

Direct employment in multinational enterprises: Trends and implications

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1. Introduction

The globalization of international production has taken on a new meaning within the last two decades. The apprehension and scepticism to the entry of foreign enterprises, which characterized the views of many policy-makers in the 1970s, has been replaced, on one hand, with more favourable views, but has led to a fear of incentives-based competition between countries. At the same time, the advance in technology and communications has enabled once oblivious consumers to become more aware of the productive nature of the outputs of multinational enterprises (MNEs). The proliferation of global production networks that allow firms to produce segments of their production in various locations at low cost has enabled some of them to successfully leverage foreign direct investment (FDI) for development, but for others only confirms that MNEs export jobs abroad and exploit workers in developing countries.

At the core of these developments is the issue of employment, whether at home or abroad. The international integration of production implies creation, displacement and/or migration of jobs. While these developments are not new, the 1990s was a period of particularly rapid developments. This paper aims to examine the recent trends from a long-term perspective, and by utilizing both financial and employment data, provide a static as well as dynamic picture of the employment situation of global production undertaken by MNEs.

The paper is primarily devoted to the examination of the quantitative picture of employment in MNEs. Equally relevant and important is the qualitative aspect of employment. Nonetheless, besides wage data, the lack of comprehensive and systematic data specific to MNEs on aspects such as conditions of work, social protection and industrial relations, has precluded an in-depth examination of the qualitative aspects in this paper.

In examining the employment effects of MNEs, this paper takes a holistic approach. In section 2, international capital flows are analysed to highlight the growing importance of FDI in capital flows. Section 3 outlines the medium-run trends in FDI. Although widely available, FDI statistics are an imperfect indicator of the activities of MNEs as they are subject to valuation differences arising from exchange rate fluctuations, stock prices, inflation and valuation methodologies. Furthermore, FDI statistics do not accurately capture the geographical distribution of MNE activities as reported inward statistics might not be the final destination. Thus, section 4 complements the FDI statistics by using employment data of multinationals. Section 5 analyses employment in export processing zones (EPZs); a common tool that is structured to attract multinationals. Section 6 presents conclusions.

2. Importance of FDI in global capital flows

The liberalization of domestic financial markets and capital accounts in both developed and developing countries, combined with the globalization of investment portfolios and the international investment strategies of MNEs, resulted in a surge of global capital flows in the 1990s. Global capital inflows increased four-fold from \$1,022

billion in 1990 to US\$4,221 billion in 2000.¹ Capital flows remain heavily concentrated in industrial countries, while developing countries have shown wide fluctuations in their share of global capital inflows (table 1). Whereas developing countries were successful in the first half of the 1990s in attracting foreign capital, in sharp contrast to the late 1980s, their share of global capital declined in the late 1990s. Various financial crises in developing countries during the late 1990s were responsible for the decreased share, but it was also a result of greater return opportunities in industrialized industries and suggests that the sustainability of capital inflows in many developing countries remain subject to exogenous developments (Fernandez-Arias, 1996). Furthermore, not all developing countries have participated in the global increase of capital flows. A select group of ten developing countries accounted for about 80 per cent of all private capital flows going to developing countries in the 1990s, up from around 70 per cent in the 1980s (World Bank, 2001, p. 65).²

Table 1. Global capital flows, 1981-2000 (cumulative, US\$ billion)

	1981-85	1986-90	1991-95	1996-2000
Total Capital Inflows	1 892	4 288	5 488	13 825
Foreign Direct Investment	281	765	1 099	4 053
Portfolio Investment	392	1 269	2 591	5 642
Other Investment	1 219	2 254	1 798	4 130
Share of Developing Countries in Total Capital Inflows	14%	2%	17%	10%

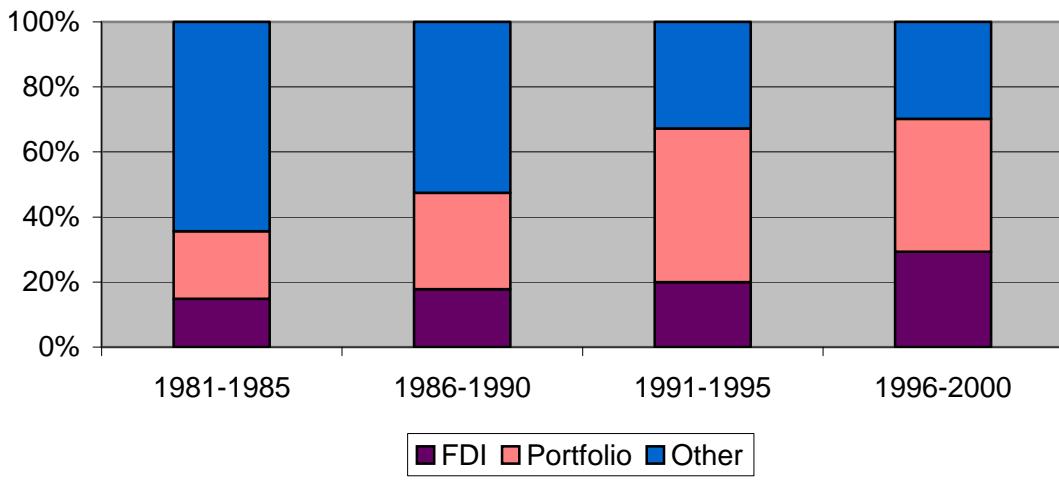
Source: International Financial Statistics (IMF, 2003).

Another feature of global capital flows in the past two decades has been the steady shift in the composition of global capital inflows towards FDI and portfolio investment (figure 1). For developing countries, the shift towards FDI has been even more pronounced, and FDI became the largest component of capital inflows in the 1990s.

¹ Measured as the sum of FDI inflows, portfolio investment liabilities and other investment liabilities. Other investment includes bank loans and deposits. Data on global capital flows, including FDI data, are subject to errors, omissions and revisions, and absolute values should be interpreted with caution.

² The top ten developing country recipients are Argentina, Brazil, Chile, China, India, Indonesia, Republic of Korea, Malaysia, Mexico and Thailand.

Figure 1. Composition of global capital Inflows



Source: International Financial Statistics (IMF, 2003).

Several push and pull factors lie behind the changing composition of capital inflows in developing countries:

- (a) Various debt crises involving developing economies since the beginning of the 1980s have prompted investors to favour non-debt investments and usher in an “era of equity finance” (Eichengreen and Fishlow, 1996).³ This shift was facilitated by stock market liberalization in developing economies, advances in financial instruments, improved communications and lower transactions costs.
- (b) In the face of global competition, more and more enterprises have responded strategically by venturing into developing markets. The motivations for expanding activities abroad are specific to each firm, but some of the more prominent considerations have been: to reduce costs and achieve economies of scale; access to markets; and the acquisition of intangible assets such as brands and skills.
- (c) The move towards market economies in developing countries gave rise to increased opportunities for mergers and acquisitions (M&As), especially in the area of privatization. In Central and Eastern Europe, foreign investors actively participated in the privatization of state-owned enterprises, while FDI in Latin America has been driven by acquisition of enterprises in telecommunications, utilities and financial sectors.
- (d) The liberalization of FDI regimes, coupled with extensive investment promotion efforts, has also played a role in attracting FDI to developing countries. UNCTAD (2001) reports that 95 per cent of regulatory changes made to FDI regimes during 1991-2000 were aimed at creating a more favourable environment for FDI.

³ Eichengreen and Fishlow (1996) note that this era was a period where “an unprecedented volume and share of capital flows to developing countries began to take the form of equity purchases by individual investors ... made available through their institutional representatives: mutual and pension funds.” (p. 3)

The change in the composition of capital flows has coincided with growing optimism over the benefits of FDI and renewed scepticism over the benefits of the other forms of private capital flows. FDI has been seen increasingly as a bundle of resources that include technology, know-how, best practices and market access, and these views have been buttressed by various empirical work. Prasad et al. (2003), in a survey of the empirical literature, conclude that while the theoretical basis is strong, there is as yet no clear evidence that financial globalization promotes economic growth in developing countries. The authors, however, note that FDI is “one form of capital inflows that tends to be positively associated with domestic investment and domestic growth in a relatively consistent manner” (p. 33). Additionally, FDI is seen to be more stable than other capital flows during financial crises (Lipsey, 2001) and less volatile and disruptive than short-term capital flows, while providing a measure of discipline on economic policy-making (Stiglitz, 2000). FDI had a stronger impact on domestic investment than either loans or portfolio investment (Bosworth and Collins, 1999; World Bank, 2001) and the technology and know-how embodied in FDI is seen to have the added potential of raising a recipient country’s factor productivity in the presence of adequate absorptive capacity (Borensztein et al., 1998; Xu 2000).

There is also evidence to suggest that multinational firms increase foreign market access for domestic firms either through the marketing networks of MNEs or by obtaining necessary information on foreign markets. In a study of Mexican manufacturing plants, Aitken et al. (1997) find the probability that a domestic plant exports is positively correlated to the concentration of multinationals in its region and industry, but not to the local concentration of exporters. Caves (1999) interprets this finding to suggest that not only do local exporting firms learn about foreign markets by observing multinationals, but that local firms learn important lessons in feasibility (such as what foreign-designed products can be sold in the local market and what products can be made and sold at certain prices). Furthermore, the growth of corporate social responsibility among leading MNEs provides a possible role for private capital to play in socio-economic development.

The empirical and scholarly work, however, has also emphasized that FDI cannot solely be associated with benefits and that it carries costs.⁴ For example, foreign firms could crowd out domestic firms and productivity spillovers are by no means automatic. While spillovers have generally been found in macro studies, Hanson (2001) notes that there is little evidence that, at the plant level, FDI generates productivity spillovers. There are also segments of society that do not stand to benefit from foreign investment. For example, indigenous tribes in Peru’s Amazon fear for their livelihood as a result of labour migration on the heels of foreign-led natural gas projects.

Employment generation is another important channel that inward FDI can be expected to contribute to a host country. MNEs directly employ people in their overseas affiliates as well as generating employment indirectly. Indirect employment generation can be significantly higher than direct employment generation. An ILO study on the Philippines, for example, finds that 1.4 indirect jobs are generated per direct job (Miranda, 1994). As table 1.3 illustrates, there are various channels through which MNE affiliates indirectly add to employment. While the channels can be numerous, the most quantitatively important channel for employment creation in developing countries is expected to come from backward linkages as these involve the most interpersonal relationships. This is especially true for export-orientated FDI, in which case forward linkages with the domestic economy are few. On the other hand, employment displacement is expected to derive mainly from the narrow horizontal effect, as foreign

⁴ A comprehensive discussion of the costs and benefits of FDI is provided in OECD (2002a).

firms may out-compete domestic firms or force domestic companies to restructure to become more competitive. Over the longer term however, there can be net employment creation if domestic companies respond by becoming more productive and hire more workers than were initially displaced.⁵

The above analysis suggests that the dynamic net employment effects of MNEs are complex, but that net employment creation depends, to an important degree, on how domestic firms respond, as this is the channel through which employment loss mainly occurs. The existing empirical literature on the effects of FDI on domestic firms, however, is ambiguous. While studies in developed countries find that foreign entry increases the productivity of domestic firms (and hence leads to greater employment in the medium to long run), firm level studies within developing studies often find that FDI leads to a decline in the productivity of domestic firms *competing* with multinational affiliates (see, for example, Aitken and Harrison (1999), Djankov and Hoekman (2000)).

Table 2. Indirect employment effects of multinational affiliates

Types of Effect	Definition
VERTICAL EMPLOYMENT EFFECTS	
Backward linkages	Employment indirectly generated by MNE affiliate among its local suppliers (of raw materials, parts, components, services etc.)
Forward linkages	Employment indirectly generated by MNE affiliate among its local customers (e.g. distributors, service agents, etc.)
HORIZONTAL EMPLOYMENT EFFECTS	
Narrow horizontal effects	Employment indirectly generated (displaced) among local enterprises competing in the same industry as the MNE affiliate
Broad horizontal effects	Employment indirectly generated among local enterprises active in other industries than the MNE affiliate (e.g. transport, construction, security companies)
MACROECONOMIC EMPLOYMENT EFFECTS	
	Employment indirectly generated throughout the local economy as a result of spending, savings, and investment by MNE affiliate's workers and shareholders
	Employment indirectly generated through increased government taxation revenue

Source: ILO (1984).

MNEs can be an important channel of employment generation, but they can also play a critical role in the diffusion of operational knowledge. Employees of foreign companies, who have been trained by MNEs, can be recruited by local firms or establish new firms by themselves. For example, the training provided by one multinational firm in the Republic of Korea (Daewoo Corporation) to a group of 130 employees of a

⁵ Markusen and Venables (1999), using a theoretical model, show that the combination of the backward linkage effect and the competition affect from FDI can interact to create local industrial sectors that can grow to the point of actually displacing original multinational entrants. In this case, net employment creation can be positive if indirect employment creation outweighs direct employment loss.

Bangladeshi garment firm (Desh Garment Ltd.) is credited for the initial growth of the garment industry in Bangladesh. Of the 130 employees trained by Daewoo, 115 left Desh to start their own garment export operations, laying the foundation for an industry that would grow to become Bangladesh's largest export sector (Easterly, 2001). Another case is found in Malaysia's machine-tool industry. Rasiah (1994) documents the growth of local machine tool sourcing by affiliates of multinationals in Malaysia through an examination of nine firms. Of the nine owners of the local firms, it is worthwhile to note that seven were former employees of the MNE affiliates that they were sourcing to.

3. Trends in FDI

Geographical distribution of FDI

FDI flows have shown rapid growth during the past two decades, rising from an annual average of \$55 billion between 1980 and 1985 to an annual average of \$810 billion between 1996 and 2000 (table 3). Additionally, the world inward FDI stock, as a percentage of global gross domestic products (GDP), rose from 6.1 per cent in 1980 to 8.9 per cent in 1990 and to 20 per cent in 2000. Inward FDI stock as a percentage of GDP for developing countries is higher than for the world, and stood at 30.9 per cent in 2000 (UNCTAD, 2002).

Table 3. Regional distribution of FDI inflows (annual average, US\$ million)

	1980-85	1986-90	1991-95	1996-2000
World	55 615	152 959	219 839	810 642
Industrial countries	39 653	132 090	145 306	612 680
United States	18 306	53 673	39 660	193 664
Developing countries	15 962	20 869	74 532	197 962
Africa	1 042	1 498	3 365	6 165
Asia and the Pacific	3 897	10 835	41 056	92 547
Central and Eastern Europe	183	618	7 739	24 799
Middle East	4 639	1 544	2 169	5 064
Latin America and the Caribbean	6 201	6 374	20 203	69 387
(per cent of world total)				
World	100	100	100	100
Industrial countries	71	86	66	76
United States	33	35	18	24
Developing countries	29	14	34	24
Africa	2	1	2	1
Asia and the Pacific	7	7	19	11
Central and Eastern Europe	0	0	4	3
Middle East	8	1	1	1
Latin America and the Caribbean	11	4	9	9
(per cent of developing countries total)				
Africa	7	7	5	3
Asia and the Pacific	24	52	55	47
Central and Eastern Europe	1	3	10	13
Middle East	29	7	3	3
Latin America and the Caribbean	39	31	27	35

Source: International Financial Statistics (IMF, 2003).

Examining the regional distribution of FDI inflows during the past two decades, four key trends emerge:

- (a) With the exception of the Middle East, all regions, both developed and developing, have experienced a dramatic rise in the absolute levels of FDI inflows during the 1980s and 1990s. Nonetheless, FDI inflows remained concentrated in industrial market economies. Developing countries' share of global FDI inflows has fluctuated in the past two decades, but generally account for about one-fourth of global FDI inflows, significantly higher than their share of global capital flows. However, FDI inflows among developing countries, like capital inflows, is distributed unevenly, with the top ten recipients accounting for about 70 per cent of FDI flows to developing countries throughout the 1990s (World Bank, 2002).

- (b) Despite the surge of foreign investment into the United States in the late 1990s, the United States accounts for a smaller share of global FDI flows in the 1990s than the country did in the 1980s, suggesting an increased diversification of FDI inflows.
- (c) Asia and Latin America remain the most important host regions of FDI among developing countries. The two regions have generally accounted for about 80 per cent of FDI inflows to developing countries during the past two decades. Asia in particular has captured an increasing share of FDI inflows to developing countries since the mid-1980s. Much of this trend can be attributed to the rise of China as one of the largest recipients of FDI in the world.
- (d) Central and Eastern Europe has emerged as a significant host region of FDI. The region accounted for a smaller share of global FDI inflows in the early 1980s than Africa or the Middle East, but by the late 1990s, Central and Eastern Europe's share of global FDI was larger than the share of Africa and the Middle East combined. The Middle East has seen its share of global FDI flows decrease dramatically since the mid-1980s and now plays a marginal role as a host region to global FDI inflows, as does Africa.

There have also been some notable changes in the list of the ten largest recipients of FDI between 1981 and 2000. Among industrial countries, Australia and Italy, two of the largest recipients of FDI in the 1980s, have been replaced by Germany and Sweden in the 1990s. For developing countries, China and Brazil are among the top ten largest recipients of FDI worldwide (table 4)

Table 4. Major recipients and source countries of FDI (US\$ billion)

	Cumulative Inflows				Cumulative Outflows			
	1981-90	1991-2000	United States	1981-90	United States	1991-2000	United States	1991-2000
1	United States 361	United States 1 167	United States 205	United States 1 056				
2	UK 134	Belgium-Luxembourg 456	Japan 192	UK 831				
3	France 51	UK 431	UK 189	France 517				
4	Spain 46	Germany 328	France 97	Germany 461				
5	Australia 43	China 318	Germany 93	Belgium-Luxembourg 417				
6	Canada 40	France 262	Netherlands 68	Netherlands 296				
7	Netherlands 38	Netherlands 203	Sweden 48	Japan 231				
8	Belgium-Luxembourg 29	Canada 164	Canada 45	Switzerland 173				
9	Saudi Arabia 29	Sweden 148	Switzerland 33	Canada 169				
10	Italy 25	Brazil 137	Italy 27	Spain 151				
	Top ten as a percentage of total FDI flows 76%	70%	90%	85%				

Source: International Financial Statistics (IMF, 2003).

Examining the major sources of FDI, industrial countries account for the vast majority of outward FDI. The top ten source countries of FDI, all developed countries, accounted for 85 per cent of total FDI outflows between 1991 and 2000. In the 1990s, Belgium-Luxembourg emerged as a major source of FDI, and most of the biggest economies in the world significantly increased their nominal value of outward investment. One exception was Japan, where cumulative outflows of US\$192 billion between 1981 and 1990 were roughly equivalent to the cumulative outflows of 1991-2000 (\$231 billion). Considering that the share of the top ten countries in total global FDI outflows decreased in the 1990s, and in light of the increased outward investments from non-OECD regions (table 5), especially from the Newly Industrialized Economies (NIEs) of Asia and Latin America, it suggests that more and more firms from a larger variety of countries are engaging in international production.

Table 5. Percentage share of world FDI outflows, by home region (annual average)

	1989-91	1992-94	1995-97	1998-2000
OECD Regions	95.0	87.3	84.9	92.9
Non-OECD regions	5.0	12.7	15.1	7.1

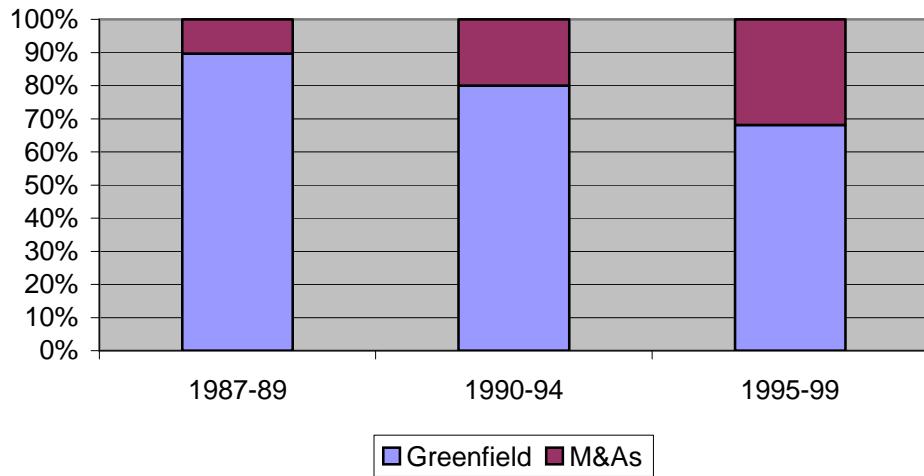
Source: OECD (2002a).

Cross-border mergers and acquisitions

Since the mid-1980s, when foreign acquisitions of United States firms gathered significant momentum, MNEs have favoured acquiring existing assets (M&As) over the acquisition of new assets (greenfield FDI) as their mode of entry into foreign markets. In industrial countries, cross-border M&As accounted for 80 per cent of gross FDI inflows in the late 1990s. As M&As account for the vast majority of FDI, it has been the boom in M&As, particularly in electrical and electronic equipment, telecommunications, and financial services sectors, that has largely driven the growth of FDI during the last two decades.

In developing countries, although greenfield investments remain the larger component of FDI, M&As have been gaining ground and accounted for 30 per cent of gross FDI inflows into developing countries in the late 1990s, up from ten per cent in the late 1980s (figure 2). In Latin America, the region with the highest share of M&As in FDI among developing country regions, nearly half of all FDI was in the form of M&As. Privatization programmes in Latin America were largely responsible for the rise in M&As in that region.

Figure 2. Composition of FDI in developing countries



Source: Calculations based on Calderón et al. (2002).

The changing composition of FDI in developing countries has implications for employment. Developing country host governments have traditionally relied on FDI as a source of employment creation, but the shifting composition of FDI suggests that its employment-creating impact is weakening as greenfield investment is generally associated with increased direct employment by the foreign enterprise while M&As are associated with job losses. Additionally, whereas in the past M&As were largely undertaken as a means to gain new markets and market share, which has a less clear impact on jobs, they are now motivated by efficiency gains, especially through cost reductions. Nonetheless, it is difficult to accurately assess the dynamic impact of cross-border M&As on employment due to interplay of a variety of factors, including country and industry specific factors (Box 1). In the short-term, M&As are likely to lead to direct employment losses, but employment could be generated in the long-run through the indirect channels identified in the earlier section. Additionally, the immediate job losses resulting from the initial M&A can be offset if the purchase of existing assets leads to subsequent greenfield investment. For example, Calderón et al. (2002), in a sample of 61 developing countries, find that a rise in M&As does lead to higher greenfield investment in the years following in developing countries.

Box 1

The employment effects of M&As

The employment effects of M&As have varied by countries and industries. In the financial sector, M&As have been driven by considerations of a greater resource base, and increased profitability through greater economies of scale and improved operational efficiency. As a result, an ILO (2001a) study finds that virtually all worldwide M&A activity examined generated employment contraction in financial services. For example, evidence suggests that 79,000 financial sector jobs disappeared in Brazil during 1994-2000 partly as a result of M&A activities. In the Czech Republic, while the banking sector as a whole saw declines in employment as a result of consolidation between 1994 and 1999, foreign-owned banks (including domestic banks acquired by foreigners) increased their staff during the period.

M&As resulting from increased deregulation, liberalization and privatization of the public utilities sector, in addition to the introduction of new technologies, have also led to employment declines in the sector (ILO, 2003a). As MNEs have become multi-utility companies by offering their customers electricity, gas and water, they have consolidated meters and meter reading, billing, collection, customer service and other activities, leading to employment declines. Renewable energy, however, presents potential employment growth in the sector as the utility MNEs seek to diversify the supply of energy and meet environmental concerns.

In the commerce sector (wholesale and retail trade) as a whole, M&A activities has not necessarily led to significant direct job losses in the merging companies as many mergers are motivated primarily by considerations of market expansion rather than cost considerations (ILO, 2003b). For example, in the United Kingdom, employment in the sector grew by ten per cent between 2000 and 2002 despite high levels of M&A activity. Instead, job destruction has come through indirect channels as multinational firms have out-competed small and medium-sized domestic enterprises. In Thailand, for example, research indicates that 200,000 of the 500,000 local small and medium-sized retail stores have been pushed out of business as a result of foreign-led competition.

Source: ILO (2001a, 2003a and 2003b).

Sectoral distribution of FDI

The surge in M&As in the late 1990s had the effect of accelerating an investment trend towards services under way for the last two decades. Examining the outward FDI stocks of the largest home countries, the stock of FDI in services represents the single largest share (table 6). For example, 73 per cent of German outward FDI stock was in services in 1999. For developing country outward investors, such as the Republic of Korea, while the FDI stock in manufacturing remains the most important, FDI in services grew more rapidly than FDI in manufacturing in the 1990s, and in 2000, 42 per cent of the country's FDI outward FDI stock was in services.

Table 6. Sectoral distribution of outward FDI stock (percentage share)

Home country	Year	Sector of investment		
		Primary	Manufacturing	Services
France	1990	8	41	50
	1999	7	33	60
Germany	1990	2	32	66
	1999	1	26	73
Republic of Korea	1990	26	45	29
	2000	6	51	42
Netherlands	1990	-	55	44
	1999	1	43	54
United Kingdom	1990	19	39	40
	1999	17	35	48
United States	1990	13	40	47
	2000	7	29	63

Note: Percentage shares might not add up to 100 because of unallocated FDI.

Source: OECD (2002b).

The shifting sectoral distribution of FDI towards services in the outward investments of the largest industrial countries has translated into a rise of service sector FDI inflows in developing countries. In Latin America, FDI inflows into services represent the largest share, with an annual average share of 57 per cent for the period 1996-2000 (ECLAC, 2002). In Africa, the primary sector remains the most important, but services have become more significant in recent years (UNCTAD, 2002). In Asia, while the stock of inward FDI is highest in manufacturing, services have captured the largest share of FDI inflows in recent years. Between 1999 and 2001, the service sector accounted for 44 per cent of FDI inflows into the ASEAN region, while the manufacturing sector received 35 per cent (ASEAN Secretariat, 2003).

The rise of FDI into services in developing countries is due, in part, to new market opportunities as a consequence of liberalization of the services sector. It is also a result of the outsourcing strategies of multinational firms. Facilitated by advances in information and communication technologies, enterprises engaged in the production of goods have, over time, outsourced the various services required for the production, marketing and after-sale functions of manufactured goods (such as data processing, software programming, advertising). As a consequence, multinational services firms have followed their goods-producing counterparts into foreign markets, either to supply the necessary service where no domestic supplier is available, or to compete with domestic service suppliers. Additionally, rising incomes in industrialized and developing countries have spurred service-sector FDI in developing countries. For example, increased demand for international tourism in industrial countries has led to FDI in the tourism sub-sectors in developing countries and higher purchasing powers in developing countries have resulted in foreign entry into the distributive services.

The growing importance of investment in services has corresponding labour implications in developing countries. In the past two decades, employment in services has grown significantly while the share of manufacturing has declined in most developing

countries. In many developing countries, service sector employment currently represents the largest share of formal employment. Into this growing service sector FDI can add to the development of the service sector and can play an important role in job creation. Foreign firms initially establishing data entry operations in Barbados and Jamaica, for example, not only led to employment creation, but also to the development of other information services subsectors, such as call centres (Dunn and Dunn, 1999).

While the potential of job creation in the services sector as a result of FDI is clear, the employment implications of the shifting share of FDI from manufacturing to services, is not as straightforward. FDI has in the past been credited with creating a sizeable number of manufacturing jobs, especially in export-processing zones (EPZs) (although these jobs have, at times, been criticized for exploitative working conditions). The centrality of labour in the provision of services suggests that FDI in services can have significant employment creating impacts, but the evidence thus far suggests that employment in manufacturing MNEs has been more labour intensive than in services (see section 4). However, the quantity of employment generated from service-sector FDI is likely to depend to a greater extent on the *quality* of labour. The OECD (2000) finds that workers in the services sector have significantly higher educational levels than workers in the goods producing sector, and concludes that the “shift toward services clearly increases the economic premium on formal education” (p. 95). The role of an educated and skilled labour force is all the more important as the incidence of training in the services sector is, on average, higher than in the manufacturing sector (OECD, 2001). Service sector FDI then presents greater opportunities for training and human capital development spillovers, but which can only be adequately internalised by the domestic economy in the presence of sufficient absorptive capacity and appropriate policy measures. The importance of relevant HRD policies is highlighted in an ILO survey of governments, business and labour. While the survey identified MNEs to have generally played a positive role in strengthening human resource training policies and systems, in cases where the government had not implemented them, the impact of MNEs on training and HRD were perceived to be non-existent (ILO, 2001b).

Country experiences also suggest that labour market institutions form an integral part of successfully responding to the shifting trends in FDI. Singapore, for example, focused on basic formal education in its import-substitution phase of development. In the subsequent export-industrialization phase, the country attracted FDI by establishing local training institutions that focused on the technical skills needed in manufacturing. As FDI shifts to services, the Economic Development Board (EDB) of Singapore is attracting more knowledge industries through expanding universities and polytechnics (ILO, 2001b, 2002a). Proactive measures to bolster labour market institutions are all the more critical because, as Campbell (1994) highlights, “locational advantage relies more on physical and social infrastructure, which governments have a role in creating, rather than on natural resources or other inherent advantages” (p.202).

4. Employment in MNEs

Trends in direct MNE employment

At the start of the twenty-first century, MNEs are estimated to directly employ over 95 million people, representing 3.4 per cent of the world's total employment of 2.8 billion. Early ILO estimates put direct employment in MNEs at around 40 million in the mid-1970s, and at around 65 million in the mid-1980s. After growing slowly throughout most of the late 1980s and early 1990s, partly as a result of relatively slow employment

growth in United States multinational parents and affiliates, employment in MNEs began to quicken in the mid-1990s (see table 7).

Table 7. Worldwide direct MNE employment (millions)

	mid-1970s	mid-1980s	early-1990s	2000
Direct employment in MNEs (millions)	40	65	70	95
United States	24.3	22.9	22.8	31.2
Japan	3.3	3.3	4.6	7.3
Sweden	n.a.	1.2	1.1	1.5

Source: Parisotto (1993) and Appendix I.

Viewed against the background of global employment, direct employment in MNEs represents a tangible, but relatively small proportion of global employment. The ratio, however, understates the extent of the internalization of corporate activity for several reasons. First, the figure of 95 million is a conservative estimate derived from available official statistics and samples of the largest MNEs. Both these procedures under-represent the universe of MNEs. Official statistics, where available, are based on national surveys and, as such, the population that responds to the survey is less than the whole MNE population. Furthermore, surveys have a reporting threshold, for example, a minimum amount of assets or equity, and thus small and medium-sized enterprises (SMEs) not meeting reporting requirements are excluded from the survey. Although big MNEs are expected to drive the employment numbers, multinational SMEs nonetheless play a sizable role as employers. For example, “very small” majority-owned foreign affiliates (MOFAs) of United States MNEs, while accounting for only 0.5 per cent of assets and one per cent of the gross product of all MOFAs, accounted for 3.2 per cent of employment in 1999⁶ (Mataloni, 2002). The growing role of multinational SMEs is also underscored by data from Italy, where close to half of all new foreign investments was made by SMEs (less than 500 employees in parent firm) throughout the second half of the 1990s, in contrast to a quarter in the late 1980s. As a consequence, foreign affiliates with less than 500 persons employed in the Italian parent firm accounted for 19.5 per cent of all Italian affiliate employment in 1999 (CNEL, 2002).

Second, the figure measures only direct MNE employment in parent companies and subsidiaries and thus omits non-equity forms of investment (such as franchising and licensing), as well as the employment that is significantly dependent on MNE activities (indirect employment in subcontractors, service providers).

Third, mirroring the uneven national and sectoral distribution of FDI, its employment impact varies by countries and sectors. In industrialized countries, where the dominant share of FDI stocks reside, multinational companies account for an important share of national employment (table 8). The share of employment in multinationals rises considerably in both developed and developing countries when viewed against manufacturing employment or paid employment in non-agricultural sectors, and its share

⁶ “Very small” affiliates are defined as those whose assets, sales, and net income were each not greater than \$7 million.

is particularly important in capital and technology intensive manufacturing industries, such as motor vehicles, electrical equipment and chemical products.

Table 8. Share of foreign affiliates in employment (per cent of domestic employment)

Country	Year	Manufacturing	All sectors
Czech Republic	2000	24.9	16.4
	1997	10.7	7.2
Finland	2000	15.9	12.6
	1993	4.7	3.9
France	1999	28.5	
	1993	24.3	
Germany	1999	6.2	
	1993	7.4	
Hungary	2000	47.2	27.7
	1993	30.6	19.2
Ireland	1999	49.1	
	1993	44.4	
Italy	1999	13.8	
Japan	2000	1.8	0.5
	1993	0.9	0.3
Luxembourg	1999	41.4	
	1995	41.2	
Netherlands	1999	18.9	11.7
	1995	20.1	9.8
Norway	1999	19.9	
	1993	8.2	
Poland	2000	20.9	13.8
	1997	12.5	7.6
Portugal	1999	8.9	
	1996	7.9	
Sweden	1999	24.1	16.7
	1993	15.9	10.4
Turkey	1999	5.9	
	1993	4.9	
United Kingdom	1999	20.4	10.6
	1993	17.7	
United States	2000	14.1	5.7
	1993	11.4	5.0

Sources: Japan: Author's calculations based on METI (2002) and OECD (2002c). United States: Bureau of Economic Analysis. All other countries: OECD, AFA/FATS database.

MNE Parent Employment

In general, the proportion of employment in parent companies to total MNE employment (parent and affiliate) has been declining over the past two decades. The fact that many countries collect information on the operations of their foreign affiliates, but do not gather information on the parent MNEs, prohibits an exact appraisal of the situation. The available evidence, however, suggests that employment growth in foreign affiliates has generally outpaced employment growth in parent companies, especially in the second half of the 1990s. In 1982, in the United States, for example, 78.8 per cent of United States multinationals' employment was at home. By 2000, this figure was down to 74.2 per cent (table 9). Nonetheless, despite an increased share of affiliate employment, the share of output or gross product accounted for by United States parent MNEs has remained relatively stable over the years. In 2000, of the \$2.7 trillion in gross output of United States multinationals, parent firms accounted for 77.5 per cent of the gross output, a percentage that has little changed from 78.1 per cent in 1982. These trends partly reflect the higher labour productivity of United States parents and/or the relative significance of employment generating high production value.

Table 9. United States non-bank MNE employment and output

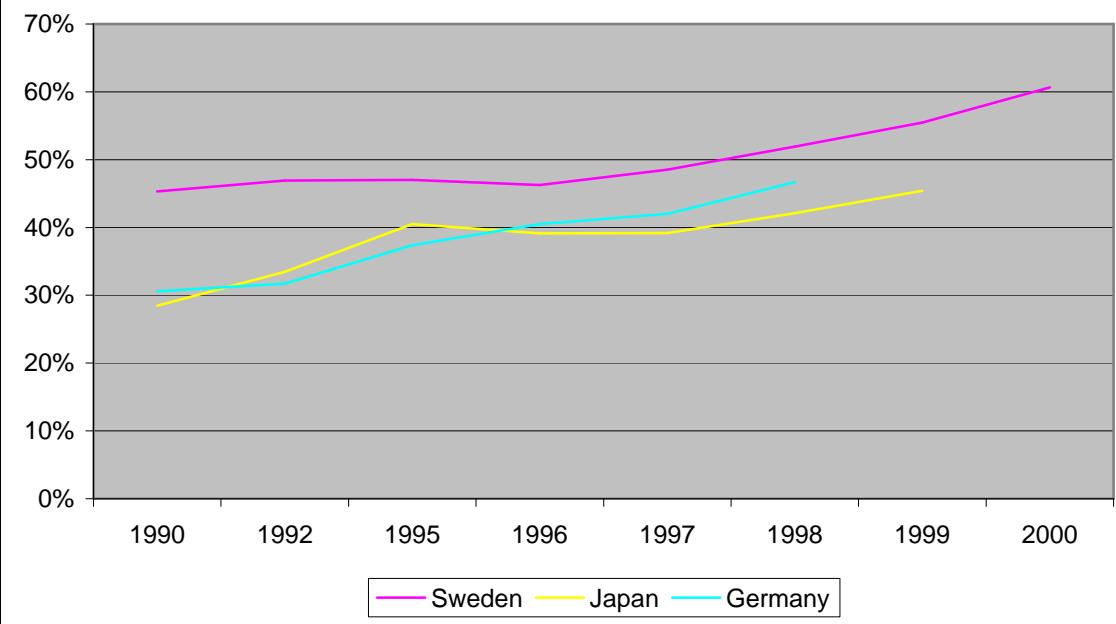
Year	Employment ('000)				Output (\$ millions)			
	Parents (A)	Affiliates	Total (B)	A/B	Parents (C)	Affiliates	Total (D)	C/D
1982	18 705	5 022	23 727	79%	796 017	223 717	1 019 734	78%
1989	18 766	5 114	23 880	79%	1 044 884	319 994	1 364 878	77%
1995	18 576	5 924	24 500	76%	1 365 470	465 576	1 831 046	75%
2000	23 167	8 065	31 232	74%	2 089 444	605 888	2 695 332	78%

Source: Bureau of Economic Analysis.

The decreasing share of MNE parent employment is especially evident in the manufacturing sector. Germany does not report operating data for German MNE parents. Nevertheless, a sample of 104 manufacturing companies indicates that these MNEs had 46.7 per cent of their employees abroad in the late 1990s as compared to 30.6 per cent in 1990 (figure 3). For MNEs from industrialized countries with relatively small domestic markets, the trend has been even more pronounced. Whereas Swedish MNEs employed more people at home than abroad in the early 1990s, they now employ more employees abroad than in Sweden. In Switzerland, the Federation of Swiss Industrial Holding Companies (Industrie-Holding), which represents 35 major Swiss MNEs, reports that its members had 114,000 employees in Switzerland, while employing more than 772,000 people abroad in 2001.⁷

⁷ The figure of 772,000 represents 45 per cent of all affiliate employment by Swiss-based MNEs (see www.industrie-holdings.ch).

Figure 3. Foreign affiliate employment as percent of total MNE employment



Note: For Germany, only manufacturing firms.

Source: Appendix I.

Employment in parent companies is particularly important for knowledge-creating functions such as R&D. Lack of time series data on the number of employees engaged in R&D in parent MNEs and their foreign affiliates hinder an analysis of medium-term trends. However, the available evidence suggests that, while the internalization of R&D has grown, the production of knowledge remains a task primarily undertaken in parent companies.⁸ For example, large Swedish manufacturing MNEs, while having 70 per cent of their employees abroad, had more than 50 per cent of their R&D personnel based in the parent companies in 1999 (Swedish Institute for Growth Policy Studies (ITPS), 2002). A similar characteristic can be observed for United States MNEs. In the mid-1990s, multinationals from the United States had about three-quarters of their total employment at home, but had 86 per cent of all their employees engaged in R&D in the parent companies (Mataloni and Fahim-Nader, 1996). Regarding the types of research and production tasks at home, parent companies are often engaged in research on behalf of foreign affiliates, as well as developing new technologies, while employees in foreign affiliates are mostly engaged in developing products to meet the needs of local markets (OECD, 1998).

⁸ For example, using R&D expenditure as a proxy, while expenditures by United States affiliates have increased, the foreign affiliate share of total MNE expenditures remained rather constant throughout 1982-2000.

Box 2

FDI statistics and statistics on employment in MNEs

According to the International Monetary Fund's guidelines for the compilation of statistics on FDI, a direct investment is a "category of international investment that reflects the objective of a resident entity in one economy obtaining a lasting interest in an enterprise resident in another economy" (IMF, 1993). Ownership of ten per cent or more of the ordinary shares or voting stock is the recommendation for determining the existence of a direct investment relationship under the IMF's guidelines and the percentage threshold does not imply a controlling interest by the direct investor. Statistics on FDI are available for a wide range of countries but national statistics are not always in line with the IMF's guidelines. Some countries do not use the recommended threshold of ten per cent and some arbitrarily interpret a "lasting interest" to determine a FDI relationship.

In collecting FDI statistics, most countries collect data on capital transactions for balance of payment purposes between the direct investor and the direct investment enterprise but not operational data, including employment. As a consequence, employment data of MNEs are not widely available in FDI statistics. Additionally, while a relatively higher number of countries collect employment data on foreign firms in the domestic economy (inward investment), information on foreign subsidiaries of domestic-based firms (outward investment) are sparser. Employment data on outward investment, especially by industrialized countries, can be particularly helpful in analysing the economic activities of MNEs in developing countries where employment statistics on inward investment might not exist. Another shortcoming in the compilation of employment data of multinational firms is that only a few countries (United States, Japan and Sweden) have employment data on domestically-based parent MNEs.

The need for employment data of foreign affiliates, as well as for other operational variables, has been recognized and various international organizations as well as national statistical offices are in the process of compiling data. The OECD has created a database (Activities of Foreign Affiliates Database) to analyse the contribution of foreign affiliates in the manufacturing sector. Based on the database, the OECD also publishes a biennial publication titled "Measuring Globalization: The Role of Multinationals in OECD Economies". Data on the activities of foreign affiliates in services is also being compiled by both the OECD and Eurostat under the Foreign Affiliate Trade Statistics (FATS) framework and covers variables such as turnover, employment, number of enterprises, value added by geographical and industrial breakdowns. Currently, not all OECD or EU countries respond to the surveys sent out by the international bodies and the variables covered differ by country. In the future, statistics on operations of foreign affiliates are expected to be gathered on a more systematic basis by more countries, as FATS are needed to negotiate and monitor trade and investment agreements under the General Agreement on Trade in Services (GATS).

In contrast to FDI statistics, OECD/FATS data are based on the notion of controlling interest and thus includes only those affiliates whose controlling interest (50 per cent or more of shares) is held by the direct investor (a majority-owned foreign affiliate, MOFA). The concept of controlling interest can be important as it implies control over a foreign affiliate's behaviour, including employment decisions. In this chapter, employment statistics refer either to affiliates (ten per cent or more of shares) or MOFAs depending on the country as not all countries report data on MOFAs (see Appendix I for specific countries). An examination of employment data from countries where both affiliate and MOFA data are available suggests that while there are differences in the absolute level of employment, the geographical and sectoral distribution of employment changes only marginally whichever data set is used.

MNE affiliate employment

MNEs expanded their activities abroad at a significant rate during the 1990s. Table 10 presents data on employment in foreign affiliates of MNEs from some of the largest industrialized economies where data is available and disaggregated by countries and regions. The data indicates that multinationals from these countries (excluding France) have cumulatively increased their employment abroad by 72 per cent in a decade. Table 11 also presents employment data in foreign affiliates of MNEs from several countries where sufficient time-series data is not available. The two tables taken together show that industrialized countries, unsurprisingly, account for the majority share of employment abroad by MNEs. This is consistent with FDI statistics that show that the vast majority of global FDI stock is in industrialized countries. Employment abroad, however, is less

concentrated than outward FDI stocks. At the beginning of the twenty-first century, about three-quarters of French, German and Swiss outward direct investment was in the European Union (EU) and the United States, but only 61 per cent, 57 per cent and 62 per cent, respectively, of employment abroad was in those regions. The difference is narrower for United States MNEs: 56 per cent of outward United States FDI was in the EU and Canada and 50 per cent of employment by foreign affiliates was in those regions.⁹

On the other hand, for MNEs from Austria, Japan, Republic of Korea and Portugal, employment abroad is more prominent in developing countries. The bulk of FDI stock of these countries is nonetheless found in industrialized countries. Austrian MNEs have close to half of their employment abroad in three neighbouring countries, the Czech Republic, Hungary and Poland. The EU accounts for 44 per cent of outward Austrian FDI, but 23 per cent of foreign affiliate employment. Multinationals from Japan have close to 60 per cent of their employment in Asia, but the region itself is host to about 20 per cent of Japanese outward FDI stock. Three-quarters of employment abroad by multinationals from the Republic of Korea is in the Asian region, as opposed to about 40 per cent of the country's outward FDI stock. Portuguese MNEs have close to half of their employment abroad in Brazil alone and 33 per cent in Africa. While the share of Portuguese outward FDI stock in Brazil (55 per cent) is similar to that of the share of employment abroad, outward FDI stocks in Africa represents only eight per cent of total Portuguese outward FDI stock.

A comparison of outward FDI stocks to that of employment abroad has shown that the internalization of MNE activities is less concentrated in industrialized countries than FDI statistics had shown, though highlighting that investment in developing countries is more labour intensive than investment in industrialized nations. Indeed, employment growth in developing countries by MNEs in the 1990s was, at least, twice as rapid as employment growth in industrialized economies (see table 12). As a result, developing countries account for a larger share of employment abroad than they did a decade ago. To use the United States as an example, while their MNEs had about 30 per cent of their employment in developing countries in 1990, this share had risen to about 40 per cent by 2000.

On the whole, table 12 suggests that although virtually every region has witnessed employment growth in foreign affiliates, Asia and Central Europe have seen the fastest rates of growth. Employment in non-bank majority-owned foreign affiliates grew at an annual average rate of 5.1 per cent between 1990 and 2000, compared to virtually no growth during 1982-89 for United States MNEs. Asia is the region where United States multinationals expanded employment at the fastest rate. Additionally, whereas United States multinationals had no presence in terms of employment in Central and Eastern Europe in the early 1990s, the region now accounts for about three per cent of employment abroad. Japanese multinationals also expanded their employment most rapidly in the Asia and Pacific region in the 1990s. In contrast to the 1980s, when Japanese multinationals set up operations in the United States and Europe, partly as a result of trade frictions and the appreciation of the yen, Japanese multinationals increased their presence in the Association of South-East Asian Nations (ASEAN) and China in the 1990s.

⁹ Comparison for France, Germany, Switzerland and the United States covers the same set of enterprises. Employment data for majority and minority owned affiliates (i.e. ten per cent or more) compared to FDI statistics.

Among developing regions, German MNEs now have the largest share of their employees abroad in Central and Eastern Europe, as opposed to the early 1990s when Latin America accounted for the largest share. The data indicates that in the 1990s, employment growth by German MNEs in Latin America was actually negative. German multinationals in Latin America have traditionally been concentrated in relatively capital-intensive manufacturing industries, such as chemicals and transport equipment, while Brazil accounted for the great majority of German FDI in Latin America. Although EU FDI into Latin America increased significantly in the 1990s, much of the investment took place in the service sector and in the form of privatizations, areas in which German FDI played a very small role (Nunnenkamp, 2002). Employment growth in Latin America might also have been constrained by the fact that much of the early German FDI in Latin America was market seeking (Wezel, 2003) and by an effort to overcome import barriers. With the formation of MERCOSUR and import liberalization in the region, the evidence suggests that German multinationals responded by restructuring to remain competitive. On the other hand, although absolute levels remain relatively small, German multinationals show one of the fastest rates of employment growth in Africa, with South Africa accounting for much of the growth. The end of apartheid-based sanctions and preferential trade agreements like the African Growth and Opportunity Act (AGOA) have allowed German multinationals such as BMW to increase productive capacity and increase exports significantly.

Data on Italian manufacturing MNEs and Swiss multinationals also depict strong employment growth in Asia and Central and Eastern Europe. Italian multinationals, in contrast to multinationals from Spain and Portugal who played leading roles in privatizations and investment into services, show virtually no employment growth in Latin America. One exception to the general trend of increasing the share of employment in developing countries is Swedish multinationals. The data indicates that Swedish multinationals have increased their employment in the United States and Central and Eastern Europe, while employment growth in Asia and Latin America was negative in the 1990s. A large percentage of employment that is not accounted for by any region, however, could change the analysis.¹⁰ Despite the data limitation, one clear implication is that Swedish multinationals have their employment abroad concentrated in industrialized countries, and that developing regions, with the possible exception of Central and Eastern Europe, are marginal hosts to Swedish MNE employment.

¹⁰ Nine per cent of employment abroad by Swedish multinationals was not specified to a region. See table 10.

Table 10. Distribution of employment in affiliates abroad of MNEs from large industrialized economies by host region

	United States		Japan		Germany		France		Italy		Switzerland		Sweden	
	1990	2000	1990	2000	1989	2000	1998	2000	1991	1999	1990	2001	1990	2000
	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Industrial countries	70	62	45	35	72	62	63	65	67	53	82	68	84	77
EU (15)	46	41	14	11	34	36	45	36	52	39	46	44	59	44
North America	16	13	30	23	22	21	16	27	14	12	19	19	17	27
Other industrial countries	8	8	1	2	16	5	2	2	1	1	17	4	8	6
Developing countries	29	38	52	65	28	38	37	35	33	47	18	32	16	14
Africa	1	2	1	1	2	3	12	7	4	5	1	4	1	1
Asia and Middle East	9	14	44	59	7	10	9	12	3	6	7	13	6	3
Central and Eastern Europe	0	3	0	1	0	18	5	5	4	20	1	6	0	7
Central and South America	19	20	7	4	19	7	11	11	22	17	9	10	9	3
Unspecified			3											9
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Total number of employees														
Abroad (thousands)	5 356	8 065	1 550	3 453	2 154	4 360	2 528	3 565	342	460	1013	1719	591	910

Source: ILO-MULTI database, based on Appendix I.

Table 11. Distribution of employment in affiliates abroad of MNEs from selected countries by host region

	Austria (2000) %	Belgium (1998) %	Canada (2001) %	Finland (2001) %	Republic of Korea (2001) %	Portugal (1998) %
EU (15)	23	67	19	57	4	17
United States	4	5	61	12	4	0
Other countries	73	28	21	31	92	83
Africa		11		0	0	33
America (ex. United States)		2		4	5	47
Asia and Pacific		6		7	75	3
Europe (ex. EU (15))	66	9		18	12	1
Total number of employees (thousands)	329	146	945	315	215	86

Source: ILO-MULTI database, based on Appendix I.

Table 12. Rate of change in employment in foreign affiliates of MNEs based in selected countries by host regions (annual average growth, per cent)

	United States (1990-2000) %	Germany (1989-2000) %	Japan (1990-2000) %	Italy (1991-99) %	Switzerland (1990-2001) %	Sweden (1990- 2000) %
Industrial countries	3.2	6.7	7.4	0.8	3.7	4.0
EU	3.6	10.4	7.5	0.3	5.7	1.5
North America	1.8	8.1	6.8	2.2	7.1	13.6
Other industrial countries	3.8	-3.0	20.8	6.7	-5.3	1.9
Developing countries	9.6	16.0	17.6	11.6	18.3	4.2
Africa	6.5	20.5	6.2	6.7	31.0	3.9
Asia and Middle East	11.8	16.9	20.0	26.4	19.2	-1.5
Central and Eastern Europe				72.0	139.5	1010.1
Latin America	6.0	-1.8	2.0	0.1	7.5	-4.6
All regions	5.1	9.3	12.3	4.3	6.3	5.4

Source: ILO-MULTI database, based on Appendix I.

Sectoral MNE employment

As Shatz and Venables (2000) suggest, multinationals predominantly operate in industries marked by “high levels of R&D, a large share of professional and technical workers and production of technically complex or differentiated goods”. For example, United States MNEs accounted for 68 per cent of R&D expenditures by all United States businesses in 1999 (Mataloni and Yorgason, 2002). Employment abroad in the primary sector remains marginal for most MNEs, but the indirect employment effects of MNEs can be significant in certain host developing countries (see Box 3).

Box 3

Indirect employment effects of MNEs in sugar plantations

One sugar-processing MNE operating in Kenya employs 3,200 permanent employees on its nucleus plantation, but buys in and processes sugar from a network of 65,000 out-growers grouped under their own company. The two entities – the MNE and the out grower network – are totally interdependent. The out grower network provides the bulk of the sugar processed by the MNE and, besides processing the cane, the MNE provides a wide variety of support services to the out-growers. These include technical advice, particularly on cane husbandry, the bulk of purchase of fertilizer and its transport to each individual farm, assistance with ploughing, and transport of harvested cane from farm to factory. The MNE also assumes important administrative responsibilities on behalf of the out grower network, for example payment of cane-cutters employed by out-growers out of the proceeds payable to them for cane deliveries. MNEs are also involved in the building and maintenance of infrastructure, such as roads and bridges, within the out grower area in order to ensure the delivery of products and services

Source: Excerpted from ILO (2002b).

The manufacturing sector in general accounts for the largest share of employment abroad by MNEs, with the exception of MNEs from Belgium and Portugal (figure 1.4). Korean and Japanese multinationals are especially concentrated in manufacturing, while MNEs from Austria, Canada, Sweden, and the United States show the greatest diversification across sectors. MNEs from Austria and Canada show relatively higher shares of employment abroad in the “other” category, which includes agriculture, mining and quarrying, construction and utilities. Within that category, Austrian MNEs have the vast majority of employment abroad in construction while for Canadian MNEs the bulk of employment abroad in “other” is in mining, and oil and gas extraction.

Employment abroad in manufacturing remains the most important for many countries but the proportion of employees working in services has increased significantly in the last two decades. MNEs from Belgium and Portugal have an especially high share of their employees abroad working in services. Within services, MNEs from Belgium are mainly established in financial intermediation and retail and business activities while trade and repair accounts for half of employment in services for Portuguese MNEs.

In terms of employment intensity, the manufacturing sector in general has more persons employed per affiliate. Data from Austria and Canada reveal that, although the number of affiliates is greater in services than in manufacturing, foreign affiliates operating in services employ fewer persons. In 2000, Austrian foreign affiliates operating in manufacturing numbered 877 and employed 183,700 persons while affiliates operating in services numbered 1,317, but employed 142,600. In Canada, service providers accounted for over 50 per cent of all majority-owned foreign affiliates, but accounted for 38 per cent of employment in 2001.

Regional discrepancies exist with regard to the sectoral distribution of employment abroad. For example, while MNEs from Belgium have the majority of their total employment abroad in services (59 per cent), over half of employment is in

manufacturing outside of the EU. In general, in 1999, majority-owned affiliates of MNEs from five EU countries¹¹ had 62 per cent of the total employment in non-EU countries based in manufacturing. Services accounted for 34 per cent of employment, and within services, the trade sector held 61 per cent of employment, followed by financial intermediation (12 per cent), business services (11 per cent) and transport and communications (nine per cent) (Eurostat, 2003).

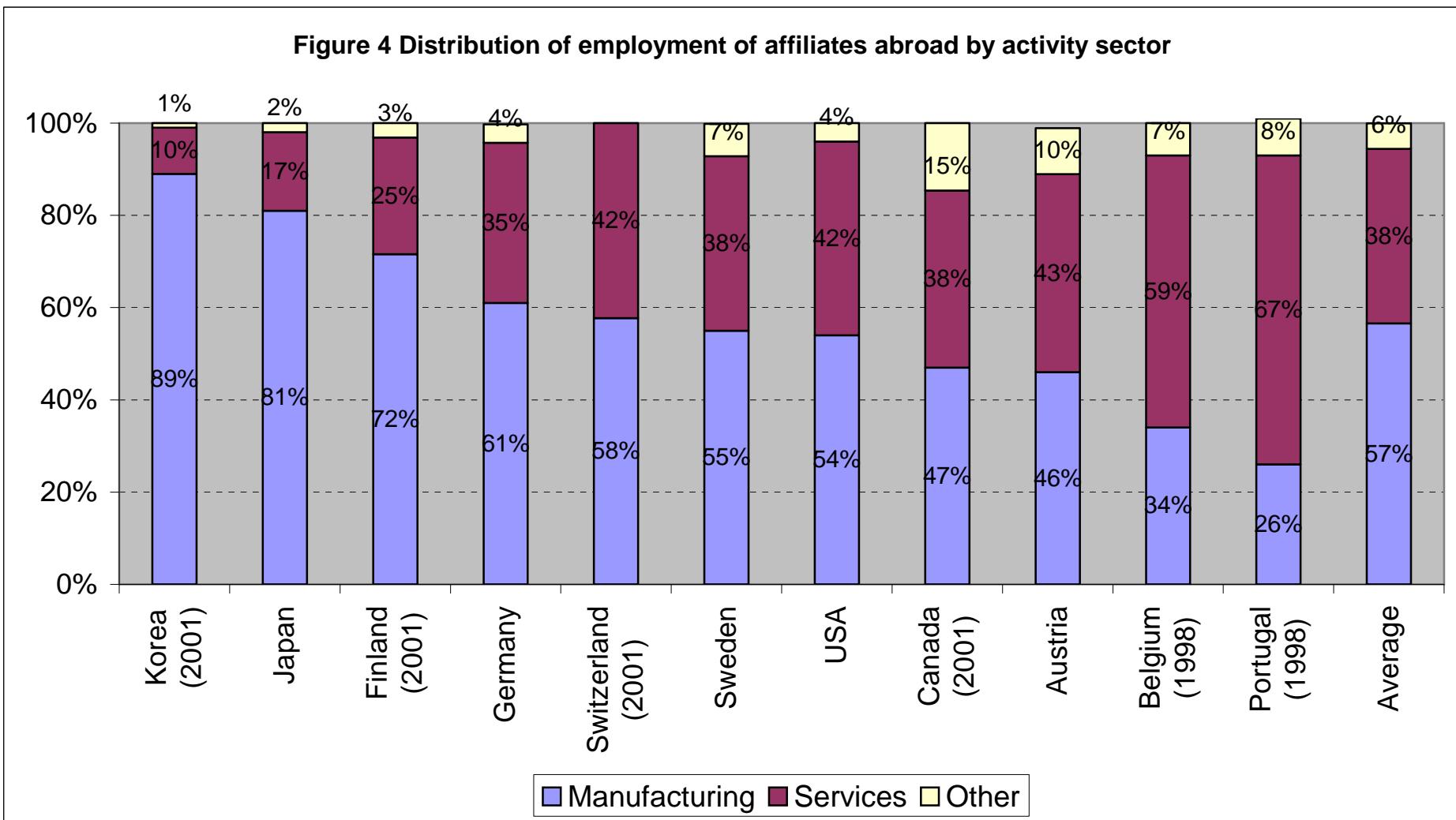
Table 13 presents the distribution of employment in foreign affiliates of MNEs from the United States, disaggregated by region and economic activity. The primary sector represents a significant part of employment abroad by United States MNEs in Africa, and complementary activities such as the manufacturing of food, beverages and tobacco, as well as wholesale trade, account for an important share. Employment in mining, computers and electronic products and in other services, such as administration, support and waste management, dominates in the Middle East. However, Israel accounts for all of the employment in computers and electronic products. Employment by United States affiliates in Asia and Latin America is relatively more concentrated in manufacturing compared to other regions. Nonetheless, the two regions exhibit important differences within manufacturing activities. There is a tendency towards employment in food, beverages, tobacco, textiles, and transport equipment in Latin America, whereas employment in electronic products and electrical equipment is relatively higher in Asia. Furthermore, U.S multinationals have a higher share of employment in retail trade than in wholesale trade in Latin America, while wholesale trade dominates in Asia (and in other developing country regions). This is a reflection of the different strategies MNEs undertake across regions. The data seem to suggest that within the commerce sector, United States affiliates have focused on servicing consumers in Latin America while focusing relatively more on servicing corporations in Asia. In Europe (including Central and Eastern Europe) and in other industrialized countries, United States affiliates have similar shares of employment in manufacturing and services, and there is wide diversification across the various service activities.

¹¹ Austria, Belgium, Germany, Finland and Portugal.

**Table 13. Employment abroad by foreign affiliates of United States MNEs,
by industry and country, 2000**

	Africa	Middle East	Latin America	Asia and Pacific (ex. Japan and Australia)		Europe, Canada Japan and Australia		Total
				%	%	%	%	
Agriculture	6	0	3		1	0	1	
Mining	13	11	3		3	1	2	
Utilities	0	0	1		0	1	1	
Construction	0	1	0		0	0	0	
Manufacturing	51	41	66		64	48	54	
Food, beverages, tobacco	15	7	12		4	5	6	
Textiles	1	1	4		1	1	2	
Chemicals	9	2	8		6	7	7	
Machinery	5	3	4		5	4	4	
Computers and electronic products	0	26	8		29	6	10	
Electrical equipment	1	0	3		6	2	3	
Transport equipment	8	0	16		3	11	11	
Other manufacturing	11	2	10		10	12	11	
Services	31	47	26		32	50	42	
Wholesale trade	13	7	4		9	9	8	
Retail trade	2	0	6		1	8	7	
Information	2	9	4		2	5	4	
Finance	1	1	3		5	4	4	
Professional services	5	7	2		4	6	5	
Other services	9	22	7		11	17	14	
Total	100	100	100		100	100	100	

Source: Bureau of Economic Analysis.



Source: ILO-MULTI database based on Appendix I.

MNEs from Developing Countries

MNEs from developing countries have also played an increasing role in the international integration of production in recent decades. Multinational firms from developing countries were often characterized as small and medium-sized MNEs concentrating in low-technology and resource-based activities (Parisotto, 1993). Although this class of firm continues to exist, there is evidence to suggest that MNEs from developing countries are not only getting bigger, but are also venturing into higher technology sectors in manufacturing and services. Table 14 presents the total number of firms from developing countries, the number of developing country firms in oil, mining and metals, and the number of firms in other manufacturing and services that are listed in *Fortune* magazine's ranking of the biggest firms by revenue since 1957. As the table illustrates, the number of developing country MNEs included in the world's biggest corporations has grown from 2 in 1957 to 32 in 2001, and the new entrants to the rankings, especially in the 1990s, have increasingly been involved in non-resource based activities.

Table 14. Number of developing country MNEs in *Fortune*'s ranking of the world's largest corporations

Year	Total No. of developing country MNEs	Oil, mining and metals	% of total	Other manufacturing/services	% of total
1957	2	2	100	0	0
1960	2	2	100	0	0
1965	6	5	83	1	17
1970	8	7	88	1	13
1975	13	12	92	1	8
1980	39	28	72	11	28
1985	55	38	69	17	31
1990	35	26	74	9	26
1995	22	8	36	14	64
2000	30	8	27	22	73
2001	32	9	28	23	72

Source: Sklair and Robbins (2002).

The bulk of the largest developing country MNEs have their origin in the Newly Industrialized Economies of Asia and Latin America. Employment data disaggregated by home and abroad are not available in many of these countries and it is difficult to quantify the extent of their operations. Nonetheless, according to UNCTAD (2002) the top 50 non-financial MNEs from developing countries ranked by foreign assets employed about 1.3 million people, of which 400,000 were outside of the country of origin. On the other hand, the top 100 non-financial MNEs (mostly from industrialized countries) had 50 per cent of their employment abroad. Furthermore, *Fortune* magazine's Global 500 included 37 corporations which employed a total of 6.9 million persons in 2000, although the vast majority was employed by state-owned Chinese firms (see Appendix I).

5. Employment in EPZs¹²

Against the backdrop of increased employment abroad by MNEs over the last two decades, many developing countries have established EPZs in an effort to generate employment and foreign exchange, attract FDI and promote exports. In the mid-1970s, 25 countries were estimated to operate in 79 zones. By 2002, the number of zones had increased to 3,000 and they could be found in 116 countries (table 15).¹³ As FDI in services increased, the zones have also evolved from initial assembly and simple processing of manufactured goods to include trading centres, financial services zones and call centres.

Table 15. Estimates of the development of EPZs

	1975	1986	1995	1997	2002
No. of countries with EPZs	25	47	73	93	116
No. of EPZs	79	176	500	845	3 000
Employment (millions)	n.a.	n.a.	n.a.	22.5	43.5
– of which China	n.a.	n.a.	n.a.	18	30
– other countries for which figures available	0.8	1.9	n.a.	4.5	13.5

Source: ILO calculations based on a variety of sources including zone administrations,

National statistics, web sites, published articles, estimates and responses to ILO surveys.

One of the most visible benefits of EPZs have been their capacity to generate employment. A significant amount of people in some developing countries are employed in EPZs, which not only includes foreign firms but also domestic firms operating within the wider context of FDI. By 2002, an estimated 43.5 million persons were employed in some form of a zone, 30 million of them in China. As table 16 demonstrates, Asia and Central America are the largest hosts to EPZ employment. Within Asia, Bangladesh accounts for a significant share as an estimated two million employees work in bonded warehouses throughout the country under EPZ-like conditions, but without actually being in a zone. In the Philippines, employment in zones increased from 230,000 to 820,000 between 1994 and 2002. For Latin America, the Mexican maquiladora industry alone employed over a million persons in 2002, compared to 450,000 in 1990. Africa as a whole is the next largest region with employment in EPZs, with the two countries in the Indian Ocean, Mauritius and Madagascar, representing an important share. By and large, the EPZs in the transition economies of Central and Eastern Europe are not expected to survive in their present form as most are EU accession countries. In addition, the United States zones in North America are more warehousing facilities for transhipment, and not for manufacturing. The numerous zones in the Caribbean, although very important for the local economies, generate relatively little employment because of the small size of the islands. On the whole EPZs have not really taken off in South America, which confirms that FDI in Latin America has traditionally been geared to market access.

¹² This section on EPZs was written in collaboration with Paul Bailey.

¹³ For the purpose of this chapter zones are defined as “industrial zones with special incentives set up to attract foreign investors, in which imported materials undergo some degree of processing before being re-exported”. As such, zones include, *inter alia*, free trade zones, special economic zones, bonded warehouses, free ports, customs zones maquiladoras.

Table 16. Geographical breakdown of employment in EPZs

Location	Employment
Asia	36 285 033
of which China	30 000 000
of which BGMEA factories	2 000 0000
Mexico and Central America	4 535 557
Transition Economies	480 590
North Africa	440 515
Sub-Saharan Africa	414 460
Middle East	328 932
North America	315 000
South America	304 200
Caribbean	220 078
Indian Ocean	166 507
Europe	43 599
Pacific	13 590
Total	43 548 061

Source: Table 15.

While EPZs have been successful in generating employment, the nature of the employment has come under attack from various quarters. Criticism has included “sweatshop”-like working conditions, repression of fundamental principles and rights, such as freedom of association and collective bargaining, the lack of enforcement of labour legislation, and exemptions or variances in labour laws or regulations applicable in the zones compared to those applied elsewhere in a country. Additionally, while zones have been credited with providing employment for many women, gender-related barriers have also been found in some EPZs in the form of discrimination in hiring, wages, benefits and career development, as well as relating to a lack of accommodation of women workers’ needs in relation to issues such as working hours, pregnancy, maternity leave or childcare.

In the midst of such criticism, the extent to which EPZs have contributed to integrated patterns of development, as measured in terms of economic and social objectives, is difficult to assess in many developing countries. The evidence from countries like Ireland and Singapore, which have been successful in using their EPZs to generate economic growth, employment and improvements in the quality of employment, suggests that strategies that combine higher value products and services with labour market policies, such as training and dialogue involving the government and the social partners, can be effective in promoting and sustaining integrated development.¹⁴

¹⁴ See also Moran (2002).

6. Conclusion

The international activities of MNEs increased dramatically in the 1990s as mirrored in FDI and foreign affiliate employment data. FDI has surged and multinationals have larger shares of their employees working abroad, increasingly in developing countries. Some observers have argued that the integration of production by multinationals is largely a regional phenomenon, and evidence, such as the high shares of foreign affiliate employment in the EU and Central and Eastern Europe by some EU multinationals or the predominance of foreign affiliate employment in the same continent by Asian multinationals, might lend support to that view. Nonetheless, other evidence challenges that perspective. For EU investors, increased employment in Central and Eastern Europe is a response to opportunities that were not available earlier, and for Asian investors, the data is weighed heavily by manufacturing activities. Countries with higher shares of services show a greater diversification of employment throughout regions, and, as the share service activities abroad continues to increase, internationalization of production is expected to occur on a more global basis.

Increased internationalization of production per se, as measured by employment, is not an entirely new phenomenon, but it is interesting to note that while the growth of manufacturing jobs has been responsible for increased MNE employment in the past, recent trends have come on the heels of increased employment in services. Mitigating this growth, however, has been the greater share of M&As.

Developing countries as a whole have seen dramatically higher rates of MNE employment growth than industrial countries. Such growth has occurred against the backdrop of a predominance of foreign entry in the manufacturing sector and greenfield investment as the preferred mode of entry. Furthermore, EPZs have played a prominent role in some developing countries. But this backdrop is not static. The share of services and M&As has been increasing lately in developing countries, and other economic developments such as regional and international free trade agreements cast doubts on the long-term sustainability of these zones. Already, the end of quota-based systems in garments and textiles is increasing the vulnerability of zone employment.

Such trends imply that the direct employment creation effects of multinationals are likely to weaken in the future, and that added emphasis should be placed on the indirect as well as qualitative employment effects to leverage multinationals for host country development. One such channel that remains at the disposal of policy-makers is the development of human capital. A skilled workforce that arises from an effective system of formal education and labour market institutions is likely to be a core element in ensuring that multinational activities lead to stronger linkages with the domestic sector, productivity spillovers, and further reinforcement of human resource development initiatives. On the other hand, policy-makers that aim to increase MNE employment at all costs without due regard to the qualitative aspects might well find themselves in danger of adversely selecting firms which have short-term horizons, invest little in productivity and skills and have a minimal impact on overall development objectives.

References

- Aitken B.; Hanson, G. H.; Harrison A.E. (1997). "Spillovers, foreign investment, and export behavior", *Journal of International Economics*, Vol. 43, pp. 103-132.
- Aitken B.; Harrison A.E. (1999). "Do Domestic Firms Benefit from Direct Foreign Investment? Evidence from Venezuela", *American Economic Review*, Vol. 89, No. 3, pp 605-618.
- ASEAN Secretariat (2003). *Statistics of Foreign Direct Investment in ASEAN, 2002 Edition* (Jakarta, ASEAN Secretariat).
- Borensztein, E.; De Gregorio, J.; Lee, J.W. (1998). "How does foreign direct investment affect economic growth?" *Journal of International Economics*, Vol. 45, pp. 115-135.
- Bosworth B.; Collins S. M. (1999). "Capital Flows to Developing Economies: Implications for Saving and Investment", in Brainard, W.; Perry, G. (eds), *Brookings Papers on Economic Activity*, Vol. 1, pp.143-169 (Washington, DC, Brookings Institution).
- Calderón, C.; Loayza, N.; Servén, L. (2002). "Greenfield FDI vs. Mergers and Acquisitions: Does the Distinction Matter?", Working Paper No. 173 (Santiago, Central Bank of Chile)
- Campbell, D. (1994). "Foreign investment, labour immobility and the quality of employment" *International Labour Review*, Vol. 133, No. 2, pp. 185-204.
- Caves, R.E. (1999). "Spillovers from Multinationals in Developing Countries: the Mechanisms at Work", Working Paper No. 247 (Ann Arbor, MI, William Davidson Institute).
- Consiglio Nazionale dell'Economia e del Lavoro (CNEL) (2002). *Italia Multinazionale 2000* (Milan, CNEL).
- Djankov S.; Hoekman B. (2000). "Foreign Investment and Productivity Growth in Czech Enterprises", *World Bank Economic Review*, Vol. 14, No.1, pp. 49-64.
- Dunn L. L; Dunn H. S. (1999). "Employment, working conditions and labour relations in offshore data service enterprises: Case studies of Barbados and Jamaica", *Multinational Enterprises Programme Working Paper No. 86* (Geneva, ILO).
- Easterly, W. (2001). *The Elusive Quest for Growth: Economists' Adventures and Misadventures in the Tropics* (Cambridge and London, MIT Press).
- Economic Commission for Latin America and the Caribbean (ECLAC) (2002). *Foreign Investment in Latin America and the Caribbean, 2002* (Santiago, United Nations).
- Eichengreen, B.; Fishlow, A. (1996). "Contending with Capital Flows: What is Different About the 1990s?" Occasional Paper (Washington, DC, Council on Foreign Relations).
- Fernandez-Arias, E. (1996). "The new wave of private capital inflows: Push or pull?", *Journal of Development Economics*, Vol. 48, pp. 389-418.

-
- France, Ministry of Economy, Finance and Industry (2001). “L’implantation française à l’étranger”, DREE Dossiers, September 2001 (Paris).
- France, National Institute of Statistics and Economics (INSEE) (2003) *Annuaire Statistique de la France, édition 2003* (Paris).
- Hanson, G. H. (2001). “Should Countries Promote Foreign Direct Investment?” G-24 Discussion Paper No. 9 (New York and Geneva, United Nations).
- Japan, Ministry of Economy, Trade and Industry (2002). *The 35th Survey of Trends in Business Activities of Foreign Affiliates* (Tokyo).
- International Labour Organization (ILO) (1984). *Technology choice and employment generation by multinational enterprises in developing countries* (Geneva).
- ILO (2001a). *The employment impact of mergers and acquisitions in the banking and financial services sector* (Geneva).
- ILO (2001b). *Seventh Survey on the effect given to the Tripartite Declaration of Principles concerning Multinational Enterprises and Social Policy* (Geneva).
- ILO (2002a). *Learning and training for work in the knowledge society* (Geneva).
- ILO (2002b). “Facing the challenges of Africa’s integration in the global economy: The role of multinationals enterprises in the plantations sector”, *Multinational Enterprises Programme Working Paper No. 91* (Geneva).
- ILO (2003a). *Challenges and opportunities facing public utilities* (Geneva).
- ILO (2003b). *Employment effects of mergers and acquisitions in commerce* (Geneva).
- International Monetary Fund (IMF) (1993). *Balance of Payments Manual, 5th Edition*, (Washington, DC).
- IMF (2003) *International Financial Statistics* on CD-ROM, March 2003 (Washington DC).
- Lipsey, R. E. (1999). “The Role of Foreign Direct Investment in International Capital Flows”, NBER Working Paper No. 7094 (Cambridge, MA, National Bureau of Economic Research).
- Lipsey, R. E. (2001). “Foreign Direct Investment in Three Financial Crises” NBER Working Paper No. 8084 (Cambridge, MA, National Bureau of Economic Research).
- Markusen J.R.; Venables A.J. (1999). “Foreign direct investment as a catalyst for industrial development”, *European Economic Review*, Vol. 43, pp. 335-356.
- Marth, M. (2003) “Foreign affiliate trade statistics – Canadian operations abroad, 1999 to 2001”, *Economic analysis research paper series No. 013* (Ottawa, Statistics Canada).
- Mataloni, R. J. (2002) “U.S. Multinational Companies: Operations in 2000”, *Survey of Current Business*, December 2002 (Washington, DC, United States Department of Commerce).

-
- Mataloni, R. J.; Fahim-Nader, M. (1996). "Operations of U.S. Multinational Companies: Preliminary Results From the 1994 Benchmark Survey", *Survey of Current Business*, December 1996 (Washington, DC, United States Department of Commerce).
- Mataloni, R. J.; Yorgason, D. R. (2002). "Operations of U.S. Multinational Companies: Preliminary Results From the 1999 Benchmark Survey", *Survey of Current Business*, March 2002 (Washington, DC, United States Department of Commerce).
- Miranda, C. V. (1994). "Employment effects of multinational enterprises in the Philippines", Multinational Enterprises Programme Working Paper No. 86 (Geneva, ILO).
- Moran, T. (2002). *Beyond Sweatshops: Foreign Direct Investment and Globalization in Developing Countries* (Washington, DC, Brookings Institution).
- Nunnenkamp, P. (2002). "Foreign Direct Investment in Mercosur: The Strategies of European Investors" in Giordano, P. (ed.), *An Integrated Approach to the European Union-Mercosur Association* (Paris, Chaire Mercosur de Sciences Po).
- Organization for Economic Co-operation and Development (OECD) (1998). *Internationalisation of Industrial R&D: Patterns and Trends* (Paris).
- OECD (2000). *Employment Outlook* (Paris).
- OECD (2001). *Employment Outlook* (Paris).
- OECD (2002a). *Foreign Direct Investment for Development: Maximising Benefits, Minimising Costs* (Paris).
- OECD (2002b). *International Direct Investment Statistics Yearbook 1989-2000* (Paris).
- OECD (2002c). *Labour Force Statistics 1981-2001* (Paris).
- OECD (2002d). *Measuring Globalisation: The Role of Multinationals in OECD economies, Volume II: Services* (Paris).
- Parisotto, A. (1993). "Direct employment in multinational enterprises in industrialized and developing countries in the 1980s: Main characteristics and trends" in Bailey, P.; Parisotto, A.; Renshaw, G. (eds), *Multinationals and employment: The global economy of the 1990s* (Geneva ILO).
- Prasad E.; Rogoff, K. Wei, S-J; Kose, M.A. (2003). *Effects of Financial Globalization on Developing Countries: Some Empirical Evidence* (Washington DC, IMF).
- Rasiah, R.(1994). "Flexible production systems and local machine-tool subcontracting: electronics components transnationals in Malaysia", *Cambridge Journal of Economics*, Vol. 18, pp. 279-298.
- Shatz H. J.; Venables, A. J. (2000). "The Geography of International Investment", Policy Research Working Paper No. 2338 (Washington, DC, World Bank).
- Sklair, L.; Robbins P. T. (2002). "Global capitalism and major corporations from the Third World" *Third World Quarterly*, Vol. 23, No.1, pp. 81-100.
- Stiglitz, J. E. (2000). "Capital Market Liberalization, Economic Growth, and Instability", *World Development*, Vol. 28, No. 6, pp. 1075-1086.

-
- Swedish Institute for Growth Policy Studies (ITPS) (2002). *Research and Development in International Enterprises 1999* (Östersund).
- United Nations Conference on Trade and Development (UNCTAD) (2001). *World Investment Report 2001: Promoting Linkages* (Geneva and New York).
- UNCTAD (2002). *World Investment Report 2002: Transnational Corporations and Export Competitiveness* (Geneva and New York).
- World Bank (2001). *Global Development Finance* (Washington, DC).
- World Bank (2002). *Global Development Finance* (Washington, DC).
- Xu, B. (2000). “Multinational enterprises, technology diffusion, and host country productivity growth”, *Journal of Development Economics*, Vol. 62, pp. 477-493.
- Wezel, T. (2003). “Determinants of German Foreign Direct Investment in Latin America and Asian Emerging Markets in the 1990s” Economic Research Centre Discussion Paper No. 11/03 (Frankfurt, Deutsche Bundesbank).

Appendix I

Source of data

Austria: Foreign affiliate employment data from the Austrian National Bank (Oesterreichische National Bank) published annually in *Austrian Outward and Inward Direct Investment*. Parent employment estimated by using a foreign affiliate to total employment ratio that was derived by averaging foreign affiliate to total employment ratios of EU countries where both reliable affiliate and parent employment data were available.

Belgium: Foreign affiliate employment data from OECD (2002d). Refers to majority-owned affiliates (MOFAs). Parent employment estimated by using a foreign affiliate to total employment ratio that was derived by averaging foreign affiliate to total employment ratios of EU countries where both reliable affiliate and parent employment data were available.

Canada: Foreign affiliate employment data from Statistics Canada, published in March (2003). Refers to non-bank MOFAs. Parent employment estimated by using a foreign affiliate to total employment ratio that was derived by averaging foreign affiliate to total employment ratios of all countries where both reliable affiliate and parent employment data were available.

Finland: Foreign affiliate employment data from the Bank of Finland, published in *Direct investment in Finland's balance of payments*. Refers to MOFAs. According to a survey of the largest Finnish companies by the Confederation of Finnish Industry and Employers, 72 companies employed a total of 457,000 persons in 2000, 46 per cent of them in foreign affiliates. Same ratio used to estimate parent employment.

France: Foreign affiliate employment data from the *Direction des Relations économiques extérieures* (DREE), Ministry of Economy, Finance and Industry, published in “L’implantation française à l’étranger” (2001). Parent employment is an estimate based on *Annuaire Statistique de la France, édition 2003* published by the National Institute of Statistics and Economics (INSEE). INSEE performs a survey on the financial links between companies (LIFI). The survey includes French holding companies as well as majority-owned foreign companies. The parent employment figure here is that of French “group heads”. A “group head” is an enterprise that directly controls at least one other enterprise without itself being controlled either directly or indirectly. As a consequence, although this figure is not MNE parent employment per se, the reporting operational threshold of the LIFI survey suggests that “the group head” will control a foreign subsidiary.

Germany: Foreign affiliate employment data from the Deutsche Bundesbank, published annually in *International capital links*. According to a database being compiled by the *Rheinisch-Westfälisches Institut für Wirtschaftsforschung* (RWI), 104 German manufacturing companies had 1.9 million employees based in Germany and about 1.6 million abroad in 1998. Thus a foreign affiliate to total employment ratio of 45 per cent a ratio is used to estimate parent employment.

Italy: Foreign affiliate employment data from *Consiglio Nazionale dell'Economia e del Lavoro*. (CNEL), published in *Italia Multinazionale*. The data refers only to MOFAs in the extractive and manufacturing industries. Parent employment estimated by using a foreign affiliate to total employment ratio that was derived by averaging foreign affiliate to total employment ratios of EU countries where both reliable affiliate and parent employment data were available.

Japan: Foreign affiliate and parent employment data from the Ministry of Economy, Trade and Industry (METI), published in *Wagakuni Kigyono Kaigai Jigyo Katsudo*. Data refers to affiliates excluding financial enterprises.

Republic of Korea: Foreign affiliate employment data from the Export-Import Bank of the Republic of Korea, published in *Haewaejikjubtuja Hunjibubin Kyungyun*. Parent employment estimated by using a foreign affiliate to total employment ratio that was derived by averaging

foreign affiliate to total employment ratios of all countries where both reliable affiliate and parent employment data were available.

Portugal: Foreign affiliate employment data from OECD (2002d). Parent employment estimated by using a foreign affiliate to total employment ratio that was derived by averaging foreign affiliate to total employment ratios of EU countries where both reliable affiliate and parent employment data were available.

Sweden: Foreign affiliate and parent employment data from the Swedish Institute for Growth Policy Studies (ITPS), published in *Swedish-owned groups of enterprises with subsidiaries abroad*.

Switzerland: Foreign affiliate employment data from the Swiss National Bank, published in the *Quarterly Bulletin*. According to the Federation of Swiss Industrial Holding Companies (Industrie-Holding), 35 major Swiss multinationals had 114,000 employees based in Switzerland and 772,000 people abroad in 2001. Thus a foreign employment to total employment ratio of 85 per cent is used to estimate parent employment.

United States: Foreign affiliate and parent employment data from the Bureau of Economic Analysis (BEA), United States Department of Commerce, published annually in *U.S. Direct Investment Abroad: Operations of U.S. Parent Companies and Their Foreign Affiliates*. Data refers to non-bank MOFAs.

Note: Unless otherwise indicated, data refers to both minority and majority owned affiliates.