-	-
Cambodia	-	-	-	-	-	-	-	-	-	0	1	-	-	-
China	-	-	-	8	125	221	561	715	403	1 906	1 856	798	2 395	2 247
Democratic People's Republic of	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hong Kong, China	181	1 046	826	2 620	568	1 674	5 308	1 602	1 703	3 267	7 330	938	4 181	4 793
India	-	-	-	5	-	35	96	385	276	206	1 520	361	1 044	1 219
Indonesia	29	100	150	-	149	233	169	206	809	530	332	683	1 164	819
Lao People's Dem. Rep.	-	-	-	-	-	10	-	-	-	-	-	-	-	-
Macau	-	-	-	-	29	-	-	-	-	-	-	-	-	-
Malaysia	-	20	701	86	128	46	518	443	98	768	351	1 096	1 166	441
Mongolia	-	-	-	-	-	-	-	1	-	-	-	-	1	-
Myanmar	-	-	-	-	-	-	10	-	9	-	260	-	-	-
Nepal	-	-	-	-	-	-	2	-	13	-	-	-	-	-
Pakistan	-	-	-	1	-	22	5	-	-	1 124	80	2 259	6	6
Philippines	25	45	161	15	63	404	136	828	1 208	462	4 157	1 905	1 523	366
Korea, Republic of	-	-	68	-	673	0	2	1	192	564	836	3 973	10 062	6 448
Singapore	21	262	114	1 143	237	276	362	355	1 238	593	294	468	2 958	1 532
Sri Lanka	-	-	-	1	-	-	30	10	126	35	275	96	22	2
Taiwan Province of China	-	38	9	11	-	3	16	16	42	50	601	24	1 837	644
Thailand	-	-	-	70	79	498	42	89	161	234	633	3 209	2 011	2 569
Viet Nam	-	-	-	-	-	-	-	2	1	6	63	-	59	19
The Pacific														
Cook Islands	-	-	-	-	28	-	2	37	67	46	257	41	110	5
Fiji	-	-	-	-	-	-	-	-	-	5	-	-	4	-
French Polynesia	-	-	-	-	-	-	-	-	-	2	-	-	-	-
Marshall Islands	-	-	-	-	-	-	-	-	16	-	-	-	-	-
Papua New Guinea	-	-	-	-	28	-	2	36	51	39	257	41	106	-
Solomon Islands	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Vanuatu	-	-	-	-	-	-	-	-	-	-	-	-	-	4
Central and Eastern Europe														
Albania	-	-	27	285	818	2 602	1 155	1 333	5 938	3 601	5 526	5 101	9 148	16 922
Bulgaria	-	-	-	-	-	-	-	90	32	71	497	61	1 133	582
Czech Republic	-	-	-	-	-	-	226	408	2 366	507	671	362	2 402	1 924
Former Czechoslovakia	-	-	-	-	477	780	-	-	-	-	-	-	-	-
Estonia	-	-	-	-	-	-	-	-	28	23	64	149	114	131
Hungary	-	-	24	226	267	392	382	139	2 106	1 594	298	612	537	1 117
Latvia	-	-	-	-	-	-	-	3	23	57	63	11	20	342
Lithuania	-	-	-	-	-	-	-	9	9	-	12	632	427	173
Poland	-	-	4	-	74	1 396	197	357	983	993	808	1 789	3 707	9 316
Republic of Moldova	-	-	-	-	-	-	-	-	-	2	-	-	-	27
Romania	-	-	-	-	-	-	-	181	229	94	391	1 284	447	536
Russian Federation	-	-	-	59	-	33	309	63	100	95	2 681	147	180	758
Slovakia	-	-	-	-	-	-	21	83	4	138	38	54	41	1 849
Slovenia	-	-	-	-	-	-	-	-	66	30	1	0	136	151
Ukraine	-	-	-	-	-	-	-	30	100	-	-	665	2 162	-
Multinational^a														

Source: UNCTAD, cross-border M&A database.

^a Involving sellers in more than two countries.

Annex table B.8. Cross-border M&A purchases, by region/economy of purchaser, 1987-2000
(Millions of dollars)

Region/economy	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
TOTAL WORLD	74 509	115 623	140 389	150 576	80 713	79 280	83 064	127 110	186 593	227 023	304 848	531 648	766 044	1 143 816
Developed countries	71 874	113 413	135 786	143 216	77 635	74 431	72 498	116 597	173 732	198 257	272 042	511 430	706 519	1 094 031
Western Europe	33 068	49 690	74 265	92 567	42 473	49 753	43 010	75 943	92 539	110 628	154 035	324 658	539 242	852 735
European Union	32 617	40 141	71 365	86 525	39 676	44 391	40 531	63 857	81 417	96 674	142 108	284 373	517 155	801 746
Austria	-	-	21	236	208	62	169	23	157	4	242	302	1 771	2 254
Belgium	20	188	309	813	222	625	181	3 107	4 611	3 029	2 053	2 225	13 357	16 334
Denmark	16	63	261	767	573	258	372	172	152	638	1 492	1 250	5 654	4 590
Finland	58	172	979	1 136	568	8	98	417	471	1 464	1 847	7 333	2 236	20 192
France	3 244	5 486	17 594	21 828	10 380	12 389	6 596	6 717	8 939	14 755	21 153	30 926	88 656	168 710
Germany	1 634	1 857	3 468	6 795	6 894	4 409	4 412	7 608	18 509	17 984	13 190	66 728	85 530	58 671
Greece	-	-	100	3	16	19	127	21	-	2	2 018	1 439	287	3 937
Ireland	67	548	1 174	730	390	358	457	1 447	1 166	2 265	1 826	3 196	4 198	5 575
Italy	3 327	1 373	1 961	5 314	816	5 167	816	1 622	4 689	1 627	4 196	15 200	12 801	16 932
Luxembourg	59	80	-	734	1 023	415	1 555	244	51	1 037	973	891	2 847	6 040
Netherlands	2 716	2 350	3 292	5 619	4 251	5 304	2 848	8 714	6 811	12 148	18 472	24 280	48 909	52 430
Portugal	-	-	14	17	181	502	14	144	329	96	612	4 522	1 434	2 657
Spain	212	582	1 318	4 087	2 773	983	1 053	3 828	460	3 458	8 038	15 031	25 452	39 443
Sweden	1 645	3 104	2 645	12 572	2 882	1 813	1 923	3 118	5 432	2 058	7 625	15 952	9 914	21 559
United Kingdom	19 621	24 339	38 229	25 873	8 501	12 080	19 911	26 675	29 641	36 109	58 371	95 099	214 109	382 422
Other Western Europe	452	9 549	2 900	6 043	2 797	5 362	2 478	12 086	11 122	13 954	11 928	40 285	22 087	50 989
Gibraltar	-	-	-	-	3	-	-	-	-	-	-	-	-	18
Iceland	-	-	-	-	-	7	-	-	-	-	-	-	-	49
Jersey	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Liechtenstein	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Monaco	-	-	-	160	-	-	-	62	10	-	142	-	8	-
Norway	53	19	126	1 380	35	113	143	643	1 276	3 956	1 212	1 170	1 382	318
Switzerland	399	9 530	2 774	4 503	1 458	4 973	2 336	11 378	9 836	9 998	10 574	39 115	20 691	43 228
North America	32 138	38 577	47 862	30 766	20 702	17 190	25 534	33 610	69 833	69 501	99 709	173 039	138 881	198 915
Canada	3 727	14 397	9 002	3 139	4 106	2 155	4 129	5 079	12 491	8 757	18 840	35 618	18 571	39 646
United States	28 412	24 181	38 860	27 627	16 596	15 035	21 405	28 531	57 343	60 744	80 869	137 421	120 310	159 269
Other developed countries	6 668	25 146	13 659	19 883	14 461	7 488	3 955	7 044	11 360	18 128	18 297	13 733	28 396	42 381
Australia	2 513	9 355	5 561	3 806	1 472	676	1 852	1 602	6 145	9 283	11 745	8 147	10 138	10 856
Israel	-	-	-	28	28	61	393	143	106	484	254	791	605	2 361
Japan	3 156	13 514	7 525	14 048	11 877	4 392	1 106	1 058	3 943	5 660	2 747	1 284	10 517	20 858
New Zealand	685	2 253	569	1 854	883	923	252	44	573	1 180	785	997	1 421	1 913
South Africa	315	24	5	146	201	1 436	352	4 196	593	1 522	2 766	2 514	5 715	6 393
Developing countries	2 614	2 180	3 990	7 035	3 057	4 827	10 439	10 164	12 779	28 127	32 544	19 204	57 702	42 135
Africa	100	-	-	-	229	309	54	25	52	625	34	163	47	266
North Africa	-	-	-	-	-	309	54	9	11	8	3	3	40	213
Egypt	-	-	-	-	-	-	18	-	-	-	-	-	-	213
Libyan Arab Jamahiriya	-	-	-	-	-	309	-	5	-	-	-	3	-	-
Morocco	-	-	-	-	-	-	36	4	-	8	-	-	10	-
Tunisia	-	-	-	-	-	-	-	-	11	-	-	-	23	-
Other Africa	100	-	-	-	229	-	-	16	41	618	34	160	7	53
Botswana	-	-	-	-	-	-	-	-	4	-	-	-	-	-
Central African Republic	-	-	-	-	-	-	-	-	-	63	-	-	-	-

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Annex table B.8. Cross-border M&A purchases, by region/economy of purchaser, 1987-2000 (concluded)

Region/economy	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Asia	2 372	2 080	2 998	5 438	2 441	2 624	7 843	6 486	8 755	19 136	21 690	6 399	12 873	22 895
West Asia	170	124	253	2 112	113	105	1 013	1 199	1 697	1 589	3 797	399	1 538	1 750
Abu Dhabi	-	-	-	528	-	-	-	-	-	-	-	-	-	-
Bahrain	-	-	168	1 537	-	-	81	300	-	41	1 472	45	563	79
Cyprus	-	-	-	-	-	-	-	-	-	-	1 881	-	73	15
Iran, Islamic Republic of	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Jordan	-	-	-	-	-	-	-	-	-	-	-	-	-	22
Kuwait	170	-	83	-	112	-	21	-	4	648	-	-	119	32
Lebanon	-	-	-	-	-	-	-	-	3	0	58	-	-	-
Oman	-	-	-	-	-	-	-	-	-	-	8	55	-	-
Qatar	-	-	-	-	-	-	-	-	-	42	-	-	-	2
Saudi Arabia	-	-	-	-	-	100	182	630	1 671	350	334	217	3	1 550
Turkey	-	-	2	-	-	-	-	11	19	356	43	4	88	48
United Arab Emirates	-	124	-	48	1	5	-	257	-	153	2	77	655	2
Yemen	-	-	-	-	-	-	-	-	-	-	-	-	37	-
Central Asia	-	-	-	-	-	-	-	-	450	-	-	-	-	6
Kazakhstan	-	-	-	3 325	2 329	2 518	6 830	5 287	6 608	17 547	17 893	6 001	11 335	21 139
South, East and South-East Asia	2 202	1 956	2 745	-	-	13	-	-	-	-	-	-	-	-
Afghanistan	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bangladesh	-	-	-	-	-	-	-	-	12	-	-	-	-	-
Brunei Darussalam	-	-	-	-	-	-	202	-	31	189	-	-	-	-
China	-	17	202	60	3	573	485	307	249	451	799	1 276	101	470
Democratic People's Republic	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hong Kong, China	2 166	1 649	773	1 198	1 342	1 263	4 113	2 267	2 299	2 912	8 402	2 201	2 321	5 768
India	-	22	11	-	1	3	219	109	29	80	1 287	11	126	910
Indonesia	-	260	27	49	3	16	50	32	163	218	676	39	243	1 445
Malaysia	-	-	-	144	149	148	774	812	1 122	9 635	894	1 059	1 377	761
Macau	-	-	-	-	-	-	-	-	-	-	-	-	450	-
Philippines	-	-	-	-	14	-	25	42	153	190	54	1	330	75
Pakistan	-	-	-	-	-	-	-	-	-	-	-	-	-	6
Republic of Korea	-	-	235	33	187	72	74	500	1 392	1 659	2 379	187	1 097	1 712
Singapore	7	8	764	438	570	294	849	1 174	892	2 018	2 888	530	4 720	8 847
Sri Lanka	-	-	-	-	-	-	-	2	-	-	-	26	8	-
Taiwan Province of China	29	-	464	1 385	-	131	-	30	122	4	433	628	408	1 138
Thailand	-	-	269	18	59	1	38	12	144	180	55	43	154	5
Viet Nam	-	-	-	-	-	6	-	1	-	11	27	-	-	-
The Pacific	-	-	-	-	-	-	28	-	22	8	-	-	4	328
Fiji	-	-	-	-	-	-	-	-	-	-	-	-	4	-
Nauru	-	-	-	-	-	-	28	-	-	-	-	-	-	-
Papua New Guinea	-	-	-	-	-	-	-	-	-	-	-	-	-	328
Vanuatu	-	-	-	-	-	-	-	-	13	8	-	-	-	-
Central and Eastern Europe	8	-	6	-	14	22	113	329	59	501	175	1 007	1 542	1 661
Bulgaria	8	-	6	-	-	-	-	-	-	3	60	8	797	8
Czech Republic	-	-	6	-	-	4	19	51	48	176	60	142	13	775
Former Czechoslovakia	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Estonia	-	-	-	-	-	-	-	22	-	15	1	12	5	2
Hungary	-	-	-	-	-	-	62	-	2	6	6	64	118	379
Latvia	-	-	-	-	-	-	18	-	-	-	-	-	-	-
Lithuania	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	14	-	8	11	8	23	45	465	132	118
Romania	-	-	-	-	-	-	-	-	-	-	0	-	-	-
Russian Federation	-	-	-	-	-	18	6	245	-	242	2	301	52	225
Slovakia	-	-	-	-	-	-	-	1	2	42	1	23	424	24
Slovenia	-	-	-	-	-	-	-	-	-	-	-	-	-	130
Ukraine	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Unspecified	13	30	606	325	4	-	14	10	-	139	4	8	-	7
Multinational^a	-	-	-	-	3	-	-	10	23	83	83	8	281	5 982

Source: UNCTAD, cross-border M&A database.

^a Involving purchasers in more than two countries.

Annex table B.9. Cross-border M&As, by sector and industry of seller, 1987-2000
(Millions of dollars)

Sector/industry	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total	74 509	115 623	140 389	150 576	80 713	79 280	83 064	127 110	186 593	227 023	304 848	531 648	766 044	1 143 816
Primary	10 795	3 911	1 941	5 170	1 164	3 637	4 201	5 517	8 499	7 935	8 725	10 599	10 000	9 815
Agriculture, hunting, forestry, and fishing	343	1 809	225	221	548	301	406	950	1 019	498	2 098	6 673	656	1 110
Mining, quarrying and petroleum	10 452	2 102	1 717	4 949	617	3 336	3 795	4 568	7 480	7 437	6 628	3 926	9 344	8 705
Manufacturing	42 393	73 727	89 596	75 495	36 176	43 222	43 204	69 321	84 462	88 522	121 379	263 206	288 090	291 654
Food, beverages and tobacco	3 803	14 462	8 719	12 676	5 127	9 398	7 751	13 528	18 108	6 558	22 053	17 001	28 242	50 247
Textiles, clothing and leather	617	812	1 720	1 281	731	760	1 173	1 431	2 039	849	1 732	1 632	5 276	2 526
Wood and wood products	2 013	1 793	9 176	7 765	2 714	1 588	2 031	4 262	4 855	5 725	6 854	7 237	9 456	23 562
Publishing, printing, and reproduction of recorded media	1 196	11 741	6 544	2 305	353	5 192	1 183	2 747	1 341	10 853	2 607	12 798	10 248	4 875
Coke, petroleum and nuclear fuel	3 980	17 868	9 151	6 480	5 676	1 596	1 479	4 216	5 644	13 965	11 315	67 280	22 637	45 015
Chemicals and chemical products	1 683	5 008	18 368	12 275	5 773	5 581	11 393	20 061	26 984	15 430	35 395	31 806	86 389	30 446
Rubber and plastic products	1 696	3 620	1 387	2 745	574	228	265	997	4 313	3 943	2 306	2 264	3 786	4 723
Non-metallic mineral products	1 249	2 452	3 887	5 630	1 113	5 410	2 204	5 201	2 726	2 840	6 153	8 100	12 129	11 663
Metal and metal products	1 459	1 606	6 399	4 426	2 246	2 534	2 252	2 743	2 515	8 728	9 853	8 376	10 825	16 782
Machinery and equipment	832	2 878	2 078	1 750	1 140	1 087	1 661	3 312	5 103	4 301	7 546	8 918	20 850	8 980
Electrical and electronic equipment	7 135	6 998	12 771	6 114	8 361	6 198	3 895	3 432	5 581	7 573	7 897	35 819	51 770	53 859
Precision instruments	1 056	3 596	2 626	3 992	1 112	1 080	4 495	1 882	2 023	3 300	3 322	9 251	7 269	13 518
Motor vehicles and other transport equipment	315	889	5 215	7 390	995	2 211	2 743	4 988	2 657	4 150	4 189	50 767	18 517	25 272
Other manufacturing	208	4	1 556	666	261	360	680	522	575	308	158	1 958	696	186
Tertiary	21 321	37 986	48 851	69 911	43 297	32 384	35 649	52 270	93 632	130 232	174 744	257 843	467 853	842 342
Electric, gas, and water	61	116	1 028	609	1 072	1 847	1 783	2 510	12 240	21 274	29 620	32 249	40 843	46 711
Construction	416	295	813	533	279	651	331	838	1 738	4 410	602	1 434	3 205	5 170
Trade	4 319	10 013	12 377	9 095	7 904	5 703	7 537	8 753	10 159	27 928	21 664	27 332	55 463	34 918
Hotels and restaurants	2 304	6 829	3 316	7 263	1 293	1 408	1 412	2 335	3 247	2 416	4 445	10 332	4 836	2 883
Transport, storage and communications	309	2 182	3 578	14 460	3 757	3 035	6 559	13 540	8 225	17 523	17 736	51 445	167 723	365 673
Finance	7 360	14 471	14 616	21 722	14 188	13 178	12 168	10 568	31 059	36 693	50 836	83 432	126 710	183 665
Business services	6 237	3 009	5 264	11 831	5 100	3 808	3 664	8 406	9 715	13 154	26 480	42 497	52 748	137 416
Public administration and defence	-	-	-	-	-	-	-	-	605	-	111	395	1 769	8
Education	-	-	7	5	33	-	421	18	-	4	179	42	66	219
Health and social services	-	86	460	469	84	237	261	2 463	946	336	3 396	641	724	751
Community, social and personal service activities	315	984	7 363	3 858	9 554	2 474	1 404	2 319	12 110	6 494	19 656	7 976	13 724	64 855
Other services	-	3	30	66	33	44	110	520	3 588	-	19	69	42	73
Unknown^a	-	-	-	-	76	37	10	1	-	334	-	-	101	5

Source: UNCTAD, cross-border M&A database.

a Includes non-classified establishments.

Annex table B.10. Cross-border M&As, by sector and industry of purchaser, 1987-2000

(Millions of dollars)

Sector/industry	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total	74 509	115 623	140 389	150 576	80 713	79 280	83 064	127 110	186 593	227 023	304 848	531 648	766 044	1 143 816
Primary	1 425	4 398	2 976	2 131	1 556	2 978	4 155	5 032	7 951	5 684	7 150	5 455	7 397	8 968
Agriculture, hunting, forestry, and fishing	846	2 078	1 466	47	471	204	65	154	182	962	1 541	1 497	241	1 472
Mining, quarrying and petroleum	579	2 320	1 511	2 084	1 085	2 775	4 090	4 878	7 769	4 723	5 609	3 958	7 156	7 496
Manufacturing	50 308	71 747	95 149	79 908	44 985	35 287	36 837	72 549	93 784	88 821	133 202	257 220	287 126	302 507
Food, beverages and tobacco	4 454	19 774	15 484	13 523	5 212	6 383	7 668	7 872	22 546	9 684	21 439	16 922	33 014	60 189
Textiles, clothing and leather	259	608	1 636	3 363	1 401	406	3 767	332	1 569	778	1 254	3 062	2 122	3 741
Wood and wood products	1 374	3 115	5 637	6 717	2 244	1 743	2 933	2 483	6 466	3 143	6 157	13 131	7 138	18 342
Publishing, printing, and reproduction of recorded media	1 426	8 951	6 518	2 363	689	5 022	1 998	4 866	2 332	7 829	6 774	12 050	13 245	9 365
Coke, petroleum and nuclear fuel	12 624	15 360	9 384	7 051	6 199	1 442	2 243	3 499	6 679	12 994	11 860	67 665	36 939	40 701
Chemicals and chemical products	15 405	4 332	19 335	15 260	4 043	5 142	4 605	31 473	28 186	18 555	38 664	34 822	80 865	24 085
Rubber and plastic products	1 169	3 528	2 609	1 904	411	710	387	176	4 852	659	2 363	2 790	1 105	1 214
Non-metallic mineral products	2 126	1 865	2 983	6 183	911	3 939	2 404	5 232	2 740	4 585	6 965	8 823	12 494	12 881
Metal and metal products	1 654	2 729	5 992	3 076	1 874	2 308	2 046	2 475	1 472	13 395	8 512	7 947	10 974	12 713
Machinery and equipment	2 451	2 288	2 567	1 906	1 171	671	1 239	2 416	3 760	2 463	4 767	4 553	26 325	12 938
Electrical and electronic equipment	5 737	6 474	17 062	7 190	19 346	5 057	4 608	4 822	7 576	6 660	9 093	29 062	40 893	68 284
Precision instruments	920	1 251	1 511	2 861	445	619	1 415	1 135	2 809	3 033	4 757	7 209	4 302	6 195
Motor vehicles and other transport equipment	496	1 470	4 357	8 369	928	1 633	1 437	5 271	2 267	4 411	5 072	48 904	17 038	30 852
Other manufacturing	214	3	74	143	113	214	88	497	528	633	527	280	672	1 007
Tertiary	22 776	39 221	42 264	68 423	33 985	40 965	42 028	49 519	84 824	132 414	164 457	268 486	471 497	832 303
Electric, gas, and water	66	1 034	771	332	1 072	1 012	1 250	830	10 466	16 616	18 787	27 527	55 111	84 409
Construction	882	2 740	1 181	257	695	316	177	1 350	1 160	6 955	2 546	1 336	1 787	2 921
Trade	3 123	4 109	4 356	6 205	3 739	2 870	6 186	5 636	8 854	15 176	16 515	19 624	29 524	19 399
Hotels and restaurants	331	3 561	1 534	3 066	340	323	569	997	3 402	1 713	2 482	2 799	3 593	2 120
Transport, storage and communications	560	1 062	5 004	4 785	1 367	1 596	4 048	10 480	6 085	11 424	14 735	30 165	163 928	368 954
Finance	11 183	13 218	23 402	43 671	22 395	30 406	24 589	24 268	45 368	61 304	82 616	142 066	174 238	241 282
Business services	5 600	9 888	4 949	6 377	3 100	3 298	3 532	3 972	4 843	17 084	14 721	22 889	35 695	82 790
Public administration and defence	103	1 952	13	667	-	-	81	0	31	-	102	-	310	17
Education	-	-	216	-	4	-	420	-	-	1	98	30	54	107
Health and social services	-	14	155	530	41	221	203	154	263	265	321	738	35	513
Community, social and personal service activities	928	1 640	678	2 469	1 206	835	906	1 332	3 366	1 857	11 000	19 887	7 214	29 784
Otherservices	-	3	5	66	27	88	69	500	986	20	534	1 426	8	7
Unknown^a	-	258	-	114	187	50	45	10	34	104	38	488	24	38

Source: UNCTAD, cross-border M&A database.

^a Includes non-classified establishments.

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World Investment Report 1993: Transnational Corporations and Integrated International Production. An Executive Summary. 31 p. ST/CTC/159. Free-of-charge. Available also from <http://www.unctad.org/wir/contents/wir93content.en.htm>.

World Investment Report 1992: Transnational Corporations as Engines of Growth. 356 p. Sales No. E.92.II.A.19. \$45. Selected materials available from <http://www.unctad.org/wir/contents/wir92content.en.htm>.

World Investment Report 1992: Transnational Corporations as Engines of Growth: An Executive Summary. 30 p. Sales No. E.92.II.A.24. Free-of-charge. Available also from <http://www.unctad.org/wir/contents/wir92content.en.htm>.

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