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The employment effects of multinational enterprises in the United States and of American multinationals abroad

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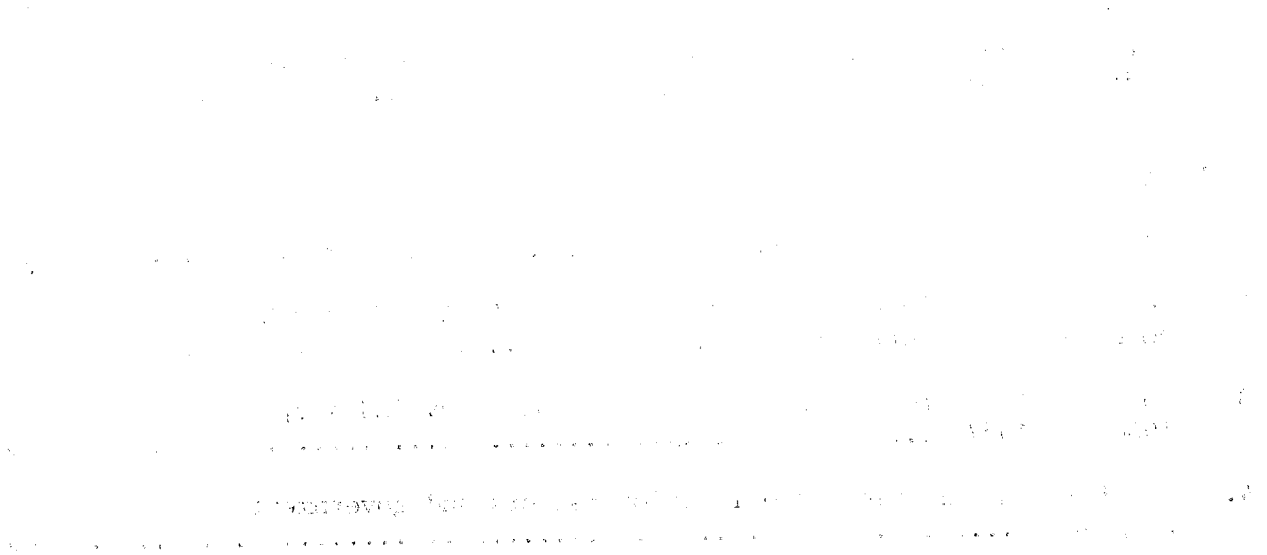
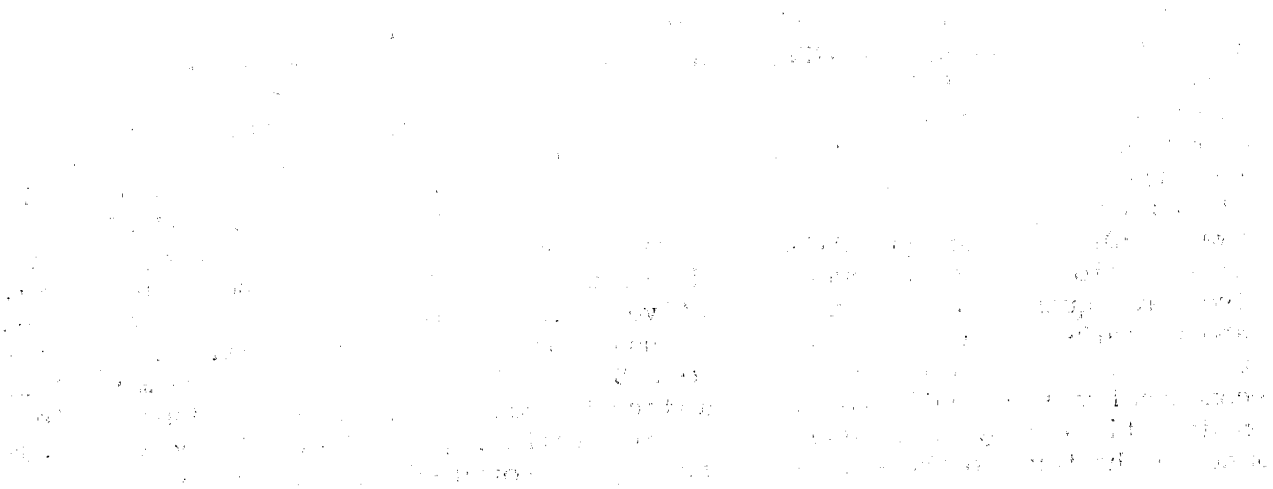


INTRODUCTION

This working paper examines the quantitative and qualitative effects of multinational enterprises (MNEs) on employment in the United States. Foreign direct investment (FDI) is the characteristic that distinguishes MNEs from purely domestic firms and is the principal channel through which MNEs operate across national boundaries. Because of the United States unique position as the largest country source of and host to FDI, it is necessary to analyse the effects on employment of both outward FDI by United States MNEs (USFDI) and inward FDI by foreign MNEs (FDIUS). Non-equity forms of international participation by MNEs, such as licensing, subcontracting, and franchising, also have quantitative and qualitative ramifications for the United States labour market. Although these transaction forms have taken on greater importance, in particular for United States MNEs, they still remain less economically (and politically) significant than FDI in terms of their effect on domestic employment. Where data are available, reference is nevertheless made in the text to the effects of non-equity forms of participation.



OVERVIEW OF FOREIGN DIRECT INVESTMENT INFLOWS TO AND OUTFLOWS FROM THE UNITED STATES

Since the 1950s, the United States had been the world's leading source of foreign direct investment (FDI). Over the last decade, however, the nature of the United States position in worldwide FDI has changed owing to both international and domestic factors. Among the most important of these have been the globalization of markets, the increase in international competition and the rise of the newly industrializing countries, the debt crisis and economic recession in Latin America, the appreciation (1980-85) and depreciation (1985-87) of the United States dollar, and the large federal government budget deficits and strong economic growth in the United States. As a result, the United States is now no longer the leading source of FDI flows and has become the largest recipient. During the period 1975-1980, the United States accounted for on average over 44 percent of worldwide FDI outflows and 26 percent of inflows, but in 1981-1985 its proportion of outflows declined to 19 percent while that of inflows rose to 39 percent.[1] With respect to the worldwide distribution of FDI stock, the United States position has evolved in a similar direction, having become the largest host of inward and source of outward FDI stock. Since developed market economies account for most of the worldwide outward and inward FDI flows and stocks, the shift in the position of the United States has necessarily affected the pattern of involvement of Western Europe and Japan. Once the largest recipient of worldwide FDI, Western Europe has now become its largest provider while Japan has emerged as a major source nation.

Accompanying the alteration in its worldwide FDI position, the United States has also seen a change in the relationship between its stock of inward and outward FDI. Historically, the stock of outward FDI has far surpassed that of inward FDI, but the gap between them narrowed considerably during the last decade (even when allowing for valuation problems).[2] As shown in table 1, the stock of outward FDI remained relatively unchanged from 1980 to 1985 while that of inward FDI grew rapidly. Since 1985 outward FDI flows have regained strength, but inward flows have continued apace and inward stock now equals outward stock. Related to these changes in the flow and stock of inward and outward FDI - and to other capital flows, most important being a large inflow of portfolio investment in the second half of the 1980s and the reduction in overseas lending by United States banks in the mid-1980s - has been the deterioration in the United States international investment position and its subsequent emergence in 1985 as an international debtor nation for the first time since the early 1900s (see table 2).

Table 1. The stock of inward and outward foreign direct investment: The United States (billions of dollars)

	1980	1981	1982	1983	1984	1985	1986	1987	1988*
Outward	220	235	227	230	236	250	259	307	326
Inward	83	108	124	137	164	184	220	271	328

* Provisional.

Source: United States Department of Commerce, Survey of current business, June 1989.

Table 2. Net international investment position of the United States (billions of dollars)

1982	1983	1984	1985	1986	1987	1988
136	89	3	-111	-267	-378	-532

* Provisional.

Source: United States Department of Commerce, Survey of current business, June 1989.

Trends in the stock of USFDI and in USMNEs' global employment

Negatively effected by recession and high interest rates worldwide in the early 1980s and subsequently by buoyant economic expansion in the United States and the appreciation in the value of the United States dollar, the growth of USFDI flows stagnated from 1980 to 1985 for the first time since its rapid expansion began in 1950. From 1950 through 1980, the stock of USFDI rose at an annual average rate of 10.2 percent, but over the next five years this fell to 1.5 percent. Partly resulting from improved economic conditions in both developed and developing countries, the approaching consumation of the Single Market in Western Europe, and the adoption by USMNEs of global production and sourcing strategies designed to lower costs and to reduce operating risks, annual USFDI flows have increased in real terms each year since 1984 (in particular with respect to Western Europe), including large increments in 1987 and 1988. During the 1980s, USFDI has largely been financed by the reinvestment of foreign affiliate earnings and not by new parent equity or intercompany debt; as a result, since 1985 USFDI stocks have been artificially boosted by translation effects arising from foreign affiliate investment in countries whose currencies have risen vis-à-vis the United States dollar.

Tables 3 and 4 depict the growth and geographical distribution of USFDI stock over the last decade. Throughout the entire period the developed and developing countries accounted for approximately 74 and 23 percent of USFDI stock, respectively.[3] Thus USFDI stock in both areas rose at nearly the same rate. This is noteworthy given that one would have expected the debt crisis and its attendant recessionary effects to severely reduce overall USFDI flows to developing countries. That this did not occur largely reflects the growth of USFDI in the Asia-Pacific region, Brazil and Mexico, much of which has been in offshore assembly and processing facilities.

Table 3. USFDI stock in the developed and developing world
(billions of dollars)

	1978	1980	1982	1984	1986	1987	1988
Total	162.7	215.3	207.7	211.4	259.5	307.9	326.9
Developed	121.2	158.2	154.3	157.1	194.6	232.6	245.4
Developing	37.5	53.2	48.0	49.1	60.2	70.6	76.8

Source: United States Department of Commerce, Survey of current business, various issues.

Of the developed market economies, the major hosts of USFDI stock are Canada, the United Kingdom, the Federal Republic of Germany, Switzerland, and Japan, together accounting for 51 percent in 1988 (see table 4). Except for Canada and Japan,[4] the countries shown varied little in their relative positions as hosts of USFDI stock from 1980 to 1988. Of the developing countries, the largest recipients in both 1980 and 1988 were Bermuda,[5] Brazil, Mexico and the area of Hong Kong. Although Latin America still remains the developing region with the largest amount of USFDI stock, its share fell from 75 to 65 percent from 1980 to 1987. During the same period, the Asia and Pacific region increased its share from 14 to 22 percent as the annual increase of USFDI stock soared in the area of Hong Kong (23%), Taiwan (China) (23%), Singapore (15%), Republic of Korea (11%), Thailand (36%), and Malaysia (11%).

Table 4. Country distribution of USFDI stock
(billions of dollars)

	1980	1982	1984	1986	1987	1988
Total	215.3	207.7	211.4	259.5	307.9	326.9
Canada	44.9	43.5	46.7	49.9	56.9	61.2
France	9.3	7.4	6.4	8.9	11.5	12.4
Germany, Fed. Rep. of	15.4	15.5	14.8	20.8	24.5	21.6
Switzerland	11.3	12.9	14.7	17.8	19.9	18.6
United Kingdom	28.6	27.5	28.5	35.7	44.7	47.9
Japan	6.2	6.4	7.9	11.3	14.3	16.8
Australia	7.7	9.1	8.9	9.1	10.9	13.0
Bermuda	11.0	11.5	13.0	14.8	18.2	19.8
Other	80.9	73.4	70.5	91.2	107.0	115.6

Source: United States Department of Commerce, Survey of current business.

When distributing total United States outward FDI stock on a sectoral basis, the vast majority is found in the manufacturing, petroleum, and finance, insurance and real estate sectors (see table 5). Although still the largest sector of investment, manufacturing's share has declined during the 1980s in spite of moderate growth in investment as that in banking and finance and insurance has expanded rapidly. This trend of increasing USFDI by service sector enterprises has been propelled by their natural inclination to follow in the wake of the large investments in manufacturing industries in the 1950s and 1960s and more recently by the efforts to deregulate and internationalize financial markets and to open the service sector to foreign competition in both developed and developing countries. While the petroleum sector surprisingly maintained its share of outward FDI stock in the face of a generally weak oil market and nationalization pressures in selected countries, the primary sector (mining and agriculture) experienced significant disinvestment as prices in commodity markets plummeted.

Table 5. Sectoral distribution of USFDI stock (billions of dollars)

	Total	Manu-facturing	Banking	Petroleum	Finance & insurance	Trade	Other
1980	215.3	89.1	7.3	47.5	27.9	25.8	17.7
1988	326.9	133.8	16.1	59.6	60.6	34.4	22.4

Source: United States Department of Commerce, Survey of current business.

Within the manufacturing sector, the chemical (21%), non-electrical machinery (18 and 21%), transportation equipment (14%), and food (9%) industries predominate as their shares held relatively constant from 1980 to 1988. Particularly noteworthy, however, is the accelerated growth of USFDI stock in office and computing machines, which rose at an annual rate of 25 percent from 1983 to 1987 and grew from 9.7 percent of total manufacturing FDI stock to 15 percent. Suggesting the absence of capital flight to low-wage developing countries in this industry, most of the increase in USFDI stock in the non-electrical category (of which office and computing machines accounted for over 90 percent) accumulated in the developed market economies.

The location of USFDI is in part dependent on the characteristics of the particular sector or industry in which the investment takes place. For example, as is well known, the need for access to raw materials in the petroleum and mining sectors determines the location of FDI. With respect to USFDI stock in these two sectors, the proportion located in the developing countries has historically been, and continues to be, higher than the average for all sectors combined. Government policies can also effect location decisions in various ways, including by providing investment subsidies and local content requirements. For example, a significant part of USFDI in the banking sector has been located in the Caribbean region because of the special tax treatment; from 1983 through 1987, this proportion varied from 20 to 30 percent. Indentifying the factors that determine the location of manufacturing USFDI is, of course, more difficult. Over the past two decades, the proportion of USFDI manufacturing stock located in the developed market economies has moved within a narrow range around its current level of 82 percent. Of this, Canada's share has fallen to where it now accounts for 25 percent and Europe's share has risen to almost 65 percent; France, the Federal

Republic of Germany, Italy, and the United Kingdom together account for over 70 percent of USFDI stock in Europe.

In the developing world, Latin America's share of manufacturing USFDI stock has declined sharply since the late 1970s - from 83 percent in 1977 to 72 percent in 1987 - as that of the Asia and Pacific region has risen to where in 1987 it stood at 24 percent. As shown in table 6, during the 1980s USFDI has increased at a faster pace in selected Asia and Pacific countries than in the largest economies in Latin America. One example of this growth is in the electric and electronic equipment industry where USFDI stock in Asia and Pacific countries rose from $938 million in 1983 to over $2 billion in 1987. Given that the fastest growing subsection of this industry's USFDI stock is in electronic components and accessories,6 it is likely that much of this investment has been in offshore assembly facilities as a means to reduce costs of the labour-intensive aspects of production.

Table 6. USFDI manufacturing stock in selected developing countries or areas (millions of dollars)

	1980	1982	1984	1986	1987	1988
Brazil	5 145	6 474	6 749	7 141	7 842	9 004
Mexico	4 489	3 921	3 650	3 776	3 911	4 586
Argentina	1 584	1 674	1 576	1 586	1 499	1 215
Venezuela	1 032	1 679	949	886	971	1 141
Hong Kong	373	333	366	443	578	594
Malaysia	-	245	395	316	329	521
Philippines	546	366	433	568	593	612
Singapore	392	615	911	1 353	1 453	2 000
Thailand	87	161	163	217	250	326
Korea, Rep. of	179	167	190	246	348	497
Taiwan, China	321	340	480	642	959	1 161
Total	17.7	19.3	18.8	19.8	21.4	24.9

Source: United States Department of Commerce, Survey of current business.

Global employment trends of USMNEs

The evolution of USMNEs' foreign affiliate employment is of course closely tied to industry trends in USFDI flows because all industries vary to some degree in the intensity and pattern with which they employ labour. Prior to 1950, USFDI was largely concentrated in agriculture, mining (including petroleum), and public utilities, none of which was (or is) particularly labour-intensive. Thus USMNEs' foreign affiliate employment was not significant and as a result their overseas activities were not thought to negatively effect the quantity or quality of employment in the United States. But as USFDI grew in the manufacturing sector during the 1950s and 1960s, so too did the amount and type of USMNEs' foreign employment and concern over its effect on the domestic labour market. More recently, USFDI has grown most rapidly in service type industries whose use of foreign labour in relation to the level of FDI is far less than that of manufacturing. This in part explains the reduction that has occurred in USMNEs' foreign affiliate employment since 1977.

Owing to the absence from official statistics of measurements of the foreign employment associated with overseas licensing agreements and subcontracting and franchising arrangements, and of the indirect employment effects stemming from the backward and forward economic linkages generated by USFDI in host-country economies, the magnitude of foreign employment resulting from USMNEs' international participation is unquestionably higher than that reported below. Unfortunately, there are no estimates of such employment effects.

Since the late 1970s, the combined domestic and foreign employment of United States MNEs has steadily declined from 26.1 million in 1977 to 24.1 million in 1987 (see tables 7 and 8); the latter figure represents approximately 37 per cent of world-wide employment of MNEs in all countries.[7] From 1977 through 1987, employment within USMNEs declined by 5.4 percent in their domestic operations and by 12.9 percent in their foreign affiliates. In 1987, foreign affilate employment equalled 25.9 per cent of total USMNEs' employment, down from 27.6 in 1977. Whereas the decline in USMNEs' domestic employment occurred largely after 1982, that of foreign affiliates was more evenly distributed across time. Although not all of the decrease in USMNEs' domestic employment was the result of actual job losses - for example, the forced divestiture of AT&T eliminated from the statistics AT&T's former seven operating companies, none of which are now classifiable as an MNE - it remains that USMNEs' domestic employment still decreased over the period in question. As a percentage of United States private sector nonagricultural employment, USMNEs' domestic payrolls declined sharply over this period from 28 percent in 1977 to 21.5 percent in 1986 (see table 9).

Table 7. Employment of USMNEs (millions)

	1977	1982	1983	1984	1985	1986	1987
Domestic	18.8	18.7	18.3	18.1	18.1	17.8	17.8
Foreign	7.1	6.6	6.3	6.4	6.4	6.2	6.2
Developed	4.9	4.4	4.3	4.3	4.4	4.3	4.2
Developing	2.1	2.1	2.0	2.0	1.9	1.8	1.9
Total	26.0	25.3	24.7	24.5	24.5	24.1	24.1

Source: United States Department of Commerce, Survey of current business, June 1989.

Table 8. Foreign affiliate employment of USMNEs in the developing world (thousands)

	1977	1983	1985	1986	1987
Total	2 175	2 043	1 973	1 894	1 934
Latin America	1 347	1 242	1 230	1 189	1 229
Brazil	435	377	392	405	424
Mexico	370	442	465	431	442
Argentina	108	82	71	69	68
Venezuela	101	83	74	69	74
Asia and Pacific	528	542	518	507	514
India	95	75	70	64	55
Hong Kong	45	48	48	49	50
Malaysia	36	63	65	63	63
Philippines	112	104	91	92	92
Singapore	44	51	47	47	51
Korea, Rep. of	31	36	40	47	56
Taiwan, China	68	61	58	62	57

Source: United States Department of Commerce, Survey of current business, various issues.

Table 9. USMNEs' domestic and foreign affiliate employment as a per cent of United States private sector non-agricultural employment

	1977	1982	1983	1984	1985	1986	1987
Domestic	28.0	25.3	24.7	3.1	22.3	21.5	20.8
Foreign	10.7	9.0	8.6	8.2	7.9	7.6	7.3

Sources: Calculated from data found in United States Department of Commerce, Survey of current business, June 1989, and Economic report of the President, Jan. 1989.

Employment within USMNEs' non-bank foreign affiliates stood at 7.19 million in 1977, but by 1986 this had dropped to 6.26 million. As shown in table 8, foreign affiliate employment has fallen noticeably in relation to United States private sector nonagricultural employment, from 10.7 percent in 1977 to 7.3 percent in 1987, thus reversing the previous trend. During the same period, USMNEs' foreign manufacturing employment, which accounted for 65 percent of total foreign affiliate employment in 1987, declined by 16.6 percent while that of USMNEs' domestic manufacturing employment fell by 13.6 percent and that of all United States domestic manufacturing fell by only 3.6 per cent (see table 10). Thus manufacturing employment in foreign affiliates as a proportion of domestic manufacturing employment declined from 24.6 percent in 1977 to 21 percent in 1987.

Table 10. United States manufacturing employment and the domestic and foreign affiliate manufacturing employment of USMNEs (thousands)

	1977	1982	1983	1984	1985	1986	1987
United States manufacturing	19.6	18.7	18.4	19.3	19.2	18.9	19.0
Foreign affiliate	4.8	4.4	4.2	4.3	4.3	4.1	4.0
Domestic	11.8	10.5	10.4	10.7	10.5	10.4	10.2

Source: Calculated from data contained in United States Department of Commerce, Survey of current business.

There was no change in the proportional distribution of foreign affiliate employment between developed and developing countries from 1977 to 1986, the former accounting for 69 percent in both years. Not surprisingly, foreign affiliate employment is concentrated in the same countries which account for the largest part of USFDI stock; in 1986, Canada, France, the Federal Republic of Germany, Japan, and the United Kingdom accounted for 48 percent (table 11). From 1977 to 1986, however, foreign employment fell sharply in almost all major host countries except for Mexico and Australia. The brunt of employment loss in Canada, the United Kingdom, the Federal Republic of Germany, and France and gain in Mexico, and Australia occurred in the manufacturing industries. In the case of Mexico, this rise was largely due to investment in its automobile industry and Maquiladora sector (which functions as an offshore assembly platform).

Table 11. Country distribution of USMNEs' foreign affiliate employment (thousands)

	Canada	United Kingdom	Fed. Rep of Germany	France	Italy	Japan	Brazil	Mexico	Australia
1977	1 064	1 069	587	470	212	389	435	370	269
1987	912	798	552	358	197	345	424	441	341

Source: United States Department of Commerce, Survey of current business.

USMNEs' employment in the developing world has fallen since 1977, but proportional shares have remained fairly constant with Latin American accounting for approximately 62 percent and the Asia and Pacific region 26 percent (see table 11). Within Latin America, around 60 percent of USMNEs' employment is located in Mexico and Brazil, with another 20 percent in Argentina and Venezuela. As of 1986, employment of foreign affiliates in the Asia and Pacific region was highest (by order of magnitude) in the Philippines, India, Malaysia, Taiwan (China), Singapore and Hong Kong. Of

these countries, however, only Malaysia experienced significant growth from 1977 to 1986 while the Philippines and India registered steep declines.

Breaking down USMNEs' foreign employment by industries for 1987, two-thirds was found in manufacturing, 15 per cent in what can broadly be defined as the service sector (i.e., services and finance, insurance and real estate) and a mere 4.7 per cent in petroleum (see table 12). Although manufacturing's proportional share has changed little since 1977, the service industry (as defined above), mirroring changes in FDI flows, increased its share of employment from 1982 to 1986, while that of petroleum's declined. The largest subsectors of manufacturing are transportation equipment (22%), electric and electronic equipment (16%), chemicals (13%), and non-electrical machinery (13%). Comparing figures suggests that manufacturing FDI is more labour-intensive than that of any other industry; for example, it accounted for 39 percent of total USFDI stock and 66 percent of USMNEs' employment in 1986. That manufacturing FDI is in fact more labour intensive is confirmed by the amount of FDI stock per foreign affiliate employee; in 1986 this amounted to $25,579 in manufacturing, $208,339 in petroleum, and $232,677 in finance, insurance and real estate.

Table 12. Foreign affiliate employment of non-bank USMNEs by industry (thousands)

	Manu-facturing	Petroleum	Trade	Finance & insurance	Services	Other
1977	4 848	369	990	93	n.a.	896
1983	4 229	380	460	127	30	880
1985	4 348	336	458	139	296	842
1987	4 079	292	493	154	350	866

Source: United States Department of Commerce, Survey of current business.

Foreign affiliate manufacturing employment of USMNEs declined absolutely in both developed and developing countries from 1977 to 1986, but the drop was steeper in the former (-17%) than the latter (-6.2%). Thus developing countries proportional share has steadily risen, reaching 32.5 percent in 1986. Among the developed countries, Canada, France, the Federal Republic of Germany, Japan and the United Kingdom accounted for 70 percent of foreign manufacturing employment.

Summary

Although stagnating in the early 1980s, the growth of USFDI flows has since resumed at a rapid pace. While its geographical distribution has altered little - it is still concentrated in developed countries and principally in Canada and Western Europe - its sectoral composition has changed rather dramatically in the past 15 years as the sharp rise in foreign direct investment in the service sector has been mirrored by a steep decline in the primary sector and a less drastic fall in manufacturing investment.

Manufacturing remains the sector with the largest amount of USFDI. USMNEs use of international production strategies (based on low-cost world-wide sourcing of components and final products) has led to considerable levels of USFDI in offshore assembly and processing facilities in developing countries in Latin America and the Asia-Pacific region. This represents a fundamental shift in USFDI which used to be motivated solely by the need to access raw materials or to better serve and defend foreign markets through local production.

Given the strong economic expansion of economies in the Asia and Pacific region and their increasing importance in the world economy, it is probable that both manufacturing and service sector USFDI will grow substantially in this geographic area in the coming decade. While it is likely that USFDI will also grow in Mexico in the near future, the prospects for the rest of Latin America is uncertain owing to political and economic problems.

Naturally the foreign affiliate employment of USMNEs is closely related to the geographical and sectoral distribution of USFDI. Most foreign affiliate employment is located in Canada and Western Europe and concentrated in the manufacturing and, to an ever greater extent, service sectors. It is important to note, however, that the published data on the foreign employment generated by USMNEs does not provide an entirely accurate picture because it does not take into account the foreign employment associated with other forms of international participation by USMNEs, including licensing to unaffiliated parties, subcontracting and franchising arrangements.

Even though USFDI has grown substantially during the 1980s, USMNEs' foreign affiliate employment has actually declined. Part of the explanation of this apparent anomaly is to be found in the rise of USFDI in the less labour-intensive service sector, the efforts to trim costs that have been forced on USMNEs by stiff international competition, and the fact that most of the USFDI during the 1980s has been financed by the reinvested earnings of foreign affiliates and not by new equity capital.

Total employment (domestic and foreign) of USMNEs has declined since 1977. Domestic employment has fallen at a far slower pace than that of foreign affiliate's, however, suggesting perhaps that USMNEs have been more willing to shed foreign rather than domestic operations. Of course, there are numerous possible explanations for this result, including differing economic growth rates and market opportunities among countries. In any case, the decline in USMNEs' domestic employment over the last decade has reduced their share of United States private sector nonagricultural employment from 28 percent to 21 percent. This result suggests that USMNEs have not created jobs at the same rate as purely domestic enterprises, although industry level detail is required before such a claim could be validated.

The manufacturing employment of USMNEs' foreign affiliates has declined at a faster rate than that of either their domestic manufacturing operations or United States manufacturing as a whole since 1977. From equalling 24.6 percent of United States manufaturing employment in 1977, the manufacturing employment of USMNEs' foreign affilates amounted to 21 percent in 1987. If the claim that USMNEs have heavily contributed to the "deindustrialisation" of America were true, it is doubtful that their foreign manufacturing employment would have declined relatively in such a manner.

FOREIGN DIRECT INVESTMENT IN THE UNITED STATES

A remarkable change in the United States international investment position has resulted from the massive inflow of foreign funds over the past fifteen years. It is by now trite to observe that, in the span of only a few years, the United States has gone from the world's leading creditor to the world's leading debtor nation. Much of the investment inflow (about 75 percent) has been of a portfolio nature. Still, the growth of foreign direct investment to the United States (FDIUS) has been very impressive: From 1975-85, the United States attracted an average 40 percent of the global flow of FDI. Direct investment inflow has more than tripled the share of foreign-owned companies in the United States since 1950, (Lipsey, 1987). Since 1978, the United States has become the country with the largest stock of foreign direct investment. Moreover, the inward investment trend in the 1980s, while varying, has shown little sign of abatement: Foreigners spent $60 billion to acquire United States firms in 1988, up from $34 billion in 1987 and only $7 billion in 1982.

Our knowledge of the extent of inward direct investment in the United States derives largely from the data collection activities of the Commerce Department's Bureau of Economic Analysis (BEA). The BEA data are without question the most comprehensive source of information on both inward and outward FDI, and their adequacy is highly rated, (Stekler and Stevens, 1989). BEA data are disseminated in the monthly Survey of current business, the May issue of which annually updates changes in foreigners' direct investment positions in the United States. The BEA is also by law entrusted to undertake a comprehensive survey of direct investment in the United States by sector, location, assets, employment, and investing country - country of the "ultimate beneficial owner," in BEA terminology. The most recent of these "benchmark surveys" was published in July 1989 and contains longitudinal data through 1987 on FDIUS. The findings are discussed in this section and, where possible, complemented by data from the International Trade Administration (Commerce Department) and other sources.

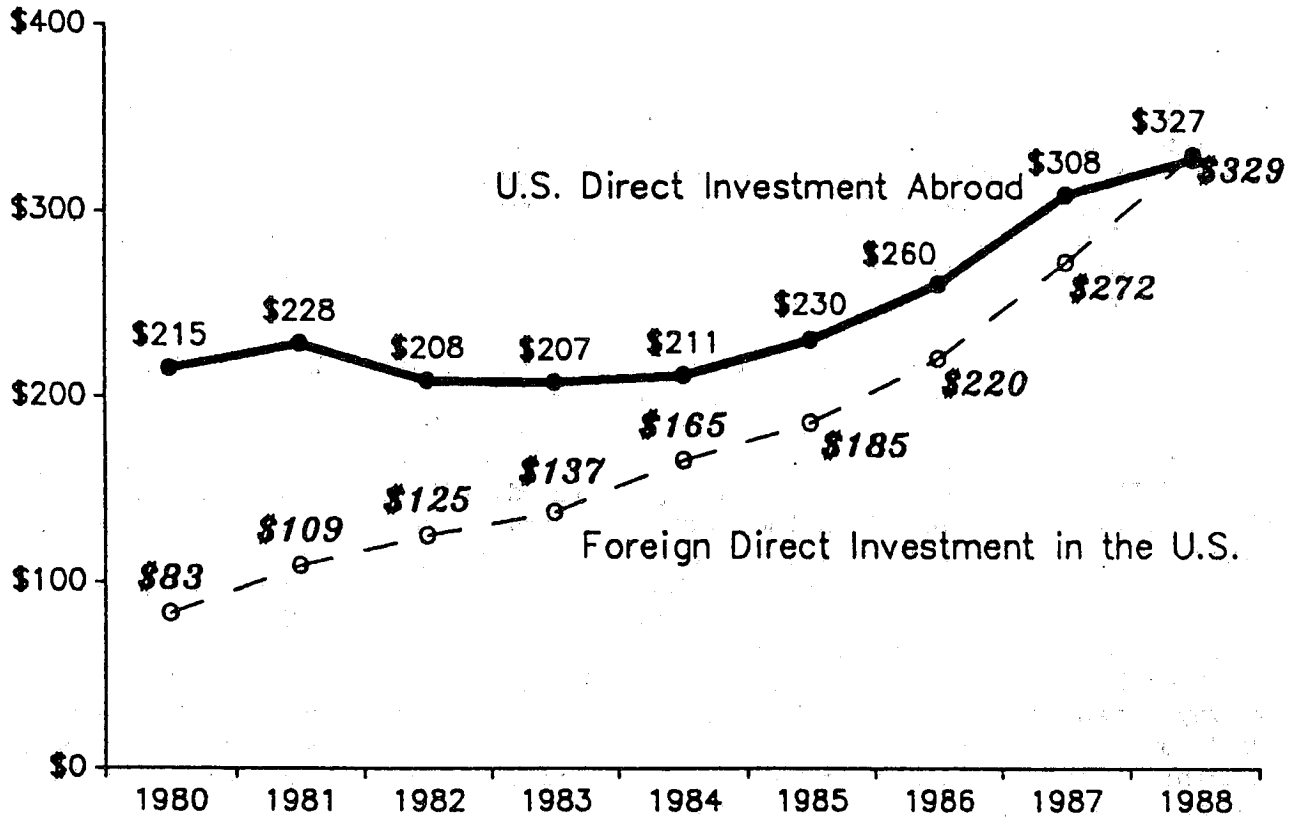
Characteristics of inward direct investment

The growth of FDIUS may be illustrated by several measures. The figures on the following pages show annual growth rates and trends in the cumulative stock of inward direct investment, and FDIUS as a percentage of total United States corporate assets. Another measure of the growth of FDIUS is to compare it with trends in USFDI, (see table 1). In 1988, for the first time, the stock value of inward direct investment in the United States exceeded that of USFDI. Finally, the importance of inward direct investment can also be illustrated in the growth of those employed by foreign-owned firms (figure 3).

One fundamental conclusion to draw from all these measures is that, although the trend in FDIUS markedly accelerated in the 1970s and 1980s, when compared with other measures of United States economic activity, FDIUS still accounts for a small share relative to other developed countries' experience. In other words, foreign direct investment has as yet nowhere near the economic significance in the United States that it has long had in many of the United States major trading partners in Canada and Europe. Thus, FDIUS still accounts for only a very small share of total corporate assets in the United States, and, although foreign-affiliated employment has grown sharply over the past 15 years, it remains only 3.6 percent of the United States labour force. Of course, these numbers say nothing of the concentration, both geographical

and industrial, of foreign direct investment in the United States and, of greater importance, they imply nothing of the policy significance of inward direct investment.

Figure 1. United States direct investment position, 1980 to 1988
(billions of dollars)



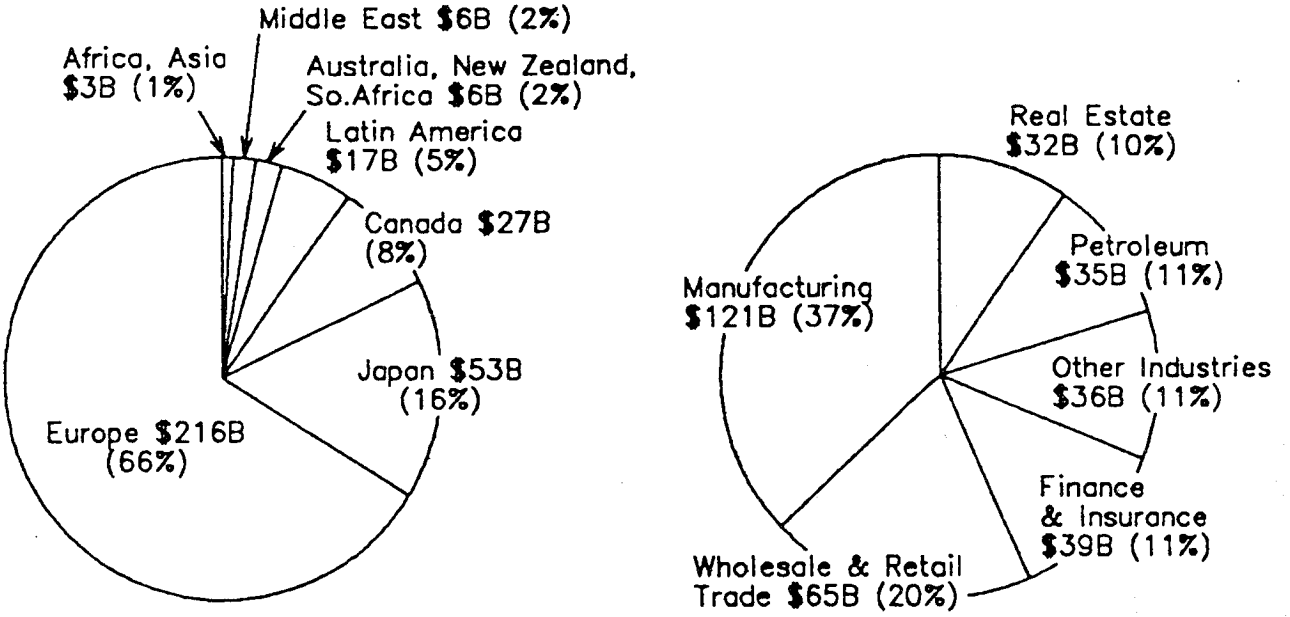
Source: United States Commerce Department data compiled by AFL-CIO, Multinational corporations (Washington, DC, AFL-CIO, 1989).

Stock (book value) of foreign direct investment in the United States as percent of assets of all United States' corporations

1950	0.6
1960	0.6
1966	0.5
1974	0.7
1977	0.7
1980	1.2
1982	1.5
1985	1.6

Source: Robert Lipsey: Changing patterns of international investment in and by the United States, National Bureau of Economic Research Working Paper No. 2240, May 1987, p. 47.

Figure 2. Foreign direct investment position in the United States by country and industry in 1988 (billions of dollars)



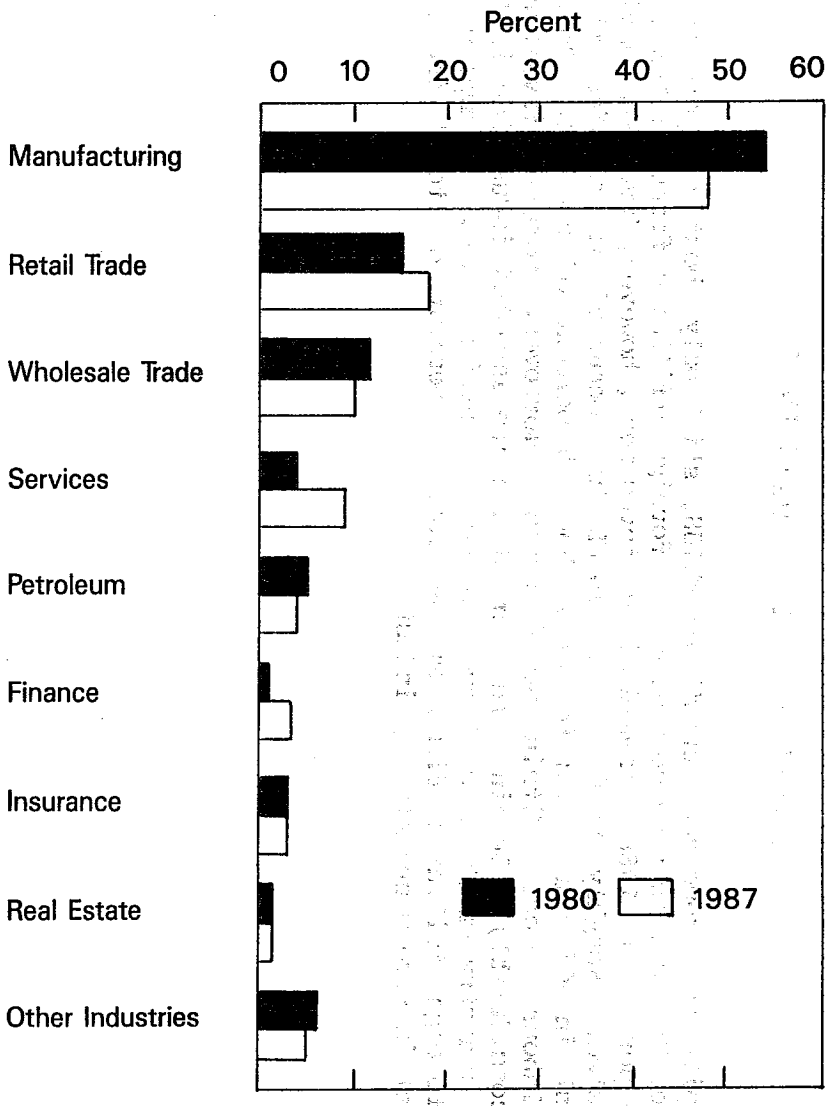
Total $329 Billion

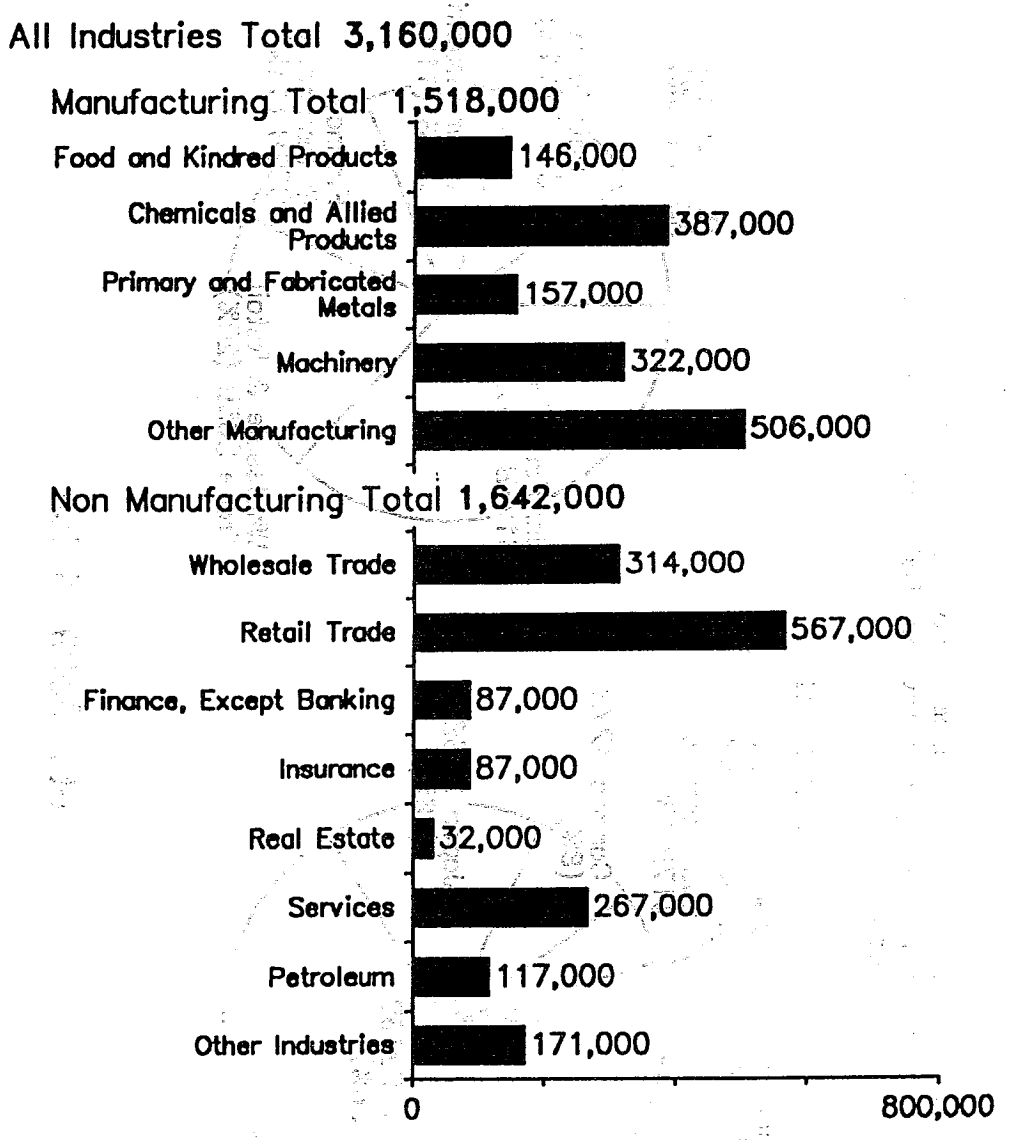
Source: Department of Commerce, data cited in Multinational corporations, (Washington, DC, AFL-CIO, 1989).

The sectoral composition of FDIUS

Despite the pronounced growth of FDIUS, still only about 3.6 percent of the United States labour force worked for foreign-affiliated firms in 1987, up from 3.5 percent in 1986. Inward direct investment, however, has been heavily concentrated. Roughly half of all FDIUS has occurred in manufacturing, employment in which accounts for only about 15 percent of the total United States labour force. Within manufacturing, moreover, foreign investment varies considerably. Leading the list of foreign-invested industries is the chemical industry which is well over 30 percent foreign-owned. In employment terms, foreign-affiliated firms employ over 10 percent of total industry employment in five manufacturing industries.

Figure 3. Foreign-affiliated employment: Distribution by industry in 1980 and 1987





U.S. Department of Commerce, Bureau of Economic Analysis

Note: Employment data exclude banking.

Source: Department of Commerce. Cited by N.G. Howanstine in Survey of current business, July 1989.

FDIUS continues to be highly concentrated in manufacturing, although that sector's relative share has declined since 1980 when it represented 54 percent of foreign-affiliated employment. The major cause of this relative change in the sectoral composition of FDIUS has been the increase in foreign direct investment in the retail trade and service industries, such as department stores and hotels. However, the share services remains small and this relatively lower share of foreign direct investment in the services may derive from the greater barriers to cross-frontier transfer of service firms, rather than goods-producing firms, which may result from the more pronounced competitive advantage of domestic firms in the service industries, e.g., their greater cultural or legal knowledge of the domestic environment (Lipsey, 1987). Service industry employment by foreign affiliates in the 1980s grew at a slower rate than domestic service industry employment. The opposite is true for foreign-affiliated manufacturing employment which grew at a greater rate than domestic manufacturing employment.

Table 13. Assets and employment by sector of foreign direct investment to the United States

Sector	Assets (millions $)	Employment ('000s)
Petroleum	80 129	116.6
Manufacturing	218 413	1 517.5
Wholesale trade	97 382	313.7
Retail trade	27 303	567.4
Finance (non-bank)	269 641	87.0
Insurance	110 089	87.2
Real estate	65 008	32.0
Services	29 483	267.1
Other industries	28 594	171.3

Source: United States Department of Commerce, 1987 Benchmark Survey Preliminary Results, July 1989.

The BEA does not collect data on foreign presence in the banking industry. Since 1978, however, when the International Banking Act extended to foreign banks rights and protections similar to domestic banks, FDIUS in banking has increased strongly. Although not very significant in employment terms, foreign bank presence in the United States surpassed that of United States banks abroad in asset terms in 1986. The Japanese presence in the United States banking industry is five times as great in asset terms than those of the next largest, Canada and the United Kingdom. To the extent that the presence of foreign banks is highly correlated with FDI activity, the increase in foreign banking is of great significance, (Goldberg and Grosse, 1988).

As the table below illustrates, the concentration of FDIUS varies considerably within manufacturing. At 7.3 percent, the relative employment share of FDIUS in manufacturing is double the average for all industries, but is above ten percent in five industries. In some industries, such as chemicals, foreign ownership is long established, whereas in others, such as

motor vehicles, foreign direct investment is more recent. As discussed further in the employment effects section, the combination of the concentration of FDIUS and its rate of growth are behind the heightened public interest in inward direct investment.

Table 14. Employment in foreign-affiliated firms in United States manufacturing industries as a percentage of total United States employment by manufacturing industry

Industry	Employment ('000s)	% of all US employment in the industry
All industries	3 160	3.6
Manufacturing	1 399	7.3
Petroleum and coal products	64	39.5[a]
Chemicals and allied products	241	23.5
Stone, clay, and glass products	72	12.3
Primary metal industries	87	11.8
Instruments and related products	74	10.7
Electric and electronic equipment	194	9.3
Food and kindred products	143	8.8
Rubber and plastic products	54	6.5
Paper and allied products	44	6.4
Machinery, except electrical	118	5.8
Printing and publishing	77	5.0
Fabricated metal products	57	4.1
Textile products	23	3.2
Motor vehicles	55	6.5
Other	87	2.9

[a] The foreign employment share in the petroleum industry is greatly overstated as the foreign data include employment in all phases of the industry from extraction and refining to marketing, whereas the employment data for domestic firms include just extraction and refining. When adjusted, the foreign share in the industry is about 19 percent.

Source: United States Department of Commerce, 1987 Benchmark Survey Preliminary Results, July 1989.

The regional dispersion of FDIUS

The location of inward direct investment has important policy implications. United States states compete for foreign investment often by aggressively marketing their respective territories as well as by offering tax and other financial advantages. Several states seek through incentives to direct foreign investment to areas in greatest need of economic growth and indeed it is likely that Americans view foreign investment most favorably when it revitalizes or "reindustrializes" declining regions.

Industrial employment by region

Do patterns of foreign direct investment on the regional level mirror the overall industrial concentration of FDIUS? The three tables below provide a glimpse of the geographical concentration of FDIUS on an industry-by-industry basis. Data of two sorts are illustrated: First, the percentage of regional foreign-affiliated employment by industry can be matched against the region's total foreign-affiliated employment; Second, the regional industry's employment share can be compared with the national average of foreign-affiliated employment in that industry. Both approaches represent approximate measures of the geographical concentration of foreign-invested industries.

Table 15. Industrial employment by region (in thousands)

Region	Total	Petro-leum	Mftg	Chemi-cals	Whole-sale	Retail	Finance	Services
New England	200.7	2.0	91.2	15.5	17.3	39.1	6.0	17.3
Mid-east	735.2	13.2	306.6	87.9	70.6	134.8	42.0	70.6
Great Lakes	512.0	11.4	299.5	49.5	46.6	70.6	8.7	24.7
Plains	137.7	5.6	68.8	16.5	11.8	29.1	1.8	7.9
South-east	788.7	19.7	403.1	115.7	74.5	165.6	11.0	44.8
South-west	290.5	29.1	115.2	33.7	20.0	62.3	3.6	29.3
Rocky Mtns	53.1	3.4	24.3	4.8	4.2	5.3	1.6	2.9
Far-west	393.8	11.3	163.8	28.8	63.9	43.4	11.9	55.0

Source: United States Department of Commerce, 1987 Benchmark Survey Preliminary Results, July 1989.

In the tables below, there is clear evidence of the "clustering" of industries by region. For example, manufacturing accounts for 48 percent of foreign-affiliated employment nationwide. In the Great Lakes, plains, and south-eastern states, however, manufacturing's share in regional foreign-affiliated employment is higher than the national average. In the Great Lakes states, over 58 percent of foreign-affiliated employment is in manufacturing, and, while these states account for 16.2 percent of all foreign-affiliate employment in the United States, they account for 19.7 percent of all the foreign-affiliated manufacturing jobs.

There are several possible reasons for locational concentration by industries, but some of the findings in these tables are not difficult to explain. For example, it is not surprising that non-bank finance employment appears to be concentrated in the mid-eastern and, to a lesser extent, the far-west states, given the importance of the financial centres of New York and California. Nor is it surprising that 25 percent of foreign-affiliated employment in petroleum is located in the south-west, a region accounting for only 9.2 percent of all foreign-affiliated employment but which includes the large, oil-producing state, Texas.

Similarly, the high percentage of foreign-affiliated employment in the chemical industry in the mid-eastern and south-eastern states is undoubtedly a reflection of the industry's concentration in New Jersey and Delaware, as well as in Louisiana. (That concentration, moreover, is understated as data on foreign-affiliated employment in the chemical industry in Delaware are by law suppressed for reasons of confidentiality.) Employment in the wholesale trades is disproportionately high in the Far West, the location of many Japanese distribution centres. The Paperwork Reduction Act allowed foreign firms to consolidate data reporting on the basis of their principal affiliates in the United States. Since many of these wholesale distribution centres in turn own manufacturing outlets, much of the employment registered as within the wholesale industry is, in fact, manufacturing employment. This may explain manufacturing's lower than national average in the Far West states.

Table 16. Foreign industrial employment by region as a percentage of total foreign-affiliated employment in industry

Region	Total (%)	Petro-leum (%)	Mftg (%)	Chemi-cals (%)	Whole-sale (%)	Retail (%)	Finance (%)	Services (%)
Total		3.7	48.0	12.2	9.9	18.0	2.8	8.5
New England	6.4	1.7	6.0	4.0	5.5	6.9	6.9	6.5
Mid-east	23.3	11.3	20.2	22.7	22.5	23.8	48.3	26.4
Great Lakes	16.2	10.1	19.7	12.8	14.9	12.4	10.0	9.2
Plains	4.4	4.8	4.5	4.3	3.8	5.1	2.1	3.0
South-east	25.0	16.9	26.6	30.0	23.7	29.2	12.6	16.8
South-west	9.2	25.0	7.6	8.7	6.4	11.0	4.1	11.0
Rocky Mtns	1.7	2.9	1.6	1.2	1.3	1.0	1.8	1.1
Far-west	12.5	9.7	10.8	7.5	20.4	7.6	13.7	20.6

Source: Adapted from United States Department of Commerce, 1987, Benchmark Survey Preliminary Results, July 1989.

Table 17. Foreign industrial employment by region as percentage of total foreign-affiliated employment in industry

Region	TOTAL (%)	Petro-leum (%)	Mftg (%)	Chemi-cals (%)	Whole-sale (%)	Retail (%)	Finance (%)	Services (%)
Total		3.7	48.0	12.2	9.9	18.0	2.8	8.5
New England	6.4	1.0	45.4	7.7	8.6	19.5	3.0	8.6
Mid-east	23.3	1.8	41.7	12.0	9.6	18.3	5.7	9.6
Great Lakes	16.2	2.2	58.5	9.7	9.1	13.8	1.7	4.8
Plains	4.4	4.1	50.0	12.0	8.6	21.1	1.3	5.7
South-east	25.0	2.5	51.1	14.7	9.4	21.0	1.4	5.7
South-west	9.2	10.0	39.7	11.6	6.9	21.4	1.2	10.1
Rocky Mtns	1.7	6.4	45.8	9.0	7.9	10.0	3.0	5.5
Far-west	12.5	2.9	41.6	7.3	16.2	11.0	3.0	14.0

Source: See table 16.

The geographical dispersion of foreign-affiliated employment

In addition to the question of industrial concentration, it is also of interest to know whether foreign-affiliated employment mirrors the regional employment dispersion in the United States economy. As the two tables below illustrate, the location of FDIUS tends more or less to conform to the domestic economy's employment and population patterns. Thus, in employment terms, the highest numbers of foreign-affiliated employment are to be found in the states with the highest overall employment, such as California, New York, and Texas. The degree to which FDIUS in employment terms deviates on a state-by-state basis from the overall national average of 3.6 percent of the labour force can be seen in the table below. As shown, foreign-affiliated employment in New Jersey, North Carolina, and Georgia is slightly higher than the national average, and slightly lower in, for example, California and Florida. In almost no state does foreign-affiliated employment account for over 10 percent of total state employment. The exception (at 12.2 percent of total state employment) is Delaware, and this is mostly due to the concentration of foreign-owned chemical companies, and more specifically, to Dupont de Nemours, in which a Canadian investor has a minority-ownership stake.

Table 18. Foreign-affiliated employment: Rank order by top ten states (1987)

State	Employment ('000s)	As % of total state employment[a] (%)
California	324.2	2.9
New York	300.1	3.8
Texas	207.6	3.2
New Jersey	169.3	4.9
Pennsylvania	168.5	3.5
Illinois	166.1	3.5
North Carolina	132.9	4.9
Ohio	132.2	3.0
Georgia	117.7	4.4
Florida	116.8	2.5

[a] The denominator used is private, non-farm employment by state.

Source: United States Department of Commerce, 1987 Benchmark Survey Preliminary Results, July 1989, and state employment data from the United States Department of Labor's Employment and Earnings series, 1987.

Below, patterns in foreign-affiliated employment are displayed on the more aggregated, regional level. Here as well, the foreign employment picture departs only slightly from overall employment trends in the economy. New England, for example, employs 6.3 percent of the nation's labour force, and 6.4 percent of all foreign-affiliated employment in the United States. Almost half of all foreign-affiliated employment is located in the mid-east and south-eastern states, a fact explained in part by the regions' contiguity to Europe, the long-standing and largest source of inward direct investment. In each of these regions, foreign-affiliated employment stands slightly above regional employment ratios. On the other hand, foreign direct investment as measured in employment terms is below the national average in the plains and Rocky Mountains states.

Table 19. Foreign-affiliated employment by United States region (1987) as percentage of total regional employment

Region	Employment	As % of regional total	Region as % national total	Region as % of FDIUS employment
New England	200 700	3.2	6.3	6.4
Mid-east	735 200	3.9	19.3	23.3
Great Lakes	512 000	3.0	17.3	16.2
Plains	139 600	1.9	7.3	4.4
South-east	788 700	3.5	22.6	25.0
South-west	290 500	3.0	9.7	9.2
Rockies	53 100	1.9	2.9	1.7
Far-west	393 800	2.7	14.7	12.5

Source: See table 18.

A regional pattern based on country of ownership also characterises FDIUS. The German investment has been concentrated on the east coast (both the south-east and the mid-east states), and Japanese investment is comparatively high in the far west. The Canadian direct investments appear to be the least regionally concentrated; that is, the most dispersed. Market and industry factors aside, historical and cultural factors play a role in the location of FDIUS. The closest and culturally "least foreign" investing nation, Canada, is also the least concentrated geographically, (Little, 1986). Increasingly, moreover, European investment is spreading westward, and Japanese investment is spreading from west to east (Glickman and Woodward, 1989).

Table 20. Regional concentration of employment by country of foreign ownership

Region	Canada (%)	Fed. Rep. of Germany (%)	Japan (%)	All FDIUS (%)
New England	7.0	7.0	4.4	6.4
Mid-east	18.5	26.9	21.0	23.3
Great Lakes	15.3	13.7	18.0	16.2
Plains	6.3	3.4	1.8	4.4
South-east	28.7	26.2	14.8	25.0
South-west	8.2	8.6	3.9	9.2
Rocky Mountains	1.9	0.5	0.6	1.7
Far-west	8.7	9.3	27.2	12.5

Source: Adapted from United States Department of Commerce, 1987 Benchmark Survey Preliminary Results, July 1989.

Although foreign investment in manufacturing accounts for slightly less than half of all FDIUS, the respective share of manufacturing in total FDIUS from the major investing countries is on average higher than manufacturing's share in total FDIUS. This amounts to a rudimentary gauge of the competitive advantage of these countries in manufacturing. Investment by the Federal Republic of Germany or the United Kingdom in the chemical industry, for example, or French and Dutch investment in electrical and non-electrical machinery reveal on a more industry-specific basis foreign national strengths in manufacturing. The Dutch investment in the petroleum industry, while significant, is not revealed by the Commerce Department data as the investment comes overwhelmingly from one company. For a different reason, noted earlier, the Japanese advantage in the automobile and parts industries is not revealed in the table: Japanese ownership of United States subsidiaries in these industries is largely via their distribution subsidiaries, and thus appears as "wholesale trade" ownership. The manufacturing share of Japanese FDIUS is thus considerably understated in the data.

Table 21. Concentration in manufacturing by major country of direct investment as measured by employment

Industrial sector	Canada (%)	France (%)	Fed. Rep of Germany (%)	Netherlands (%)	United Kingdom (%)	Japan (%)
Petroleum	0.6	5.3	0.3	n.a.	7.1	0.15
Manufacturing	46.1	58.7	53.8	34.7	60.3	28.7
Food	3.5	4.1	0.3	n.a.	8.5	1.2
Chemicals	n.a.	6.3	20.7	n.a.	14.1	2.6
Prefabricated metals	5.5	2.3	5.0	0.7	2.8	6.2
Non-electrical machinery	1.2	19.5	3.5	19.7	2.6	6.2
Elec. machinery	4.5		9.7		5.5	3.6
Autos & parts	5.9	n.a.	0.7	0.0	1.2	2.6

Source: Adapted from United States Department of Commerce, 1987 Benchmark Survey Preliminary Results, July 1989.

Although having increased their share considerably since 1980, inward direct investment in the service industries trails that of manufacturing. For a few reasons, among which the more intricate regulatory environment pertaining to many of the service industries and the more culturally bound sources of competitive advantage in those industries, foreign penetration of the domestic market remains less significant.

FDIUS and international trade

The multinational company's role in the much discussed globalisation of production markets increasingly has meant that transactions between multinational firms and their foreign subsidiaries has added substantially to the overall growth in United States trade (Lipsey, 1987). Trade flows between foreign parents and their United States subsidiaries amounted to almost $190.5 billion by the end of 1986. Of this total, almost three-quarters (73.8%) were imports from foreign sources to the United States affiliate, while the remainder were United States affiliate exports. In addition, 75.5% of total imports to the United States affiliates were from the affiliates' foreign parents. More than two thirds (69%) of imports to United States affiliates were in the form of goods for resale without further manufacture. Trade by foreign-affiliated firms is shown in the table on the following page.

The $141 billion of imports to foreign affiliates in the United States in 1987 amounted to approximately one-third of all imports to the United States that year. It appears that most foreign direct investors acquire most of their parts and supplies from United States-based sources, and do not for the most part use their United States locations as an export base to other countries. Also, the overwhelming evidence is that foreign firms in the

United States are here primarily to exploit the large domestic market. Nevertheless, the FDIUS-induced trade imbalance is a significant portion of the United States overall trade imbalance.

Japanese investors depart from other national patterns. As the table reveals, almost half of the total imports to United States affiliates from all foreign sources are accounted for by Japanese-owned affiliates. Of this total, 82.1 percent of the Japanese-owned, United States affiliates' imports are from the parent companies in Japan. Discussion returns to this issue in the section on the indirect employment effects of FDIUS. Less well-known, however, is the fact revealed in the table that Japanese-owned, United States affiliates account for over 40 percent of total exports from foreign-affiliated firms in the United States.

Table 22. Imports and exports by country of ownership as a percentage of total imports and exports of foreign-affiliated firms in the United States

Country	Imports (%)	Exports (%)
Canada	5.3	8.1
Germany, Federal Republic of	11.5	4.3
United Kingdom	3.5	5.6
Netherlands	0.7	2.2
Japan	48.6	40.8

Imports and exports by industry as a percentage of total foreign trade by foreign-affiliated firms in the United States

Industry	Imports (%)	Exports (%)
Food	4.9	20.6
Beverages	1.0	1.8
Non-fuel crude	2.8	11.5
Petroleum	7.3	4.6
Coal	0.0	2.7
Chemicals	4.8	16.2
Machinery	24.5	14.7
Road vehicles and parts	33.8	1.5
Other transport equipment	0.6	1.6
Metal manufacture	11.4	11.6

Source: Adapted from United States Department of Commerce, 1987, Benchmark Survey Preliminary Results, July 1989.

Taken together, the tables above are suggestive of volume of imports attributable to the United States affiliates of Japanese auto firms.

Summary

FDIUS represented about one half of one percent of the book value of total United States corporate assets from 1950 until 1966 and then tripled in the 20-year period thereafter, doubling in the eight-year period from 1977 to 1985. Total assets of FDIUS were $926 billion in 1987.

As a percentage of USFDI, foreign direct investment in the United States has grown from 28.8 percent of book value in 1950 to surpass USFDI in 1988.

Foreign-affiliated employment in the United States represented 1.6 of the private, non-agricultural workforce in 1974 and grew to 3.6 percent of the domestic workforce in 1987, or about 3,160,000 employees.

Manufacturing accounted for 48 percent of all foreign-affiliated employment in the United States in 1987. This represented a decline from 54 percent in 1980, but still means that foreign-affiliated employment is heavily concentrated, as only 15 percent of the United States workforce is in manufacturing. 7.3 percent of all domestic employment in manufacturing is foreign-affiliated. In five manufacturing industries, foreign-affiliated employment represents more than 10 percent of industry totals.

The decline in the relative share of manufacturing in the 1987 data on foreign-affiliated employment is accounted for by increases in foreign-affiliated employment in the retail trade, services, and (non-bank) finance industries.

In employment terms, the United Kingdom and Canada account for the largest shares of foreign investors, with 20 percent and 19 percent, respectively. The Federal Republic of Germany is next with 12 percent, followed by Japan with a 9 percent share of total foreign-affiliated employment. Canada, Japan, and Australia showed the greatest increases over 1980.

In asset terms, Japan has shown the largest increase and, with $196 billion at the end of 1987, became the largest direct investor in the United States overtaking the United Kingdom and Canada. Most of the increase in Japanese assets were concentrated in (non-bank) finance.

The mid-eastern and south-eastern states account for about one half of all foreign-affiliated employment. In general terms, the concentration of foreign-affiliated employment does not differ substantially from regional employment patterns in the economy as a whole. The most populous states tend also to be those with the highest numbers of foreign-affiliated employment. In only one state, Delaware, is foreign-affiliated employment as a percentage of total state employment above 10 percent.

The location of FDIUS shows patterns relating to the national origin of the investor: European investment is higher on the East Coast, and Japanese investment, on the West Coast. Canadian FDIUS is the least concentrated geographically.

The location of FDIUS appears in varying degrees concentrated by industry: a relatively high concentration in manufacturing in the Great Lake states, a higher than average concentration of non-bank finance in New York and California, of the chemical industry in New Jersey, Delaware, and Louisiana, and of the petroleum industry in Texas.

Exports from United States subsidiaries declined in 1987 over 1980, and imports to United States subsidiaries increased by almost 40 percent. United States subsidiaries' imports accounted for a third of total imports to the United States in 1987. Most countries' affiliates source domestically for the most part, and primarily serve the United States market. Japanese direct investment is the exception, substantially leading other foreign investors in both imports and exports.

THE THEORY OF FOREIGN DIRECT INVESTMENT

Theoretical interest in foreign direct investment coincided in the 1960s with the expansion of United States multinational companies abroad. Much of the theoretical and empirical work on FDI in the sixties and early seventies, therefore, focused on the experiences of United States multinationals in the global economy during the period of post-war American economic hegemony. For some researchers, this bias has distorted theory construction. The theory of Japanese FDI, for example, may not conform to the paradigms accepted for United States firms (Kojima, 1978). Foreign affiliates in the United States may not show the same characteristics as United States affiliates abroad (Lall and Siddharthan, 1982).

Although it remains true that the United States as host country is under-researched, most of the literature attaches little importance to a potential United States bias in characterizing FDI. Both theoretical and empirical work has tended to confirm the "industrial organization" paradigm that has guided multinational theory construction since Hymer's (1960) seminal distinction in theory between direct and portfolio investment (see, for example, Kim and Lyn, 1987; or Yu and Ito, 1988). In the industrial organization literature, the existence of market imperfections is assumed to favour multinational companies in oligopolistic industries. These market imperfections may provide countervailing advantages to firms so that they may overcome their disadvantage as foreigners to serve a foreign market through direct investment rather than by exporting or some other means of market entry.

One well-known theory of FDI is the product life-cycle (PLC) theory associated with Vernon (1966). It postulates that investment and trade flows and thus the location of production are largely determined by the technological stages through which products evolve. As a product moves from the introductory phase where technology is new, production techniques are constantly changing, and skilled labour is demanded, an enterprise's strategy for servicing foreign markets will shift from home-country exporting to foreign production for the local market and, finally, to foreign production for export to third-country markets. The PLC theory has provided plausible explanation for much of USFDI in the developed countries up to the 1970s. But the theory may have less explanatory value in a world characterized by the growth of FDI from other countries, rapid technological change, and greater speed of knowledge dissemination (Arndt and Boulton, 1987).

Competing theories, often variants of the industrial organization approach, have arisen since the 1970s. Theorists have focused on the various advantages of internalization (Teece, 1985), international portfolio diversification (McCullough, 1983), oligopolistic reaction (Flowers, 1976) and location (Dunning, 1981). No approach has been conceptually broad enough to take in the whole universe of international direct investment, hence the attractiveness of Dunning's "electic theory" of FDI. The electic theory combines elements of firm, international trade, industrial organization and location theory, to arrive at what is today the most comprehensive explanations of FDI. In brief, a firm's decision to produce overseas is conditioned by firm-specific ownership advantages (tangible and intangible assets, including process and product technology, managerial and marketing skills, market access), internalization advantages (ability to bypass imperfect external markets for intermediate goods and knowledge by internalizing them within the firm), and country-specific location advantages (factor costs, market size, government policies, raw material access, political conditions). The theory seeks to explain the bases of competition among firms, the choice of FDI over some other form of market servicing, and differences in comparative advantages among countries.

Theory and USFDI

USFDI has historically been undertaken to gain access to supplies of mineral resources and agricultural products in the developing world and to serve more effectively host-country markets that are either closed to exports or highly competitive, primarily in the Western developed countries and in Latin America. In the former case, United States firms have exploited their firm-specific advantages in technology, access to capital, and vast distribution networks in other markets. In the latter, the firm-specific advantages have largely been superior product and process technologies, and managerial and marketing expertise. Traditional, resource-based USFDI has for obvious reasons declined since the 1970s, and to a lesser extent so too has foreign production intended solely for the host-country market.

For much of the post-war era, United States firms have first exported and eventually invested directly. More recent international investment activities deviate from this pattern, however. With the rise in research and development costs and the shortening of technological lead times, United States firms in advanced technology industries have forged global strategies designed to penetrate the world's largest markets simultaneously and, as a consequence, bypass the exporting phase altogether. Facilitated by improvements in transportation efficiencies and communication technologies over the last two decades, and spurred by foreign competition, there has also been a shift in the purpose of USFDI towards the establishment of integrated worldwide or regional production networks.

The characteristics of this international production strategy include vertical organization, product specialization by affiliates, and intra-firm trade. The strategy's intent is to capture the economies of integration and diversification across national boundaries. From a theoretical standpoint, United States firms are internalizing intermediate product trade and exploiting country differences in variable costs, most importantly labour. United States firms have also been at the forefront of what the OECD calls "new forms of international investment", such as franchising, turnkey contracts, management services, and international subcontracting.

FDIUS: Theory and evidence

Why the relatively recent attractiveness of the United States as a host country for FDIUS? Clearly part of the answer has been the "natural" growth of the international economy. The post-war domination of United States multinationals has given way to the growth of other economies and, more recently, to the increased share of foreign multinationals in the world economy. Indeed, United States multinationals reached a level of "relative maturity" (Lipsey, 1987) in the late 1960s, a period when new equity abroad of United States multinationals peaked. Thereafter, reinvested earnings accounted for a greater share of the increases in USFDI. Multinationals from other countries, meanwhile, have not yet slowed their expansion via direct investment in global markets.

Research on FDI has difficulty in distinguishing industry- from firm-specific advantages (Kahley, 1987), but, again, it is commonly held that the possession of firm-specific advantages is a requisite of direct investment and that such advantages are frequently associated with large firms in oligopolistically structured industries. For United States affiliates of foreign firms, McClain (1983) found positive correlations between the size of a firm's share relative to total industry output, and of the industry's share in national output. Kahley's (1987) analysis of Census Bureau data similarly found that FDIUS in manufacturing tended to occur in oligopolistic industries

and that foreign firms' interest in obtaining raw materials has been a declining motivation for inward direct investment since the early 1970s.

Flowers' (1976) research found support for the importance of oligopolistic reaction in explaining FDIUS: investments by Canadian and European firms tended to be characterised by both an "exchange of threats" and a "follow the leader" behaviour. Yu and Ito (1988) also found support for the oligopolistic reaction hypothesis in the tyre and textile industries in the United States. Using data compiled in the mid-1970s, only Lall and Siddharthan noticed a qualitatively different pattern in FDIUS compared to United States firms abroad. In particular, their study found that foreign firms in the United States tended to avoid highly concentrated, oligopolistically structured industries. These findings, however, are overwhelmed by most of the literature that finds FDIUS conforming to the industrial organization paradigm.

Features of the United States as a host country appear to fit Dunning's electic theory quite well. These features include the United States large and affluent market, access to high technology, political stability and favourable investment climate. The United States Government puts comparatively few constraints on inward investment, a point that will be taken up in the study's discussion of foreign investment policy. More recent factors may include domestic protectionist pressure resulting from international trade, which may have given a "tariff-hopping" motivation to some foreign investors.

The weakened dollar since 1985, particularly relative to some currencies such as the Japanese yen, has reduced the price of United States assets. Although there appears to be no clear correlation between trends in FDIUS and exchange rate fluctuations (Ray, 1989), the value of the dollar may affect the timing of foreign investments, particularly given the large stock of foreign portfolio investments in the United States. The literature concerned by the increase in FDIUS concludes that macroeconomic policy in the 1980s has resulted in the inward flow of investment. The initial years of high interest rates attracted foreign holding of United States debt, which was then converted to foreign purchases of assets with the decline of the dollar -- a "debt for equity swap" on a national scale (in the view of Glickman and Woodward, 1989).

THE DOMESTIC EMPLOYMENT CONSEQUENCES OF USMNEs

Over the past 40 years the American economy has become more closely integrated into the international economic system as reflected in the increasing importance to domestic growth and employment creation of international trade and investment flows. As a proportion of GNP, American exports and imports combined and USFDI have both risen consistently since 1970. Greater integration of the United States and the world economies has in part been spurred by the internationalization and (more recently) globalization of United States enterprises. USMNEs have affected trade and investment flows to and from the United States through their international production strategies and decisions on where to locate production facilities. Although traditional foreign direct investment has been and remains their principal form of international participation, USMNEs' use of licensing, joint venture, production sharing, and franchising strategies has grown in the 1980s.[8]

Concurrent with and engendered by the rapid expansion of USFDI since 1950, and the increasing proportion of USMNEs' worldwide sales accounted for by foreign production, was debate over USMNEs' effects on the American economy among labour and business groups and academics. Initially focused on USFDI's ramifications for the balance of payments in light of the heavy outflow of capital during the 1960s, the debate has periodically shifted to encompass other issues, such as employment and technology, that have mirrored the problems confronting the United States economy and/or interest groups at any particular time. That employment issues have been at the forefront of the more recent debate over the effects of USFDI on the national welfare has been assured by the higher unemployment that has characterized the United States economy for much of the past two decades. Reinforcing this have been the structural imbalances and related sharp employment losses that have arisen in numerous basic industries such as automobiles, steel, textiles, furniture, and shipbuilding owing to declining domestic demand, the introduction of new technologies, and stiff foreign competition from developing and developed countries alike.

Heightening the concern are some analysts who have implicated USFDI (the authors believe incorrectly) as being a major contributor to the so-called de-industrialization of America and the "hollowing" of American manufacturing enterprises, and consequently to the purported erosion of high-wage manufacturing jobs.[9] This argument derives from the belief that labour-intensive manufacturing operations are being relocated to low-wage countries as part of MNEs' production strategies, and that in the process a new international division of labour is being created. Finally, the numerous international joint venture and licensing agreements entered into by USMNEs during the 1980s have been criticized for their supposed imprudent transfer of technology and failure to ensure that complex manufacturing tasks are undertaken in the United States. It should be noted that although employment effects remain at the forefront of discussion of USMNE, the public debate on USMNEs has in general muted over the last decade.

General observations

Because of the complexity of the matter, the lack of agreement concerning the assumptions underlying the counterfactual analysis of what would have happened in the absence of the foreign direct investment, and the inevitable intrusion of politics, there is no generally accepted position on USFDI's domestic employment effects. Neither is there agreement as to the employment effects flowing from USMNEs' other forms of international investment, such as

licensing, joint ventures, and franchising. Although foreign direct investment has been and remains the primary vehicle by which USMNEs undertake foreign production, other forms of international participation have assumed increasing significance in recent years. Each involves a unique mix of the traditional elements of the foreign direct investment package (i.e. capital, technology, management expertise, access to markets), and therefore an analysis of USMNEs quantitative and qualitative effects on domestic employment must include an examination of each one. Most of the theoretical work to date has focused, however, on the direct investment mode of international participation, and more specifically on the question of the displacement of exports by the production of foreign affiliates. As a result there is not only a relative dearth of information, but also of conceptual frameworks for measuring the employment effects of alternative forms of international participation. Nevertheless, we will identify the pertinent issues and where possible suggest the probable direction of such effects.

Looking at the employment question from a sectoral perspective, the focus of enquiry has been on manufacturing USFDI and not on USFDI in the primary or service sectors. This is understandable given that the primary sector in the United States is capital-intensive and there are usually no competitive domestic investment alternatives to locating activities abroad (i.e. oil extraction). If one accepts this line of reasoning, then the resulting tendency of processing facilities to be located in final consumer markets (i.e. in the United States) implies an overall increase in domestic manufacturing employment as a consequence of the original decision to invest abroad in the primary sector. However, this would not be the case if the final consumer market where the oil was refined were to be Amsterdam. Foreign investment in the service sector did not receive much attention until recently owing to its small quantity relative to total USFDI. Since the 1970s, USMNEs' foreign investment and foreign affiliate employment in services has expanded more rapidly than that of any other industry as the need and opportunity to service USMNE clients and local markets manifested itself. Therefore, its home-country employment effects are generally assumed to be limited because the market could not be served by domestic operations either because of local competition or the necessity of being present in the market.

Manufacturing USFDI has thus been closely scrutinized as to its domestic employment effects. A majority of manufacturing USFDI has flowed to Western industrialized nations and selected developing countries, and has been motivated by a market-serving rationale that seeks to access markets that would otherwise be closed by barriers to exports and other government regulations or by competitive pressure. This USFDI is not competitive with but complementary to home-country production and as such cannot be considered employment displacing. During the last two decades, the growth of worldwide or regionally integrated production systems based on global sourcing, and the use of offshore assembly and processing facilities as export platforms to home- or third-country markets have somewhat shifted the traditional local-market serving character of USFDI. The domestic employment implications of these new international production strategies is less clear and more controversial than that related to serving the local market. Of particular interest here is the effect of offshore assembly plants on employment in the production of goods or services for the local market.

USMNEs' international activities can quantitatively and qualitatively affect domestic employment either by displacing or stimulating domestically produced goods or services. Both negative and positive direct and indirect quantitative effects are plausible depending on the assumptions one makes. For example, net direct employment loss could occur if a foreign affiliate's production displaces that of the parent enterprise intended for export or local consumption; and if so, the indirect effects would then spread

throughout the industries supplying goods and services (transportation and transactions in particular) to the parent enterprise. But for this analysis to hold true two critical and questionable assumptions must be made: 1) there is no compensating increase in parent or home-country exports of intermediate or finished goods or services to the foreign affiliate; and 2) in the absence of the foreign direct investment, the parent enterprise would have remained competitive and maintained or increased its market share. The research efforts reviewed by the authors do not suggest that in most cases either of these assumptions is sustainable.

An increase in direct and indirect employment could arise if the parent enterprise's and/or home-country's production of intermediate or finished goods and services increased as a result of the foreign affiliates activities. In theory foreign production will allow the enterprise to better adapt products to the needs of the local market and to evidence to local buyers a greater commitment to the country; in this way the enterprise's demand curve is shifted outward. Moreover, the boost to an enterprise's competitive position that accompanies overseas production may result in increased domestic employment. Not surprisingly, the research to date is mixed as to whether or not the international investment of USMNEs increases domestic employment. That USMNEs international operations may have sheltered home-country employment from the worst effects of slack demand is suggested by the faster rate of decline of USMNEs foreign affiliate employment than domestic.

From the qualitative perspective the potential effects of USFDI are numerous, but there is reason to suspect that it generally leads to an increase in the parent enterprise's and home country's demands for managerial and technical personnel and high-skilled labour. The question of whether or not USFDI changes the skill-mix in the domestic economy is of course closely related to the job-export issue. It also has important implications in the realm of labour market adjustment. Two examples will suffice to show the potential effects. First, USFDI in offshore assembly and processing facilities unquestionably reduces the domestic demand for inputs of low-skill, assembly labour, but increases the demand for inputs of labour in the component manufacturing industries and possibly of managerial expertise. Second, the establishment of a foreign manufacturing facility that uses intensively high-skilled labour, for instance an automobile production facility, is not as clear in its qualitative implications for the domestic labour market. The demand for "autoworkers" will fall (assuming that the presence of the foreign plant does not increase host-country or third-country demand for automobiles produced in the home-country), but the supplier industries' demand for labour may increase along with the parent-enterprise's need for technical, managerial, and marketing expertise.

Similar then to analyses of the effects of international trade on domestic employment, USFDI is generally felt to change the skill and occupational characteristics of the labour force by favoring skilled and professional workers. This is not surprising since most efforts to measure USFDI's employment ramifications have focused on whether or not foreign production decreases or increases home-country exports or domestic production for local consumption. But its effects may not necessarily be felt through trade per se but rather change in the capital/labour ratio of the parent enterprise as a result of the tendency to shift the labour-intensive aspects of production processes overseas. Lipsey and Kravis (1988) have found that this is so in certain industries in the United States. Along with the obvious qualitative effects, such a change in the capital/labour ratio would also lead to reduced parent enterprise employment; the magnitude of such an effect is probably limited, however.

USMNEs and domestic production

Foreign affiliate production associated with USFDI can affect the quantity and quality of domestic employment by increasing or decreasing domestic production intended for either export or local consumption. In the former case, the establishment of a foreign affiliate to serve the host-country market will affect the demand for exports, while in the latter a foreign affiliate created to export back to the home-country will affect the demand for domestic production - or some stage thereof - for local sale. Even if demand does fall in one or both of these industries, however, the effect on United States output levels and thus employment is uncertain and dependent on numerous factors, including domestic demand. For example, if domestic demand is growing rapidly the effects of slower export growth may be lessened.

Also critical to determining the employment effects of either market-servicing or supply-oriented USFDI are the assumptions made concerning what the enterprise and its competitors would have done in the absence of the foreign direct investment. Barring FDI, the enterprise may have boosted its domestic manufacturing capacity, invested in other product lines, or perhaps increased shareholder dividends; from the standpoint of the competitor firm, the key question is would it have invested in such a manner as to preclude competition from the enterprise not investing abroad. The importance of these counterfactual arguments renders any position taken on USFDI's domestic employment effects open to dispute.

Intra-firm trade of USMNEs

Among the most important developments in international economic relations since the 1950s have been the ever increasing flows of trade and capital and the closely related rapid expansion of multinational enterprises, especially USMNEs. Binding together these two phenomena is that through their foreign production and intra-firm trade, multinational enterprises have accounted for a large proportion of the growth in world trade and investment. USMNEs intra-firm trade, which involves the internalization of intermediate good or final product markets, takes place between either parent and foreign affiliates or the foreign affiliates themselves. It is through the mechanism of intra-firm trade that USFDI most directly affects domestic production for export or local consumption. While intra-firm trade is an important aspect of United States trade flows, it should be noted that the significance of exports and imports associated with USMNEs is far greater.

In the United States there has been increasing concern in some quarters as to the role that USMNEs' investment and trade practices have played in creating the nation's huge trade deficit, which stood at $137 billion in 1988, and particularly in fostering the substantial increase in imports from developing countries (especially the NICs) and Japan. Many USMNEs are among the largest exporters to the United States in countries or areas such as Taiwan, Singapore, Malaysia, Mexico and Taiwan (China); over the past two decades the share of world exports originating in the United States has fallen while that of USMNEs has remained constant owing to the expanding exports of their foreign affiliates. The rising tide of imports across an ever increasing range of industries has contributed to the steep employment losses and to the need for structural changes that have occurred in many industries during the 1980s, although it should be recognized that demand and technology factors hav accounted for a larger share of the job loss than import competition. By one estimate, the accumulated trade deficit through 1987 resulted in the loss of 3.1 million job opportunities in the manufacturing sector (direct) and another 2 million in related business services (indirect)

(Duchin and Lange, 1988). To the extent that intra-firm trade is prominent in industries facing stiff import competition, the concern over its effects is heightened.

Intra-firm trade between USMNE's parents and their foreign affiliates as a percentage of total United States exports and imports actually declined from 21.1 percent in 1977 to 20.3 percent in 1985, although on an absolute basis the value of total intra-firm trade more than doubled (See table 23). Moreover, if one included in the calculation trade by USMNEs engaged in petroleum or mining operations this percentage would be in the range of 30-40 percent. Exports from USMNE parents to their foreign affiliates as a percentage of total United States exports rose slightly from 1977 to 1985, while that of imports declined; the latter reflected more the unusually strong growth of total imports during the 1980s than slackness in intra-firm imports, however, as these rose sharply in value. Although data are not available for later years, it is a fair assumption that the magnitude of intra-firm trade has risen even higher.

Table 23. USMNEs' intra-firm trade
(percent or billions of dollars)

	1977	1982	1983	1984	1985
Parent to affiliate					
% US exports	25.8	21.9	23.1	25.3	27.5
$ Value	30.7	43.7	45.3	54.3	57.5
Affiliate to parent					
% US imports	15.8	15.2	16.0	14.6	15.2
$ Value	17.8	28.4	3.7	41.4	45.0

Source: United States Department of Commerce (1988), International Direct Investment.

There is a number of inter-related explanations for the faster rise in intra-firm import than export trade during this period, most important being the impetus given to foreign sourcing of intermediate inputs and finished goods from both related and unrelated foreign firms by the appreciation in the dollar and stiff import competition, and the development of globally integrated manufacturing networks. With respect to foreign sourcing, USMNEs have invested heavily in offshore assembly and processing facilities to lower labour costs by outsourcing the labour-intensive aspect of production in industries ranging from semiconductors to automotive parts to toy making. Among the most important locations are Mexico's Maquiladora sector, where employment now totals over 400,000, and several Caribbean and East Asian nations. Owing to the promotion of trade in the transportation equipment industry by the Canadian-American Automotive Products Trade Agreement, however, Canada is the largest source of intra-firm imports. On the other hand, Western Europe affiliates export little to the United States because of their market-serving orientation.

For all manufacturing (historically there has been relatively little intra-firm trade in the service sector), the share of total exports accounted for by intra-firm trade was 30.8 percent in 1984, and for imports 16.2 percent. There are significant differences across industries and enterprises in the extent to which intra-firm trade is involved. While in food and kindred products the ratios of intra-firm trade to total exports and imports were in both cases below 10 percent in 1984, in office and computing equipment they were 57.8 and 35.1 percent, respectively (Little, 1987).

Given that intra-firm transactions are an integral part of United States trade flows, the question arises as to what effect, if any, intra-firm trade has on domestic production and employment that is different from trade among unrelated parties. During the period of dollar appreciation (1980-86), there is evidence that USMNE parent exports to foreign affiliates grew more rapidly than did total United States exports. At the same time, the tendency to import was also greater in the case of intra-firm trade than for imports in general, and intra-firm trade has been prominent in a number of industries that have faced intense import competition. In one respect, the establishment of foreign production capabilities allows USMNEs more flexibility in adjusting to currency fluctuations and downturns in demand; this may provide for greater stability of domestic output and employment.

The following sections examine whether or not foreign affiliate production has adversely affected domestic production intended either for export or local consumption and thereby employment. It would seem that the size and growth of parent exports to their overseas affiliates certainly suggests that foreign production has not harmed exports in an aggregate sense. On the import side, the even more robust growth of intra-firm imports suggests just the opposite; that domestic production may have been lowered by the output of affiliates destined for the United States.

Displacement of exports

Perhaps the most controversial but at the same time thoroughly researched aspect of the debate over the employment effects of USMNEs concerns whether the production of their foreign affiliates is a substitute for, or is complementary or unrelated to, home-country production intended for export to the affiliate's host country or to third country markets. USMNEs can serve foreign markets through exporting, local production by foreign affiliates and joint venture partners, or licensing to unrelated foreign enterprises. Whereas exporting clearly promotes domestic employment growth, the options of local production or licensing may have either beneficial or adverse implications for domestic employment depending on the assumptions underlying their analysis. It should be recognized at the outset that this analysis does not apply to resource-based or production sharing forms of USFDI, but rather to that form typically known as market-sevicing, the brunt of which has been directed toward Western Europe, Japan, and Latin America.

There are numerous theoretical constructions of the possible employment effects in the domestic export industry of production by USMNEs' foreign affiliates. On the positive side, if it is assumed that the foreign market could no longer be served by home country exports and would therefore be captured by local or third country producers in the absence of foreign production, then it is clear that domestic employment would be less adversely effected if foreign investment is undertaken. This is because the loss of the product-specific employment in the export sector will most likely occur anyway, and by not investing the enterprise and home-country will have not only failed to preserve jobs (i.e., prevented a worse deterioration) but also foregone the benefits of the income stream associated with foreign affiliate

production. But more significantly, foreign production may also create domestic employment by raising the demand for exports of parent enterprise and/or other home-country enterprises capital goods and intermediate or finished goods and services, including management and technical advise. This employment effect would be particularly strong when the parent enterprise produces both finished and intermediate goods or a variety of different products (i.e. is multi-product). Complementarity is more likely when parent and foreign affiliate are in different product lines. Relaxing the assumption of non-substitutability, an increase in home country production of goods and service inputs could outweigh the negative effects of whatever degree of substitution does take place for the domestic production of finished goods. Other circumstances in which it is possible that export displacement would not occur are: (1) if foreign production shifts outward the demand function of the local market by improving service or allowing for the adaption of the product to the needs of the local market; and (2) if the reverse classical assumption holds that foreign production only displaces local production and not imports from the home country.

To construct scenarios wherein negative employment effects arise, one need only adjust the above assumptions. For instance, employment loss would result if substitution occurs, the local market demand function is fixed, and the increase in home country exports of goods and services inputs is limited. Moreover, the intra-firm trading relationship between parent and affiliate may change over time as the latter increases its use of local sourcing owing to greater self-sufficiency and possibly to government-imposed local content regulations. Local sourcing may not be an option, however, if host-country suppliers cannot meet quality and/or technological specifications; thus the tendency to use local suppliers is more pronounced in industrialized countries.

Before addressing the research findings, it is interesting to note that some evidence (admittedly scanty) suggests USFDI may be somewhat displacing. This is provided by the fact that the share of world exports accounted for by the United States has consistently fallen over the last two decades, while that of USMNEs has remained esentially unchanged because of the expansion of their foreign affiliates' exports. For years, the exports of USMNEs' foreign affiliates have far surpassed those of the United States; in 1986, affiliate exports totalled over $700 billion or approximately three times the value of United States exports. Since the mid-1960s, the overseas manufacturing production of USMNEs has risen relative to its domestic counterpart to where today it equals approximately 25 percent of USMNEs' worldwide total. Taken together these facts point to a distancing between the performance of USMNEs and that of the United States.

Research findings

A rather large body of empirical work exists on the export displacement effects of USMNE's foreign affiliate production; the authors are not aware, however, of studies specifically measuring the domestic employment effects of foreign production resulting from joint ventures or licensing. Depending on the assumptions that authors' have made largely concerning the substitution ratio, and consequently the manner in which USMNEs and their foreign competitors will behave given a particular set of circumstances, the studies to date vary tremendously in their estimates of the direct and indirect employment effect on export and supply industries of foreign affiliate production. Typically, negative effects are arrived at by estimating the amount which foreign production substitutes for exports, and on the positive side offsetting this by estimating the increase in exports of parent enterprise and home-country intermediate goods and services demanded by the foreign affiliate. What is important to note is that the brunt of recent work

on measuring the relationship between investment and trade have failed to find that displacement occurs in any systematic manner. The following is meant only as a summary of the available research and not a detailed critique.

In the early 1970s several studies were conducted, including those by the AFL-CIO, the Emergency Committee for American Trade, the United States Chamber of Commerce, and the United States Tariff Commission, that varied in their estimates of the net employment effects from a negative 1.3 million to a positive 600,000 depending on the assumptions made concerning substitutability. Maybe the most interesting of these early works is Horst (1974), who concluded that the larger the output of the foreign affiliate relative to domestic exports, the greater the chance that displacement occurs. One of the most detailed and perhaps for this reason cited studies in the literature is Frank and Freeman (1978) who measure both quantitative and occupational employment effects and calculate substitution ratios for a variety of industries. They conclude that the quantitative effect of foreign affiliate production ranges from a small (19,574) to a large (441,706) loss and that the occupational group most severly affected is blue-collar workers. Building on the Frank and Freeman framework, Glickman and Woodward (1989) measure USFDI's effects on direct and indirect employment levels, occupational distribution, and regional employment trends from 1977 through 1986. Over this period, the net direct employment effect was a loss of 2.7 million manufacturing jobs with most of these concentrated in the blue-collar occupational category. When adding in indirect employment loss and induced effects, estimated to equal 700,000, the total employment reduction associated with USFDI is 3.4 million. Finally, the hardest hit geographical regions were those already suffering from job losses, in particular the Great Lakes and southeast areas.

Because of the difficulty associated with establishing a realistic and generally acceptable substitution ratio, a number of studies have focused not on measuring the effects of foreign production on domestic employment per se but rather the relationship between USFDI and trade flows. Depending on the nature of this relationship, one can infer the effects of foreign production on employment. Bergsten, Horst, and Moran (1978), Lipsey and Weiss (1981 and 1984), Blomstrom, Lipsey and Kulchycky (1988), and Kravis and Lipsey (1988) have all examined the investment-trade relationship using different methodologies and data sources ranging from enterprise to aggregate trade flows, and have concluded that generally there is no significant negative effect on home-country exports as a result of foreign production. In fact, in many cases a positive effect was found owing to increased exports of intermediate (most importantly) and finished goods.

Finally, the previously mentioned study by Kravis and Lipsey reconfirms that foreign production does not displace exports. But in an intereting twist the authors' argue that as foreign production increases so too does the parent enterprise's capital/labour ratio through the shifting of labour-intensive operations abroad, and thereby parent enterprise employment is reduced. The authors' note, however, that their results showed a marked variation in the existence of this effect depending on the industry. This is not surprising given that certain types of USFDI are more labour-intensive than others.

Summary

USFDI has ramifications for both the quantity and quality of domestic employment as a result of the displacing or stimulating effects of foreign production on home-country exports. For the foreign production of a particular product to have a negative effect on enterprise and/or home-country employment, it must displace exports of that product and in turn fail to stimulate domestic exports of capital equipment, intermediate and other finished goods, and services such as transport, insurance, finance, management. Those who argue that USFDI has adversely effected domestic employment levels do not believe that the offsetting effects have outweighed those of displacement. The authors would suggest, however, that this viewpoint is not supported by the existing research. There is not enough confirming evidence on the overall displacing effect of foreign production to justify the magnitude of the negative employment effects found in the recent work of Glickman and Woodward. Assuming that the displacing and stimulating effects of foreign production are offsetting in a general sense, then the quantitative employment effects arising from this aspect of USFDI have probably been marginal in either direction.

USFDI could also have negative repercussions on employment regardless of its effect on trade flows, if the resulting foreign production tends to be more labour-intensive than that conducted domestically. The shifting of low-skilled, labour-intensive production processes to overseas facilities would tend to decrease the parent enterprise's and home-country's use of labour domestically and increase that of capital and skilled and professional employees. Kravis and Lipsey (1988) contend that this has occurred in certain industries within the United States and that the larger a foreign affiliate's production the smaller will be the parent enterprise's employment. As will be seen in the next section, the "export" of the labour-intensive aspect of production has become a more common feature of USFDI. But it is important to note that the majority of USFDI is located in the advanced industrialized countries, and it is questionable whether this investment is at all characterized by the shift of labour-intensive processes. In any case, Kravis and Lipsey imply that the effect on parent enterprise employment is not of significant magnitude to warrant concern.

Thus the negative estimates of USFDI's quantitative effect are not supported by research into its influence on trade flows but rather to a limited extent on changes in the parent enterprises capital-labour ratio. What there appears to be more consensus about is USFDI's effect on the occupational structure of the work force. It can be said with considerable certainty that USFDI adversely impacts on the interests of low-skilled blue-collar workers, while enhancing the opportunities for those classified as white-collar or highly skilled. As such, it tends to raise the overall skill-level of the labour force in the United States, but at the same time it may cause labour market adjustment problems owing to mismatch in human capital requirements between those jobs lost and those gained.

PRODUCTION SHARING

Although the bulk of USFDI since 1950 has been motivated by the need to gain access to or better serve markets in western Europe and Latin America through local production, USMNEs' have also established large numbers of offshore assembly and processing facilities in developing countries.[10] Distinguishing this type of production from that intended for local markets, the output of offshore assembly and processing facilities is generally re-exported to the United States or (less frequently) exported to third country markets - often the host-country government forbids the local sale of the output of such plants. By locating the labour-intensive and standardized technology stage(s) of a production process in countries with an abundant supply of unskilled and semi-skilled workers and labour costs significantly below those in the United States, USMNEs have sought to counter stiff competition from imports and/or foreign firms by revamping their cost structures. This strategy of retaining the capital-intensive and sophisticated aspects of production in the United States and sourcing the labour-intensive processes offshore is known as "production sharing." For USMNEs production sharing has primarily been perceived as a means to more effectively compete in their home market on the basis of lower costs. In contrast, Japanese and European comanies have traditionally used offshore production facilities as export platforms to serve third-country markets. Some USMNEs have transferred nearly the entire production process overseas as a better means to compete in export markets, but these cases are not numerous.

Although production sharing's effect on the aggregate level of domestic employment are slight, its qualitative impact is to increase demand for higher-skilled and white-collar workers in the component manufacturing industry and to decrease demand for low-skilled assembly workers. This is especially true in the case of Mexico's Maquiladora sector which sources over 97 percent of its component inputs of intermediate goods and services from the United States, but much less so in the case of offshore assembly facilities in East Asia where local sourcing of components is more prevalent. If the Mexican Maquiladora industry were to expand its use of local sources, which is desired by the Mexican government and in any case probably inevitable as the quality and efficiency of Mexican industry improves, the aggregate employment effect would turn decidedly negative since both assembly and component employment would decline.

USMNEs have either internalized offshore production through direct investment (favored by the possession of firm-specific advantages) or entered into subcontracting agreements with foreign firms. The extent to which offshore production is internalized varies by industry and firm and over time; for example, international subcontracting has expanded in the semiconductor industry as local firms in the Republic of Korea, Taiwan (China), Singapore, and the Philippines have become increasingly able to undertake complex manufacturing tasks (Scott and Angel, 1988). While international subcontracting by USMNEs in all industries will continue to grow in the future, the majority of production sharing arrangements will still involve direct ownership by the parent company.

Offshore assembly and processing by and for USMNEs has largely taken place in Mexico, Canada, East Asia, and the Caribbean Basin. Those factors affecting the location decision include the supply, quality and cost of labour, the cost of transportation, and the policies of the host-country government. That the largest number of production sharing arrangements involve Mexico is thus not surprising given its low labour and transportation costs relative to the United States and its very favorable Border Industrialization Program, popularly known as the Maquiladora industry. Among

the most prominent industries involved in offshore production are semiconductors, consumer electronic, electrical equipment, office machines, and textile and apparel.

Statistical overview

Offshore assembly or processing for re-export to the United States is greatly facilitated by items 806.3 and 807.0 of the United States tariff. Under these provisions imports of assembled finished products for final sale or semi-finished articles for further processing in the United States are subject to duty only on the value added offshore and not on the value therein of components fabricated in the United States.[11] For example, a manufacturer of electrical switches can ship United States-origin components to Mexico for the labour-intensive assembly stage, and then re-export them to the United States paying duty on just the value-added in Mexico, i.e. the cost of the assembly labour. Given that much of the offshore production undertaken by USMNEs is intended for re-export to the United States and as such does (or did) enter the United States under TSUS items 806.3 and 807, a reasonable estimate of the magnitude and growth of offshore assembly and processing can be made by examining the customs value of products imported under these tarif provision. As shown in table 24, imports under 806.3 and 807 have grown rapidly since 1970, from $2.2 billion in that year to over $36 billion in 1986. The duty-free value of these imports, however, has typically amounted to under one-third of the total value and has not risen as quickly as that of the dutiable portion. In 1980, approximately 27 percent of the value of imports under 806.3 and 807 were duty-free, but by 1986 this had fallen to 17 percent. To a limited extent this may reflect more local sourcing of components. But more important reasons were: (1) the sharp rise in motor vehicle imports under item 807 from $5.25 to $23.39 billion from 1980 to 1986, only a small percentage of which were non-dutiable,[12] and; (2) the steep decline in semiconductor imports whose nondutiable content was traditionally quite high.

Table 24. The value of imports under 806.3 and 807
(billions of dollars)

	1970	1975	1980	1981	1982	1983	1984	1985	1986
Total	2.20	5.16	140	16.1	18.3	21.5	28.5	30.5	36.4
Nondutiable	0.536	1.26	3.7	4.4	4.1	5.3	7.2	5.8	6.2
Dutiable	1.67	3.89	10.2	11.7	13.5	16.1	21.3	24.7	30.2

Source: United States International Trade Commission, Jan. 1988, No. 2053.

Not surprisingly then the industry composition of 806.3 and 807 imports changed dramatically from 1980 to 1986 as the proportion of motor vehicles rose from 38 to 65 percent and that of semiconductors fell from 18 to 2 percent. Largely accounting for the rise in motor vehicle 807 imports is the preference of foreign manufacturers to use certain United States-made parts (see footnote 12) in order to meet United States government energy or environmental standards. Explaining the drop in the use of item 807 by

semiconductor manufacturers was the granting of duty-free status to semiconductors in March 1985; this does not mean that offshore manufacturing of semiconductors has ceased, but simply that it is no longer necessary to declare their import under item 807). To identify those industries in which offshore assembly and processing actually takes place (defined here as a high-degree of labour-intensity) it is necessary to examine which industries' imports have the highest percentage of United States content to total value and account for the majority of the value of nondutiable imports. Excluding the production of motor vehicles,[13] these industries are textiles, apparel and footwear, electrical articles (capacitators, tubes, switches, etc.), consumer electronics, semiconductors, scientific instruments and apparatus, machinery and equipment, and internal combustion engines and parts.

In terms of the sources of 807 imports, developed countries' shares rose from 56 percent in 1982 to over 70 percent in 1986, with practically the entire increase owing to the import of motor vehicles manufactured with some United States-made parts. Because most 807 imports from developed countries are manufactured by foreign firms using few United States components and very capital-intensive production processes,[14] their proportion of the value of total nondutiable imports is small; just 23 percent in 1986. Therefore, the overwhelming bulk of 807 imports originating in developed countries is not produced by offshore assembly or processing facilities, but rather merely include a limited number of parts sourced in the United States. On the other hand, the offshore assembly and processing plants in the developing world are usually affiliated with or subcontracted to USMNEs and, with the general exception of facilities in Asia, rely for inputs almost exclusively on United States fabricated components and raw materials. Thus around 77 percent or $4.7 billion of nondutiable value in 1986 originated in developing countries.

Of the developing countries, Mexico has been the largest source of 806.3 and 807 imports, followed by Caribbean countries and the Asian NICs. (Because of their greater propensity to use United States-origin components, the Caribbean nations have accounted for a larger part of non-dutiable imports than have Asian countries.) Mexico was responsible for 35 percent of the total nondutiable portion of 806.3 and 807 imports from all countries in 1980, and for 54 percent or $3.3 billion in 1986. Mexico's prominence as a location of offshore assembly facilities has risen during the 1980s as a result of its highly successful Maquiladora program. Established in the mid-1960s, this program allows for the duty-free and in-bond import of manufacturing equipment, and raw materials and components for processing or assembly, provided that all of the equipment and finished and semi-finished goods are eventually exported. As so structured, the Maquiladora program is a perfect complement to TSUS items 806.3 and 807. Table 25 shows the rapid growth in both the number of plants and of employees in the Maquiladora sector over the last decade. Most plants and employees are found in the electronic and electrical, transport equipment, and textile industries; at the same time, this large concentration of manufacturing facilities has begun to attract supplier industries. Although Japanese and European companies have of late been expanding their presence in the Maquiladora sector, American firms still dominate.

Table 25. The Maquiladora sector

	1978	1980	1982	1984	1986	1988
No. plants	457	620	585	722	987	1 480
No. employees (000's)	90	123	122	202	268	398

Source: American Chamber of Commerce of Mexico.

Potential employment effects of production sharing

Because production sharing clearly reduces the demand for domestic labour inputs in the assembly and processing industries, its overall employment effects largely hinge on whether or not employment in the component manufacturing and related industries is either maintained or increased. Not surprisingly, this question can only be answered by counterfactual analysis of what would have happened in the absence of the investment in offshore facilities. If one assumes perfect substitutability, then the investment would have been made domestically; thus there are no effects on component manufacturing or related industry employment. On the other hand, if full substitutability does not exist then the investment may not have been made domestically; in this situation the overall employment effects are uncertain, but it is worthwhile to note that all of the evidence reviewed by the authors strongly suggests that the degree of substitutability is not great. Assuming minimal opportunities for substituting domestic investment for that in offshore production, then the employment effects of production sharing are unequivocally positive.

The international division of labour which is created by production sharing has drawn severe criticism from the American union movement for its supposed negative effects not only on domestic employment in the assembly and processing industries but also on the economic development of the host nations (Anderson, 1987). Since the mid-1960s, the AFL-CIO has advocated the repeal of the offshore assembly provisions of the United States tariff (806.3 and 807), which are said to encourage imports and the transfer of production overseas. The AFL-CIO contends that companies have moved offshore only to pursue higher profits and not out of competitive necessity. Thus they do not accept the industry position that in the absence of offshore production either the product line would be eliminated or its production would be moved entirely offshore with the concomitant loss of assembly and component manufacturing employment, and quite possibly employment in supplier industries.

Proponents argue that there is no domestic investment alternative to offshore sourcing, and that its restriction would lead to the relocation of offshore production facilities to other countries (Caribbean or East Asian) and ultimately reduce employment in the United States through its adverse impact on the component manufacturing industry. Moreover, the boost to a company's price competitiveness from production sharing has the potential to increase market share and domestic demand for its product and thereby for domestic labour inputs.

Notwithstanding the merits of the arguments concerning the employment effects of production sharing, there are a number of factors, the convergence of which argue for slower future growth in offshore assembly and processing and repatriation of some existing offshore facilities. Most importantly, the

parallel and ongoing developments in microelectronics, robotics, and computer-aided design and manufacturing will reduce the labour content of manufacturing processes in the United States. This lowering of labour input requirements could eventually eliminate the location advantage of production in developing countries and the international division of labour that now characterizes many industries. Reinforcing the effects of technological change will be the rising costs of labour in many of the Asian countries that pioneered in production sharing agreements, and the necessity of providing additional and more specialized services to customers in some industries. Although some cases of firms repatriating production to the United States have been documented (Sanderson, 1987; and Hoffman, 1985), this has not yet occurred on a widespread basis.

Research findings

All of the research known to the authors on the employment effects of offshore assembly and processing address the question from the perspective of either TSUS items 806.3 and 807 and/or the Mexican Maquiladora industry. This is not surprising given the large volume of, and extensive data available on, offshore prodution that falls into these categories, but it should be noted that this focus does not capture all types of offshore assembly activities. Although on a much smaller scale, offshore assembly and processing for re-export to the United States also takes place under the GSP and CBI, not to mention that part of offshore production exported to third country markets.

In one approach to identifying the domestic employment effects of the offshore tariff provisions (Anderson, 1987), the AFL-CIO assumes full substitution and measures the labour intensity of the dutiable value of United States imports from Mexico under TSUS 806.3 and 807. Based on an alternative measure of labour intensity that incorporates wage differentials, the AFL-CIO concludes that as of 1985 almost 400,000 American jobs had been displaced by imports originating in Mexico's Maquiladora industry.

The most comprehensive study to date of the domestic employment effects of items 806.3 and 807 was prepared by the United States International Trade Commission (1988). The basic issue is how much of the offshore assembly and processing industry would be repatriated to the United States in the event that the offshore tariff provisions were repealed. Based on an econometeric model that employed several questionable assumptions concerning the behavior of firms and prices, the study estimates that the employment effects would range from an increase of 17,900 work years to a decrease of 9,200 work years. In conclusion, the Commission states that the effects on domestic employment of repeal would be marginal at best.

Using comprehensive economy-wide and import-trade models, the Wharton Economic Forecasting Associates group recently analyzed the effects on the United States economy of the repeal of tariff item 807 and the elimination or scaling back of the Mexican Maquiladora industry (WEFA, 1988). The analysis was based on the construction of four scenarios, including the repeal of item 807 for Mexico alone and for all countries. In each scenario, the effects on employment in the United States were negative, ranging from losses of 24,000 to 92,000 jobs. Accounting for this result are the employment suppressing effects of rising price levels and reduced output in component industries; combined these more than obviated the increase in output and employment in the assembly industry.

With similar results, Finger (1976) modelled the effects of the offshore assembly tariff provisions on domestic activity, the balance of trade, and domestic economic welfare. While the model showed that there would be little overall impact on trade flows, it was found that if items 806.3 and 807 were repealed domestic economic activity would be reduced owing to the greater decline in component manufacture relative to the increase in assembly. Finger concludes that domestic welfare is unquestionably increased. Although no specific estimates are given for employment effects, these undoubtedly would be positive even allowing for the probable more labour-intensive nature of assembly than component manufacture.

There are numerous studies of the impact of Mexico's Maquiladora sector on the United States economy, most of which have simply documented the number of American jobs which are supported by the Maquiladoras and assumed that no substitutability exists between domestic investment and that in Maquiladoras. We will examine only a few, but they are representative. Based on the results of a survey, Mitchell and Vargas (1987) conclude that approximately 3.5 jobs in the United States are to a certain degree supported by every 1 job in the Maquiladora industry in Juarez, Mexico. In a broader based study supported by the Border Trade Alliance (a proponent of Maquiladoras), it was determined that around 1.2 million American jobs are directly supported by the Maquiladora industry, and that the elimination of the Maquiladoras would result in the relocation of offshore facilities to other countries (not the United States), with a loss of at least 300,000 American jobs. Michie and Hagans (1987), while recognizing that the Maquiladora's have created employment in the United States border communities, are nevertheless concerned because most of these jobs are in the service sector (distribution, warehouse, office centres) and dependent on the manufacturing undertaken in Mexico.

Summary

USMNEs expanded their use of offshore assembly and processing facilities during the 1980s as a means to more effectively compete with low-cost foreign producers. Most of these production sharing arrangements are located in Canada, Mexico, East Asia, and the Caribbean, and involve direct ownership by the parent company although subcontracting with independent foreign enterprises has risen. The industries in which production sharing is most common are textiles, apparel and footwear, electrical articles, consumer electronics, and semiconductors.

The magnitude and location of offshore assembly and processing facilities is best measured by imports entering under items 806.3 and 807.0 of the United States Tariff Schedule. This measure understates the value of output under production sharing arrangements, however, because such output also enters the United States under the Generalized System of Preferences and the Caribbean Basin Initiative. Moreover, some goods that utilize production sharing do not need to enter under any particular tariff provision; the most important case being that of semiconductors.

Critics of production sharing argue that it has led to heavy job losses in the assembly and processing industries. Moreover, it is often claimed that full substitutability exists between the investment in offshore facilities and a similar investment domestically. Because of this assumption, the domestic employment effects of USFDI in offshore facilities are unequivocally negative since no allowance is made for an offsetting increase in component manufacturing employment.

Proponents believe that full substitutability is not a realistic assumption (i.e. that in the absence of offshore investment opportunities enterprises would either get out of the business or product line altogether or shift the entire production process overseas rather than invest domestically). Consequently, the employment effects of USFDI hinge on whether or not the increase or maintenance of domestic component manufacturing jobs outweighs the loss of employment in assembly and processing. Research to date has generally found support for this line of reasoning.

Outside of the analysis by the AFL-CIO of the employment effects of USFDI in Mexico's Maquiladora sector, all of the other research reviewed by the authors on the effect of offshore assembly and processing type activities on domestic employment found no negative quantitative results. However, the adjustment of the labour market to the loss of assembly and processing jobs is problematic because such workers are typically low-skilled and geographically immobile. This being the case, the authors' suggest that an appropriate role for public policy could be to levy a minimal tax on imports entering under tariff items 806.0 and 807.0, the proceeds of which would be used to facilitate the adjustment process. That such a tax would not reduce the use of production sharing by United States firms, and thus harm their competitive position, is supported by survey research strongly suggesting that even if the tariff concessions under items 806.3 and 807.0 were eliminated companies would not close their offshore assembly facilities.

INVESTMENT DISPLACEMENT AND THE DISTRIBUTION OF INCOME

Two fundamental questions concerning USMNEs' effects on the American labour market are whether USFDI displaces or substitutes for domestic investment, and, if so, what are the consequences for the distribution of national income between labour and capital. Indeed, Musgrave (1975) has argued that while the employment effect of USFDI is largely transitory, the income distribution effect is long-term and more critical to the interests of labour. The issue of investment displacement is of course basic to the analysis of the substitution of foreign and domestic production and thus on USFDIs effects on employment levels in the United States. Regardless of the nature or direction of such employment effects, the stock of domestic capital must be either reduced, maintained, or increased for them to occur. Similarly, USFDI can change the distribution of national income if it alters the stock of domestic capital. Thus, the displacement question is important to the American labour movement owing to the potentially adverse consequences on employment levels and on labour's real wage and share of national income if substitution takes place. American trade unions believe that USMNEs' foreign investment has lowered the domestic capital stock below its equilibrium level; thus their support over the years for legislation establishing controls on capital exports, including the ill-fated Burke-Hartke Bill[15] in the early 1970s.

From a theoretical perspective, assuming that USFDI does fully or partially displace domestic investment, the lowering of the domestic capital stock below that which would prevail in the absence of USFDI leads to a reduction in the demand for labour (and thus to lower employment), in domestically generated income, in labour's share of national income, and in its marginal product and real wage. It is possible, however, that even when displacement has occurred the negative effects on the domestic capital stock and the functional distribution of income may be limited or negated by: (1) an increase in demand for domestic inputs from the new foreign affiliate, leading to an increase in domestic investment; (2) an increase in capital inflows responding to the higher returns to capital; (3) a reduction in labour-intensive imports and capital-intensive exports as national income declines; and (4) an increase in domestic investors' income.

For displacement to occur there must be an interaction between a domestic and foreign investment decision (i.e. they are substitutes) as a result of an MNE's financial situation and/or production strategy. With respect to the former, all USMNEs operate under some degree of capital constraint, and as the cost of capital rises the potential exists for investment opportunities to become substitutes. In the case of production strategies, the increasing prevalence of globally integrated manufacturing systems means that a decision to invest in any one country is now more likely to be analyzed as to its effect on the entire worldwide system; thus, the strong possibility that domestic and foreign investment decisions will interact. Conversely, where a production system is segmented by country markets and each affiliate is largely independent, the likelihood of interaction is greatly reduced.

Expanding this argument to the motives for USMNEs' investment abroad, it seems reasonable to suspect that USFDI whose purpose is to gain access to raw materials not available domestically, such as has been the case for much of USFDI in the mining and agricultural sectors, does not displace domestic

investment since the two are clearly not substitutable. In fact, because processing facilities are normally located near to the final market, a case can be made that USFDI in the primary sector has actually increased domestic capital formation. For USFDI made to access a foreign market that can not be most efficiently serviced by exports owing to government regulations (i.e., tariffs, quotas, local content requirements) or to competitive pressures necessitating a local presence (such as direct investment by a rival foreign firm) there is also little likelihood of displacement. As is well known, the vast majority of USFDI since the 1950s has flowed to Western Europe for precisely these reasons, while that prior to World War II was mostly in the primary sector and infrastructure projects. Taken together, these observations suggest clear limitations on the substitutability of USFDI and domestic investment.

Notwithstanding the previous examples, it is possible that domestic and foreign investment in the manufacturing industry do act as substitutes. This could arise when a company closes a domestic plant and shifts production abroad rather than investing in new capital equipment (and probably also changing the organization of work and labour-management relations) in an effort to make domestic operations internationally competitive.[16] One particular type of USFDI into which this scenario fits is that directed toward offshore assembly facilities or export processing zones in the developing world wherein the principal motive is access to lower costs of inputs, especially labour. It is, of course, not the case that all such USFDI displaces domestic investment; the manufacture of a product, or certain stages thereof, may become sufficiently standardized and labour intensive that production offshore is the only viable alternative. The point is simply that the possibility for substitution exists and its realization will depend on the circumstances surrounding the investment. Reinforcing this notion are a number of hallmark cases where USMNEs, for example Motorola, have revamped domestic manufacturing plants through the infusion of capital and re-organization of work instead of transfering part or all of their production overseas.

General observations

Since the 1950s, the capital stock per worker in the United States relative to that in the largest OECD countries has consistently declined; by 1984, it was exceeded by the Federal Republic of Germany, France, and Canada, with Japan just under the United States level (Economic Report ..., 1989, p. 31). To a certain extent, of course, convergence in capital stocks among these countries is not an unexpected or, for that matter, unwelcome development, and it cannot in any case be attributed solely to the effects of USFDI. As shown in table 26, the value of the stock of USFDI has never approached significant levels in comparison to the total assets of United States corporations. This remains true when looking at USFDI relative to only MNEs' have without question invested far more at home than abroad (this particularly so in the 1980s), and their domestic investment rates have compared favorably with those of local firms. Nevertheless, this macroeconomic perspective does obscure differences between industries and firms within industries. For example, USFDI as a proportion of domestic capital formation in the chemical, automobile, and metal fabrication industries is far higher than the results shown in table A, while historically that in the mining industry has been even higher.

Table 26. Value of USFDI as percent of the assets of all United States corporations

1950	1957	1966	1970	1975	1978	1983	1985
2.08	2.76	3.06	3.19	3.11	2.97	2.24	2.07

Source: Lipsey, R., NBER, Working Paper No. 2240, p. 25.

Another measure of the domestic and foreign investment tendencies of USMNEs is their capital expenditures on property, plant and equipment. In 1988, capital expenditures by all majority-owned foreign affiliates totalled only 8 percent of domestic spending. Once again, however, differences exist by industry and company; for example 28 percent of the Goodyear Tyre and Rubber Company's capital expenditures were made overseas in 1988 (Uchitelle, 1989).

Looked at from the perspective of an MNEs financial transactions, domestic investment could be displaced by FDI if one assumes that MNEs face higher external capital costs for each successive investment undertaken. Of a less theoretical nature, the method of financing FDI may have implications for its substitutability. There are three means by which FDI can be financed: (1) the export of equity capital from the parent company; (2) the reinvestment of foreign affiliate earnings; or (3) the extension of debt by the parent company. Since the early 1970s the predominant way USMNEs have financed FDI has been reinvested earnings, with a secondary role played by both infusions of new equity capital and intercompany debt flows.[17] Table 27 shows the increasing favor of reinvested earnings as the means of financing USFDI during the 1980s.

Table 27. Methods of financing USFDI (billions of dollars)

	1982	1983	1984	1985	1986	1987
Capital flows (total)	-2.3	0.37	2.8	18.0	27.8	44.4
Reinvested earnings	1.3	7.1	8.4	19.0	19.7	35.6
Equity capital	9.7	4.9	1.3	-2.2	0.27	2.4
Intercompany debt	-13.4	-11.6	-6.9	1.2	7.8	6.3

Source: Survey of Current Business, Aug. 1988, United States Department of Commerce.

An increasing reliance on reinvested earnings and a decreasing reliance on parent company exports of equity capital or debt suggests that the possibility of substitution has lessened. For if USFDI is financed by the export of equity capital, then it is possible (but not certain) that domestic investment has been displaced in the process. Greater ambiguity exists though in the case of reinvested earnings (defined as the United States parent's

share in foreign affiliate earnings after the payment of income taxes and dividends) because it is less likely that reinvested earnings and dividends are substitutes.[18]

Research

The numerous studies that have been undertaken since the 1960s on the interaction between the domestic and foreign investment decisions of USMNEs have both denied and supported the existence of such an effect. While Helliwell (1976) failed to discover any such interaction, Frank and Freeman (1978) found that every dollar invested abroad in turn reduced the potential domestic capital stock by an amount in excess of one dollar. In the most recent and thorough effort, made by Stevens and Lipsey (1988), the fixed investment decisions of seven large United States MNEs were examined. While little support was found for the displacement of domestic investment as a result of the substitution of foreign production for domestic exports, they did find evidence that domestic and foreign investment opportunities do in fact compete for a firm's capital resources. Because the small sample size prohibits drawing any general conclusions, it nevertheless remains that because the firms included are among the largest American MNEs the results at least hint that USFDI may in some instances displace domestic capital investment. This being the case, it is still not possible to make any estimate of the quantitative employment effects of substitution; even assuming there is such an effect it is undoubtedly not very significant.

With respect to USFDI's effect on the distribution of income, the studies examined varied as to whether or not capital's share of national income has been increased relative to labour's. Musgrave (1975) found that in the case of full displacement, USFDI reduced labour's proportion of national income by around 4 percent and increased capital's by 17 percent. Among the principal problems with this study, however, are that it assumes full displacement and does not allow for adjustment through the trade account. Based on the use of observed data, Frank and Freeman (1978) conclude that labour's share of national income declined between 1.7 and 5.9 percent depending on the assumptions made. But in an analysis of the shares of national income received by labour and capital during the 1946-76 period, Bergsten, Horst and Moran (1978) failed to find evidence that labour's overall share declined, although they do suggest that the benefits and costs of USFDI were distributed unequally between different categories of employees; e.g., professional employees gained while labourers lost. Other studies support this notion of differentiation by category, including Torre, Stobaugh and Telesio (1973). As noted by Kujawa (1986), the effect USMNEs have on the distribution of income may not manifest itself between capital and labour, but instead between the different classification levels within the labour force.

Summary

Displacement of domestic investment and of export/import-competing production are intrinsicly related; thus to determine the domestic employment ramifications of USMNEs both issues need to be examined. As seen in the previous section, scant support exists for an interaction between domestic and foreign investment opportunities through the production side. But although results have been mixed owing in part to the different counterfactual assumptions adopted by researchers with respect to the degree of displacement, the substitution of foreign for domestic investment through enterprises' financial constraints is strongly suggested in the latest work by Stevens and

Lipsey (1988). Critical to assessing the employment effects of such displacement, however, is the substitution ratio since the higher the rate of substitution the more probable that its effects on employment levels is negative. Unfortunately, Stevens and Lipsey do not estimate a substitution ratio.

Government worry over the export of capital reached a peak in the late 1960s and early 1970s when it levied at first voluntary and later mandatory controls on outward capital flows. More recently, the fact that USMNEs' capital investment abroad accounts for approximately 20 percent of the total domestic nonresidential private fixed capital investment in the United States (Glickman and Woodward, 1989) has raised concern in some quarters. Nevertheless, there have been no efforts to restrict USFDI since the repeal of the previously mentioned capital restraints in 1973.

While there is no consensus as to USFDIs impact on the distribution of income between capital and labour, it does appear that grounds exist for believing that USFDI effects the distribution of income within the labour market. The employment created by USFDI in the parent enterprise (direct) and the home-country supply industries (indirect) are typically in the professional, technical, and high-skilled job categories. This result is supported by research into the comparative advantage of the United States in international trade which has found that American exports are increasingly characterized by their intensive use of advanced technology and high-skilled labour (Maskus, 1983).

TECHNOLOGY TRANSFER

A characteristic that generally defines USMNEs, and one that partly explains their multinationality, is their possession of ownership advantages embodied in knowledge-driven firm-specific assets such as research patents, product designs, process or production techniques, management systems, and marketing expertise. These intangible technological assets have provided USMNEs, which predominate in technology-intensive industries, with a competitive advantage enabling them to surmount the difficulties associated with producing abroad and to compete successfully in their home market against foreign rivals. Moreover, among industrialized nations it is now recognized that the creation and sustainability of comparative advantage and economic growth depends largely on the continual development and application of new knowledge and the ability to capture rent on these innovations (Krugman, 1979).

It is thus not surprising that American policymakers and the labour movement have wished to prevent the dissipation of the United States' technological prowess, with its potentially adverse consequences on firm competitiveness and national income and employment.[19] Notwithstanding efforts to this end, there is strong evidence suggesting that in fact the technological leadership of America, and the accompanying "technology gap" between it and Western Europe and Japan, has been eroded (completely in some industries such as video equipment) over the last two decades. For example, in 1981 the United States trade balance on high technology goods registered a surplus of $26.1 billion, but by 1987 this had fallen to a mere $600 million.[20] Whereas in the mid-1970s domestic firms accounted for around 75 percent of patent registrations in the United States, by the mid-1980s foreign firms, particularly those from Japan and the Federal Republic of Germany, had increased their share to around 50 percent.

That the United States is no longer the unrivaled world leader in all technological fields is not disputable; the question remains, however, as to what have been the main causes of this decline. To a certain extent the convergence of technological capabilities among advanced industrialised countries (and to a far lesser extent some developing countries) is a natural byproduct of these countries' rapid economic development since the 1950s. Also of importance is the fact that expenditures on non-military basic and applied research and development have grown more rapidly in some western industrialised countries than in the United States; by 1983, civilian R&D expenditures as a proportion of gross domestic product were higher in Japan and the Federal Republic of Germany than in the United States (National Science Foundation, 1986). Another potential means of the dissipation of American technological leadership, and one that has received considerable attention since the mid-1970s, is the diffusion of United States technology to foreign enterprises and countries, as a result of the international activities of USMNEs (for example, see Glickman, 1989; Scott and Lodge, 1985; Baranson, 1979).[21] As a result of this technology transfer, it is argued, the competitive position of foreign enterprises vis-à-vis USMNEs' and domestic firms has been greatly enhanced, and this has had a negative effect on the United States income and employment.[22] Moreover, the transfer of technology and/or technological capacity overseas is said to have shortened the product life-cycle by increasing the pace of innovation and imitation. When combined with the relatively slower growth of domestically generated innovation, this has eroded United States comparative advantage. Of course, as noted previously, it is in part their technological superiority that allows USMNEs to undertake foreign operations; thus proponents of USMNEs argue that such technology transfer is an essential aspect of their operations. At the same time, a common assumption has been that USMNEs will not transfer technology if it is not in their interests to do so, and that this self-interest in turn

prevents damage occurring to United States national welfare. This equating of enterprise and the national interest may not always be justified, however, as will be discussed below.

The principal means by which USMNEs transfer technology abroad is through FDI, licensing, joint ventures and, of lesser importance, exporting (the latter three of which can also be attributed to enterprises with only domestic operations). Typically this involves the transfer of either operative, duplicative, or innovative capabilities. Because the location and source of the vast majority of USFDI and of receipts from royalty and licensing fees and service charges is the developed world, it follows that most of the technology transferred by USMNEs has gone to the Western industrialised countries. To have had a negative effect on the United States' employment, this transfer of technology must have resulted in the displacement of production in America intended for either domestic and/or foreign markets. Theoretically this can occur in numerous ways, including by increasing the competitiveness of related or non-related foreign firms or creating new competitors based on the transferred technology. Of course, the transfer of technology may also increase domestic employment by stimulating demand for R&D and technical professionals and for home-country exports of capital equipment and consumer goods.

It should be noted at the outset that there is scant empirical evidence on the domestic employment effects of the transfer of technology by USMNEs, regardless of the means of transfer. This in part reflects the difficulty in collecting enough meaningful data and then interpreting it within the complex context of international economic relationships between states and enterprises.

Exports. Addressing the least significant channel first, for technology to be transferred through exports requires that the importing firm and/or country be able to extract the technology which is embedded in the capital or consumer good through the process of reverse engineering. Once the technology is understood and perfected, the possibility then exists to imitate its production. With respect to United States' exports of consumer or capital goods, there is no concrete evidence as to the extent to which this process has occurred or to its effects on employment, but it has probably not negatively effected medium- or high-technology industries. One can assume that its influence on aggregate employment has been minimal at most, although it has perhaps had more impact on employment in low-technology industries. Given that a relatively sophisticated technological capability and infrastructure is necessary in order to reverse engineer all but the most basic consumer products, it follows that what technology has been diffused in this manner has gone to other industrial countries[23] and to the most advanced developing countries.

Licensing. Far more controversial than the transfer of technology through exports of capital or consumer goods, however, is the licensing of technology by USMNEs to foreign entities.[24] The majority of licensing agreements entered into by USMNEs are between a parent and foreign affiliate, with a minority accounted for by agreements with partially owned firms (joint venture) and non-related foreign entities. One measure (admittedly imperfect[25]) of the extent of licensing by USMNEs is the amount of royalty and licensing fees for intellectual property rights and service charges for technical, managerial and marketing assistance received from foreign entities. Table 28 shows the growth of these receipts during the 1980s, as well as of similar payments to foreign entities. Two noteworthy points are that payments have increased more rapidly than receipts, which suggests that the United States' rate of innovation has declined relative to that of other countries, and that affiliated receipts are far larger and have grown faster than unaffiliated receipts.

Table 28. Receipts and payments by United States firms of royalties and licence fees and other service charges (billions of dollars)

	1982	1983	1984	1985	1986	1987	1988
Receipts	5.1	7.6	8.0	10.4	12.4	13.4	10.7
Affiliated R&L	3.5	3.6	3.9	4.2	5.4	6.9	8.3
Unaffiliated R&L	1.6	1.6	1.7	1.9	1.8	2.1	2.4
Other services	n.a.	2.4	2.4	4.3	5.2	4.7	n.a.
Payments R&L	0.617	0.723	0.955	0.891	1.1	1.3	2.0

Source: United States Department of Commerce, Survey of current business, various issues.

From a theoretical perspective, the domestic employment implications of licensing are negative to the extent that licensing agreements substitute for FDI or exports, and are thus trade destroying (Vernon, 1981). Adverse employment effect of a more long-term nature could occur if the technology trnsferred increased the technological capabilities of the foreign enterprise, and thereby enhanced its competitiveness vis-à-vis the licensor; of particular concern here is the transfer of advanced, cutting edge technology. Conversely, it is possible that because of a lack of financial and/or managerial resources a firm is not able to fully exploit a commercially viable technology either through domestic production or FDI. Furthermore, licensing may involve access to another enterprise's critical technology through a reciprocal agreement. Therefore, it is clear that in many instances licensing may be imperative for enterprises, and because of this its restriction could eventually have negative repercussions on domestic employment by reducing United States' firms' ability to extract rent on their innovations.[26] Moreover, restriction would also undoubtedly reduce access to foreign technologies; the potentially adverse effects of this are well illustrated by the fact that the American textile industry is now among the world's most productive, largely owing to its use of foreign technology (Office of Technology Assessment, 1987).

Notwithstanding these arguments, there is considerable anecdotal evidence that suggests foreign firms and nations have greatly benefited, perhaps at the expense of the United States' economy in general and, more specifically, employment, from access to American technology through licensing agreements, especially those with unrelated foreign entities. Without question the best example of a country using licensed technology (mostly American) to spur industrial development is that of Japan in the post-war era. By promoting licensing and severely restricting FDI, the Japanese Government facilitated the creation of the industrial and technological base for what is now one of the world's most advanced economies. For example, the basic technology for producing transitors, which one can argue was the backbone of Japan's eventual domination of the American radio and television markets, was licensed from AT&T's Bell Laboratories in the late 1950s (Dicken, 1986). Japan's steel industry was established largely with American technology, and from this foundation it quickly surpassed United States' producers in efficiency and technological advances.[27] Other examples abound of countries that have

benefited from the use of foreign technology. The export-led industrial development strategies and initial international industrial competitiveness of the area Hong Kong, the Republic of Korea and Taiwan (China) were based in part on the exploitation of licensed technology in industries which had reached maturity in Western countries, including steel, textiles and shipbuilding. As it well known, employment in the United States' basic industries has plummeted over the last decade, in part owing to stiff import competition originating in these and other countries.

But it should not be inferred that restricting licensing in industries with mature technologies would have preserved employment in the United States' basic industries. These technologies would eventually (if not immediately) been available from other suppliers, and more fundamentally the shift of production in basic industries to developing countries is a natural result of changing patterns of comparative advantage. Of far greater concern is the transfer of core technologies. In the last decade American companies in advanced-technology industries have joined with Japanese and European firms in a large number of licensing agreements revolving around the development and sharing of proprietary technology. These agreements have been heavily criticised for their transfer of advanced American technology to foreign rivals, and as such exemplify a markedly different approach to licensing than that taken in the past by American firms. In accordance with economic theory, United States' firms had traditionally licensed mature technologies that had become widespread, and not those whose risk of appropriability was high.

It is not just developed countries where the transfer of advanced technology is of concern. Most NICs[28] are now in the process of establishing indigenous high-technology industries, and it is not unusual for these countries to require technology-sharing as a condition for selling in their domestic markets. There is evidence suggesting that the technology transferred in the joint venture between Gold Star Semiconductor of the Republic of Korea and AT&T's Western Electric was at least partly responsible for the rapid development of the Republic of Korea's chip manufacturing capabilities (Grunwald and Flamm, 1985).

USFDI. Many researchers consider that USMNEs' FDI is the channel through which the largest amount of technology is transferred. From a theoretical standpoint, USMNEs are more likely to internalize the transfer of technology to ensure the necessary return on their R&D investment when the technology is of a core, or commercially extremely valuable, nature. It is not true, of course, that all USFDI involves the transfer of advanced technology to foreign affiliates; the amount and type of technology transferred will vary depending on the characteristics of the investment. As a general rule, USFDI in the manufacturing sector will entail a higher level of technology transfer than that in the service or primary sectors. Furthermore, offshore assembly operations will not transfer as much product and process technology as investments in full-fledged manufacturing plants, although some transfer surely does occur in the area of human resource development. In any case, measuring the technology transferred through USFDI is extremely difficult since it is internalised within the firm and normally involves all aspects of a firm's intangible assets.

Given that USFDI has a pervasive influence on many aspects of host-country economies, it is understandable that it affects the transfer of technology in numerous ways. At the most basic level, the mere establishment of a manufacturing facility can generate positive externalities; local firms in the same industry, spurred by the competitive pressure emanating from the technically well-endowed MNE, may be forced to adopt more efficient and technologically advanced methods of production. Similarly, local firms supplying MNEs with inputs may need to improve their product quality, delivery

time, etc., to match the requirements of the MNE, and it is not unusual for MNEs to in turn supply the technology necessary to this end. Therefore, it is not unreasonable to suspect that USFDI has influenced the operating efficiency and technological sophistication of domestic firms in developed and developing countries. Dunning (1987) argues that USFDI in Western Europe in the post-war era has forced European firms to increase their efficiency, technological capacity, and use of advanced technology. Similar effects have also been found with respect to developing countries (Blomstrom and Persson, 1983; Das, 1987). Although there are not aggregate statistics measuring the nature and degree of USFDI's "spillover efficiency" effects and the consequences of such for employment in the United States, it probably has been far greater in terms of USFDI in Western Europe than in developing countries.

A direct transfer of technology through USMNEs' FDI can occur as a result of their quite common policy of investing in local human capital through employee training and development programmes. By enhancing local management's knowledge of modern organisational and production concepts, and the know-how capabilities of manufacturing workers, USMNEs upgrade the stock of quality workers in the host-country's labour market. Among others, studies by the ILO and OECD have dominated the importance of the transfer of technology through training programmes in various industries. It should be noted that the amount invested in human capital undoubtedly varies depending on the type of operation being established; for example, offshore assembly facilities probably do not invest a great deal in training and development. Moreover, this learning effect is of far greater importance in developing countries than in advanced industrial economies. Assuming that labour mobility exists between USMNEs and other foreign and local firms (a questionable assumption)[29] and that it is significant, the investment in human capital could increase other firms' competitive position vis-à-vis USMNEs.

Finally, related to the question of the employment effects of the transfer of technology through FDI is the establishment by USMNEs of research and development (R&D) centres in foreign locations. Rather than the transfer of technology per se, the setting up of R&D facilities overseas represents a transfer of technological capacity. As a proportion of USMNEs' worldwide expenditures on R&D, foreign R&D grew steadily during the 1960s and 1970s until by the early 1980s it accounted for somewhere in the range of 6 to 12 per cent;[30] the vast majority of which is located in developed countries and concentrated in relatively few industries. Though its proportion of USMNEs' domestic R&D is small, some studies suggest that there are wide differences between firms. For example, whether or not USMNEs' foreign R&D displaces domestic R&D, and thus has negative effects on domestic R&D employment, and/or results in the diffusion of core technology to foreign competitors largely depends on the type of R&D facility established. If the purpose is to develop products and/or processes intended for use in the MNEs global marketing strategy, then it is possible that employment displacement and/or technology diffusion may occur. But because numerous studies of USMNEs overseas R&D have generally concluded that its main purpose is to adapt products and processes to local needs[31] and that among its primary motivating factors is not access to lower labour costs[32] (Manfield et all., 1979; Ronstadt, 1978; and Stobaugh and Wells, 1984), the displacement and diffusion effects are likely to be limited at most. These studies support the general assumption that core R&D will be centralised owing to the gains from synergism and scale economies resulting from close contact between research, management, engineering, marketing, finance and production personnel (Lall, 1985).

Summary

USMNEs have unquestionably been an important conduit of technology transfer to both developed and developing countries since the 1950s. This transfer was greatly facilitated within the developed world by the OECD system which encouraged foreign direct investment, trade, and licensing between member States. From the perspective of the United States' economy, this transfer has contributed to the raising of living standards worldwide and thus to an increase in demand for United States' exports and employment in export-oriented industries. Moreover, research strongly suggests that the ability to gain further rent on their technology through its foreign sale and utilization (FDI, licensing, export) has induced higher levels of R&D spending by USMNEs than if such opportunities were denied or did not exist (Hirschey and Caves, 1981; Mansfield et al., 1980). Thus it can be convincingly argued that the ability to transfer technology overseas increases the overall technological capabilities of USMNEs and the United States economy. At the same time, it must be recognised that such transfer has also enhanced the competitiveness of recipient enterprises and eventually host-country economies with, in some cases, undoubtedly negative effects on employment in the United States.

Micro-economic theory suggests that enterprises will transfer technology until the marginal costs exceed revenues; it is not reasonable to assume that enterprises will transfer technology if they know that it will not serve their interests, at least in the short term. Although it is thus plausible that all technology transfers by USMNEs are beneficial from the enterprise's perspective, this may not be true from society's point of view. In some cases the social costs of technology transfer may be higher than the private costs, and thus the interests of the enterprise and nation may diverge as the former seeks to optimise its allocation of technological resources on a global basis.

A divergence of interests is more likely to occur when the transfer involves advanced technology not widely available from other sources; mature technologies are easily purchased or copied, and for this reason both enterprise and nation will benefit from the enterprise extracting further rent on its technology through its sale or utilisation abroad. But when an enterprise transfers core technology - as has been the case in the large number of licensing agreements and joint ventures entered into by many USMNEs with Japanese and European enterprises during the 1980s - the benefits accruing to the USMNE may not be shared by United States society. USMNEs have historically transferred advanced technology only to foreign affiliates via FDI, and not to unaffiliated foreign enterprises via licensing or joint-venture agreements. Just as some evidence from the 1970s points to a shortening of the period between innovation in the United States and transfer to foreign affiliates (Mansfield and Romeo, 1980), it also appears that over the last two decades USMNEs have grown less reluctant to transfer core technology to unaffiliated foreign enterprises. From an enterprise standpoint there are undoubtedly sound economic reasons for entering into such agreements in most cases, including the extraordinarily high R&D costs of developing new products and the need to market on a global scale.

THE EMPLOYMENT EFFECTS OF FOREIGN MULTINATIONALS IN THE UNITED STATES

The employment effects of inward foreign direct investment (FDIUS) may be conceptualised as having both direct and indirect as well as quantitative and qualitative aspects. The literature on employment effects is not comprehensive, a reflection of both the available data and the relatively recent growth of FDIUS. The debate over the employment effects of direct investment is a broad one that includes both negative and positive repercussions. The matrix below briefly summarises the possibilities.

Table 29. The range of employment effects of FDIUS

		Quantitative	Qualitative
Direct	+	The number of employees directly employed by foreign-owned firms	Improved wages, job conditions, and employment security of direct employees
	–	Few (or no) jobs created by FDIUS	Wages and working conditions inferior to those in domestic firms, and difficulties faced by trade unions
Indirect	+	The number domestically employed because of commercial links with foreign subsidiaries in the United States	Improved employment conditions of those in competition with or supplying foreign affiliates
	–	Reduced multiplier effect because of increased imported parts & supplies and jobs lost from foreign competitors	Worsened wages and working conditions from increased competition in supply industries

It is conceptually convenient to view the employment effects issue in this manner, but the data universe suggested by the matrix clearly represents an ideal. For example, information on the "direct, quantitative" employment effect of FDIUS depends upon the Department of Commerce FDI statistics which record foreign ownership of at least 10 percent of equity, and exclude the banking industry. The employment data presented in the previous section are based on the Commerce Department definitions, but the data do not reveal the degree of control by foreigners of these firms.

How United States employees become "foreign-affiliated" is related to the mode of entry of the foreign capital; that is, whether the entity is a new start-up or the result of an acquisition. This difference in turn begs the question of whether FDIUS is employment-creating or whether jobs are merely transferred from domestic to foreign "ownership." This distinction is important from a policy standpoint, as will be seen below.

The "direct, qualitative" employment effect of FDIUS is even more prone to ambiguity. Data are largely unavailable, first of all, on the relative wages, quality of jobs, and working conditions of foreign versus domestic firms. Moreover, even where data on, say, relative wages are available, it is difficult to explain differences given the many possible factors at work.

Direct employment effects

From a policy standpoint, the major advantage of foreign direct investment is assumed to be its contribution to employment creation in the host country. The supposed positive employment effect is surely among the principal justifications for a variety of inducements offered at the state level in the United States to attract foreign investors. The direct employment effects of FDIUS, however, appear to be variable. One school of thought is skeptical of the employment benefits resulting from FDIUS, while another finds employment creation to be the principal benefit of foreign-owned subsidiaries, and, indeed is a major assumption of government policy at the national and state levels.

The most positive employment effect of FDIUS would result from (1) the construction of new plant and equipment in (2) either a new or expanding industry by a foreign firm that (3) previously exported to the United States. A fourth positive factor may depend upon the foreign investor's strategy: Kujawa (1986), for example, distinguishes between entrepreneurial market-seekers and market-followers, the former assumed to follow a riskier strategy from an employment standpoint. Glickman and Woodward (1989) distinguish between "patient capitalists," or those willing to sustain losses in the initial years of the investment, and those investors whose principal interest is in realising capital gains from the upward valuation of stock prices. Much of the debate centres on the extent to which FDIUS departs from the "positive employment effects" model.

Employment effects and mode of entry

The preferred means of direct investment in the United States is through the takeover of domestic firms by foreign capital. In recent years, virtually on a daily basis, newspapers have recorded the foreign purchase of well-known United States firms. The Sony Corporation's 1989 acquisitions of CBS Records and Columbia Pictures are recent examples. Very few foreign acquisitions of domestic firms are "hostile" takeovers (GAO, 1988). In fact, to the degree that foreign purchasers outbid potential domestic buyers, the domestic firm is assured of receiving the highest price for its assets (Ott, 1989).

When foreign firms acquire existing United States assets, however, employment is merely transferred to foreign ownership, rather than "created." For example, while total FDIUS expanded from $8 billion in 1983 to $65 billion in 1988, capital expansion grew from $3.3 billion to $5 billion over the same years, lending support to the conclusion that new plant construction is only a small share of total FDIUS (Business Week, 4 October 1989). Omestad (1989) states that: "in 1986, 81 percent of the value of FDI and 97 percent of all employment added to foreign payrolls came through mergers and acquisitions" (p. 134).

Given the popularity of acquiring existing domestic assets as a mode of entry for foreign direct investment, it is important to stress the distinction between jobs created by FDIUS and existing jobs transferred to foreign

ownership. As noted above, relative to other developed countries, comparatively little of the United States workforce is employed by foreign owners; but the jobs actually created by foreign direct investors account for only a small minority of the 3.6 percent of all foreign-affiliated jobs.

The takeover of existing firms may have a neutral employment effect, or increase or decrease employment. Some observers conclude that foreign takeovers may decrease employment status quo ante as the acquired firm is restructured and labour is shed (Tolchins, 1988; Glickman and Woodward, 1989; Omestad, 1989). One report comments that, after the takeovers of Allied Giant and Federated Department Stores by a Canadian investor, "more than 10,000 workers were laid off and a number of retail chains were sold," (Omestad, p. 134). Recently, the United States Government expressed concern to the government of the United Kingdom over the possible United States employment consequences of the sale of BAT Industries (Business International, 21 August 1989). Aside from a few, admittedly major takeovers, however, there may be little reason to believe that acquisitions typically result in employment reduction (Brown and Medoff, 1987), or that employment loss might not have been greater absent the takeover (Severiens, 1982; Little, 1986).

Calculating the direct employment effect

The direct employment tally of FDIUS relies on three sources: jobs created through foreign start-ups, whether wholly-owned or joint ventures, jobs created through expansion of existing foreign-owned subsidiaries, and jobs transferred to foreign owners through their acquisition of domestic firms. Using Commerce Department data, Glickman and Woodward (1989) analyzed the sources of foreign-affiliated employment. For the period from 1980 to 1987, for example, the BEA estimates that 90,000 jobs - or 11,000 jobs per year - were created by new foreign plant start-ups. Japanese investors, in particular, have shown a pronounced tendency for investing in "greenfield" sites (see below), thereby adding to employment creation. (Although the weakened dollar since 1985 has been accompanied by a pronounced increase in Japanese acquisitions of United States firms.) Over the period from 1982 to 1986, the BEA estimates that 385,000 jobs were created via the expansion of existing foreign-owned subsidiaries in the United States. Although both these and the jobs created by new start-ups represent gains in employment over the period, they do not represent the net record of employment creation as they do not include jobs lost in foreign-owned firms over the period.

The direct employment position of foreign subsidiaries is further complicated because the bulk of the changes (in employment terms) of FDIUS is the result of the transfer of ownership to foreigners of existing domestic firms - or the reverse. For example, Glickman and Woodward observe that when the German company, Flick, sold its minority share in W.R. Grace in 1986, the transaction was recorded in employment terms as a "loss" of 100,000 foreign-controlled jobs in the United States. Although the consistent trend has been for more jobs to be "sold" to foreign owners than to be shed by them, the point is that the foreign/domestic transactions represent changes in ownership of existing jobs rather than job creation per se. The table below summarises this recent analysis of the direct employment effect of FDIUS for a multi-year period in the 1980s.

Table 30. Direct employment effect of FDIUS, 1982-86

Foreign additions to employment through:	
Start-ups and plant expansions	+ 386 432
Acquisitions of domestic firms	+ 1 381 690
Foreign reductions in employment through:	
Cutbacks in foreign-owned firms	- 442 295
Sale/liquidation of foreign-owned firms	- 777 900
NET EMPLOYMENT POSITION OF FDIUS	+ 547 927

Source: United States Department of Commerce data analysed by N. Glickman and D. Woodward: The new competitors (New York: Basic Books, 1989), p. 134.

Glickman and Woodward's analysis raises several interesting (and perhaps non-obvious) conclusions. First, in terms of jobs actually created by foreign investors over the period, more jobs were lost due to cut-backs than actually created, yielding a net reduction of 55,863 jobs. The authors comment that the inclusion of the recession year, 1982, biases the result, as foreign-owned firms shed 140,000 workers in that year. By recalculating their estimates for the post-recession years of 1984-1986, the authors find a net employment gain, (new start-ups and expansions minus cutbacks), amounting to 55,510 - a meager total in view of the over 5 million jobs created in the United States economy during these years.

Not all analysts agree with the above conclusion. Little (1986), for example, offers a different opinion of the loss of foreign-owned jobs. Looking at all sources of foreign-owned employment during the recession years of the early 1980s, she concludes a higher foreign than domestic contribution to employment: "Foreign investment generally helped maintain both total and manufacturing employment at higher levels than would have occurred otherwise. [FDIUS] thus helped ease some of the transitional and cyclical stresses experienced by the economy" (p. 43).

The second finding of interest in the Glickman and Woodward analysis is that the bulk of foreign-owned employment is through takeover activity. In employment terms, moreover, over 50 percent of that activity was in the sale or liquidation of formerly foreign-owned jobs (777,900) which, when measured against foreign purchases of domestic jobs (1,381,690), yields a net increase through acquisitions by foreigners of 603,790 jobs. The BEA data do not distinguish between the sale or liquidation of foreign-owned assets, however. This is an important omission, for it thus becomes impossible to tell whether the 777,900 jobs sold or liquidated over the period in fact resulted in job loss or the further transfer of ownership of existing jobs.

The data are inconclusive on the employment effects of takeover activity, and there appears to be as much anecdotal evidence for arguing a positive employment effect of acquisitions as on the side that views takeovers as job-destroying. For example, the foreign infusion of capital into the declining United States steel industry in the 1980s, or the re-employment of laid-off autoworkers through the Toyota-G.M. joint venture constitute the positive side of takeovers. The dramatic labour-shedding resulting from

heavily leveraged buy-outs, on the other hand, implies a less salutary effect on employment of the 1980s' takeover binge.

It is nevertheless important to regain more solid footing - at least conceptually - in considering the employment effect of acquisitions as these constitute the major source of foreign employment in the United States. Severiens (1982), for example, found that domestic takeover targets of foreign multinationals had been performing less well than industry averages at the time of the takeover. Other evidence of the reindustrializing effect of foreign takeovers is given by Aho and Levinson (1988). In some instances, then, the infusion of foreign capital and management can often be construed as having an employment-preservation effect by rescuing jobs that might otherwise have been lost. That effect, moreover, conceivably applies to foreign-acquired firms that may subsequently shed employment, such as Tengelmann's purchase of A&P, or Bridgestone's purchase of Firestone, the argument being that more drastic job loss or outright closure might have ensued absent the foreign purchase.

Another point of conceptual interest, but one for which substantiating data are lacking, centres on the nature or intent of foreign acquisitions. To the extent, for example, that "corporate raiders'" behavior resembles more portfolio than direct investment, (i.e. a "green-mail" strategy), the employment consequences may be less favorable. The profit-taking intent of the investor may induce the need for greater cost discipline in the targeted firm with negative employment consequences. The economic effects of takeovers, however, are much debated. The most that can be said here is that the employment effects of acquisitions may go in either direction and that there is no reason to assume that the majority of acquisitions ultimately result in less stable employment than in new start-ups or plant expansions.

Mode of entry, country of investor, and regional dispersion

In the tables below, the relative importance of "employment-acquiring" versus "employment-creating" investments is illustrated. Of particular interest are the data showing a greater propensity for direct investment from Japan to be employment-creating in nature. Also of interest are the figures comparing mergers/acquisitions with new start-ups and expansions on a regional basis. In an earlier section it was noted that the regional concentration of foreign-affiliated jobs did not depart substantially from overall regional employment patterns. While this appears to be the case, Southeastern states account for a disproportionate share of new start-ups as mode of entry.

The relative preference for new start-ups to be regionally concentrated in the Southeast and Southwest may be a reflection of the greater availability and lower cost of land there (Stekler and Stevens, 1989), the result of aggressive foreign investment-seeking policies of the Southern states (Ott, 1989), and of the region's dynamic market growth relative to other United States regions. The extent to which this preference may be related to labour market factors is discussed in a subsequent section.

Table 31. Foreign employment-creating and employment-acquiring investments through 1986 by industry

Industry	*Employment-Creating Investments*	*Employment-Acquiring Investments*
Agriculture, Forestry and Fishing	5	33
Mining	12	425
Construction	1	47
Food, Feed and Tobacco	51	169
Textiles and Apparel	28	64
Wood Products and Furniture	27	30
Paper Printing and Publishing	47	269
Chemical Products	221	258
Petroleum and Coal Products	20	33
Rubber, Plastics and Leather	49	71
Stone, Clay and Glass	37	109
Primary Metals	64	122
Fabricated Metals	48	100
Nonelectric Machinery	112	340
Electric and Electronic Equipment	141	321
Transportation Equipment	107	65
Measuring and Scientific Equipment	46	111
Miscellaneous Manufacturing	39	46
Transportation, Communication, and Public Utilities	33	209
Wholesale Trade	73	728
Retail Trade	14	405
Finance and Insurance	0	420
Services	31	572
Total	1206	4947

Note: Employment-creating investments consist of new plants and plant expansions. Employment-acquiring investments consist of mergers and acquisitions, joint ventures, equity investments and unclassified categories.

Source: Department of Commerce, International Trade Administration. Cited in Norman J. Glickman and Douglas P. Woodward: The new competitors: How foreign investors are changing the United States economy (New York: Basic Books, 1989), p. 312.

Table 32. Japanese employment-creating and employment-acquiring investments in manufacturing through 1986 by industry

Industry	*Employment-Creating Investments*	*Employment-Acquiring Investments*
Agriculture, Forestry and Fishing	10	4
Food, Feed and Tobacco	51	53
Textiles and Apparel	11	11
Wood Products and Furniture	6	4
Paper, Printing and Publishing	16	2
Chemical Products	24	48
Petroleum and Coal Products	0	3
Rubber, Plastic and Leather	32	12
Stone, Glass and Clay	8	10
Primary Metals	18	16
Fabricated Metals	27	11
Machinery Except Electrical	62	45
Electric and Electronic Equipment	80	35
Transportation Equipment	31	3
Measurement and Scientific Equipment	22	12
Miscellaneous Manufacturing	22	5
Total	420	274

Note: Employment-creating investments consist of new plants. Employment-acquiring investments consist of mergers and acquisitions.

Source: Japan Economic Institute. Cited in Glickman and Woodward (see table 31), p. 313.

Table 33. New plants and expansions, state and regional comparisons (1979-86)

	New Plants/ Expansions	*Share of U.S.*	*Index of New Plants and Expansions (U.S. Average = 100)*
New England			
Connecticut	29	2.80%	127.42
Maine	7	0.68%	118.55
Massachusetts	21	2.03%	60.84
New Hampshire	2	0.19%	34.82
Rhode Island	8	0.77%	130.73
Vermont	9	0.87%	356.74
Total	76	7.35%	97.98
Mideast			
Delaware	12	1.16%	328.76
District of Columbia	0	0.00%	0.00
Maryland	27	2.61%	214.96
New Jersey	41	3.97%	101.30
New York	79	7.64%	103.72
Pennsylvania	39	3.77%	61.57
Total	198	19.15%	100.45
Great Lakes			
Illinois	33	3.19%	57.51
Indiana	19	1.84%	60.51
Michigan	26	2.51%	54.79
Ohio	33	3.19%	55.79
Wisconsin	9	0.87%	24.06
Total	120	11.61%	51.55
Plains			
Iowa	6	0.58%	52.48
Kansas	0	0.00%	0.00
Minnesota	5	0.48%	26.61
Missouri	18	1.74%	82.59
Nebraska	0	0.00%	0.00
North Dakota	0	0.00%	0.00
South Dakota	1	0.10%	74.52
Total	30	2.90%	43.94

Table 33. (cont.)

	New Plants/ Expansions	*Share of U.S.*	*Index of New Plants and Expansions (U.S. Average = 100)*
Southeast			
Alabama	27	2.61%	152.42
Arkansas	10	0.97%	98.05
Florida	21	2.03%	86.17
Georgia	64	6.19%	237.04
Kentucky	25	2.42%	188.56
Louisiana	30	2.90%	276.68
Mississippi	9	0.87%	83.00
North Carolina	81	7.83%	188.86
South Carolina	28	2.71%	141.75
Tennessee	40	3.87%	161.30
Virginia	42	4.06%	200.11
West Virginia	8	0.77%	155.25
Total	385	37.23%	169.00
Southwest			
Arizona	4	0.39%	49.68
New Mexico	1	0.10%	56.45
Oklahoma	6	0.58%	56.74
Texas	82	7.93%	144.25
Total	93	8.99%	120.40
Rocky Mountains			
Colorado	3	0.29%	29.11
Idaho	1	0.10%	38.81
Montana	0	0.00%	0.00
Utah	1	0.10%	22.45
Wyoming	0	0.00%	0.00
Total	5	0.48%	26.39
Far West			
California	98	9.48%	91.06
Nevada	1	0.10%	93.15
Oregon	11	1.06%	110.77
Washington	17	1.64%	108.83
Total	127	12.28%	94.60
Total U.S.	1034	100.00%	100.00

Source: United States Department of Commerce, International Trade Administration. Cited in Glickman and Woodward (see table 31), pp. 326-328.

Table 34. Acquisitions and mergers, state and regional comparisons (1979-86)

	Acquisitions/ Mergers	*Share of U.S.*	*Index of Acquisitions and Mergers (U.S. Average = 100)*
New England			
Connecticut	55	3.74%	169.75
Maine	5	0.34%	59.48
Massachusetts	62	4.21%	126.18
New Hampshire	12	0.82%	146.76
Rhode Island	13	0.88%	149.23
Vermont	4	0.27%	111.37
Total	151	10.26%	136.75
Mideast			
Delaware	9	0.61%	173.20
District of Columbia	5	0.34%	384.89
Maryland	19	1.29%	106.26
New Jersey	98	6.66%	170.09
New York	220	14.95%	202.89
Pennsylvania	92	6.25%	102.03
Total	443	30.10%	157.88
Great Lakes			
Illinois	89	6.05%	108.95
Indiana	23	1.56%	51.45
Michigan	46	3.13%	68.10
Ohio	65	4.42%	77.19
Wisconsin	40	2.72%	75.10
Total	263	17.87%	79.36
Plains			
Iowa	8	0.54%	49.15
Kansas	7	0.48%	53.57
Minnesota	22	1.49%	82.26
Missouri	23	1.56%	74.13
Nebraska	2	0.14%	28.45
North Dakota	0	0.00%	0.00
South Dakota	2	0.14%	104.69
Total	64	4.35%	65.84

Table 34. (cont.)

	Acquisitions/ Mergers	*Share of U.S.*	*Index of Acquisitions and Mergers (U.S. Average = 100)*
Southeast			
Alabama	8	0.54%	31.72
Arkansas	3	0.20%	20.66
Florida	48	3.26%	138.36
Georgia	38	2.58%	98.86
Kentucky	16	1.09%	84.77
Louisiana	12	0.82%	77.74
Mississippi	4	0.27%	25.91
North Carolina	32	2.17%	52.41
South Carolina	10	0.68%	35.56
Tennessee	18	1.22%	50.99
Virginia	11	0.75%	36.82
West Virginia	3	0.20%	40.89
Total	203	13.79%	62.59
Southwest			
Arizona	7	0.48%	61.07
New Mexico	3	0.20%	118.97
Oklahoma	7	0.48%	46.50
Texas	59	4.01%	72.91
Total	76	5.16%	69.11
Rocky Mountains			
Colorado	16	1.09%	109.05
Idaho	2	0.14%	54.53
Montana	0	0.00%	0.00
Utah	2	0.14%	31.53
Wyoming	0	0.00%	0.00
Total	20	1.36%	74.14
Far West			
California	222	15.08%	144.90
Nevada	4	0.27%	261.73
Oregon	9	0.61%	63.66
Washington	17	1.15%	76.45
Total	252	17.12%	131.86
Total U.S.	1472	100.00%	100.00

Source: United States Department of Commerce, International Trade Administration. Cited in Glickman and Woodward (see table 31), pp. 326-328.

Industry choice and direct employment effects

Inward FDI by industrial sector was described in an earlier section. It is important to revisit the subject since characteristics of the foreign-invested industry influence the direct employment effect in two ways. First, to the extent that domestic production is a substitute for imported goods, the employment effect of FDIUS will be most positive. Second, the domestic demand characteristics of the foreign-invested industry also shape the employment effect. In particular, in an industry already facing overcapacity and relatively stable demand, FDIUS could "displace" domestic employment in the industry, (UAW, 1986; Mendelowitz, 1988a).[34]

With respect to the first question, both theory and empirical evidence show that direct investment is to some degree import-substituting, although trade links between the investing firm and the parent or home-country suppliers are normally established by the subsidiary. As noted in the first section, the international trade of foreign subsidiaries in the United States amounted to $190 billion in 1987, of which a full three-quarters were imports to United States subsidiaries.

As for the second question, the propensity of FDIUS to displace domestic employment, much of the effect is indirect and will be discussed in the following section. Nevertheless, a direct employment effect of, for example, Japanese investment in the domestic auto industry, arises from the greater efficiency in the organization of production of Japanese versus domestic automakers. To the degree that Japanese automakers operate more efficiently than domestic producers and thus require less labour input to produce the same output, the direct employment effect of the investment is less great than were the output produced by domestic firms. The problem with this argument is that it assumes that Japanese cars produced in the United States are substitutes for domestic products, which may not be the case. There may therefore be no grounds for assuming that domestic automakers could expand to "fill the void" in the absence of United States-produced Japanese cars. Other conclusions of a study of the employment effects of Japanese automakers in the United States by the United States General Accounting Office (GAO) are discussed in the following section.

Indirect quantitative employment effects

The greater effect of FDIUS on employment in quantitative terms may be indirect rather than direct (UNCTC, 1988; Jequier, 1989), the jobs created or sustained by the direct investment's commercial links in the domestic economy. When a new manufacturing plant is built, for example, the investment creates construction jobs in the short term and, once in operation, creates demand through vertical linkages, both in a "forward" sense, the distribution and transportation network required to move the product to market, and in a "backward" sense via the variety of parts and supplies required for production. The indirect employment effect extends horizontally as well through the effect on competitors' employment by the foreign firm (Aho and Levinson, 1988).

In fact, the indirect employment effect is rather more complicated than the hypothetical examples above, and is inherently difficult to quantify. The more immediate indirect effects depend in large measure on the economic inter-linkagages in which the firm is engaged, which economists endeavor to quantify by use of "input-output" analysis. Depending upon the industry, the employment "multiplier effect" is variously great. The Bureau of Labor

Statistics, for example, estimates that each direct job in domestic auto manufacturing sustains 4.87 additional jobs forward and backward in the economy (Mendelowitz, 1988a). But there are in addition to these more immediate indirect effects, other ways in which direct investment may contribute to employment growth in unrelated sectors of the economy.

Jequier (1989) provides a typology of these arguably significant sources of indirect employment. At the most basic, direct jobs created in a community provide wages that are spent on a variety of locally employment-generating goods and services. Other indirect sources of job creation may arise from macroeconomic effects of FDIUS. To the extent that foreign direct investment increases competition in an industry and thereby lowers prices, a "consumer surplus" effect results with consumers having more money to spend on other employment-generating consumption. Similarly, a job-creating "technology effect" may result from the spillover to the domestic economy of technology transferred from the foreign firm. Difficulty, of course, remains in attaching quantitative significance to these effects.

Positive and negative indirect employment effects

As with direct employment effects, indirect effects can also work both ways. The chain of positive indirect effects described above is potentially quite lengthy, including third-, fourth-, or possibly Nth-order effects (e.g. the direct firm purchases from a parts firm, which in turn places orders with a supplier to the parts firm, etc.).

There are other, indirect effects, however, which may be negative for the economy. The foreign firm may have a negative employment effect on domestic competitors. In the early 1980s, the United States auto industry, for example, believed that the substitution of Japanese direct investment in the United States for imported cars would help relieve the competitive pressure in the industry since the Japanese firms would now have to adjust to United States production and labour costs. This scenario has not proven correct as the Japanese have proven themselves to be as formidable competitors on United States soil as have been their exports. As will be discussed below, the negative consequences induced by greater competition has policy consequences, for states compete for foreign investors via tax abatements and a range of subsidies. Even if there have been "efficiency spillover" effects resulting from the stimulus of foreign affiliates (Aho and Levinson, 1988), it may still be difficult in some instances for domestic firms to "catch up" with the new competition (Tolchins, 1988; Gordon and Lees, 1986; Reich and Mankin, 1986).

Foreign firms may significantly reduce the employment multiplier effect of their investments by continuing to rely on foreign sourcing. Again, it is the Japanese who attract most concern in this regard because of their characteristically close rather than arm's length relationships with suppliers. Several sources comment on the much higher percentage of foreign (Japanese) sourcing of Japanese firms in the United States. The Commerce Department's benchmark survey data, moreover, show both that imports to foreign firms in the United States greatly surpass exports from those firms, and that the Japanese investments account for almost half of all imports to foreign-owned firms in the United States. There is no question that the trade-related component of FDIUS has accounted for a significant share in the overall rise in United States trade. The FDIUS-related trade imbalance is thought by the AFL-CIO possibly to negate the employment effect (1989) and is viewed as problematic even by some who take an otherwise positive view toward FDIUS (McCullough, 1988; Aho and Levinson, 1988).

Many, however, point to the recency of Japanese foreign direct investment as a reason, (McCullough, 1988; Mendelowitz, 1988a, Lipsey, 1987), and note the increasing tendency of Japanese suppliers themselves to invest directly in the United States. The GAO estimates that, by 1990, there may be 300 Japanese supply firms established along the Japanese "auto alley" in the United States (Mendelowitz, 1988a).

The literature critical of FDIUS points finally to a future employment effect with negative repercussions. One theme common to the critics is the possibility that the United States may be "mortgaging" the country's technological future by allowing foreign investments in high-technology and security-sensitive industries, (Gordon and Lees, 1986), or by domestic firms entering into joint ventures in which the domestic firm receives a foreign infusion of capital in return for sharing its core technological advances, (Reich and Mankin, 1988). Once again, the concerns focus on the Japanese who, in Reich and Mankin's view, have as their strategic objective to surpass the technological lead of the United States most advanced industries.

Sensitivity to the implications of reverse technology transfer have invigorated a policy debate over the effects of FDIUS. In 1987, Hitachi's bid for Fairchild Semiconductors was reviewed on security grounds by the Committee on Foreign Investment in the United States (CFIUS) whose function is further discussed below. Fairchield, however, was not a United States-owned firm in the first place, it was French. Discussion returns to the technology transfer argument in the public policy section.

Foreign direct investment in the United States auto industry

The prominence of the auto industry in both employment and economic terms typically makes it a frame of reference in discussions of industrial activity. Moreover, the industry has been the locus of the financially most significant new start-ups. In 1986, the United Auto Workers (UAW) released a report forecasting a loss of 200,000 jobs in the domestic auto industry by 1990 as a result of Japanese direct investment. This is because the Japanese producers have greater labour efficiency and import parts and components to a greater extent than do domestic producers. In response to concerns over the adverse competitive impact of Japanese producers on the domestic auto industry, members of the United States House of Representatives requested that the General Accounting Office (GAO) undertake a study of employment consequences of competition in the industry.

The GAO study attempts to assess the employment consequences in 1990 if autos forecast to be produced by Japanese companies were in fact produced by domestic firms. To do this, the author estimates the volume of Japanese-produced autos in 1990 and the direct labour required required to produce them. As the table below illustrates, the GAO study assumes that the direct labour requirement of Japanese producers is significantly less than that of domestic producers. The major reasons for this are the Japanese focus on small cars, their use of more subassemblies, and a more flexible organization of work.

The GAO study further assumes that the domestic indirect labour requirement for Japanese firms is considerably less than that for domestic producers. Although the employment multiplier of 4.87 is assumed to be the same for Japanese and domestic firms,[35] the Japanese firms are assumed to rely on foreign sourcing for 50 percent of their parts and components, compared with a foreign-sourcing requirement of 17 percent for domestic firms. The study notes, however, that Japanese firms are increasing their domestic sourcing as United States suppliers adjust to Japanese standards and

Japanese supply firms are increasing their direct investments in the United States. Moreover, the trend is the opposite for domestic auto producers which are increasing their foreign sourcing of parts and components.

Table 35. GAO estimates of Japanese autos produced in the United States in 1990 and direct labour requirements

Volume of Japanese autos produced in the United States:	1 800 000 units
Direct labour requirement per 200,000 Units:	
Domestic firms	4 068 assembly workers
Japanese firms	2 560 assembly workers

Source: Mendelowitz, A.: Foreign investment: Growing Japanese presence in the United States auto industry, (Washington, DC: General Accounting Office, 1988).

Finally, the GAO study provides a range of estimates on the degree to which Japanese cars produced in the United States displace domestically produced cars. The 1986 UAW study attempted to illustrate a "worst case" scenario, and therefore assumed a "displacement ratio" of 1.0; that is, each Japanese car produced displaces one produced by a domestic firm. This assumption may be too confining, however. Japanese cars may not be substitutes for domestically produced ones, and the displacement ratio may therefore be less than 1.0. It is also true that if every Japanese car produced in the United States displaces an imported unit, then the net employment effect is clearly positive. Evidence suggests, however, that domestically produced Japanese cars have not displaced imported cars from Japan (although they may have curbed imports of other foreign cars). In short, assumptions on the displacement ratio are just that, and cannot be fixed with certainty. As the table below illustrates, the GAO study estimates findings over a range of displacement ratios.

Table 36. Estimated net job losses (gains) in 1990 due to Japanese-affiliated automakers' operations

Domestic sourcing of Japanese-affiliated automakers	Displacement ratios				
	1.00	0.85	0.70	0.61	0.00
50% (GAO study)	72 000	45 000	17 000	400	(112 000)
30% (UAW study)	112 000	83 000	55 000	38 000	(77 000)

Source: Foreign Investment: Growing Japanese Presence in the U.S. Auto Industry (Washington DC: United States General Accounting Office, 1988).

With a displacement ratio of 0.00, Japanese-made cars in the United States are substitutes only for imported Japanese cars, and the employment effect is thus positive. This scenario does not appear to conform to reality, nor, however, does it appear likely that Japanese cars produced in the United States fully displace production by domestic firms. At a displacement ratio of approximately 0.6, Japanese production in the United States has, at worst, a neutral employment effect.

What is not taken into account (because impossible to quantify) is the possibly salutary effect of foreign producers on competition in the industry. It is well-known that domestic manufacturing firms have in a sense been awakened by the Japanese challenge, and have sought to become better competitors in part by borrowing Japanese concepts of the organisation of work and production. The United States auto supply industry has had similarly to undergo a transformation in its traditional business patterns. Although it is difficult to know how widespread this "competitive shock effect" has been in domestic industry, the business press records numerous instances of domestic emulation of the Japanese. Indeed, the Toyota/GM joint venture in Fremont, California was explicitly entered into by the United States firm as a means of importing Japanese management technology to the domestic firm. It is possible, therefore, that both the competitive revitalization of the domestic industry and the trend toward greater domestic sourcing by Japanese firms in the United States will ultimately have a positive employment impact.

Summary

Employment effects of FDIUS have both direct and indirect dimensions, and these in turn relate to quantitative effects and a broad array of qualitative effects, such as wages, working conditions, skill levels, etc. The effects themselves, finally, may be conceived as either positive or negative on the host-country's employment.

Policies to attract foreign investment at the state level in the United States make the assumption that the major advantage of FDIUS is employment creation. In some instances, a positive effect is the unambiguous outcome. In particular, if the investment is a new start-up to produce goods previously exported to the United States in an industry faced with undercapacity, the employment effect may be most positive.

There are three direct sources of foreign-affiliated employment - via new start-ups, plant expansions, and takeovers. Of the three, takeovers clearly dominate. Thus, most of foreign direct investment is "employment-acquiring" rather than employment-creating. In measuring the net foreign-affiliated employment position, it must also be considered that foreigners may shed jobs in plant cutbacks or "sell" them when disinvesting.

Much of the debate over the employment effects of FDIUS centres on assumptions of the employment stability of acquired firms. Do foreign takeovers result in massive job-shedding or, conversely, do takeovers allow an infusion of capital that is ultimately employment-preserving?

Net jobs created through start-ups and plant expansions averaged 11,000 per year during the years, 1980-87.

The employment effect may be industry-specific. For example, holding output constant, Japanese automakers in the United States produce with over 40 percent less labour input. If it is assumed that the Japanese product

displaces domestic product, the employment effect is to displace employment in the industry.

The indirect employment effects of FDIUS derive primarily through the commercial links that the foreign entity has with others in the economy. Through a multiplier effect, one direct job can be conceived as indirectly supporting other jobs "upstream" and "downstream" in the economy. The degree to which the foreign entity relies on foreign sourcing affects the extent of the domestic multiplier. Most foreign-affiliated firms in the United States rely upon domestic sourcing. The Japanese-owned firms are the exception, but the trend among them is toward increased United States domestic sourcing, and the Japanese also have a disproportionate share of total exports from foreign-affiliated United States subsidiaries.

The indirect employment effect is potentially complex and inherently difficult to quantify. A "consumer surplus" effect may result from FDIUS-induced increased competition which in turn lowers prices and allows consumers to spend elsewhere in the economy. Technology transfer may similarly affect the competitiveness and prices of United States industry.

To the extent that technology transfer may run from the United States subsidiary to the foreign parent, the effect may be to "hollow out" the bases for future skill formation, know-how, and productivity growth.

FDIUS may provide an indirect competitive stimulus to domestic industries with ultimately beneficial effects, or, conversely, through the provision of subsidies to foreign investors may put domestic producers under employment-threatening competitive pressure.

QUALITATIVE EMPLOYMENT EFFECTS

In addition to the number of jobs provided by foreign direct investment, the employment effect is also characterized by several qualitative factors. How, for example, do the wages, working conditions, and skill levels in foreign-owned subsidiaries compare with those of domestic firms? How well have foreign firms integrated themselves in the United States institutional fabric of equal employment opportunity and industrial relations practices? The comparative recency of the growth in FDIUS means that answers to these questions remain incomplete, although both theory and some evidence provide insights.

Wages and skill levels

In 1987, over $93 billion in total compensation was paid to the 3.16 million employees of foreign-affiliated firms. One study using data from the Bureau of the Census for the late 1970s and early 1980s concluded that foreign-owned firms pay higher than average wages than domestic firms in the same industry in every mainland state in the United States, (Coleman, 1986). Another study of the New England states found similarly that wages in foreign-owned firms were on average higher than those in domestic firms, (Little, 1985). The GAO study cited earlier found wages in the Japanese auto firms to be quite similar to those paid by domestic firms both at the time of the Japanese start-ups and eighteen months thereafter. Leonard (1987) also finds favorable wage effects in United States affiliates.

Table 37. Average compensation per employee by industry of FDIUS

Industry	Total compensation ($)	Wages and salaries as % total comp. (%)
All industries	29 639	83
Manufacturing	32 913	83
Petroleum	42 049	78
Food	25 892	81
Chemicals	38 654	85
Primary and fabricated metals	36 190	80
Non-elec. machinery	36 871	82
Electrical machinery	30 308	
Rubber products	33 560	82
Automobiles and parts	34 840	80
Wholesale trade	33 586	83
Retail trade	12 977	85
Finance (non-bank)	78 540	92
Insurance	31 628	84
Real estate	25 063	86
Services	19 345	84

Source: Adapted from United States Department of Commerce, 1987 Benchmark Survey Preliminary Results, July 1989.

Data on the specifics of relative benefit structures between foreign and domestic firms in the United States appear lacking. The table below shows that benefit structures in the United States auto industry do tend to differ between domestic and Japanese producers, however. These differences in Japanese-owned firms may extend beyond the auto industry, moreover, (Kujawa, 1986).[36]

The quality of jobs provided by foreign-owned firms is clearly of direct policy significance. The authors, however, are unaware of any comprehensive data on this question. What data do exist are narrow in focus and appear to give mixed results. One study found that Japanese firms in the United States provide initial training and retraining to a far greater degree than domestic firms, (Mincer and Higuchi, 1988). Almost twice the number of new workers in Japanese firms received training, and the Japanese firms spent almost four times the amount on training than did domestic firms. The higher Japanese investment in human capital was found to be linked to the Japanese work organization practice of job rotation. Superior training is probably one reason that workers surveyed in the United States have the highest regard for the Japanese over any other foreign employer, (Kujawa, 1988). Japanese investors, moreover, tend not to be interested in the training subsidies offered by states.

Table 38. Non-wage benefits at Japanese and domestic firms in United States auto industry[a]

Automaker	Health & life insurance	Profit sharing	Auto leasing	Purchase discount	Attendance bonus
Volkswagen	X			X	X
Honda	X	X	X	X	X
Mazda	X	X	X	X	
Nissan	X	X	X	X	X
NUMMI	X			X	X
Chrysler	X			X	X
Ford	X	X		X	X
General Motors	X	X		X	

[a] Subaru-Isuzu, Toyota and Diamond-Star have not determined the benefits to be provided.

Source: Mendelowitz, Allan I., Foreign investment: Growing Japanese presence in the United States auto industry.

Foreign "reindustrialization" of declining industries or communities has possibly helped to slow the erosion of skilled and semi-skilled jobs, (Ott, 1989). Nevertheless, in the aggregate, foreigners do not appear any more interested in investing in United States declining industries than do domestic investors, (Ray, 1989). It is widely believed that one impact of

multinational investment on the international division of labour is the tendency for the home country to retain the more highly skilled, technology-intensive jobs and to use the host-country setting as an assembly base. Observing that this pattern has generally been the experience of other multinationals abroad, Lipsey (1987) hypothesizes that the same division of labour may characterize foreign subsidiaries in the United States. A recent survey of foreign firms in the United States found that the proportion of employees in research and development was lower in foreign-owned firms (3.1 percent) than in domestic firms (6.6 percent) in the same industries, (Glickman et al., 1989). The variance was particularly great in the auto industry, but considerably smaller in semiconductors and computers.

The propensity of foreign multinationals to retain high value-added employment and production know-how in their home-country operations has been cited as a hidden danger of FDIUS. Such investment may have the effect of "hollowing out" the skill base of the United States workforce, thereby rendering it increasingly difficult for the economy to compete in the newest technologies (Reich and Mankin, 1988; Gordon and Lees, 1986). Although Glickman and Woodward (1989) do not see this as "an invidious Japanese 'plan'," Reich and Mankin clearly do. The latter, in their survey of 33 Japanese joint ventures with United States firms in the electronics industry, believe that the tendency has been to transfer domestic technological advances back to Japan while retaining Japanese technological know-how in the home country.

Discussion will return below to the impact of Japanese FDIUS on the organization of work. Of particular interest is the extent to which Japanese work practices conflict with the established or traditional patterns of work organization and industrial relations in domestic industry. One such difference is the relatively fewer number of job classifications in Japanese enterprises as compared to domestic firms in the United States auto industry. However, these can be exaggerated on both sides since Japanese plants work in teams with jobs being rotated between team members, and many United States automobile producers are known to be working with the UAW to reduce the number of job classifications.

Investment location decision-making

The United States is a country of regional markets and a somewhat decentralized population with close to 40 metropolitan areas of over one million people. Investment location is arguably an important or at least more complicated strategic decision-making variable for the foreign investor. There are other possible factors that also augment the significance of the choice of site selection. A portion of industrial regulation in the United States is decentralized to state levels, as are foreign investment incentives. The availability, quality, and price of labour also vary significantly. Finally, the United States industrial relations system, although governed by national labour laws, is quite decentralized, and unionization rates vary significantly across states and regions.

The result of these factors is that labour markets may constitute a strategic variable in location decision-making. The regional composition of FDIUS has already been discussed, as has the propensity for foreign investors to cluster, often by nationality, in particular regions. As the vast majority of FDIUS is via acquisition, the independent significance of location becomes a bit diluted. Looking at new start-ups and plant expansions may better reveal the strategic importance of location. As noted in the preceding section, the Southeastern states account for a disproportionate share of new

start-ups and plant expansions when measured against both other foreign and domestic start-ups.

It is important to acknowledge the likelihood that other factors in choice of location may be more significant than the labour factor. Of these, the foreign firm's access to the market appears to be the most significant, (McCullough, 1988; Ray, 1989; Kim and Lyn, 1987). Thus, Tennessee advertises its attractiveness as an investment site by noting that it is within 500 miles of three quarters of the United States population. Second, it is likely that only a small percentage of total FDIUS is motivated by finding "cheap labour." These observations notwithstanding, the southern location for "greenfield" investment does correlate with a number of labour market factors deemed favorable by investors, such as the relatively lower levels of wages and unionization in the southern states. States themselves have marketed their attractiveness to foreign investors by highlighting such features as low levels of unionization and industrial disputes.

Surveys asking foreign investors the reasons behind their location decisions have consistently revealed the importance of the availability and cost of labour and of "worker attitudes." Negative confirmation of this appeared in a recent Business International (July 17, 1989) survey of foreign investors that highlighted concerns over domestic workforce quality. Japanese investors are thought to prefer hiring a young and inexperienced labour force which in turn coincides with the Japanese' greater emphasis and expenditure on training, and also obviates the need to establish in a traditionally industrialized locality.

It is also certainly plausible to assume some causal relationship between the attractiveness of the South for foreign investors and the weakness of unions in the region. There is no hard evidence of this link, however, and one may also observe that: (1) trends in FDIUS parallel the geographical shift of domestic industry to the Sunbelt. If new plants and expansions by foreign investors have disproportionately occurred in the South, therefore, it is possible that investors have merely responded by locating via new plant construction in dynamic growth areas at a time when domestic investors have behaved in a similar although less-pronounced fashion because of long-established ties to other regions; (2) there is no evidence that foreign investors value the ability to operate non-union to a degree different than domestic firms; (3) the increase in FDIUS has occurred over a time period during which many researchers have detected a strategic change in management attitudes (less favorable) towards unions (Kochan, Katz, and McKersie, 1986); (4) and other factors besides labour relations are typically deemed more important to location decision-making.

FDIUS, employment law, and industrial relations

In the 1980s, foreign investment in the United States has given rise to concerns expressed by United States trade unions similar to those voiced by European governments and trade unions twenty years ago, when the United States multinationals enjoyed virtually global economic hegemony. The issues are familiar ones, it is the host-country setting that is new. The greater power of multinational corporations in local labour/management relations, their ability to transfer production, and difficulties faced by unions in obtaining information or having access to decision-makers have all emerged as domestic issues in the past decade. The increase in the 1980s of charges lodged against foreign multinationals by domestic unions to the United States government "contact point" monitoring compliance with the OECD guidelines or to the ILO's Freedom of Association Committee bears witness to these relatively new problems experienced by United States trade unions.

Very thorough data are not available on the degree to which foreign-owned firms are unionized or conform or deviate from usual patterns of industrial relations in the United States. The Commerce Department's benchmark survey for 1987 does however contain statistics on foreign-affiliated employment covered by collective bargaining agreements. In addition, case studies of Japanese, German, and Swedish subsidiaries in the United States found that they conformed to United States law and practice, (Kujawa, 1986). For the most part, there is no evidence of systematic departures from United States law and practice in industrial relations by foreign-owned firms (which companies can use to their advantage), even if there have been several instances of problems involving specific companies. With respect to Japanese firms, however, adjustment problems to the American setting do appear to be systemic in nature.

Table 39. Percentage of employees covered by collective bargaining agreement by country of major foreign direct investment

Country	% Covered
Canada	18.5
Europe	19.1
Germany, Fed Rep.	32.9
Netherlands	5.2
United Kingdom	14.7
France	23.0
Japan	12.8
All countries	18.6

Table 40. Foreign-affiliated employment covered by collective bargaining in manufacturing

Industry	% Covered
All manufacturing	23.7
Petroleum	8.9
Food	25.6
Chemicals	16.7
Primary and fabricated metals	40.3
Non-electrical machinery	18.2
Electrical machinery	17.2
Automobiles and parts	32.4

Source: Adapted from United States Department of Commerce 1987 Benchmark Survey Preliminary Results, July 1989.

In 1987, the percentage of all manufacturing employment in the United States covered by collective bargaining agreements was 24.7 percent, a total that does not differ considerably from the figure in the table above. Of course, not too much can be made of this fact alone: The authors are unaware of comparative foreign/domestic unionization data within specific industries, and therefore whether foreign-affiliated employees appear to differ substantially from national industry averages. One exception is the highly unionized domestic automobile industry. All of the wholly-owned Japanese carmakers in the United States operate non-union, only the Japanese-United States joint ventures in the industry have union representation, (see table below).

It is important to note that a foreign investor's preference to operate non-union can hardly be taken as a distinguishing feature in the context of United States industrial relations. Moreover, the recency of some foreign investment, particularly new start-ups, which the Japanese investors prefer relative to other foreign investors, may also account for low unionization.

Like any host country, the United States is characterized by unique, systemic features. Significant among these is the ability of firms to operate non-union and, indeed, to "campaign" against union representation of their employees. In at least one instance, a foreign firm's desire to resist a union-organizing drive have resulted in (illegal) threats to close down, (AFL-CIO, 1989; Glickman and Woodward, 1989; Tolchins, 1988).[37] Generally, however, there is no evidence that foreign firms operating in the United States context resist legally or illegally union organization or frustrate collective bargaining any more than do domestic firms. On the other hand, as a more general systemic issue, organized labour in the United States has only recently been faced, but will increasingly be so, with the special problems posed by multinational industrial relations.

In discussing industrial relations, the historical context looms important. First, the increase in FDIUS has coincided in time with a declining trend in union organization. In the 1980s, union organization has declined relative to the increase in the United States labour force, and at the same time the relative percentage increase in foreign-affiliated employment has been greater than that of the United States labour market as a whole. Second, to the degree that new foreign start-ups and plant expansions are more concentrated in the Southeastern states in which unions are underrepresented, the perception of a problem becomes more acute. Whether the problem is a real one attaching to foreign firms, however, depends upon those factors for which there is not much evidence, e.g. the extent to which "union avoidance" figures as a significant factor in location decision-making.

Perhaps of greatest concern from the standpoint American trade unions are those cases where a foreign firm has an excellent labour relations reputation in its home country and either operates non-union or apparently frustrates collective bargaining in the United States. The AFL-CIO has been particularly critical of the tendency of some foreign subsidiaries to deviate from their home-country norms with respect to labour relations. Current recent instances include companies in the mining, retail food, auto, petrochemical, and consumer appliance industries including supermarkets. The companies involved are Italian, Belgian, Japanese, German (Fed. Rep.), Swedish and French, respectively. Even if there is no evidence of a systematic departure by foreign firms from United States law and practice regarding industrial relations, this is not to say that domestic trade unions have not experienced the relative novelty of problems with foreign multinationals.

The Japanes impact on United States industrial relations

Given their relative share of FDIUS in employment terms, the literature focusses a disproportionate amount of attention on Japanese firms in the United States. As noted below, one reason may be difficulties experienced particularly by the Japanese in adjusting to United States labour relations. Some of the debate, moreover, is indissociable from the broader question of the impact of "Japanese management" on domestic firms. There are many possible reasons - above and beyond the actual instances of adjustment difficulties - for the focus on Japanese firms. The relative recency and high growth rate of Japanese FDIUS, and its conspicuous presence in the mature and highly unionized automotive industry may make Japanese firms unusually visible on the domestic scene. The competitive strength of Japanese relative to other foreign firms unquestionably heightens public consciousness of Japanese investment. The greater cultural distance of the Japanese relative to other foreign investors in domestic industry and their distinctive management style may also render Japanese FDIUS particularly conspicuous in the United States. In addition to these factors, there is at least some evidence of departures by Japanese direct investors from host-country norms: Japan is only home country source in which such departures have been viewed as systemic, rather than isolated cases.

One survey of foreign firms' experience in the United States contrasts Japanese subsidiaries with other foreign subsidiaries and United States-owned firms, (Kujawa, 1986). Although the sample size (16 firms) is too small to allow for reliable conclusions, distinctive patterns based on the national origin of FDIUS are suggested. The Japanese firms viewed their management of human resources as central to their competitive advantage and as a key element of their technology transfer to the host country setting. The Japanese firms put greater emphasis on developing a workforce consistent with the subsidiaries' management style. In part for this reason, Japanese investors showed a relative preference for new start-ups over acquisitions. Similarly, of all foreign investors, Japanese firms were least interested in training subsidies offered by states or by external tuition grants. They preferred in-house training which coincides as well with a preference for hiring an inexperienced workforce.

Without the direct intervention of the parent company, the Japanese subsidiaries nevertheless imported more of the parent companies' "culture" as it related to work organization and pay practices. Work organization in the non-unionized Japanese subsidiaries was characterized by relatively greater job rotation and far fewer job classifications than in other foreign or domestic firms. "Japanese-influenced" pay practices included "few wage or salary grades, progression through wage increments based on time on the job, unwritten job assignments, equal pay for all members in a work group, and flexibility in work assignments," (p. 256). Relative to the other foreign firms, none of the Japanese subsidiaries had any form of incentive pay.

Japanese FDIUS and employment law

Japanese subsidiaries are characterized by a higher percentage of parent-company nationals (PCNs) employed in top management positions. In the Kujawa survey, American personnel at some Japanese subsidiaries felt excluded from key management discussions, while at other foreign subsidiaries no problems were reported with the use of expatriate personnel. Pucik's (1989) survey of 31 Japanese-owned companies found evidence of discouragement among United States managers resulting from exclusion from decision making, little management training and development, and the perception of a lack of career opportunities. The hiring and promotion practices of Japanese-owned firms

have given rise to concerns of racial and sexual discrimination, as well as the exclusion of United States nationals from top management decision making.

The concerns, moreover, are noted by the Japanese parent companies themselves: A recent survey conducted of Japanese companies by the Japanese Labor Ministry found that "the major areas of concern for Japanese companies doing business in the United States are in legal aspects of employment practices involving race, sex, color, religion, age and other equal employment issues. Another key area of concern is the hiring and promotion of local workers for management-level positions, according to the survey." (Labor Relations Week, October 4, 1989). In all, 80 percent of Japanese companies employing more than 10,000 people (worldwide) said that they were affected by the possible conflicts between United States equal employment law and Japanese management practices.

A study of American women employed by fifteen Japanese firms in the finance and trading industries in New York revealed concerns over sex discrimination in hiring and promotions, and in on-the-job treatment by Japanese managers, (Iwao, 1989). A handful of the several hundred Japanese companies operating in the United States are currently the targets of lawsuits alleging discrimination on equal opportunity grounds. Another study of 91 Japanese auto parts plants and seven Japanese auto assembly plants sought to examine racial factors in site location, (Cole and Deskins, 1988). Without imputing the motive of a "taste for discrimination" by Japanese firms, the authors compare the black/white employment ratios of the Japanese firms with the ratios of the local labour markets ("laboursheds") in which the plants are located. The authors find, first, that Japanese site locations are on average characterized by low black/white population ratios, and, second, that even within these local labour markets "the Japanese plants' actual hiring practices lead to fewer jobs for blacks than would be expected," (p. 16).

At one level, the racial employment disparity in Japanese-owned plants is all the greater as the domestic auto industry employs a disproportionately high number of blacks in their facilities' local labour markets. On the other hand, the authors find that in the more recently established greenfield sites of domestic auto firms, as well as in their choice of plants to be "retrofitted," a reduction in the black/white employment ratio is evident. The authors do not conclude that this is direct evidence of discrimination. Structural factors relating to the racial composition of labour markets in the industrial urban north and that of southern, "greenfield" locations may explain the decline. With respect to a few Japanese-owned firms, the Equal Employment Opportunity Commission has found in favor of plaintiffs charging discrimination. The problem - if it is, indeed, systemic - may nonetheless relate to the cultural distance and the recency of Japanese FDIUS. Further experience may therefore be assumed to mitigate adjustment difficulties from both sources to the United States legal framework of equal employment opportunity.

The record on unionization

There is little doubt that the stylized concept that Americans hold of "Japanese management" runs counter the traditional pattern of United States industrial relations, (Gould, 1985). The actual practices of Japanese human resource management, the procedures and institutions that support them, and the cultural traits that these are thought to reflect diverge from the traditional law and practice of industrial relations in United States firms. Japanese management is typically characterized as paternalistic, and firm organization as "enterprise corporatism," whereas the traditional United States system is founded on respect for individual rights, (Lodge, 1985), and

an arm's length and adversarial relationship between labour and management, (Gould, 1985). Kujawa (1986) highlights the "unpreparedness" of Japanese firms for adversarial unionism in the United States, whereas Glickman and Woodward (1989) note a tendency for Japanese direct investment to locate in "right-to-work" states, primarily in the South and Southwest where state laws render union organization difficult.

Taken together, several employment practices associated with Japanese FDIUS appear at the very least to frustrate union organizing efforts. For example, many Japanese firms have shown a preference for locating in traditionally non-industrial (and thus non-union) areas, and for hiring a young, industrially inexperienced workforce which the firms subsequently train in their style of working. Young and inexperienced workers are obviously less likely to have been union members in their earlier working careers which renders union organizing more difficult.

Another factor that arguably frustrates union organization is the hiring and selection process of Japanese firms. Pre-employment screening and a battery of interviews are not uncommon for Japanese firms, but have at least historically been quite uncommon for most production jobs in domestic firms. The United States autoworkers' union (UAW) charges that the lengthy hiring process is in part designed to screen out applicants who may have pro-union sympathies. It is, of course, illegal for employers in the United States to base hiring decisions on applicants' attitudes towards unions. To the extent that the Japanese management style (and consequent hiring patterns) are dependent on selecting employees who work well in groups and identify closely with the goals and interests of management, it is certainly plausible to conclude that Japanese firms that wed these criteria to a hiring policy are treading a fine legal line.

Although there have been cases of Japanese-owned and other foreign firms vigorously resisting unionization, the record is mixed. Kujawa (1986) found that union avoidance was not a criterion in site selection for Japanese investors, although all firms surveyed, whether Japanese, other foreign, or domestic, evinced a preference for operating non-union. The Japanese firms in the same study were less aggressive than domestic or other firms firms in resisting unionization. Moreover, as might be expected, greenfield installations were less organized by unions than acquired firms or joint ventures.

Table 41. Japanese automakers in the United States

Company	Location	Union Status	Employment (1989)	Employment (1992)
Diamond-Star Motors	Illinois	Union	2 300	2 300
Mazda Motor	Michigan	Union	2 800	2 800
New United Motor	California	Union	2 350	2 900
Honda of America	Ohio (3 plants)	Non-union	7 000	8 000
Nissan Motor	Tennessee	Non-union	2 400	4 150
Subaru-Isuzu	Indiana	Non-union	500	1 400
Toyota	Kentucky	Non-union	2 500	3 500

Source: "The UAW Vs. Japan: It's Showdown Time in Tennessee", in Business Week, 24 July 1989, p. 64. In the unionized plants, domestic auto firms have an equity stake.

For much of the 1980s, the GM-Toyota joint venture in Freemont, California - NUMMI - has been held up as an example of how Japanese management has improved labour relations in a unionized setting. NUMMI's start-up in a facility closed by General Motors in the early 1980s re-employed the former GM workers and transformed what had been the GM plant with among the worst labour relations, lowest productivity and highest absenteeism into the plant with the highest productivity and quality in GM. More recently, evidence of workforce concerns over a too-close relationship between management and the union at both NUMMI and the unionized Mazda plant in Flintrock, Michigan was apparent in union elections resulting in victories for more "militant" union leaders, (Business Week, 24 July 1989).

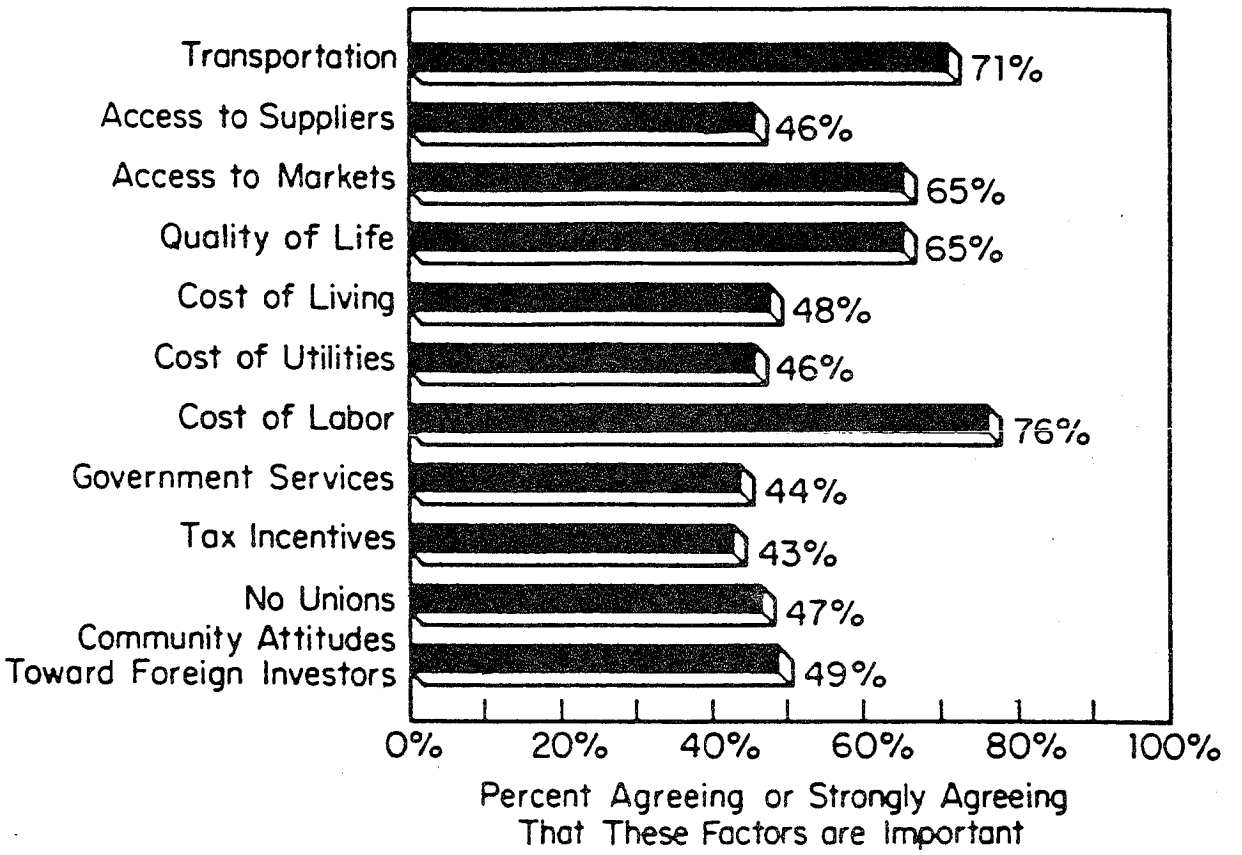
Rehder (1990) also notes the ambiguity of the union's role in the unionized Japanese plants in the United States. But Rehder also observes a growing problem of work-related stress and some safety concerns with the Japanese "transplants". The problem arises from the behavioural consequences of the team system, through which peer pressure may become a "powerful social control system" (p. 90), coupled with the Japanese "kaizen" practice, by which individuals and teams are continuously encouraged to develop and incorporate any time-saving improvements in the production process. These practices are a distinct contrast from at least a traditional version of United States industrial relations in which unions negotiated not just wage rates but work quantities as well.

Results of a public opinion survey of Fortune subscribers are suggestive of the "mixed feelings" that Americans presently hold in response to the increase in Japanese FDIUS. Nearly half of the survey respondents favored curbs on the inflow of Japanese FDI. The wariness of the public at large is corroborated in a survey undertaken by Kujawa (1988). His results, however, show a markedly more favorable view of Japanese firms in the United States among their American employees.

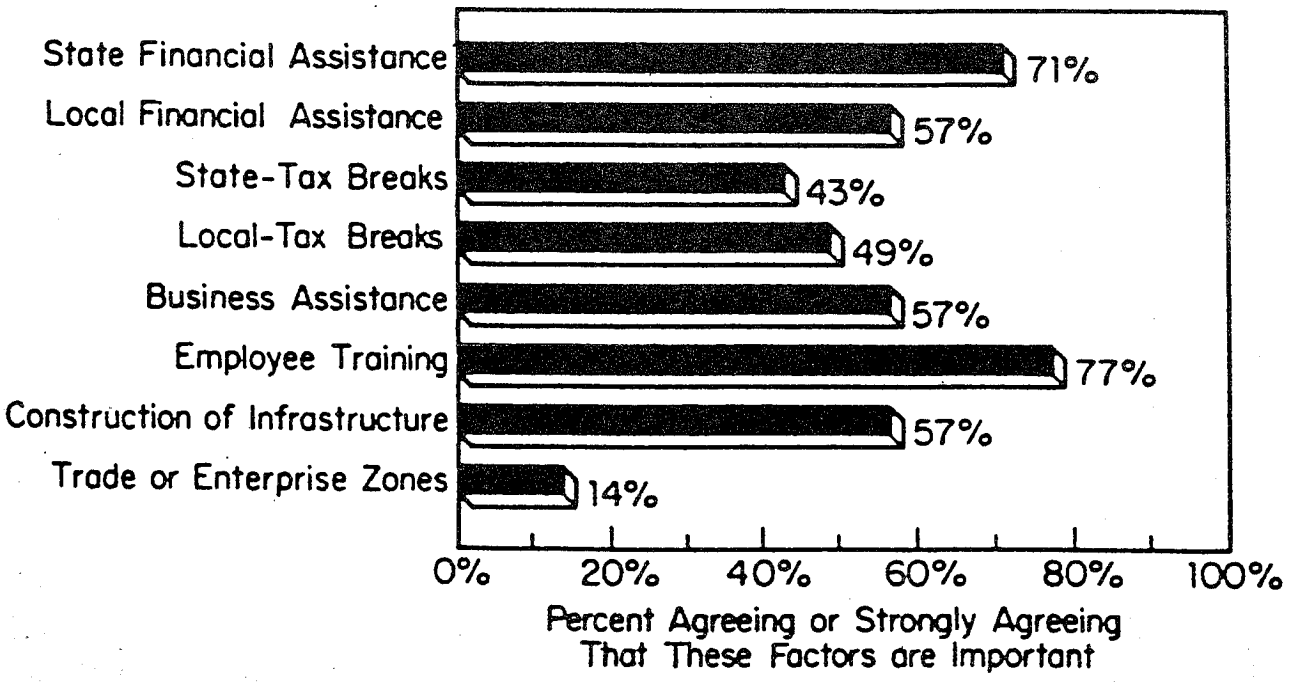
Indirect qualitative employment effects

Public opinion in the United States is highly focused on the the country's competitive rivalry with Japan. This focus in turn has resulted in more available research on the Japanese as investors than on investments from other countries, a bias ultimately reflected in literature reviews such as this one. The theme of how domestic firms may be responding to the Japanese challenge by adjusting their own work practices is much discussed in the popular literature and has already been referred to in the present study. Attempted changes in the domestic auto industry toward greater employee involvement, fewer job classifications and less rigid work organizations surely owe their origin to a conscious emulation of the Japanese, at least in part, (Katz, 1985). Such changes are, moreover, not confined to just the auto industry. How extensive these changes are, how much they are attributable to Japanese FDIUS per se, and the extent and direction of possible "efficiency spillover" effects are unknown, however potentially significant.

Figure 4. How foreign companies rate location factors



How foreign companies rate government programs



Source: Norman J. Glickman, Amy Glasmeier, Geoffrey Bannister and William Luker Jr., Foreign investment and industrial linkages, report to Economic Development Administration of the United States Department of Commerce and the Aspen Institute for Humanistic Studies, 1989.

Table 42. American perceptions of Japanese direct investment in the United States

Question asked	Percent agreeing
The level of Japanese investment in the United States is too high	54
Japanese investment is:	
Making a contribution to the United States economy	60
Generating new jobs	59
Making United States companies more productive	51
Helping to reduce the trade deficit	25
Bringing new technology to the United States	30
Preserving United States jobs	32
Japanese investors tend to:	
Not rely on local suppliers	56
Take business away from United States firms	35
Not share their technology	36
Learn too much about United States technology	32
A limit should be placed on Japanese investment	49

Source: "Global Japan", in Fortune, 31 July 1989, p. S-39.

Summary

Foreign direct investors paid $93 billion in total compensation to their United States employees in 1987. Data on the relative wages of foreign-affiliated employees are sparse, although some studies have found that foreign-affiliated employees are more highly paid than domestic employees.

Data are not available on the relative skill levels of foreign-affiliated employees in the United States. Theory and evidence on skill levels of multinational subsidiaries abroad suggest that foreign subsidiaries employ fewer skilled workers, and reserve the more highly skilled, managerial and technology-oriented jobs for the home country. One survey has found that foreign-affiliated firms in the United States employ half as many R&D employees as domestic firms, although the ratio varies among industries.

A concern backed by some survey evidence relates to a tendency in some Japanese/United States joint ventures for technology to be transferred back to Japan with the ultimate implication that skill levels may erode in United States industry. On the other hand, Japanese direct investors in the United States believe that a key component of their technology transfer to United States subsidiaries is human resource management practices and work organization. Japanese-owned firms in the United States invest four times as much in training as domestic firms.

Features of the labour market, including the quality of the workforce, appear to be a key ingredient in location decision-making of direct investments in the United States. States, moreover, advertise labour force quality and low unionization rates as inducements to foreign investors.

The relative recency of the growth trend in FDIUS has meant as well a recent increase in complaints of difficulties experienced by national unions vis-a-vis foreign multinationals. Individual cases aside, there is no evidence of systematic difficulties experienced by foreign direct investors in adjusting to United States industrial relations. Limited survey evidence reveals a preference by foreign direct investors to operate non-union, although this preference does not appear to distinguish them from domestic firms.

Commerce Department data show the numbers of employees by industry and by national origin of foreign direct investor who are covered by collective bargaining agreements. At a very aggregated level, there does not appear to be an overall difference in unionization rates in manufacturing between foreign-affiliated and domestic firms.

Considerable public attention has focussed on Japanese investors' adjustment difficulties to United States industrial relations and employment law. In addition to some evidence of adjustment problems, there are likely many other factors that render Japanese investors conspicuous, such as the rate of growth of Japanese FDI, the greater cultural difference between Japan and the United States, the conspicuous presence of Japan in a highly unionized industry (automobiles), the greater tendency of Japanese FDI to be new start-ups and plant expansions, the higher percentage of Japanese nationals employed in United States subsidiaries, and Japanese management practices, aspects of which run counter the traditional patterns of United States industrial relations.

Indirect, qualitative employment effects are potentially quite significant although under-researched. The popular literature focusses on the spill-over of Japanese management styles to domestic firms, the efforts by some United States unions to alter traditional practices as a means of attracting foreign investment, and the competitive pressure placed on domestic firms coming from state-subsidized foreign direct investment.

GOVERNMENT POLICY

As a result of the historically and ideologically based American antipathy to public regulation of private transactions, the United States Government has generally refrained from seeking to control or direct the international participation of USMNEs or the investment of foreign MNEs in the United States economy. Except for the occasional and always dramatic instance in which MNEs' freedom of action has been restricted - for example the voluntary restraints on USMNE's capital exports enacted in the mid-1960s and the veto of Fujitsu's attempt to purchase a controlling interest in Fairchild Semiconductor in 1987 - the Government's regulatory and oversight activities and policy initiatives have largely been limited to matters concerning tax policy and national security interests and providing a stable macroeconomic environment. In the absence of an official government position on inward and outward flows of capital and technology, however, there has been no systematic effort to exploit the opportunities inherent in international investment in such a manner as to maximize its benefits to the American economy. If all governments were similarly inclined, then such a policy would hold no danger for the economic well-being of the nation.

To find evidence of the potential benefits flowing from a more involved government role in the regulation of capital and technology flows, however, one need look no further than the results of the economic policies followed by many Western European countries and the Asian NICs since the 1950s. Moreover, the increasing internationalization of production strategies and processes and the convergence of factor costs among industrialized countries means that statutes and regulations once thought to have effect mostly in the domestic arena, such as anti-trust legislation, regional development plans, and environmental protection, may also now have important ramifications on the worldwide location of production and employment. In short, the role of government policy may become increasingly significant in the coming years.

This does not mean that all aspects of FDIUS and USFDI should or can be subject to government regulation or oversight. The United States has derived considerable benefit from the relatively free flow of international capital, technology and trade over the last forty years, and this result cannot prudently be overlooked when examining policy alternatives. Given the importance of the United States to the international economy and vice versa, however, the choice of policy must be informed by the recognition that the pursuit of the national interest may in fact diverge from free capital and trade flows.

Government policy and USFDI

Over the years the United States Government has both encouraged and discouraged USMNEs' international activities through various programs and policies that have largely been uncoordinated within the Government and uninspired by an overall conception of how best to improve the nation's economic welfare. These initiatives have been both indirect and general in scope, such as monetary policy, or direct and specific, such as the provision of insurance for a particular USMNE's foreign investment. It is not an exaggeration to observe that practically every economic policy adopted by the federal Government, from plant closing legislation to the minimum wage, may have an effect on USMNEs' foreign investment decisions; it is beyond the bounds of this paper, however, to examine in detail all government policies that may affect USFDI. What is important to recognize is that because there has been no attempt to formulate a broad-based and coherent policy on USMNEs' international participation, each separate policy, whether general or specific

in scope, has tended to focus on narrowly defined functional issues such as tax or trade policy and to not address in its entirety the particular issues arising from USMNEs multinationality.

Without question the effort to promote USFDI has far outweighed that to restrict it; this reflects the prevailing view among policy makers that the expansion of USMNEs' overseas activities enhances national welfare and serves important national interests. One policy which has indirectly spurred United States enterprises' international participation was the Government's political and financial support for the creation of the systems and institutions that have facilitated worldwide economic growth, trade and investment in the post-war era, including the OECD, the IMF and the GATT.

Directly encouraging international investment has been a host of policies and domestic institutions such as the Overseas Private Investment Corporation (OPIC), the Canadian-American automotive agreement, and the special offshore assembly provisions of the United States Tariff. The Government has also promoted USFDI by not restricting the export of most technologies, the one area of exception being when national security interests intrude; this usually occurs in the case of exports in which sensitive technology is embodied. Tax policies covering USFDI have certainly not discouraged international investment - of great importance, the law grants tax credits on income earned by foreign affiliates, and thus USMNEs are not subject to double taxation on their overseas income. Finally, the Government has on numerous occasions in the past intervened to protect USMNEs' foreign interests from actions taken by host country governments such as expropriation.

While government efforts to promote international investment have been quite successful, those intended to regulate and restrict the international activities of USMNEs have been few in number, short-lived, generally ineffectual, and focused on narrowly defined issues arising at a particular time rather than on an all encompassing concept of the national interest. Moreover, these restrictions have not been motivated by concern of the employment consequences of USMNEs. Perhaps the most significant attempt occurred in the 1960s when concern over the deterioration in the balance of payments led the Government to enact a series of measures designed to curb capital exports. At first voluntary in nature, the Government eventually adopted detailed mandatory restrictions on capital outflows in 1968; owing to the program's negligible effects, however, it was terminated in 1974. Since then the Government has not tried to restrict USMNEs' foreign investment per se, although it has failed several times to extend extraterritorial authority to the behavior of USMNEs' foreign affiliates; a noteworthy example of this was the attempt to prevent European affilates from selling compressor equipment to the Soviet Union for its trans-European gas pipeline in 1982.

In terms of indirect effects, the inclusion in the 1988 Omnibus Trade Bill of a provision allowing for the imposition of trade restrictions if a country is found to violate basic workers' rights will probably influence the foreign investment decisions of USMNEs. An example of when this might occur is if consideration is being given to establishing an offshore assembly or processing facility, the production of which will be reexported to the United States. Similarly, import quotas or tariffs may indirectly effect USMNEs' foreign investment decisions through their effect on the desirability of a particular foreign location or of foreign investment in general.

Generally speaking, the American labour movement has favored more extensive regulation of the international participation of USMNEs, whether in the form of direct investment or subcontracting, because of its alleged harmful effect on domestic employment levels. For instance, the AFL-CIO has advocated for years that the OPIC be eliminated and that the tariff provisions

encouraging investment in offshore assembly and processing facilities be terminated. Labour's viewpoint has rarely been met with widespread acceptance in Congress or the executive branch, however, in part because its arguments have been perceived as those of a special interest group trying to protect its own narrowly-defined interests. As one would expect, business groups and a fair proportion of the academic community have provided practical evidence and theoretical support for the government's ad hoc and hands-off attitude towards the regulation of outward direct investment and technology flows. But there are those who argue that in an increasingly interdependent world economy where governments compete vigorously for investment, subsidize and direct their national enterprises, and at times join together in industrial projects (for example, the European aircraft consortium, Airbus Industrie) and where MNEs frequently establish internationally integrated production networks, government intervention is necessary in order to maximize national welfare.

Government policy and FDIUS

With respect to FDIUS, two features of the United States policy setting have occasioned some debate. The first is what amounts to a de facto devolution of industrial policy to the state level, a situation that has resulted in competition among the states to attract foreign investors using public funds. The second and related feature is the relative openness of national policy toward inward direct investment, reflective of the United States traditional "open-door" stance toward capital flows which some observers find increasingly anachronistic.

State policies on FDIUS

In the 1980s, states have aggressively sought to attract foreign investment to their territories by offering a mix of investment incentives. The principal advantages of inward direct investment, employment creation and increased tax revenues, are also politically attractive to state governments. Although the data are piecemeal, one estimate placed state outlays to attract FDIUS as amounting to over $40 million in 1986, (Tolchins, 1988). This figure does not include the value of actual incentives offered, which is considerably higher. Incentives valued at hundreds of millions of dollars, for example, have been used to attract Japanese auto plants in the United States.

The growth in state agencies responsible for attracting foreign investment has been remarkable in the past fifteen years. From the perspective of the individual state, incentive outlays are believed to be (1) cost-effective, as the benefits of the attracted investment in most analyses considerably outweigh the costs, and (2) essential to have for states seriously wishing to attract foreign investment, especially given that other states have them. There are, however, several reasons for believing that some incentives may be misspent.

The principal criticisms of state-based incentive programs are the following:

1. Are the incentives truly required to attract foreign investment or would the investment have occurred regardless?

2. Does competition among the states for foreign investment bid up concessions made to investors?

3. Are state-based agencies insufficiently selective in their efforts to attract investment by not considering the domestic competitive consequences of foreign investment?

The evidence is not yet complete on any of these points, and a fuller discussion is beyond the scope of this study. The third concern has the closest relationship to employment effects of FDIUS, and the relationship, while indirect, is feared by some to be potentially negative. Within their own political jurisdictions, states may or may not be sensitive to the impact of the sectoral mix of foreign investment on their respective industrial bases. One United States senator questioned the logic of funding foreign competition by asking: "Why are we paying for Komatsu to beat Caterpillar's brains out?" The potential for a negative indirect employment effect arises even when states have a diversification strategy in place, for foreign firms located in one state may serve the regional or national market. As observed elsewhere, however, a counter-argument centres on the salutary effect of increased competitive pressure, but it is an argument that does not address the fact that the foreign competitive pressure may be domestically subsidized.

Although the concerns above are of some significance, they may not be obvious areas to address at the national policy level. First, the authors have found instances of adverse effects, but no incontrovertible evidence of a widespread negative impact of United States affiliates on domestic competitors. Second, the desire to curb inter-state competition for foreign investment is likely not shared by the majority of Americans or their policy-makers, and that such curbs, moreover, should stem from the national level is not likely to be entertained as a desirable policy option.

National policy on inward foreign direct investment

In 1983, then President Reagan issued the following policy statement: "The United States believes that an open international investment system responding to market forces provides the best and most efficient mechanism to promote global economic development. Government intervention in the international allocation of investment resources can retard economic growth," (Gray, 1986). Although there has been a general trend among countries toward liberalization of trade and investment regimes, (UNCTC, 1988), the United States' policy environment is unusual for its relative openness and its belief in a laissez-faire approach to international economic regulation.

Coinciding with the surge in inward foreign direct investment, there has been increasing debate within the United States on the appropriateness of the open-door policy to foreign investment. In general, the arguments may be summarized in the following manner: (1) Should belief in the benefits of an open international investment system guide United States policy if that system is not open? (2) Is the theory of a (relatively) laissez-faire approach to economic regulation too distant from reality in the absence of perfect competition?

Elements of national policy

Governments, including those in the developed world which are major trading partners with the United States, typically deploy a wide range of policy options to monitor or regulate foreign investment in their countries. The most common instruments are a foreign investment screening or approval mechanism, performance requirements (such as a local content requirement), ownership requirements banning or limiting investment in certain industries, and reporting requirements.

Although the United States deploys fewer policy options than many other countries, there are nevertheless some longstanding restrictions on foreign investment and others that have more recently emerged. United States laws, for example, "restrain or ban foreign involvement in a host of industries: coastal shipping, domestic aviation, hydroelectric power generation, leasing and mining of federal lands, banking, mass communications, nuclear energy, and areas considered vital to national security." (Glickman and Woodward, 1989, p. 263) Under the Ford administration in the 1970s, an interdepartmental Committee on Foreign Investment in the United States (CFIUS) was created, staffed by officials of the Commerce, State, Defense departments and headed by officials from the Treasury department. CFIUS reviews investments that are potentially sensitive from a national security standpoint and may investigate whether foreign countries accord United States' investments the same treatment given theirs in the United States. CFIUS, however, in its fifteen-year existence, has never recommended against any inward investment.

In short, the national policy environment in the United States assumes that the inflow of foreign investment has positive consequences, an assumption corroborated by much of the literature referred to in this study. On the other hand, the pages above also contain evidence of potentially negative effects of FDIUS which in turn are matched by some more recent policy initiatives. Although a variety of legislative proposals are currently under debate in the United States Congress, two proposals in particular figured prominently in the 1988 Omnibus Trade Act. One, the "Bryant Amendment," would have required stiffer reporting requirements, particularly if the foreign investor acquired more than a 25 percent stake in a United States firm or had domestic sales of $20 million or more. The intent of the Bryant Amendment (which did not pass into law) was to provide greater screening capability through better data collection in order to monitor investments potentially affecting national security, although the amendment focussed merely on reporting requirements and not on possible policy actions toward foreign investments. The present Congress has reintroduced similar proposed legislation.

A second proposal, the Exon-Florio provision, was passed into law in the 1988 trade act. The Exon-Florio provision gives the President the right to stop acquisitions that would adversely affect "national security, essential commerce and economic welfare." To date, no proposed investment has been blocked by the Exon-Florio provision, although over 80 investment proposals have been reviewed and, in one instance, a domestic firm was ordered to divest itself of a defense technology-sensitive part of its operations prior to the company's being acquired by a foreign investor (Business International, 21 August 1989). The precise role of the Exon-Florio provision is not yet fixed, but it would appear to enhance policy options available to the United States Government not just in foreign involvement in industries deemed vital to national security but also against the potential for foreign domination of national industries.

Policy options

Based on our review of the theory of foreign direct investment, the statistical evidence on the magnitude and location of USFDI, and the research concerning its motivation and home-country effects, it is clear that the overwhelming majority of USFDI has served to enhance the competitive position of USMNEs and has not lowered the national economic welfare. There is simply no solid, incontrovertible evidence that USFDI has adversely effected domestic employment, capital accumulation, or income distribution in a systematic or

materially significant manner. Similarly, the literature on FDIUS does not on the whole point to widespread areas of concern with respect to the contribution of foreign firms to domestic well-being. The authors, however, believe that two areas may call for greater policy initiative.

Technology transfer

One aspect of USMNEs' international activities which may warrant a dose of government oversight and/or restriction, however, is the transfer of technology. The ability to generate advanced technology products and processes is a central determinant of the competitive advantage of USMNEs and the United States. Yet in the past two decades the rate of diffusion of technology abroad compared to its domestic creation has increased, and at the same time the technology gap which had existed between the United States and Japan and several Western European countries has practically closed. Although other factors have influenced the development of comparative technological capabilities across countries, it nonetheless remains that USMNEs have and do transfer technology overseas. To date, government policy on technology transfer appears to be motivated by the belief that enterprises will not transfer their technology if it does not make commercial sense, but the private and social costs may not always equal, and where a divergence occurs restriction may be called for.

Much of the technology transferred by USMNEs is associated with foreign direct investment. There is neither a need nor would it be productive for the Government to seek to restrict the transfer of USMNEs' proprietary technology to their subsidiaries abroad. However, there has been an increase in the transfer of USMNE technology through licensing agreements with independent enterprises, and it is here that greater oversight evaluating the private benefits and the social costs may be meaningful. Because such agreements are relatively limited in number, the difficulties in analyzing them, along with the need for bureaucracy, are far less than in the case of USFDI. Of course, the benefits derived from restricting the transfer of technology must not be offset by the negative influences of foreign government retaliation and the loss of reciprocal technology flows.

On the inward side, the case for closing the door to some investment is based on the literature on the strategic objectives of some inward direct investments. The authors found the view widely accepted that foreign investment is not characterized by perfect competition but by the monopolistic or oligopolistic advantages of multinational companies. If the investment strategies of some competitors aim to erode the competitive strength of some United States industries, then a government policy still premised on a laissez-faire approach to economic regulation may be inappropriate. The argument applies as well to joint ventures between domestic and foreign firms, and extends beyond the usual anti-trust scrutiny of investments. Elsewhere in this study limited evidence was discussed which suggested the possibility of a reverse technology transfer arising from some joint ventures. In return for a short-term infusion of capital, according to some critics, the domestic partner may be giving up core technology with potentially deleterious consequences on the future competitiveness of United States industry. The United States' policy structure should be made capable of assessing these effects, at least toward acquiring more information on the direction of technology transfer, perhaps through a strengthened Committee on Foreign Direct Investment in the United States with a greater information-gathering function.

Employment displacement

While accepting that the role of government in restricting USFDI should necessarily be minimal, there may be opportunities (albeit limited) to improve national economic welfare by adjusting those policies that promote USFDI. One such measure would be to levy a "labour market adjustment tax" on imports entering under items 806.3 and 807.0 of the United States tariff. The point of the tax would not be to discourage the establishment of offshore assembly and processing facilities, which are a vital element in USMNEs' struggle to remain internationally competitive; thus the tax would have to be low. Rather, it would essentially function as a user fee, applied to those benefitting from the tariff concessions, in order to help defray the social costs arising from the job loss and adjustment problems associated with the shifting of assembly and production jobs overseas. It should be remembered that the overall employment affect of tariff items 806.3 and 807.0 is probably at worst neutral owing to the increase in domestic employment in the component manufacturing industry.

Finally, related to the previous suggestion is the need for government policies that more effectively facilitate the rapid and flexible adjustment of the labour market to the demands presented by the internationalization of the economy. That this suggestion is made in a paper on USMNEs reflects the importance of USMNEs in determining trade flows. Although many economists would argue that market forces should determine the adjustment process, there are strong political, equity, and economic considerations that point toward the desirability of some form of government intervention. Such policies should not only be reactive but, perhaps more importantly, proactive as well. With respect to reactive policy, import-competing industries that have older and less educated, skilled, and geographically and occupationally mobile labour forces tend to face acute adjustment problems that call for a more active role for public policy than that currently practiced. The two most prominent public policies dealing with trade-related displacement are the Trade Adjustment Assistance program and the Job Training Parternship Act, neither of which has been very effective (Aho, 1988). In terms of proactive policy, there is some evidence suggesting that there will be an increasing mismatch between the skills and qualifications demanded by enterprises and those supplied by the labour market. This calls for government intervention to assure a balance of supply and demand in the labour market.

Given trends in inward direct investment, it is likely that the policy debate will heighten in intensity and the issues of the FDIUS-induced trade imbalance is one worthy of further study. The growing relationship between international investment and trade patterns is a cause of concern in an era characterized by trade deficits. Imports to United States subsidiaries of foreign-affiliated firms account for one third of total U.S imports, which may mean that the effect of inward direct investment "on United States jobs may be negative rather than positive" (AFL-CIO, 1989).

One policy option that frequently surfaces in this context is for regulation on a local-content requirement. As noted elsewhere, however, trends appear to suggest an increased tendency toward local sourcing by foreign-affiliated United States subsidiaries, a factor that may mitigate against government intervention in this area. The authors do not recommend policy intervention of the local content requirement-sort. As with the effects of USFDI, however, there may be scope for a more effective labour market adjustment policy applying to FDIUS-induced employment displacement.

In its trade and investment policies, the United States Government through the United States Trade Representative has preferred to pressure countries for reciprocity rather than to restrict access to the United States

market. The current USTR has warned countries that if the trade and investment regimes of some are not made more open to American investors there may be a domestic policy response toward restricting inward direct investment. This scrutiny of reciprocity is consistent with the Government's overall objective of pursuing an open international investment system. It is a bilateral approach that, the authors believe, is preferable to erecting domestic barriers to trade and investment, but internal adaptation policies, particularly regarding the labour market, in relation to the changed position of the United States in the global economy should be pursued.

Notes

[1] Global Trends in International Direct Investment, United States Department of Commerce, p. 13.

[2] Among other valuation problems, the fact that USFDI and FDIUS stock is measured on a book-value basis and the stock of USFDI is generally older than that of FDIUS, the current value of USFDI stock is significantly understated relative to that of FDIUS.

[3] The remaining 2 per cent was accounted for investment in oil tankers and oil rigs which are not allocated to any country owing to their mobility to move between countries.

[4] Canada's share of USFDI stock has declined continually since the 1950s as a result of the saturation of investment opportunities and the natural emergence of other developed market economies as hosts for FDI. One can also attribute the recent decline to restrictions and obstacles to FDI imposed by the Canadian Government through the now revamped Foreign Investment Review Agency. The growth of Japan as a host of USFDI is in part due to the lifting of government restrictions on FDI in general and the size and importance of the Japanese economy.

[5] The USFDI in Bermuda represents the investment of USMNEs in their financial affiliates.

[6] In 1987, world-wide FDI stock in the electric and electronic equipment industry totalled $9.7 billion, of which $5.1 billion was in electronic components and accessories.

[7] In its latest survey of MNEs, the United Nations Centre on Transnational Corporations, citing ILO data, estimates world-wide employment of MNEs to be around 65 million.

[8] These different forms of international investment have become more prevalent owing both to enterprises' desire to reduce risk and to government's desire to unbundle the traditional package so as to receive those aspects of FDI not available domestically.

[9] There has been much debate (inconclusive) in the United States over to what extent manufacturing capabilities and high-wage jobs have actually been lost, regardless of what is assumed to be the compelling factor(s). What is undeniable is that manufacturing output and manufacturing employment are no longer strongly related; for example, whereas output rose between the mid-1970s and 1985, employment sharply declined. This "decoupling" of output and employment is persuasively argued in Peter Drucker: "The changed world economy", Foreign Affairs, Vol. 64, No. 4, Spring 1986.

[10] Of course, the use of offshore production facilities is not limited to USMNEs alone. Numerous firms with only domestic operations have entered into subcontracting arrangements with foreign companies to assemble components. This practice has been particularly widespread in the textile industry with respect to the assembly of pre-cut fabric in Caribbean Basin nations. But nevertheless the majority of offshore assembly and processing is undertaken by or for USMNEs.

[11] Item 806.3 is intended for use only in the case of processing metal articles offshore and then re-exporting them to the United States for further processing. Item 807 applies only to the offshore assembly of United

States-supplied components and does not require that further assembly take place upon re-export.

[12] Among the United States-sourced components typically found in automobiles imported from Japan and Western Europe are batteries and catalytic converters.

[13] Motor vehicles account for a large proportion of non-dutiable imports simply because of their overwhelming numbers. But the production of motor vehicles in Japan, Canada and Western Europe by foreign firms can hardly be considered an offshore assembly activity, although the use of United States components represents a significant export market for suppliers in the United States.

[14] The major exception to this generalisation is Canada. Imports under item 807 from Canada are far more diverse than those from other developed nations, and their non-dutiable content is far higher.

[15] The Burke-Hartke Bill would have: (1) reduced the tax advantages enjoyed by USFDI; (2) restricted the export of technology if determined to have negative effects on employment; and (3) limit the benefits tariff items 806.3 and 807.0.

[16] Investment in new capital equipment and changes in the organisation of work will undoubtedly lead to reductions in the size of the workforce.

[17] There are numerous explanations for the increasing use of reinvested earnings and the declining importance of equity and debt financing. These include United States Government restrictions on capital outflows from 1968 to 1974, high rates of foreign inflation and dollar depreciation during the 1970s, and the fact that the maturity of the stock of USFDI allows it to finance capital investment largely from its own earnings.

[18] It can be argued that the use of reinvested earnings to finance FDI is similar to parent equity investment because the source of the funds is in both cases United States-owned income.

[19] Most of the analysis concerning MNEs' technology transfer has focused on its effects on host-country economies, with discussion of home-country effects still largely ignored. That the issue has current relevance was underscored last year by the debate in the United States Congress over the licensing to Japan of the technology embodied in the F-16 fighter aircraft.

[20] Part of this steep reduction is explained by definitional problems resulting from the counting as high technology imports goods that actually occupy the lower ends of the high technology product groups. Nevertheless, there has been a significant deterioration in the high technology trade balance.

[21] It seems paradoxical that United States MNEs would engage in an activity that could potentially harm their competitive position and the comparative advantage of the American economy. In terms of the latter effect, this is largely explained by the possible lack of congruence between the private and public/social costs of MNEs' international transactions.

[22] The view that the competitive position of USMNEs has declined in the last two decades is widespread, but it is not shared by some authors. Most notably, Lipsey and Kravis (1987) argue convincingly that over the period

1957-84 there was not a deterioration in USMNEs' technological position or a failure in their management practices relative to foreign MNEs.

[23] Some authors contend that among advanced industrial countries imitation, and not FDI, has not been the principal channel of technology transfer. See Pavitt (1988).

[24] As in the case of exporting, non-multinational United States firms also engage in licensing to foreign entities. In either case, licensing may be the preferred form of international investment depending on a firm's stock of financial and managerial resources, and its desire to avoid the problems associated with FDI, including government regulations, and political and economic risk.

[25] There are a number of problems with trying to measure the flow of technology by receipts of royalty and licence fees and service charges, including that such receipts are probably understated owing to firms' attempts to minimize tax payments and the possibility that their procedures and controls are inadequate for accurately measuring intercompany payments. For an extensive discussion of the data problem, see Contractor (1985).

[26] Other arguments against restrictions on licensing include the possibility that a foreign firm will supply the desired technology (this assumes the technology is fairly mature and widespread) and that government tax receipts will decline.

[27] In 1961, over 60 per cent of the sales of Japan's steel industry were dependent on foreign technology (the majority being American), but by 1967 this had declined to 8 per cent and in the early 1970s Japan was exporting steel-making technology to the United States (Eichengreen, 1987).

[28] Brazil, Hong Kong, Mexico, Singapore, the Republic of Korea and Taiwan (China).

[29] A recent study on Malaysia found that little labour mobility existed between local firms and MNEs (not necessarily those from the United States). See, Yew Siew Yong, "The Employment Effects of Multinational Enterprises in Malaysia", Working Paper No. 53 (International Labour Office, 1988).

[30] Given the difficulty in compiling statistics on USMNEs foreign relative to domestic R&D operations, it is to be expected that what few estimates there are vary greatly. Hirschey and Caves (1981) give a figure of approximately 12 per cent for 180, while Dunning (1987) cites a recent study putting the figure at 6.4 per cent for 1982. The authors are not aware of estimates for later than 1982.

[31] Some researchers have identified a pattern whereby R&D units established to provide product and process adaptation evolve over time into units that develop new products and processes for the local foreign market.

[32] Other factors that, along labour costs and productivity, could conceivably influence the decision on where USMNEs locate their R&D facilities are the existence of important scientific communities, the location decisions of competitor firms, and government regulations and/or subsidies.

[33] Although the proportion of job "sales" resulting ultimately in job losses is not known, the authors find almost nothing in the literature suggesting that the sale of United States assets by foreigners is a significant employment policy concern.

[34] Peter Gray's volume (1986) is an excellent source for industry-specific discussions of FDIUS.

[35] Given the greater Japanese efficiency and consequent less labour input on which the GAO study is based, it seems unlikely that the same Labour Requirement Coefficient applied to domestic auto firms (4.78) is a realistic multiplier for the Japanese industry, given the latter's increasing reliance on United States-based Japanese auto suppliers.

[36] The benefit differences are, however, slight. The major difference between United States and Japanese firms appears to be in work organisation (see table 39).

[37] The problems faced by domestic unions in the United States affiliates of some specific foreign multinationals have received considerable public attention. While not overlooking specific cases, the authors here are concerned with isolating patterns or systemic departures by foreign firms, and such a pattern is not detectable by the authors.

[38] Senator Jim Sasser, cited in Tolchins (1988), p. 68.

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