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FOREIGN DIRECT INVESTMENT IN THE U.S.: CHANGES OVER THREE DECADES

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ABSTRACT

U.S. direct investment inflows in the 1980s were almost half the world's total. Even this large inflow leaves foreign firms employing less than 5 per cent of the U.S. labor force, but twice that share in manufacturing. That increase is related to the internationalization of production by foreign firms more than to competitive weakness of U.S. firms.

Foreign affiliates import more relative to their exports than U.S. firms but are moving closer to the behavior of U.S. firms. The trade balances of both are sensitive to exchange rates.

The financing of foreign direct investment from retained earnings dropped almost to zero in the 1980s. One reason is the rapid growth of this investment and another is its low profitability.

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Foreign Direct Investment in the U.S.: Changes Over Three Decades*

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I. Historical Background

It has been a characteristic of the foreign investment history of the United States as far back as there is any statistical record, and probably earlier also, that while inward investment was largely in portfolio form, outward investment was mainly direct investment. That is, the outward investment mostly involved control of foreign operations by U.S. firms, while the inward investment took the form of lending by foreigners to government agencies or enterprises that were controlled by Americans. The contrast between the two sides of the investment balance sheet can be summarized in the Table 1, to the extent that the historical record permits the distinction to be made.

The individual figures here often rely on weak statistical foundations and the fluctuations in the ratios should not be taken very seriously. For example, the sharp rise in the share of direct investment in the U.S. outward total between 1929 and 1935 to a large extent reflects the fact that, in the data

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Table 1

Share of Direct Investment in Foreign Private Investment in the U.S. and U.S. Private Investment Abroad Selected Years, 1897 to 1960

	U.S. Private Investment Abroad	Foreign Private Investment in the U.S.
	Per Cent	
1897	93	NA
1908	65	NA
1914	75	18
1919	56	23
1924	50	-
1929	44	16
1935	59	25
1940	60	22
1950	62	19
1960	65	17

Source: Lipsey (1988) and U.S. Bureau of the Census (1975), based mainly on data from Lewis (1938).

source, bond holdings were adjusted to market value in 1935 while direct investments were not, although they too must have fallen substantially in market value. The contrast between inward and outward investment is clear, however. Direct investment was almost always more than half the outward investment total but never more than a quarter of the inward investment.

The large decline in the share of direct investment on the outward side between 1919 and 1929 has had its counterpart in more recent years, as we discuss later. That decline reflected a tremendous expansion in portfolio lending, concentrated in Latin America to a much larger extent than ever before. Much of that portfolio investment disappeared in defaults and price depreciation during the 1930s.

Since direct investment is a transfer more of technological or management skills than of capital, it may seem surprising that there was so little inflow into the United States during the 19th century, when several European countries must have possessed superior technology and skills. One explanation may be that the transfer of skills took a different form when transportation and communication were so slow and primitive compared to that in recent years. Because of the difficulty of controlling foreign enterprises from a home base, much of the transfer of knowledge took the form of human migration, either to establish enterprises in the United States or to manage them after they were first established. Also, as Mira Wilkins (1989) points out in her recent study of foreign investment in the United States before 1914,

the distinction between direct and portfolio investment was not always a sharp one. Even portfolio investors sometimes intervened in the management of American firms when things went badly. And many of the earlier direct investments in the United States were what she refers to as "free-standing" enterprises, differing from most U.S. direct investment in recent years in that they were owned by foreigners but not by foreign firms. They were not subsidiaries of multinational firms, as is typical now, although they were sometimes parts of loose networks trading with each other and sometimes sharing expertise in technical fields. Such enterprises were probably much more likely over time to turn into domestic U.S. firms with the migration of their owners or adaptation to local conditions in the United States than are the current subsidiaries of multinational enterprises.

II. The Magnitude of Foreign Direct Investment in the U.S.

II.A. The U.S. Share in the World's Stocks and Flows

The dominant role of the United States as a supplier of direct investment to other countries before the 1970s is reflected in the fact that U.S. outward investment accounted for over half of the developed world's stock of direct investment in 1967 and 1971, with the next most important direct investor, the U.K., owning only about 15-17 per cent, and no other single country accounting for more than 6 per cent (UN, 1978, Table III-32). On the other side of the account, foreign direct investment in the United States was

only 9 per cent of the world's total stock in 1967 and 11 per cent in 1975 (UN 1978, Table III-33).

The U.S. share of direct investment outflows since the late 1960s is described in Table 2. It was well over half the developed country total in the 1960s, and stayed at or close to half through the 1970s. In the second half of the 1970s the U.S. was still responsible for almost half the developed country outflow and more than 40 per cent of that of the whole world. Then, in the first half of the 1980s, direct investment from the U.S. fell to less than 20 per cent of the world outflow, and by the latest period had gone below 15 per cent.

The opposite change took place on the inflow side. The direct investment inflow to the United States was less than 10 per cent of the total inflow to developed countries in 1960 and 1965-66, 17 per cent in 1967-69, and jumped to about a quarter in 1973-75 and over a third in 1975-80. The U.S. share of world inflows, only about 15 per cent in the early 1970s, reached over a quarter in the late 1970s, almost 40 per cent in 1981-85 and 46 per cent in 1985-89.

The consequence of these declining U.S. shares of outflows and increasing shares of inflows can be seen in the shares of direct investment stocks. By 1988 the U.S. held 35 per cent of the world stock of outward investment and 31 per cent of the stock of inward investment. The U.S. share of outward investment would probably be considerably higher if either of the

Table 2
U.S. Share of Developed Countries' and World Direct Investment Inflows and Outflows, 1960 and 1965 to 1990

	Outflows		Inflows	
	Developed Countries	World	Developed Countries	World
	Per Cent			
1960	57.6		6.2	
1965-66	64.9		2.2	
1967-69	56.8		16.7	
1970-72	51.9		10.4	7.2
1973-75[a]	43.8		26.2	16.8
1973-75[b]	48.9		24.3	18.8
1975-80[c]	47.7		35.4	26.2
1975-80[d]		42.4		24.5
1981-85		19.1		39.3
1980-84		31.8		42.2
1985-89		17.1		46.0
1986-90		13.8		

[a]Comparable to 1970-72
[b]Comparable to 1975-80
[c]Comparable to 1973-75
[d]Comparable to 1981-85

Source: Appendix Table 1.

alternative valuations discussed below were used, since the U.S. investments are older than those of most other countries. And the U.S. share of inward investment would be considerably smaller if the reporting of inward investment by other countries were more complete.

These figures by themselves seem to imply that the United States has in recent years sharply cut back its former role as the major supplier of direct investment capital to the rest of the world. It has, instead, apparently come to absorb a very high proportion of the world's supply of direct investment capital.

While there is some truth to this summary, there are also some questionable aspects to it. Since the U.S. was the leading foreign direct investor in the early post-WWII decades, many of its holdings are well-established foreign firms, and the further flow of U.S. direct investment capital to foreign countries comes largely from the retained earnings of these companies. While the U.S. reports these retained earnings as flows of direct investment, many other countries do not, and the share of the U.S. in outflows is therefore probably exaggerated. Since many other countries fail to report the reinvested earnings in their inward investment accounts, the U.S. share on the inward side is probably also overstated.

II.B. U.S. Inward and Outward Direct Investment Stocks and Flows

Since the U.S. was much more of an exporter than an importer of direct investment for many years, as described above, the stock of foreign

direct investment in the U.S. was small compared to U.S. holdings abroad. In 1950, for example, the inward stock was less than 30 per cent as large as the outward stock, measured by book values, and in 1966, after the rapid growth in U.S. outward direct investment, it was less than 20 per cent (Table 3). As foreign direct investment in the U.S. began to grow rapidly in the years after 1977, the book value ratio rose, to the point where in 1990 the foreign direct investment in the U.S. appeared about as large as the U.S. direct investment abroad, a startling change in a little over a decade.

As this near-reversal of the direct investment balance took place, along with the widely publicized story that the U.S. had gone in a few years from a major creditor position to being "the world's greatest debtor," a number of observers expressed skepticism about the significance of the book value data. These are basically historical cost valuations, but those for U.S. direct investment abroad are affected by exchange rate changes, since many book values are translated into U.S. dollars from foreign currencies using current exchange rates. Since U.S. direct investment abroad was much older on average than foreign investment in the U.S., it seemed likely that it had been made at much lower than current prices and, for that and other reasons, was greatly undervalued (Eisner and Pieper, 1990, Ulan and Dewald, 1989). That impression was reinforced by the fact that foreign income from direct investment in the U.S. was much smaller than U.S. income on direct investment abroad, well under half in 1990, for example (Di Lullo, 1991,

Table 3

Value of Stock of Foreign Direct Investment in the U.S.
as Per Cent of the Value of the Stock of U.S. Direct Investment Abroad
Selected Years, 1950 to 1990

	Book Value		Current Cost	Market Value
	Excluding Neth. Antilles Finance Affiliates	Total	Total	Total
1950	28.8	28.8		
1966	17.5	17.5		
1977	23.5	23.7	22.7	
1982	54.7	60.0	46.3	58.3
1985	75.5	80.2	59.9	59.9
1988	90.9	93.7	73.8	57.6
1990	95.4	95.8	77.9	74.3

Source: Appendix Tables 2 and 3 and Scholl (1991), Table 3.

Table 5). In response to these doubts, the BEA undertook the calculation of some alternative measures. One, referred to as the "current-cost" method is based on a revaluation of tangible assets. The main feature is a revaluation of plant and equipment using a perpetual inventory calculation from past expenditures. Land and inventories are also revalued to a rough measure of current prices. The "market-value" method is a revaluation of the equity part of direct investment on the basis of movements in stock prices (Landefeld and Lawson, 1991).[1]

Two aspects of the story seem fairly clear. One is that foreign direct investment in the U.S. is still considerably smaller than U.S. direct investment abroad. The other is that the foreign investment in the U.S. grew much more

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[1] Both of these adjustments are extremely crude. Even if they were not, there is no reason to expect them to give similar results. In the case of U.S. corporations, for which the data are far better, the "adjusted book value," akin to the current value used here, ranged from more than 20 per cent below to almost 90 per cent above the market value of the equity derived from stock prices between 1929 and 1958 (Goldsmith and Lipsey, 1963, Vol. I, Table 25), and from 30 per cent below to more than twice as high between 1954 and 1977 (Cagan and Lipsey, 1978, Table 2-3).

rapidly than U.S. investment abroad after 1977, not only in percentage terms but, by some measures, in dollar terms as well. Thus, as compared with the 1950s, 1960s, and 1970s, the U.S. was an exceptionally attractive location for foreign companies in the 1980s relative to the attractiveness of foreign locations for U.S. companies. This was the case despite the very high price of U.S. assets during part of this period as the exchange value of the U.S. dollar reached its peak in 1984, and early 1985. However, the period after 1977 also includes two periods of low exchange values of the dollar, one around 1980 and one after 1985.

While the expected effects of exchange rate changes on trade by affiliates are clear, and are described below, the effects on investment flows are ambiguous. For example, a high exchange value of the U.S. dollar makes foreign production facilities more economical relative to those in the U.S., but the incentive for a U.S. firm to invest in such facilities would be stronger if the product were very tradable than if it were a service or a relatively nontradable good. In addition the high value of the dollar would reduce the price of a foreign facility in dollar terms, so that an increase in physical investment might be offset by the decline in the dollar price of the foreign assets and result in a decline in investment outflows denominated in dollars unless there were a high elasticity of demand for productive assets, or a high elasticity of substitution between U.S. and foreign assets.

II.C. Foreign-owned Firms' Shares of the U.S. Economy

The rapid growth of foreign direct investment in the U.S. should be compared with some measures of the size of the U.S. economy. By some indicators, this comparison places the foreign operations in perspective as even now a small part of the economy. One such measure is the ratio of the stock of foreign direct investment to the assets of U.S. corporations (Table 4). The stock of foreign direct investment looks small by this standard, but the rapid growth after 1977 does stand out.

If we confine our attention to the nonfinancial sector, foreign direct investment appears more important. That is partly because foreign ownership is less important in finance and partly because the finance sector's assets include a large amount of holdings of the equity and debt of other sectors and of the finance sector itself. There is much less duplication, in this sense, in the nonfinancial sector's assets. The foreign share here more than doubled between 1950 and 1980 or 1960 and 1980, and then much more than doubled during the 1980s. Thus the growth of the foreign investment share accelerated during the 1980s.

In a sense, this comparison between foreign investment and assets is a misleading one because the numerator and denominator are different concepts. More appropriate comparisons might be for shares of output or shares of inputs into production, such as labor or capital, but these are more limited in their time spans.

Table 4

Book Value of Foreign Direct Investment in the U.S.
as Per Cent of Assets of U.S. Corporations
Selected Years, 1950 to 1988

	All Corporations	Nonfinancial Corporations
1950	0.6	.9
1960	0.6	1.0
1966	0.5	1.0
1974	0.7	1.5
1977	0.7	1.4
1980	1.2	2.1
1982	1.5	2.7
1985	1.6	1.0
1987	1.9	4.0
1988	2.1	5.0

Source: Appendix Tables 3 and 4.

A calculation of the share of U.S. manufacturing industry assets under foreign control in 1980 and 1988 was made by Orr (1991). As part of the calculation he estimated what the foreign share of motor vehicle industry assets would be if Japanese-owned auto production operations, listed under the wholesale trade industry in the Department of Commerce data, were transferred to the manufacturing category. An affiliate would be listed in wholesale trade in the official data if its wholesale trade activities were larger than the manufacturing activity. Since value of sales, rather than value added, is the criterion, the method tends to put into wholesale trade affiliates that would be in manufacturing by a value added or employment criterion because ratios of sales to value added or employment added are much larger in wholesale trade than in manufacturing. Orr's estimates for the foreign share in manufacturing assets were (per cent):

1980 8.5

1988 14.3

Even with the estimated motor vehicle industry assets added, the shares in the transportation equipment industry, 4.4 per cent in 1980 and 5.9 per cent in 1988, were well below the average for manufacturing.

A comparison of gross product, excluding banks, suggests something less than a doubling of the foreign share in U.S. output between 1977 and 1987,

	Per Cent
1977	2.3
1981	4.2
1987	4.3

Source: Lowe (1990), Table 4

somewhat slower than that indicated by the direct investment data. Another comparison, this time on the input side, for employment (Table 5), shows that the levels are fairly small, but the growth has been rapid: the ratio tripled between 1974 and 1989.

The employment shares of foreign firms vary greatly among sectors: they are much higher in goods production, particularly mining and manufacturing than in service sectors (Table 6). The sector ratios are subject to the problem that establishments are classified differently in the two sources. The aggregate U.S. data are classified by industry of establishment while the data for foreign affiliates are consolidated into a total for all affiliates of a single firm and classified by the predominant industry. The most likely effect is to move trade and service operations into manufacturing, although some manufacturing operations, such as Japanese auto plants, may be classified under wholesale trade because the distribution activities related to importing may be so large. The mining share is almost certainly exaggerated by the inclusion of petroleum distribution operations with the refining activities of foreign-owned petroleum companies.

Table 5

Employment in Nonbank U.S. Affiliates of Foreign Companies as Per Cent of U.S. Private Non-agricultural Employment Selected Years, 1974 to 1989

1974	1.6
1977	1.8
1980	2.7
1982	3.3
1984	3.5
1987	3.8
1988	4.4
1989	4.9

Source: Appendix Tables 5 and 6

Table 6

Employment in U.S. Affiliates of Foreign Corporations as Per Cent of Total U.S. Private Sector Employment, by Broad Industry Groups, Selected Years, 1974 to 1989

	1974	1977	1980	1982	1984	1987	1988	1989
Mining[a]	16.8	13.0	12.4	14.5	16.3	19.9	17.6	25.8
Manufacturing	2.8	3.5	5.5	6.7	7.2	8.2	9.5	11.0
GOODS PRODUCTION	3.3	3.9	5.8	7.1	7.6	8.6	9.9	11.5
Construction	0.2	0.3	1.0	1.3	1.0	1.0	1.1	1.5
Transp. & publ. util.	1.0	0.5	0.7	1.1	1.2	1.8	2.4	3.3
GOODS, CONSTRUCTION, TRANSP. & PUB. UTIL.	2.5	2.9	4.3	5.3	5.5	6.1	7.1	8.3
Wholesale trade	2.8	3.2	4.1	5.3	5.3	5.5	6.5	6.3
Retail trade	1.0	1.0	2.0	2.6	2.7	3.0	4.3	4.2
Finance, Insur., Real Estate[b]	1.1[c]	1.1	2.1	2.3	2.2	3.1	3.6	3.6
Services	0.3	0.2	0.5	0.6	0.9	1.2	1.5	1.5
TRADE & SERVICES[b]	1.0	1.0	1.6	2.1	2.2	2.5	3.2	3.1

[a]Including petroleum
[b]Banking included in denominator but not in numerator
[c]Including banking, would be 1.8 per cent

Source: Appendix Tables 6 and 7

The development that has been drawn the most public comment is the growth of the foreign share in manufacturing, from minor levels in 1974 to over 10 per cent of employment in 1989. What is equally notable is the pervasiveness of the growth in foreign shares, which more than doubled in every broad industry group shown here. While this growth is often viewed from the U.S. perspective as a sign of American weakness, it was also a part of a general move toward internationalization of production by firms all around the world, in which foreign firms began to imitate the internationalization that large American firms pioneered in the 1950s and 1960s (Lipsey, 1989). Even at the end of the period, the foreign share in U.S. manufacturing employment was not high compared to that in most developed countries except Japan and the Nordic countries.

The growth in the foreign share of U.S. manufacturing employment has affected all the main groups within the manufacturing sector, but it has gone much further in some groups than in others (Table 7). Over the whole period, the foreign share of employment in chemicals has been much higher than that in any other industry group, a surprising fact in view of the strong position of American chemical companies in world trade. In fact, the foreign shares among these industry groups do not seem to bear any relation to the competitive strength of American companies; they are no higher in the groups in which American firms are relatively weak, such as foods, metals, and

Table 7

Employment in U.S. Manufacturing Affiliates of Foreign Corporations as Per Cent of U.S. Manufacturing Employment, by Industry Selected Years, 1974 to 1989

	1974	1980	1987	1989
All Manufacturing	2.8	5.5	8.2	11.0
Food & kindred products	4.4	7.0	8.8	14.7
Chemicals	10.8	25.7	38.6	41.2
Metals	3.2	4.1	7.4	12.6
Machinery, exc. elect.	1.9	4.7	5.4	11.4
Elect. mach. & equip.	2.8	8.3	10.5	15.5
Transp. equip.	.0	3.4	2.7	3.1
Other manuf.	2.1	2.9	5.8	6.9

Source: Appendix Tables 6 and 7

miscellaneous manufactures, than in industries where U.S. firms hold strong positions, such as chemicals and machinery. It may be that the foreign shares are high in chemicals and machinery because the nature of these industries leads firms from all countries to be multinational, and that it would be higher if U.S. firms were not strong in these fields.

Two points should be made about particular industries. The fact that the foreign share is so low in transport equipment and has not risen since 1980, although it clearly did increase before that, reflects two factors. One is the lack of foreign ownership in the aircraft industry. That may partly reflect the connection with national defense, but the international dominance of U.S. firms must also be a factor. A second reason for the low share, especially in view of the failure of the share to rise after 1980, may be a classification scheme that places some manufacturing employment by foreign car producers under wholesale trade because that is the predominant activity of the U.S. subsidiaries.

The high foreign share in chemicals probably reflects the characterization of DuPont as foreign-owned although it is not owned by a foreign chemical company and is not part of a foreign-based chemicals network. It is different in this respect from other foreign-owned chemical operations, such as the Swiss-owned pharmaceutical firms and Hoechst-Celanese. The inclusion of DuPont, if it is included, has a major effect: it would probably account for something in the neighborhood of 100,000

employees out of the reported 443,000. If all of DuPont, including petroleum operations, is combined into this chemicals group, the degree of exaggeration is increased by the fact that employees in the petroleum operations are in the numerator, but not in the denominator of the fraction. However even without DuPont, chemicals would still be the industry group with the largest foreign share, by a large margin.

The large role of foreign firms in the chemical industry has long historical roots, based on foreign, particularly German, companies' early lead in chemical technologies. Mira Wilkins (1989) reported that "Foreign direct investment had more impact on the pre-World War I American chemical industry than on any other U.S. industry...in no other industry were Europeans so far in advance of Americans; in no other single industry was the foreign technological contribution so dramatic." (p. 383) and that "... by 1914 few branches of the U.S. chemical industry were untouched by foreign direct investment. No other American industry was as influenced by European business enterprises" (p. 411). "In the pre-war chemical and dye industries, German interests were supreme" according to Lewis (1938, p. 102).

That large foreign, particularly German, role persisted despite the confiscation and sale to Americans of German patents and property by the Alien Property Custodian during World War I and a second round of confiscations during and after World War II. Among the German holdings before World War I, according to Wilkins (1989, Chapter 11), were Rohm

and Haas, Heyden Chemical, Merck & Co., Hoechst, and Bayer. During World War II, the Alien Property Custodian vested $51.4 million in enemy-owned property, mostly German, that included American Potash and Chemical Corp. and General Aniline and Film Corp. (U.S. Dept. of Commerce, 1948, pp. 93 and 99), and in the years after World War II, vested another $58 million, part of which consisted of "...two large rayon manufacturing companies..." (U.S. Dept. of Commerce, 1950, pp. 130-131 and 160).

In 1989, almost a quarter of foreign firms' employment in chemicals (even with DuPont's employment included, if it is; almost 30 per cent if we assume it is included and remove it) was in German-controlled firms. These firms must possess some strong and persistent technological advantages to retain their position in the U.S. and to keep regaining it after it has been cut off.

Another view of the changing importance of foreign-owned affiliates in U.S. manufacturing is provided by shares in plant and equipment expenditures. While the employment measure in a sense overweights labor intensive activities, the plant and equipment measure gives a high weight to capital intensive activities and, possibly, to relatively new operations. The foreign affiliate shares may be exaggerated by the inclusion of intra-company transfers of plant and equipment that would not enter the denominator.

Since 1974, the foreign share in manufacturing plant and equipment expenditure appears to have multiplied greatly (Table 8).

Table 8

Plant and Equipment Expenditures by U.S. Manufacturing Affiliates of Foreign Corporations as Per Cent of Total U.S. Expenditure, by Industry Selected Years, 1974 to 1989

	1974	1980	1987	1989
All Manufacturing	6.2	8.9	12.3	16.3
Foods	5.5	9.2	7.9	11.0
Chemicals	15.6	23.7	33.5	50.4
Metals	10.5	7.8	12.4	26.8
Machinery, exc. elect.		4.0	6.5	13.2
Elect. mach. & equip.	2.0	10.4	9.4	10.2
Transport. equip.		1.3	10.3	6.0
Other manuf.	4.2	9.2	9.0	10.6

Source: Appendix Tables 11 and 12

In several respects, the capital expenditure data confirm the story in the employment data. The trend in the foreign share was very strongly upward, although not quite as steep. The rise in the importance of the foreign firms was evident in all the industry groups. The role of foreign-owned firms was highest in chemicals throughout the period. In general, the foreign role is greater in capital expenditures than in employment, but foods and electrical machinery were exceptions in this regard. In the case of the chemicals industry, the possible inclusion of DuPont in the 1987 and 1989 data could be a major part of the high ratios. In 1989, for example, DuPont reported over $3 billion in plant and equipment expenditures in the United States (Annual Report, p. 49), a third of the more than $9 billion for all chemical affiliates of foreign companies in Appendix Table 12. DuPont reported $600 million of capital expenditures in oil and gas operations in the U.S. that year, but some may have been expensed, and therefore not included in the capital expenditure figures.

III. Foreign-Owned Affiliates in the U.S. and U.S. Trade

III. A. The Role of Foreign-owned Affiliates in U.S. Exports and Imports

By the end of the 1980s, foreign-owned affiliates had come to play a large role in U.S. merchandise trade. They exported $84 billion in goods from the United States and imported $170 billion, 23 per cent of U.S. exports and over a third of imports. These amounts seem very large relative to the

shares of foreign firms in U.S. production or employment, but they are so large because much of these firms' export and import activity is as intermediaries, trading in goods produced by other firms, not necessarily foreign. More than half of the foreign firms' exports, for example, are by foreign trading firms, classified as wholesale trade affiliates. They deal in metals and minerals, and in farm products and other raw materials. The former group is mainly Japanese and the latter is split between Japanese and French affiliates. In neither group is it likely that much of the exports come from the foreign firms' own production. One might guess that while the foreign firms' intermediation provides some gains in efficiency, the exports would not change greatly if these trading operations were closed. On the other hand, the exports by wholesale affiliates in motor vehicles and machinery, mainly Japanese, could have been the output of manufacturing operations by the same firms in the U.S.

Imports by foreign-owned wholesalers are mostly of manufactured products that would probably be imported anyway. The importation via affiliates is presumably more efficient for the foreign manufacturers and probably adds to their profits or their market shares.

If we assume that the exports and imports of manufacturing affiliates are more related to their own production activities than are those of trade affiliates, the trade of the manufacturing affiliates may be more likely to reflect the effects of the direct investment. The amounts are still large, $31

billion of exports and $39 billion of imports by manufacturing affiliates in 1989 (U.S. Dept. of Commerce, 1991c, Tables G-5 and G-6). The exports were 10 1/2 per cent of our rough estimate of exports produced by the manufacturing sector, and 12 1/2 per cent of all exports in SITC groups 4 through 9. Not all of the trade by manufacturing affiliates is of manufactured products, but the 1987 data (U.S. Dept. of Commerce 1990, Tables G-10 and G-16) suggest that only about 5 per cent of exports and between 5 and 10 per cent of imports are crude materials and fuels.

One contentious topic with respect to foreign firms' operations has been their impact, if any, on U.S. trade. A suspicion is often expressed, echoing earlier complaints against U.S. operations in Canada, for example, that foreign-owned firms are disinclined to export, but have much higher propensities to import than U.S. firms do. It is not clear that such propensities, if they existed, would have any implications for U.S. trade in general, but we can ask whether the foreign operations are very distinctive in their trade behavior.

It is true that foreign-owned manufacturing operations export more than they import. At the earliest date for which we have data, 1974, their exports were about two-thirds of their imports; by 1989, exports were 80 per cent of imports.

Merchandise Exports as Per Cent of Imports by
U.S. Manufacturing Affiliates of Foreign Firms
Selected Years, 1974 to 1989

1974	66
1982	104
1986	62
1989	80

Source: Appendix Table 8

The trade behavior of the foreign affiliates should be viewed against the changes that took place in these years in U.S. trade as a whole. In 1974, U.S. exports and imports, other than those of foreign-owned affiliates, were equal. There was a strong downward trend in the export/import ratio, however, until by 1989 it was a little lower than the ratio for foreign manufacturing affiliates. Thus, to the extent that the data for non-affiliates reflects the general macroeconomic circumstances of the United States, exports from the United States by foreign affiliates were facing unfavorable conditions.

III.B. Changing exchange rates and the trade of foreign-owned U.S. firms

One possible explanation for the change in foreign affiliate export/import ratios is that the foreign affiliates have in some sense "grown up" and have become less dependent on their parent companies for supplies and components. That may be the case, but there are reasons to be skeptical. One is that foreign direct investment in the U.S. has been growing so fast that the average age of the foreign-owned enterprises is probably not rising.

Another is that the time pattern suggests the influence of another factor: the U.S. exchange rate. The export/import ratio was highest in 1982, after the low point in the exchange value of the dollar, and the ratio was at a low point in 1986, after the peak in the value of the U.S. dollar. That influence of the exchange rate is at least mildly confirmed by equation 1, which relates the export/import ratio to the effective exchange rate of the dollar, lagged one year, and a time trend.

$$(1)\quad (EXAFF/IMAFF)_t = \underset{}{-12.91} - \underset{(1.98)}{4.29\, EER_{t-1}} + \underset{(0.82)}{.007\, YR} \qquad \overline{R}^2 = .131$$
$$\qquad\qquad\qquad\qquad\qquad\qquad\quad (0.76)$$

where EXAFF = Affiliate exports X 100
IMAFF = Affiliate imports
EER = U.S. effective exchange rate as reported in the Federal Reserve Bulletin
YR = Year

t-statistics in parentheses

The time trend is not significant, but it is positive, as we would expect from any maturing of the investments. The coefficient of the effective exchange rate variable is negative, as we expect, and statistically significant, as it would be if a high price of the dollar discouraged exports by these affiliates and encouraged imports by them.

If we suspect some J-curve effects on the import side, we might include both current and lagged exchange rate changes, as in equation 2.

$$(2)\quad (EXAFF/IMAFF)_t = \underset{(1.02)}{-13.90} + \underset{(2.71)}{6.60\, EER_t} - \underset{(3.68)}{9.28\, EER_{t-1}} + \underset{(1.09)}{.0075\, YR}$$
$$\overline{R}^2 = .448$$

The use of both current and lagged effective exchange rates greatly improves the explanation of the changes in affiliate export/import ratios and suggests that both current and lagged responses to exchange rates are important. This evidence fits with the finding in Lipsey (1991) that foreign affiliates exports/sales ratios to a large degree and imports/sales ratios to a small degree, respond to effective exchange rate changes.

The movements of the effective exchange rate over this period, together with a time trend term, explain the export/import ratio of the U.S., other than foreign affiliates, to a far greater degree than they do the affiliate trade ratios, as can be seen in equation 3.

$$(3)\quad \left(\frac{USEX}{USIM}\right)_t = \underset{(6.75)}{35.70} - \underset{(5.96)}{4.00}\, EER_{t-1} - \underset{(6.49)}{.017}\, YR \qquad \bar{R}^2 = .897$$

where USEX = U.S. exports of merchandise minus exports by foreign affiliates in the U.S.

USIM = U.S. imports of merchandise minus imports by foreign affiliates.

The effective exchange rate coefficient is about the same for foreign affiliates' trade (in equation 1) and for other U.S. trade (in equation 3), but the trends are very different; the U.S. trade ratio has a strong downward trend over this period. If we add the current exchange rate to the lagged exchange rate of equation 3 we find that the current rate has the expected negative coefficient, but it is not statistically significant. It does, however, improve the fit of the equation slightly.

$$(4)\quad \left(\frac{USEX}{USIM}\right)_t = \underset{(6.85)}{35.53} - \underset{(1.20)}{1.11}\ EER_t - \underset{(5.03)}{4.84}\ EER_{t-1} - \underset{(6.59)}{.0173}\ YR$$

$$\bar{R}^2 = .901$$

The ratio for non-affiliate U.S. trade, incorporating the effect of lagged exchange rate changes in combination with a trend term, goes a considerable way towards explaining the trade ratio for affiliates (equation 5).

$$(5)\quad \left(\frac{EXAFF}{IMAFF}\right)_t = \underset{(2.91)}{-62.9} + \underset{(3.51)}{1.33}\left(\frac{USEX}{USIM}\right)_t + \underset{(2.93)}{.032}\ YR$$

$$\bar{R}^2 = .444$$

In this case the time trend is again positive, implying that given the factors affecting non-affiliate trade, or U.S. trade in general, the trade ratio for affiliates was rising; the trend for affiliates was toward typical U.S. behavior.

A stronger explanation of the affiliate trade ratio is achieved by adding the contemporary exchange rate to equation 5 (equation 6).

$$(6)\left(\frac{EXAFF}{IMAFF}\right)_t = \underset{(4.36)}{-78.4} + \underset{(5.22)}{1.83}\left(\frac{USEX}{USIM}\right)_t + \underset{(4.36)}{.039}\ YR + \underset{(2.76)}{4.28}\ EER_t$$

$$\bar{R}^2 = .652$$

The positive contemporary exchange rate coefficient here suggests a J-curve effect, only for foreign-owned affiliates or larger for them than for other U.S. firms.

IV. The Country and Industry Composition of Foreign Direct Investment in the U.S.

IV.A. The Industry Composition of Investment

The longest continuous series on the industry composition of foreign direct investment in the U.S. are for the direct investment position. While that measure is related to the composition of sales, assets, employment, or other measures of activity, the relationship is not always close. A given amount of assets or employment can be financed mainly by parent funds or mainly by borrowing in the U.S. itself, and the extent of financing through borrowed funds could vary from industry to industry. In addition, the historical data on the U.S. position classify the origin of the investment by the country of direct, or immediate, foreign ownership rather than by the country of the ultimate owner, as in some of the recent data.

One shift in the industry composition of direct investment in the U.S. was the growth in importance of goods industries and decline in service industries from 1950 through the early 1970s (Table 9). That change was subsequently reversed, so that the shares in 1990 were quite similar to those of 1960. Within these categories, petroleum first rose greatly in importance and then declined even more, ending up at less than 10% of the total. The decade and a half after 1960 also saw a rapid growth of wholesaling and a decline in finance investment, both of which were subsequently reversed, leaving both groups at the end slightly below their importance in 1974. One

Table 9

Distribution of U.S.Direct Investment Position, by Broad Industry Groups, Selected Years, 1950 to 1990

	FOREIGN DIRECT INVESTMENT IN THE U.S.					
	1950	1960	1966	1974	1982	1990
Petroleum	11.9[a]	17.9[a]	19.2[a]	27.2	14.9	9.6
Manufacturing	33.6	37.8	41.8	36.3	37.2	40.2
GOODS PRODUCTION	45.5	55.7	61.1	66.3[b]	49.8[b]	51.0[b]
Transp., commun. & public util.	NA	5.9	NA	1.5	1.2	1.7
Wholesale trade	NA	9.2	NA	18.3	15.6	13.2
Banking	3.4	26.2	NA	3.2	6.6	4.8
Other Finance				8.3	18.3	18.6
Other Services	NA	NA	NA	1.3	1.6	7.7
SERVICES, BROADLY DEFINED	54.5	44.3	38.9	35.7	48.2	49.0
TOTAL, ALL INDUSTRIES	100.0	100.0	100.0	100.0	100.0	100.0

	U.S. DIRECT INVESTMENT ABROAD					
	1950	1957	1966	1977	1982	1990
Agric., Forest, Fish, Mining	14.6	12.0	8.7	4.8	2.7	1.6
Petroleum	28.9[a]	25.8[c]	21.2	13.4	19.1	12.2
Manufacturing	32.6	31.7	41.9	45.7	40.1	45.4
GOODS PRODUCTION	76.2	69.5[c]	71.8	63.9	61.9	59.2
Transp., communication, public utilities	12.2	8.5	4.6	1.6	1.1	1.8
Wholesale trade	4.6	4.6	6.9	10.3	10.0	11.2
Petroleum trade & services	NA	10.0	6.9	7.2	8.7	3.9
Banking	4.0	0.5	0.6	3.2	5.0	5.8
Other Finance		3.7	8.9	15.6	8.6	26.7
Other Services	1.7	1.2	2.4	2.8	2.2	2.9
SERVICES, BROADLY DEFINED	23.8	30.5	28.2	36.1	38.1	40.8
TOTAL, ALL INDUSTRIES	100.0	100.0	100.0	100.0	100.0	100.0

[a]Total petroleum including trade and services
[b]Including agriculture and mining; excluding petroleum trade and services
[c]Including petroleum extraction and refining, but not trade and services. Figures comparable to 1950 are 35.8 and 79.5.

Source: Appendix Tables 2 and 3.

consistent trend since 1974 has been a steady growth in investment in service industries, although they were still below 10 per cent of the total in 1990.

If we compare the trends in the distribution of FDI in the U.S. with those of US FDI, we can see several contrasts. One strong contrast is between goods and services, with a large shift toward services in U.S. direct investment and a corresponding decline in the role of goods industries, particularly petroleum. Transportation and public utilities almost vanished from FDI in both directions, although recent relaxations in host-country rules against foreign ownership and the desire for capital investment and modernization may restore some of the past role of these industries in outward U.S. FDI. The major shift in U.S. outward direct investment was the growth in the finance sector, from about 4 per cent in the 1950s to over 30 per cent in 1990, from far below the share in foreign direct investment in the U.S. to well above the foreign share. The data suggest that U.S. financial firms must have gained in some respect on their foreign rivals over these 30 years.

A different view of the distribution of foreign-owned firms' activity in the U.S., perhaps without some of the possible distortions of the investment position data, is given by the distribution of assets. Assets do have their own defects as an activity measure, giving greater weight to industries with high ratios of capital, including financial capital, to labor than measures of output or comprehensive input measures. They will, therefore, give a high weight to affiliates in finance, even when banking is omitted. In addition, the

financial assets are much more likely to be outside the U.S. than fixed assets or labor. An advantage of the asset data is that they are available as far back as 1959 and thus give a view of the whole 30 years since then.

The most striking change in the distribution of foreign affiliate assets is the enormous shift from goods industries to service industries, broadly defined to include trade and finance, as well as other services (Table 10). Goods industries accounted for over three quarters of foreign affiliates' assets in 1959, and only a third in 1987. The sharpest fall was in the share of the petroleum industry, followed by that in manufacturing. The corresponding increase was not spread over service industries, but was concentrated in finance, although some other service sectors did grow.

This shift in industry composition partly confirms that shown by the data on investment position (Table 9) but the changes in the asset distribution were far larger and show a much larger finance sector, even though the investment position data include banking.

Orr's (1991) estimate of Japanese automobile production assets that were involved in manufacturing, but listed under wholesale trade in the Department of Commerce data, discussed earlier, would roughly double the share of that industry in the total. The share would still be one of the lowest in our list.

A measure of labor input is provided by employment in foreign-owned affiliates. Unfortunately, the employment data cover only the second

Table 10

Industry Distribution of Assets of Foreign-Owned Firms in the United States 1959-1987

	1959	1974	1980	1987
Mining	2.5	2.5	2.3	1.4
Petroleum[a]	33.5	16.4	15.1	8.4
Manufacturing	40.9	15.0	28.0	23.7
Foods		2.2	2.8	2.5
Chemicals		4.5	8.9	8.2
Metals		2.6	3.5	2.5
Machinery		2.0	5.9	3.5
Non-Elect.			2.6	1.4
Elect.			3.3	2.2
Transport Equip.		3.7	1.5	.8
Other Mfg.			5.2	6.1
GOODS INDUSTRIES[b]	76.9	33.9	45.4	33.5
Wholesale trade	14.2	13.7	17.1	10.7
Retail trade		1.3	3.3	2.8
Finance (exc. banking), Insurance, & RE	9.0	48.6[d]	30.3	47.7
Finance (exc. banking)			11.1	28.7
Insurance			12.4	11.6
Real estate			6.8	7.4
Other services		2.5	1.5	3.5
Other industries			2.4	1.9
SERVICES, BROADLY DEFINED[c]	23.2	66.1	54.6	66.5
TOTAL	100.0	100.0	100.0	100.0

[a]Includes petroleum trade and services, a little under 20 per cent of the petroleum total in 1974.

[b]Mining, Petroleum, including petroleum trade and services, and Manufacturing.

[c]Includes Agriculture; Forestry, and fishing; Transportation, communication and public utilities (over 40 per cent of the total in 1974), Construction, Hotels and lodging places, and Other services.

[d]The share including banking would be about 48 per cent.

Source: Appendix Table 14.

half of the period spanned by the data on assets and the direct investment position.

The employment data confirm the shift out of goods production and into service production after the mid-1970s, as well as the particularly large decline in employment in petroleum (Table 11). The rising fields for foreign firms, according to the employment data, were retail trade and other services. However, the employment data do not show the rise in importance of nonbank finance indicated by the investment and assets data.

A comparison of the industry distribution of employment in foreign-owned affiliates with that of U.S. firms as a group shows a much slower shift from manufacturing on the part of the foreign firms, but much more of a decline in petroleum, which includes some refining operations. The comparison also points up the much heavier concentration of foreign firms' employment in manufacturing and in goods production in general, more than twice the U.S. proportion by the end of the period. One can read this comparison as a sign of declining comparative advantage of U.S. companies in manufacturing, although not necessarily of the U.S. as a production location, since the foreign firms were choosing the U.S. as a manufacturing location. However, as we have shown elsewhere (Lipsey and Kravis, 1987; Blomström and Lipsey, 1989; and Kravis and Lipsey, 1992), there is no sign of any such decline in competitiveness of U.S. manufacturing firms in world export markets. The rising share of foreign firms in U.S. manufacturing may

Table 11

Industry Distribution of Non-agricultural Employment:
Foreign Affiliates in the U.S. and All U.S. Firms
Per Cent

	FOREIGN AFFILIATES			ALL U.S. FIRMS		
	1974	1982	1989	1974	1982	1989
Mining	2.2	1.7	1.0	1.1	1.5	.8
Petroleum	9.0	5.0	3.1	.3	.3	.2
Manufacturing	52.5	51.0	48.0	31.0	25.2	21.3
Foods	7.2	5.2	5.5	2.7	2.2	1.8
Chemicals	11.0	16.0	10.0	1.7	1.5	1.2
Metals	8.4	4.2	6.3	4.3	3.2	2.4
Mach. exc. elect.	4.1	5.4	5.5	3.4	3.0	2.4
Elect. mach. & equip.	5.3	6.3	6.1	3.1	2.7	1.9
Transp. equip.	NA	2.9	1.4	2.9	2.4	2.3
Other mfg.	16.6	10.9	13.2	13.0	10.2	9.3
GOODS PRODUCTION	62.9	56.9	52.1	32.4	27.0	22.4
Public util. & transp.	4.3	2.3	4.2	7.4	6.9	6.2
Construction	.8	2.1	1.7	6.3	5.3	5.7
Wholesale trade	11.6	11.5	8.8	6.9	7.2	6.9
Retail trade	11.5	16.3	18.5	19.6	20.6	21.6
Finance, incl. banking				6.5	7.2	7.4
excl. banking	4.5	5.0	5.5			
Other services	3.9	5.0	9.2	21.0	25.8	30.0
SERVICES, BROADLY DEFINED	37.1	43.1	47.9	67.6	73.0	77.6

Source: Appendix Tables 6 and 7.

reflect mainly the increasing internationalization of the foreign firms.

The other side of this story is the much greater concentration of U.S. employment in services, with the foreign share growing, but still far behind.

A somewhat different picture of the comparative advantages of firms appears if we compare foreign affiliates in the U.S. with U.S. parent companies. In this comparison we are holding constant not only the location of production, but also the multinationality of the firms. Both sets of firms produce in the U.S. and in foreign countries and are probably of similar size, while the total of U.S. firms in Table 11 includes many smaller ones that are less likely to be making a choice of production location.

The distribution of employment by U.S. parents is given in Table 12. U.S. parents are more concentrated in goods industries than are foreign affiliates, although parent employment, too, has shifted toward service industries. Manufacturing accounts for more of parent employment than of affiliate employment, but the margin has been decreasing, another suggestion that the comparative advantage of U.S. firms relative to foreign firms has been moving away from manufacturing. Among manufacturing industries, chemicals are the industry in which foreign affiliates are much more concentrated than are U.S. parents. Transport equipment is the industry in which U.S. parents are more concentrated than the foreign firms. In neither

Table 12

Industry Distribution of Employment by Nonbank U.S. Parent Companies, 1977, 1982, and 1989

	1977	1982	1989
		Per Cent	
Petroleum	4.7	6.6	3.4
Manufacturing	62.4	56.3	54.2
Foods	5.4	5.4	6.1
Chemicals	6.4	7.3	6.7
Metals	7.9	5.2	3.7
Mach. exc. elect.	8.2	7.8	6.8
Elect. mach. & equip.	6.8	8.7	5.4
Transp. equip.	12.1	9.0	11.1
Other manuf.	15.7	12.9	14.4
GOODS PRODUCTION	67.1	62.9	57.7
Wholesale trade[b]	13.1[a]	2.1	2.3
Finance, exc. banking, insur., & RE	4.6	5.4	5.8
Other services	3.9	5.3	9.2
Other industries	11.4	24.3[a]	25.2[a]
SERVICES, BROADLY DEFINED	32.9	37.1	42.5

[a]Includes retail trade

[b]Including agriculture, mining, except petroleum, construction, transportation, communication, and public utilities.

Source: Appendix Tables 6 and 13.

case is there any clear sign of a trend over these 15 years. Outside of manufacturing, U.S. parents and foreign affiliates show the same rising shares of their employment in the narrowly defined service sector.

While labor input by foreign-owned affiliates receives the most attention, we may also wish to observe the distribution of these firms' additions to the physical capital stock of the U.S. Some of the trends observed for labor recur in the capital expenditure data, particularly the steep decline in the shares of the petroleum and mining industries and the rise in the share of the finance sector, all always a much larger part of capital expenditure than of employment. There were also increases in the shares of retail trade in plant and equipment expenditure. This is an industry more important in employment than in capital expenditure (Table 13). In manufacturing there was something of a contrast between the employment and capital expenditure measures: a small decline in the industry's employment share but a rise in its share in capital spending. Those differences suggest more of a move to higher capital intensity among manufacturing affiliates than among those in other industries. Within the finance sector, the major growth was the jump in the share of the real estate industry during the 1970s. This is always, of course, an extremely capital intensive industry, with a measured capital/labor ratio often inflated

Table 13

Industry Distribution of Expenditures for Property, Plant, and Equipment by U.S. Affiliates of Foreign Firms, 1974, 1980, and 1987

	Per Cent		
	1974	1980	1987
Mining	6.5	2.2	2.8
Petroleum	37.0	21.0	13.7
Manufacturing	30.6	31.0	34.6
Foods	2.3	2.6	1.9
Chemicals	11.5	11.6	12.0
Metals	6.7	3.2	3.4
Non-elect. mach.	2.8	1.7	2.0
Elect. mach. & equip.		3.9	3.1
Transport equip.	7.2	1.0	3.8
Other mfg.		7.0	8.4
GOODS INDUSTRIES	74.1	54.2	51.1
Wholesale trade	6.7	6.8	6.4
Retail trade	2.1	3.2	4.5
Finance (exc. banking), Insurance, & Real Estate	9.7	29.5	28.0
Finance (exc. banking)	NA	1.0	2.1
Insurance	NA	.9	1.4
Real estate	NA	27.6	24.5
Other services	7.4	2.3	6.1
Other industries		4.0	3.9
SERVICES, BROADLY DEFINED	25.9	45.8	48.9
TOTAL	100.0	100.0	100.0

Source: Appendix Table 16

by the fact that the labor input involved is employed by other service industries, even when it contributes to the sales of the real estate sector.

The closest approach we have to an output measure for foreign-owned affiliates over thirty years is total sales, but we cannot deduct purchased inputs. In the earlier years we cannot even deduct imports, although that would be possible for more recent years.

In 1959, the sales of foreign-owned affiliates in the U.S. were overwhelmingly concentrated in goods industries, particularly petroleum and manufacturing (Table 14). Those two accounted for over 90 per cent of all foreign affiliate sales.

By 1974, almost half the sales were by wholesale trade affiliates, and all goods industries combined accounted for only 40 per cent of total affiliate sales. It is not clear whether there was a great change in the type of goods sold. There may have been only a change in organization, to separate sales from manufacturing activities, or possibly a change in the way the data were collected. Within the goods sector, the changes were smaller, but there was a shift from manufacturing to petroleum and, among manufacturing industry groups, out of foods and into metals.

After 1974 the changes were smaller, mainly the decline in petroleum

Table 14

Industry Distribution of Sales by U.S. Affiliates of Foreign Firms
1959 - 1987

	1959	1974	1980	1987
Mining	1.5	1.0	0.8	0.8
Petroleum	29.2	18.0	13.6	9.7
Manufacturing	63.6	21.3	23.8	30.2
Foods	28.5	3.8	2.9	3.1
Chemicals	11.0	5.4	6.8	9.7
Metals	3.4	4.2	3.1	3.6
Machinery	8.9	3.0	5.1	5.4
Non-Electrical	5.4	NA	2.2	1.9
Electrical	3.6	NA	2.9	3.6
Transport Equipment	11.7	4.9	1.6	1.1
Other Mfg.			4.3	7.4
GOODS INDUSTRIES	94.4	40.3	38.2	40.7
Wholesale trade		45.3	47.9	37.4
Retail trade		4.3	5.7	6.5
Finance (exc. banking), Insurance, & RE		7.7	5.5	10.4
Finance (exc. banking)			1.2	3.6
Insurance			3.4	5.3
Real Estate			1.0	1.5
Other services		2.5	0.8	2.7
Other industries			1.8	2.3
SERVICES, BROADLY DEFINED	5.6	59.8	61.8	59.3
TOTAL	100.0	100.0	100.0	100.0

Source: Appendix Table 15

evident in all the measures, an increase in the importance of manufacturing, in contrast to the employment record, and some shift to retail trade and the finance sector, but no overall move into the broadly defined service sector.

IV.B. The Sources of Foreign Direct Investment in the U.S.

The historical data on the country of origin of direct investment in the U.S. are based on the location of the immediate owner. Only for 1977 and later years are there data on the location of the "ultimate beneficial owner," which can be different for various reasons including the tax treatment of earnings by host countries.

In 1960, foreign direct investment in the United States meant European and Canadian investment, with English-speaking countries alone accounting for

Shares (Per cent) in
Foreign DI in the U.S., 1960

Canada	28
Europe, total	68
UK	33
Netherlands	14
Switzerland	11
Other areas	4

Source: U.S. Dept. of Commerce (1962), Table 1.

over 60 per cent. The majority of investments were in large enterprises long present in the United States, such as the branch lines of Canadian railroads, Royal Dutch-Shell petroleum interests, and Swiss chemical and pharmaceutical firms. The Commerce Department report for 1960 commented that "A sustained increase in the role of flow of foreign industrial capital to the United States has not yet developed and "The Department of Commerce, and various States, are now developing programs to bring opportunities here to the attention of foreign industrialists and other investors" (U.S. Department of Commerce, 1962, p. 4). There is no indication here of any hostility toward inward investment or any fear of its consequences, but more of an interest in promoting its growth.

The country distribution of investment in 1990 presents some contrasts with the earlier one, but some continuity also, and the later data are available by the country of the ultimate owner rather than only the immediate foreign parent.

Shares (Per cent) in Foreign DI in the U.S., 1990, by Country of

	Parent	Ultimate Beneficial Owner
Canada	6.9	9.8
Europe	63.5	59.6
UK	26.8	24.5
Netherlands	15.9	11.1
Germany	6.9	7.9
France	4.8	5.8
Switzerland	4.3	4.7
Latin America & Other Western Hemisphere	4.9	2.5
Brazil	.1	.4
Panama	.8	.1
Bahamas	.4	.0
Neth. Antilles	2.8	.2
U.K. Islands, Caribbean	-.8	.2
Middle East	1.0	2.6
Asia and Pacific	23.6	24.5
Japan	20.7	21.0
Australia	2.1	2.4
Hong Kong	.3	.6

Source: U.S. Department of Commerce (1991a), Table 18.

The U.K. share declined, but less than might have been expected from the overall decline in the position of the UK in the world economy. The importance of Canada decreased greatly and Germany and France became fairly important sources of investment. The major new source is, of course, Japan, passing the Netherlands in importance and second only to the UK. A country that warranted only a line in the 1960 survey is now the second largest investor of all.

The availability of data by the country of ultimate ownership reveals some interesting contrasts with those by the country of the immediate parent. The latter data are shown to exaggerate the decline in the importance of

Canada and understate that for the Netherlands, because a change in Canadian tax laws caused some Canadian owners to shift nominal ownership to the Netherlands. Germany and France are shown to be more important as sources of investment than the parent country data indicate. A large part of the direct investment in the U.S. originating in the Middle East, and in Brazil (and other South American countries), is apparently owned through intermediate subsidiaries based in Panama, the Bahamas, and the Netherlands Antilles. "Advantages to UBO's of holding their U.S. investments indirectly through these countries may include minimization of taxes, avoidance of regulatory constraint, and protection of privacy" (Belli, 1981, p. 63). Some examples of Middle Eastern property holdings in the United States with intermediate parents established in the Netherlands Antilles are described in a recent article that also indicates that these intermediaries were shifted to the United States for tax reasons after the passage of the 1986 Tax Reform Act ("Abu Dhabi's Links With a Powerful Law Firm Present Problem for Democrats on BCCI issue," Wall Street Journal, May 20, 1992).

The country distribution of sales in 1959 matched that of the direct investment stock in 1960 fairly well. Companies from Canada accounted for a little over 30 per cent of sales and almost all the rest were from affiliates of companies based in Europe (Table 15). By 1974, only two thirds of sales were from affiliates of Canadian and European firms and that share was approximately the same in 1987. The very large share of the Netherlands in

Table 15

Distribution by Country of Ownership of
Sales by All Foreign-Owned Affiliates and Foreign-Owned
Manufacturing Affiliates in the U.S.
1959 - 1987

	1959	1974	1980	1987
	All Affiliates			
Canada	31.2	10.9	8.6	12.0
Europe	68.0	54.7	62.9	52.8
UK	17.9	18.5	22.9	17.6
Netherlands	36.2	11.6	9.4	7.0
France	1.2	8.7	9.9	5.9
Germany	0.6	6.0	11.1	10.0
Other Europe	12.1	9.9	9.6	12.3
Japan	0	27.3	20.4	25.1
TOTAL	100.0	100.0	100.0	100.0
	Manufacturing Affiliates			
Canada	40.2	18.8	16.0	19.4
Europe	58.9	68.1	74.8	65.3
UK	24.0	24.5	18.2	21.3
Netherlands	15.2	12.4	8.7	6.6
France	1.8	6.4	12.8	7.5
Germany	0.9	8.1	19.5	13.6
Other Europe	17.0	16.7	15.6	16.3
Japan	0	4.2	4.1	6.9
TOTAL	100.0	100.0	100.0	100.0

Source: Appendix Table 15

1959, most of which was in the petroleum industry, was greatly reduced by 1974, while affiliates from Japan, largely in wholesale trade, became the largest in terms of sales. After 1974 the pace of change became much slower, the main shifts being a reduction in the Netherlands share and a rise in that of German firms.

The country of origin distribution for manufacturing affiliates showed a little less change than that for all affiliates. The main difference was that Japanese manufacturing affiliates played a much smaller role, remaining behind those from the U.K. and Germany. Also, in manufacturing, the European share remained, in 1987, higher than it had been in 1959. The main shifts in country sources, however, matched those in the total: a large decline for Canada, mainly before 1974, a large and steady decline for Netherlands affiliates, and major increases for those from France, Germany, and Japan.

The distributions of sales by industry and investing country suggest what the directions of comparative advantage were for companies from different countries. For example, over 70 per cent of U.S. affiliate sales by Netherlands-owned affiliates were in the petroleum industry in 1959, and the share declined, but was still close to half in 1987, far above the average for other countries (Appendix Table 15). Affiliates from Germany and the Netherlands had exceptionally large shares of their sales in chemicals. Japanese affiliate sales were extremely concentrated in wholesale trade affiliates, because they were, to a large extent, involved in the distribution of

products exported from Japan. Within manufacturing, however, the Japanese affiliates' sales were particularly large in transport equipment, reflecting the strength of Japanese motor vehicle producers. For the United Kingdom, the specialization in foods was above the average for all foreign firms.

Outside of manufacturing, Canadian firms had disproportionate shares of their sales in insurance, in real estate, and especially in mining. Aside from wholesale trade, finance also accounted for a relatively large share of sales for Japanese firms.

The sales distributions are an indication of the worldwide comparative advantages of firms based in different countries but they may not reflect their advantages in producing in the U.S., since large parts of the affiliate sales, varying widely among firms and countries, originate from production outside the U.S. The employment distributions may reflect more clearly the advantages firms from different countries have in producing in the U.S.

The concentration on chemicals among German firms in 1974 stands out clearly in the fact that 36 per cent of their affiliates' employment in the United States was in that industry, as against an average for all countries of under 11 per cent. The only observable deviations of even close to this magnitude (many entries are missing) from the average distribution for the world are of Japanese firms in wholesale trade and the U.K. firms in retailing.

By 1987, German affiliates in the U.S., while still more concentrated on chemicals than those of any other country, had diversified, and were then

of far more importance than average in non-electrical machinery also. Canadian and French affiliates were much more heavily represented in machinery than were the world's enterprises, on average, and Japanese firms had become exceptionally concentrated in finance (except banking), as well as in wholesale trade.

V. Financial Aspects of Foreign Direct Investment in the United States

For many years, most of the additions to U.S. direct investment abroad have come from the reinvested earnings of U.S. companies already established in foreign countries. Even as early as 1966-76, almost 60 per cent of the growth in the U.S. outward stock was from reinvestment. The trend has been very different for foreign direct investment in the United States.

Reinvested Earnings of Foreign-Owned Affiliates in The U.S. and Change in Foreign-Direct Investment Position

	Change in Position	Reinvested Earnings	Share (%) of Reinvested Earnings
	($ million)		
1950-59	3,314	1,528	46.1
1960-69	5,214	3,245	62.2
1970-79	42,644	14,494	34.0
1980-89	290,717	3,146	1.1
1980	13,889	5,177	
1981	25,668	2,945	11.5
1982	15,963	-2,379	-14.9
1983	12,384	89	.7
1984	27,522	2,896	10.5
1985	20,032	-1,378	-6.8
1986	35,799	-2,293	-6.4
1987[a]	51,374[a]	1,481	2.9
1987[b]		-883	-1.7
1988	51,360	2,816	5.5
1989	59,009	-3,844	-6.5
1990	29,972	-14,008	-46.7

[a]Based on 1980 benchmark survey; comparable to earlier years.
[b]Based on 1987 benchmark survey; comparable to later years.

Source: U.S. Department of Commerce (1984) and (1991b) and earlier issues.

Almost half of the growth in the foreign position in the U.S. in the 1950s, and over 60 per cent in the 1960s, was financed by reinvested earnings. In the 1970s, however, although reinvested earnings grew rapidly, to over four times the level in the 1960s, they financed only a third of the growth in the stock, as equity and intercompany account inflows grew to eight times their level of the 1960s.

The 1980s were again a contrast to all the earlier periods. Equity and intercompany flows, particularly the former, grew explosively to over twelve times the 1970s level. At the same time, reinvested earnings almost disappeared, falling from $14 billion in the 1970s to about $3 billion in the 1980s. In half the years of the 1980s the reinvested earnings were negative, a cumulative total of $5 billion if 1990 is added in. Thus, while U.S. direct investment abroad seems to have entered an era of mature self-financing, with few new firms entering the list of overseas investors, foreign direct investment in the U.S. in the 1980s went through a period of wild growth, financed by inflows of new money.

The rapid growth of foreign direct investment in recent years has consisted mainly of acquisitions of existing U.S. firms, rather than the establishment of new firms. Comprehensive data from the U.S. Department of Commerce exist only for recent years, but they do show a continued move in this direction. In 1984-87, over 80 per cent of inflows of foreign direct investment were for acquisitions. High as that was, the proportions for 1988-

90 surpassed them, averaging close to 90 per cent. The acquisition share was even higher in manufacturing, usually over 95 per cent during these years. The only industry in which the establishment of new enterprises predominated was real estate, where 90 per cent of investment flow in 1984-86 and 71 per cent in 1987-90 consisted of the establishment of new enterprises. Even in this case there was a trend toward acquisitions.

Another indication that the investment rush of the last decade has been very different from earlier foreign direct investment in the United States is provided by the collapse in the apparent profitability of such investment.

	Income as Per Cent of FDI Position
1950-59	7.4
1960-69	6.9
1970-79	9.0
1980-84	5.6
1985-87	2.9
1988-90	2.5

Source: U.S. Department of Commerce (1984) and (1991b) and earlier issues.

While there are often good reasons to doubt published data on the profits of segments of enterprises, which is what these affiliates all are, the

decline looks too large and too sudden to represent only a sudden rise in tax avoidance. The very newness of the recent investments may explain some of the decline. However, the predominance of acquisitions among recent foreign investments means that these are generally going concerns rather than startups, and on that ground alone one might expect a more rapid attainment of normal profit rates.

The data for major industry groups show that the decline in profitability was quite general, but it was much more severe in some groups than in others.

	Income as Per Cent of FDI Position			
	Petroleum	Manufacturing	Finance[a]	Other
1950-59	13.0	6.9	6.6	4.2
1960-69	10.5	7.8	4.4	4.1
1970-79	12.6	7.5	10.5	7.4
1985-87	4.8	2.3	3.8	1.9
1988-90	7.2	4.2	.6	-.3

[a]Finance, Insurance, and Real Estate

In petroleum and manufacturing the very sharp declines to the 1985-87 levels were partially reversed in 1988-90. But equally sharp declines in finance and other industries (mining, wholesale and retail trade, and other industries) were followed in 1988-90 by even larger declines in profitability, to the point where

it reached zero or even below.

The geographical breakdown points up the relative stability of the

	Income as Per Cent of FDI Position				
		Europe			
	Canada	Total	U.K.	Neth	Japan
1950-59	7.3	7.6	6.6	14.5	NA
1960-69	5.1	7.4	6.6	10.1	12.6
1970-79	6.7	9.1	8.7	11.8	13.4
1985-87	.9	4.2	5.1	5.2	4.3
1988-90	-.3	3.6	6.1	2.5	1.0

profitability of U.K. investment and levels of profits in the last period for Europe that were far above those of Canada and Japan. European investment was more concentrated in manufacturing than those of Canada and Japan, the latter heavily invested in real estate and banking. But this broad industry breakdown does not tell the whole story; while most areas' manufacturing affiliates remained profitable in the late 1980s, Japan's made losses in both of the last two periods. Japan was also the country whose investment in the U.S. had accelerated most rapidly in the late 1980s, a hint of a possible connection between the rate of growth of investment and its profitability. Reports in the press suggest that the declining profitability of Japanese direct investment in the U.S. reported in the official data is not a mirage (for example, "How

Japan Got Burned in the U.S.A.," Fortune, June 15, 1992). A summary of a survey of Japanese-owned U.S. affiliates by a Japanese newspaper stated that "... 80% of the 264 units weren't returning profits to parent companies and 63% cited earnings as their biggest concern" "Japanese Wary on U.S. Operations," Wall Street Journal, June 9, 1992.

An examination of the low profitability of foreign affiliates in the U.S. relative to other U.S. firms, based on tax data for the late 1980s (Grubert, Goodspeed, and Swenson, 1991), attributed half of the differential to characteristics of the affiliates and of the period. The affiliate characteristics were the revaluation of target firm assets following acquisitions and the immaturity of the affiliates. Both were related to the headlong acquisition rate of that period. The main relevant characteristic of the period was the decline in the exchange value of the U.S. dollar.

Some part of the rest of the differential was attributed to income shifting by foreign firms to minimize taxes. That shifting was presumably responsible for the fact that the proportion of affiliates with zero profits was higher than the proportion among domestic firms. The part of the profit differential attributable to income shifting is, in a sense, illusory. In fact, it may represent an incentive for investment in the U.S. However, the sharp

decline in the direct investment inflow, particularly of equity capital, in 1991, to less than half the 1990 level, reinforces the picture of low and declining profits (U.S. Dept. of Commerce, 1992, Table M).

VI. Summary

The major development in foreign direct investment in the United States over the past thirty years has been its enormous growth. That is the case whether one considers the absolute values or the shares of the world's direct investment flows and whether one considers book or market valuations. The United States, which had accounted for a greatly disproportionate share of the world's direct investment outflows in the 1960s, far above the U.S. share in the world's income or output even at its peak in 1950, by the 1980s was accounting for almost half of the world's direct investment inflows. That share was even more disproportionate than the earlier outward share, given the reduced importance of the United States in the world economy.

One consequence of this huge inward flow is that the United States has become almost as much of a host to foreign companies as other countries are to U.S. firms. Foreign direct investment in the U.S., formerly a quarter or even less of U.S. direct investment abroad, is now, even by current cost or

market valuations, three quarters as large.

The rapid growth of foreign direct investment in the U.S. has left foreign firms still controlling only a small part of total assets of U.S. firms and employing less than 5 per cent of the U.S. labor force. However, the shares have become much more significant in manufacturing, quadrupling in the last 15 years and reaching over 10 per cent of employment. The most notable share of employment has been in chemicals, over 40 per cent in 1989. But the industrial composition of foreign direct investment in manufacturing has been relatively stable; chemicals was the U.S. industry most heavily penetrated by foreign firms in 1974, and as far back as 1900, as well as at present. If we rank industries by degree of foreign control in 1974, no industry moved more than one rank by 1989 except electrical machinery, now the second highest at over 15 per cent. The foreign, particularly German, role in chemicals, has a very long history. The level of German activity was high even before World War I and has remained high even though it was reduced twice by confiscations of alien property during the two world wars.

Another measure of the foreign role, the share in plant and equipment expenditure, shows an even higher share - over half - in chemicals, but a much lower one in electrical machinery. The foreign operations may be

entering relatively capital-intensive sectors of the chemical industry and relatively labor-intensive sectors of the electrical machinery industry.

The trends in the distribution of foreign firms' activity among broad sectors of the economy look different by different measures. The direct investment position data show a large rise in the share of goods industries and then, after 1974, a shift back to services, leaving the goods share a little higher in 1990 than in 1950 and the service share a little lower. In the three decades between 1960 and 1990, however, there was some shift towards services. Data on total assets of foreign-owned firms show a much steadier and stronger shift from goods industries to service industries mainly financial services. The time series on sales suggest a very large shift toward services between 1959 and 1974, but little change since then, while the shorter time series on employment indicate a substantial shift out of goods and into services between 1974 and 1989, despite the relatively small role they give to financial services. Another short series, on plant and equipment investment, also points to a shift in the direction of service activities by foreign firms, with real estate the major factor here.

Foreign-owned affiliates have continued to import more relative to their exports than U.S. companies in general, but the trend appears to be

toward foreign affiliates becoming more like other U.S. firms in this respect. The foreign affiliates are quite sensitive to exchange rate changes in adjusting the balance of exports and imports, but not more so than U.S. firms as a group.

Perhaps the most publicized change in inward direct investment in recent years has been its source. Japan, hardly mentioned in the 1960 discussion, now accounts for 20 per cent of the stock of foreign direct investment in the U.S., second only to the British share. Canadian investment has shrunk in importance. But aside from these two, there are many elements of continuity. The U.K. remains the largest investor, as it was in 1960, and for many years before that. The Netherlands is next (after Japan), and the following three are Germany, France, and Switzerland, as in 1960, although the order among them has changed and Germany is now the leader among the three.

Data on shares of affiliate sales give a much larger role to Japan, because of the importance of Japanese wholesale trade affiliates, and they give a comparatively small position to affiliates from the Netherlands. Within manufacturing, however, U.K. affiliates remain the largest single group, and affiliates from the two English speaking countries account for over a third of

total sales.

One of the largest changes in foreign direct investment in recent years has been in its financing. Whereas half or more of increases in investment in the 1950s and 1960s were financed from retained earnings, the proportion dropped almost to zero in the 1980s. The pace of new investment was too great to be financed by reinvested earnings in any case, consisting to a large and increasing extent of new entries to the U.S. market through takeovers of existing U.S. firms, but in addition, earnings fell and reinvested earnings were negative in many years during the 1980s. To some extent the poor earnings reflected the deep recession of the early 1980s, and that of 1990 also, but one may suspect that poor choices of investment targets, high prices paid for existing companies, and the willingness of foreign firms to pay heavily for access to U.S. markets may all have played a role. The steep decline in rates of return during the 1980s also points in the same direction, although affiliates from the Netherlands and Canada, two traditional sources of foreign investment, also suffered sharp reductions in profitability.

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Appendix Tables

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Appendix Table 1

U.S., Developed Country, and World Direct Investment
Inflows and Outflows, 1967-1990, Annual Averages
($ million)

	Inflows			Outflows		
	U.S.	Developed Countries	World	U.S.	Developed Countries	World
1960[a]	140	2,271		1,674	2,906	
1965-66[a,b]	72	3,215		3,564	5,492	
1965-66[a]	72	3,816		3,564	5,564	
1967-69[c,d]	923	5,298		5,173	8,358	
1967-69[c]	923	5,534		5,173	9,101	
1970-72[c]	926	8,902	12,785[e]	7,651	14,744	
1973-75[c]	3,795	14,464	22,560[e]	11,498	26,256	
1973-75[f]	3,400	13,981	18,065	11,573	23,677	
1975-80[f]	8,261	23,326	31,492	19,341	40,510	
1975-80[g]	7,900	24,600	32,100	17,100	39,800	40,300
1981-85[g]	19,090	36,600	48,700	8,600	44,400	45,300
1980-84[h]	14,000		45,000	19,000		44,000
1985-89[h]	18,000		100,000	46,000		105,000
1970-79[i]		17,300	22,700			
1980-85[i]		37,100	49,700			
1986-90[i]		122,600	149,200	22,760	158,600	164,300

[a]UN (1973), Table 9
[b]Comparable in coverage to 1960
[c]UN (1978), Tables III-34 and III-43
[d]Comparable in coverage to 1965-66
[e]Inflows of developed countries plus developed country outflows to developing countries.
[f]UN (1983), Annex Tables II.1 and II.2
[g]UN (1988), Tables V-1 and V-2
[h]UN (1991), Table 10
[i]UN (1992)

Appendix Table 2

U.S. Direct Investment Abroad, by Industry of Affiliate
(Billions of Dollars)

	1950	1957	1966	1977	1982	1985	1987	1988	1989	1990
Agriculture, forestry, & fishing	589	680	348	528	504	497	551	561	541	586
Mining, exc.petrol	1,129	2,361	4,109	5,998	5,210	4,916	4,745	4,850	4,663	5,168
Petroleum Extraction & integ. ref. & ext.	NA	5,518	9,134	12,987	32,693	34,171	38,067	36,847	34,392	37,327
PRIMARY PRODUCTION	NA	8,559	13,591	19,513	38,407	39,584	43,363	42,258	39,596	43,081
Petrol. refin. & petrol. & coal prod.	NA	1,009	1,524	5,259	7,028	7,840	7,237	7,847	7,167	8,005
Petroleum, total	3,390	(9,055)[c]	(14,132)[d]	(28,030)	(57,817)	(57,695)	(59,774)	(57,807)	(54,049)	(59,736)
Manufacturing	3,831	8,009[c]	21,843[d]	62,019	83,452	94,700	131,645	138,725	149,237	168,220
GOODS PRODUCTION	8,939[e]	17,577	36,958	86,791	128,887	142,124	182,245	188,830	196,000	219,306
Construction	[f]	118	378	905	1,061	1,331	969	1,057	871	1,071
Transp., Commun. & Public util. excl. petrol.	1,425	2,145	2,346	2,186	2,273	2,679	1,911	2,098	3,205	6,728
Petrol. tankers, pipelines, storage	NA	1,198	1,154	5,108	1,648	1,601	1,359	1,431	1,370	1,679
Wholesale excl. petrol.	542	1,156	3,271	14,011	20,788	22,790	31,847	34,054	37,230	41,411
Petrol. wholesale trade	NA	1,212[g]	1,841[g]	5,380	10,835	8,048	8,365	8,078	7,455	9,173
Retail exc.petrol.	220	513	911	2,825	3,697	3,997	5,087	6,376	6,860	7,447
Petrol. retail trade	NA	[h]	[h]	272	222	215	189	221	318	402
TRADE, EXCL PETROL	762	1,669	4,182	16,836	24,485	26,787	36,934	40,430	44,090	48,858
TRADE, INCL PETROL	NA	NA	6,023	22,488	35,542	35,050	45,488	48,729	51,863	58,433
Banking	463	131	286	4,370	10,317	14,461	18,027	19,109	20,397	21,397
Finance (exc. Bank), insur., & real estate		802	3,314	21,248	18,018	22,591	53,046	63,386	84,323	98,889
Of which Neth Antilles[a]				-1,216	-20,089	-20,784	-14,496	-10,335	-6,164	-1,689
Of which Holding companies[b]	56	111	789	11,477	19,597	22,775	34,541	37,506	43,945	52,654
FINANCE, EXC. HOLDING COS. & NETH ANTILLES	407	822	2,811	15,357	28,827	35,061	51,028	55,324	66,939	69,321
Other Services, exc. petrol.	199	293	1,139[k]	3,870	4,615	4,683	6,706	7,869	8,716	10,839
Oil and Gas Field Services	NA	117	479	1,914	5,392	5,820	4,557	3,383	3,347	3,150
SERVICES, BROADLY DEFINED [i]	2,793[j]	7,706	14,045	48,937	79,357	86,135	112,017	119,892	136,310	151,223
TOTAL	11,788	25,394[c]	51,792[d]	145,990	207,752	230,250	314,307	335,893	370,091	421,494
TOTAL, EXCL. NETH. ANT.[a]	11,788	25,394	51,792	147,206	227,841	251,034	328,803	346,228	376,255	423,183

Notes to Appendix Table 2

a. We omit Netherlands Antilles Finance affiliates after 1977 because they are almost entirely "shell" operations set up for tax reasons to borrow abroad and relend the proceeds to their parents.

b. The operating companies owned by the holding companies are often outside the finance sector.

c. Figures comparable to 1950 are 26,278 for total investment, 9,106 for petroleum, and 8,414 for manufacturing.

d. Figures comparable to 1957 are 54,799 for total investment, 16,222 for petroleum, and 22,078 for manufacturing.

e. Includes all petroleum operations. Corresponding 1957 figure is 20,105.

f. Included with other services.

g. Includes petroleum retail trade (service stations)

h. Included with petroleum wholesale trade

i. All except goods industries

j. Excludes petroleum trade and services. Corresponding 1957 figure is 5,178.

k. Hotels, advertising & other business services, motion pictures, and all other, including inactive.

Sources: 1950 and 1957: U.S. Dept. of Commerce (1960), Tables 5 and 6, pp. 93 and 94, and U.S. Dept. of Commerce (1982), Table A.

1966: U.S. Dept. of Commerce (1982), Table A, and U.S. Dept. of Commerce (1975), Table A-15. Data are on an "allocated" basis. Affiliates owned indirectly are classified by their country and industry of operation rather than by the country and industry of the primary affiliates that are their intermediate owners. The largest effects are to increase the importance of petroleum wholesale trade and of manufacturing and to decrease the importance of holding companies.

1977: U.S. Dept. of Commerce (1981), Table C, pp. 10 and 11, and Table I.W 3.

1982-1990: U.S. Dept. of Commerce (1991b), Table 5 & Table 18 and earlier articles in the same series.

Appendix Table 3

Foreign Direct Investment in the U.S., by Industry of Affiliate
(millions of dollars)

	1950	1960	1966	1974A	1974B	1977	1980	1982
Agriculture, forestry, & fishing	NA	g	NA	33[a]	NA	NA	773	1,049
Mining, exc.petrol	NA	88	NA	427	NA	NA	1,320	1,876
Petroleum Extraction & integ. ref. & ext.	NA	NA	NA	6,153[b]	NA	NA	10,229	14,199
PRIMARY PRODUCTION	NA	NA	NA	6,613	NA	NA	12,322	17,124
Petrol. refin. & petrol. & coal prod.	NA	NA	NA	NA	NA	NA	39	44
Petroleum, total	405	1,238	1,740	(6,354)	5,614	6,573	(12,200)	(17,660)
Manufacturing	1,138	2,611	3,789	8,242	10,387	14,030	33,011	44,065
GOODS PRODUCTION				14,855			45,372	61,233
MANUF. & PETROLEUM[f]	1,543	3,849	5,529	14,596	16,001	20,603	45,211	
Construction	NA	g	NA	33[a]	NA	NA	522	3,692
Transp., Commun. & Public util. excl. petrol.	NA	408	NA	347	NA	NA	774	1,379
Petrol. tankers, pipelines, storage	NA	NA	NA	232	NA	NA	368	457
Wholesale excl. petrol.	NA	NA	NA	4,153	NA	NA	11,560	18,397
Petrol. wholesale trade	NA	NA	NA	-52	NA	NA	962	1,909
Retail exc.petrol.	NA	NA	NA	425	NA	NA	3,650	5,207
TRADE, EXCL PETROL	784[c]	634	NA	4,578	5,613[c]	8,594[c]	15,210	23,604
TRADE, INCL PETROL WHOLESALE	NA	NA	NA	4,526	NA	NA	16,172	25,513
Banking	NA	NA	NA	510	NA	NA	4,617	7,846
Finance (exc. Bank), insur., & real estate	NA	NA	NA	5,686	NA	NA	13,530	21,607
Of which Holding companies	NA	NA	NA	3,807	NA	NA	857	1,772
FINANCE, EXC. HOLDING COS.	NA	NA	NA	2,389	NA	NA	17,290	27,681
FINANCE, INC. HOLDING COS.	1,065	1,810	2,072	6,196	5,613	5,398	18,147	29,453
Other Services, exc.petrol.	NA	121[h]	NA	302	NA	NA	1,089	1,899
Oil and Gas Field Services	NA	NA	NA	21	NA	NA	601	1,051
SERVICES, BROADLY DEFINED[d]				7,850			36,817	61,672
SERVICES, BROADLY DEFINED[e]	1,848	3,061	3,525	8,109	9,143	13,992		
TOTAL	3,391	6,910	9,054	26,512	25,144	34,595	83,046	124,677

Appendix Table 3 (continued)

Foreign Direct Investment in the U.S., by Industry of Affiliate
(millions of dollars)

	1983	1984	1985	1986	1987	1988	1989	1990
Agriculture, forestry, & fishing	1,148	1,150	1,106	1,250	1,250	1,116	1,233	1,134
Mining, exc.petrol	1,928	3,920	4,039	5,080	5,591	7,440	8,821	10,310
Petroleum Extraction & integ. ref. & ext.	15,385	21,913	24,305	24,225	33,151	30,806	29,362	28,493
PRIMARY PRODUCTION	18,461	26,983	29,450	30,555	39,992	39,362	39,416	39,937
Petrol. refin. & petrol. & coal prod.	31	28	21	58	687	764	1,927	2,939
Petroleum, total	(18,209)	(25,400)	(28,270)	(29,094)	(37,815)	(36,006)	(37,201)	(38,004)
Manufacturing	47,665	51,802	59,584	71,963	93,865	122,582	151,820	159,998
GOODS PRODUCTION	66,157	78,813	89,055	102,576	134,544	162,708	193,163	202,874
Construction	3,676	4,337	4,037	3,602	1,345	1,519	2,386	2,088
Transp., Commun. & Public util. excl. petrol.	1,572	1,633	1,934	2,292	3,136	3,576	6,179	6,607
Petrol. tankers, pipelines, storage	587[i]	538[i]	501[i]	534[i]	609	1,007	797	811
Wholesale excl. petrol.	21,031	24,455	29,051	33,997	37,427	43,725	46,297	52,646
Petrol. wholesale trade	1,202	1,930	2,767	3,734	3,101	2,827	4,830	5,490
Retail exc. petrol.	5,482	6,764	6,822	8,923	7,972	9,865	9,013	9,350
Petrol. retail trade	J	J	J	J	5	437	59	71
TRADE, EXCL PETROL	26,513	31,219	35,873	42,920	45,399	53,590	55,310	61,996
TRADE, INCL PETROL WHOLESALING	27,715	33,149	38,640	46,654	48,505[i]	56,854[i]	60,199[i]	67,557[i]
Banking	8,697	10,326	11,377	12,394	14,354	16,906	18,638	19,089
Finance (exc. Bank), insur., & real estate	25,570	32,316	35,454	45,096	47,126	52,971	69,637	73,974
Holding companies	2,213	3,687	3,793	3,560	3,131	4,795	6,266	6,115
FINANCE, EXC. HOLDING COS.	32,054	38,955	43,038	53,930	58,349	65,082	82,009	86,948
FINANCE, INC. HOLDING COS.	34,267	42,642	46,831	57,490	61,480	69,877	88,275	93,063
Other Services, exc.petrol.	2,082	2,479	2,943	6,724	13,514	19,048	22,536	30,536
Oil and gas field services	1,005	990	676	542	262	166	227	200
SERVICES, BROADLY DEFINED[d]	68,691	82,083	91,767	114,278	125,719	147,251	174,334	194,746
TOTAL	137,061	164,583	184,615	220,414	263,394	314,754	373,763	403,735

Notes to Appendix Table 3

Sources: 1950, 1960, 1966, 1974B, 1977: U.S. Department of Commerce (1984), Table 1.

Trade and finance data for 1950 and 1960 are from U.S. Dept. of Commerce (1962), Table 1, Pg. 34.

1974A: U.S. Department of Commerce 1976, Tables 2 and A-4. These data have been revised in the source listed for 1977 and earlier years, but we used this source for its superior detail.

1980-90: U.S. Department of Commerce (1991b) and earlier articles in the same series.

Notes:

a. Investment in unincorporated affiliates in agriculture and construction is combined in the source. We assumed that half was in agriculture, half in construction.

b. Includes petroleum refining and petroleum and coal products

c. Trade, services, construction, transportation, communication, and public utilities.

d. Total investment minus goods production.

e. Same, but excluding petroleum trade and services.

f. Including all petroleum; excluding agriculture, forestry, fishing, and mining

g. Included in Other services.

h. Including agriculture and construction.

i. Includes petroleum retailing.

j. Included in petroleum tankers, pipelines, storage.

Appendix Table 4

U.S. Corporation Financial and Fixed Capital Stocks
1959, 1973, 1977-1989
($ Billion)

Year	Total Financial Assets				United States Current Dollar Net Stocks of Fixed Capital				
					Corporate			Corporate Non-financial	
	Total Corporate	Nonfinancial Corporate Business	Commercial Banking	Private Nonbank Fin. Inst.	Total	Non-Resid.	Resid.	Total	Non-Resid.
1959	737.2	178.7	218.6	339.9	312.0	305.9	6.1	304.8	298.7
1973	2423.7	526.8	761.3	1135.6	876.2	853.2	23.0	840.4	817.4
1977	3469.7	672.7	1068.9	1728.1	1459.0	1428.7	30.3	1394.9	1364.6
1978	3979.9	780.7	1222.5	1976.7	1681.1	1647.6	33.5	1604.5	1571.0
1979	4516.3	910.2	1358.4	2247.7	1890.3	1853.6	36.7	1803.9	1767.2
1980	5075.2	1015.4	1485.8	2574.0	2162.5	2123.0	39.5	2418.6	2023.6
1981	5599.1	1116.1	1623.0	2860.0	2446.3	2404.3	42.0	2333.6	2291.6
1982	6059.5	1141.7	1735.7	3182.1	2584.4	2543.2	41.2	2462.9	2421.7
1983	6746.1	1256.8	1892.4	3596.9	2655.6	2612.7	42.9	2527.0	2484.1
1984	7598.1	1354.5	2132.8	4110.8	2805.4	2760.5	44.9	2659.8	2614.9
1985	8626.6	1444.4	2380.8	4801.4	2927.4	2880.9	46.5	2766.5	2720.0
1986	9856.9	1608.6	2621.7	5626.6	3054.9	3037.8	47.7	2868.5	2850.4
1987	10572.2	1745.6	2776.8	6049.8	3206.2	3199.7	51.2	2994.5	2989.5
1988	11507.2	1865.6	2955.4	6686.2	3448.5	3396.7	51.8	3204.7	3152.9
1989	12617.2	1984.6	3234.9	7397.7	3656.8	3602.3	54.5	3374.2	3319.7

Source: Federal Reserve Board (1992) and earlier issues; Musgrave (1990), and earlier articles in the same series.

Appendix Table 5

Total Assets of Foreign Affiliates
1959, 1973, 1977-1989
($ Billion)

Year	Total Non-bank Affiliates	Finance Other than Banking	Total excl. Finance
1959	9.6[a]	NA	NA
1973	93.6[b]	26.3	67.3
1977	143.5	33.8	109.7
1978	181.2	46.7	134.5
1979	228.6	58.9	169.7
1980	291.3[c]	87.7	203.6
1981	407.0	110.2	296.8
1982	476.4	142.6	333.8
1983	531.7	179.2	352.5
1984	602.5	254.0	348.5
1985	741.1	355.7	385.4
1986	838.0	407.2	430.8
1987	943.7	469.9	473.8
1988	1200.8	574.9	625.9
1989	1402.2	641.8	760.4

Sources: 1959: U.S. Dept. of Commerce (1962) Table 9.
1973: U.S. Dept. of Commerce (1976) Table G1.
1977-1980: U.S. Dept. of Commerce (1985) Table B1.
1981-1989: U.S. Dept. of Commerce (1991c) and earlier volumes in the same series, Table B1.

Note: a. Includes banking.
b. Banking affiliate assets were $40.6 billion.
c. Banking affiliate assets were $229.9 billion (U.S. Dept. of Commerce, 1983, Table 5).

Appendix Table 6

Employment of Nonbank U.S. Affiliates of Foreign Corporations, by Industry of Affiliate (thousands)

	1974	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
All Industries	1,057	1,219	1,430	1,753	2,034	2,417	2,448	2,547	2,715	2,862	2,938	3,224	3,844	4,440
Agriculture, forestry, & fishing	8	9	10	10	10	11	11	11	9	10	11	14	15	19
Mining & Petroleum	117	106	114	104	127	168	163	150	157	155	144	143	154	179
Manufacturing	551	686	804	1,006	1,105	1,300	1,242	1,321	1,378	1,455	1,412	1,543	1,829	2,123
Food & kindred prod.	75	72	84	111	120	128	126	139	145	151	160	143	177	243
Chemicals	115	198	224	261	284	414	390	398	406	430	377	396	391	443
Primary & fabric. metals	88	85	84	107	113	111	103	146	164	168	158	159	200	280
Machinery, excl. elect.	43	65	86	112	117	138	132	125	128	116	92	109	194	242
Elect. mach. & equip.	56	95	110	149	173	164	153	168	181	194	223	217	271	271
Transport. equip.	0	3	21	50	65	73	71	65	61	64	62	56	55	64
Other manuf.	174	168	195	216	233	272	267	280	293	332	340	463	541	580
GOODS PRODUCTION	676	801	928	1,120	1,242	1,479	1,416	1,482	1,544	1,620	1,567	1,700	1,998	2,321
Communication & Public utilities, Transportation	45	23	25	27	36	43	57	56	63	58	74	96	131	184
Construction	8	13	23	28	43	58	52	45	42	41	42	52	57	77
Wholesale trade	122	153	172	196	217	254	280	269	293	295	308	322	365	391
Retail trade	121	142	172	236	304	344	398	420	454	482	561	559	678	818
Finance, exc. bank. & insur.	9[a]	10	11	13	25	18	25	37	38	47	56	84	99	94
Insurance	33	33	38	45	62	68	71	68	62	69	74	87	102	112
Real estate	5	8	11	22	20	29	26	27	27	31	32	34	36	38
Services	41	37	51	66	85	124	123	143	192	219	224	290	379	405
SERVICES BROADLY DEFINED[b]	384	419	503	633	792	938	1,032	1,065	1,171	1,242	1,371	1,524	1,847	2,119

Sources:

1974, U.S. Dept. of Commerce (1976), Table L-1;
1977-1980, U.S. Dept. of Commerce (1985), Table F-1;
1981-1989, U.S. Dept. of Commerce (1991), Table F-1, and earlier volumes in the same series.

Notes:

a. Banking: 26 thousand.

b. Including Construction, Transportation, Communication, and other Public utilities, Trade, Finance, Except banking, and Other services.

Appendix Table 7

Employment on Private Nonagricultural Payrolls in the United States
By Industry (thousands)

	1974	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
All Industries	64,095	67,344	71,026	73,876	74,166	75,126	73,729	74,330	78,472	81,125	82,832	85,190	88,212	90,550	91,649
Mining and petroleum[a]	894	1,015	1,059	1,168	1,225	1,353	1,329	1,148	1,155	1,106	946	881	883	849	869
Manufacturing[b]	19,880	19,480	20,297	20,830	20,087	19,956	18,580	18,238	19,189	19,081	18,796	18,860	19,241	19,285	18,951
Food & kindred prod.	1,707	1,711	1,724	1,733	1,708	1,671	1,636	1,615	1,612	1,603	1,609	1,620	1,636	1,651	1,668
Chemicals	1,061	1,074	1,096	1,109	1,107	1,109	1,075	1,043	1,049	1,044	1,022	1,026	1,065	1,076	1,093
Primary & fabric. metals	2,747	2,765	2,888	2,972	2,755	2,712	2,349	2,202	2,320	2,273	2,175	2,148	2,205	2,223	2,179
Machinery, excl. elect.	2,208	2,175	2,326	2,485	2,494	2,498	2,244	2,033	2,198	2,174	2,053	2,008	2,082	2,130	2,095
Elect. mach. & equip.	1,968	1,878	2,006	2,117	2,091	2,094	2,008	2,013	2,208	2,197	2,116	2,069	2,070	1,747	1,673
Transport. equip.	1,868	1,872	2,003	2,077	1,900	1,898	1,735	1,747	1,901	1,980	2,025	2,051	2,051	2,054	1,980
Other manuf.	8,321	8,005	8,254	8,337	8,032	7,974	7,533	7,585	7,901	7,810	7,796	7,938	8,132	8,404	8,263
GOODS PRODUCTION	20,774	20,495	21,356	21,998	21,312	21,309	19,908	19,386	20,344	20,186	19,742	19,741	20,124	20,134	19,820
Transport., Commu., & Other pub. util.	4,725	4,713	4,923	5,136	5,146	5,165	5,082	4,954	5,159	5,238	5,255	5,372	5,548	5,644	5,826
Construction	4,020	3,851	4,229	4,463	4,346	4,188	3,905	3,948	4,383	4,673	4,816	4,967	5,125	5,187	5,136
Wholesale trade	4,433	4,708	4,969	5,204	5,275	5,358	5,278	5,268	5,555	5,717	5,753	5,844	6,029	6,221	6,205
Retail trade	12,554	13,808	14,573	14,989	15,035	15,189	15,179	15,613	16,545	17,356	17,930	18,483	19,110	19,549	19,683
Finance, inc. bank. & insur., real estate	4,148	4,467	4,724	4,975	5,160	5,298	5,341	5,468	5,689	5,955	6,283	6,547	6,676	6,695	6,739
Services	13,441	15,303	16,252	17,112	17,890	18,619	19,036	19,694	20,797	22,000	23,053	24,236	25,600	27,120	28,240
SERVICES, BROADLY DEFINED	43,321	46,850	49,670	51,879	52,852	53,817	53,821	54,945	58,128	60,939	63,090	65,449	68,088	70,416	71,829

[a] Including petroleum and coal products
[b] Excluding petroleum and coal products.

Source: U.S. Dept. of Commerce (1989) pp.46-48, and corresponding data from later issues of the Survey of Current Business.

Appendix Table 8

Exports and Imports of Merchandise From and Into the U.S. and Total Sales by U.S. Manufacturing Affiliates of Foreign Firms, 1974 and 1977 to 1989 ($ million)

YEAR	EXPORTS	IMPORTS	SALES
1974	2,026	3,059	31,301
1977	3,557	5,624	50,489
1978	4,521	7,193	62,930
1979	6,548	8,668	81,245
1980	9,048	10,413	98,162
1981	13,590	13,226	139,439
1982	12,883	12,386	141,529
1983	12,045	14,021	158,115
1984	13,078	18,172	176,395
1985	12,849	18,635	185,895
1986	12,805	20,617	190,619
1987	14,890	23,420	220,702
1988	25,192	32,762	280,716
1989	31,281	39,227	347,023

Sources: 1974: U.S. Dept. of Commerce,(1976), 1977-1980: U.S. Dept. of Commerce (1985); 1981-89: U. S. Dept. of Commerce (1991c) and earlier issues in the same series, Tables E3, G3, and G6.

Appendix Table 9

U.S. Manufacturing Exports (Millions of U.S. Dollars)

	TOTAL	FOOD	CHEMICAL	METALS	NON-ELEC. MACH.	ELEC. MACH.	TRANSP EQUIP	OTHER MANUF.
				UN TAPE DATA				
1966	22,827	1,985	2,909	2,717	4,759	1,800	4,480	4,177
1977	94,889	7,236	11,452	7,139	19,803	9,487	22,466	17,306
1982	164,234	10,896	21,894	13,058	37,641	17,385	33,073	30,287
1983	157,005	10,798	21,682	11,237	32,754	17,517	34,047	28,970
1984	168,202	10,862	24,496	10,766	36,361	19,698	36,394	29,625
1985	169,220	9,925	22,013	9,759	37,028	18,554	42,717	29,224
1986	176,558	11,289	23,007	9,049	36,395	20,243	43,382	33,193
				SHORTCUT METHOD				
1986	170,080	9,076	23,680	6,408	36,971	18,891	43,544	31,511
1987	198,892	9,900	27,374	8,004	42,420	22,539	50,329	38,326
1988	248,294	12,613	33,406	11,311	53,614	29,757	59,178	48,415
1989	269,720	12,891	38,043	14,281	56,287	30,182	62,331	55,705

Sources: 1966-1986, UN trade tapes. Shortcut method -- United Nations (1990a) Special Table D; (1990b); and (1991a).

Appendix Table 10

U.S. Total Manufacturing Shipments, by Industry (Millions of Dollars)

	TOTAL	FOOD	CHEMICALS	METALS	NON ELEC. MACH.	ELEC. MACH.	TRANSP. EQUIP.	OTHER MANUF.
1966	518,018	79,665	40,006	84,718	46,944	39,838	72,500	154,347
1977	1,260,965	192,913	118,154	193,205	122,190	88,433	166,954	379,116
1982	1,751,278	280,528	170,737	224,111	187,898	147,940	201,345	538,719
1983	1,862,329	287,083	183,209	230,640	178,962	159,202	244,079	579,154
1984	2,065,417	300,014	198,253	254,959	210,404	187,577	281,242	632,991
1985	2,101,053	301,562	197,312	250,112	215,240	193,370	301,385	642,072
1986	2,153,439	308,523	197,090	243,624	208,529	196,245	313,826	667,602
1987	2,265,517	324,996	212,705	252,097	216,605	210,695	323,026	725,393
1988	2,487,371	356,804	240,476	286,260	247,152	227,136	351,927	777,616
1989	2,693,954	379,543	275,187	333,600	260,805	195,225	372,436	877,158

Source: 1966, 1977, 1982-1987: U.S. Department of Commerce (1989), Pp. 11-12.

1988-89: U.S. Department of Commerce (1991e), p. S-3.

Appendix Table 11

U.S. Manufacturing Plant and Equipment Expenditures, by Industry, 1970-1989
(Billions of Dollars)

	Manufac-turing	Food	Chemicals	Metals	Non Elec. Mach.	Elec. Mach.	Transp. Equip.	Other Manuf.
1970	23.54	2.50	3.06	2.55	3.29	2.18	2.04	7.92
1971	22.86	2.49	3.25	2.44	2.59	1.82	2.34	7.93
1972	29.20	3.13	3.92	3.19	3.11	2.34	2.66	10.85
1973	32.56	3.11	4.46	3.43	3.42	2.84	3.12	12.18
1974	38.01	3.25	5.69	4.95	4.42	2.97	3.75	12.98
1975	38.06	3.39	6.11	5.83	4.67	2.42	3.36	12.28
1976	40.86	3.75	6.68	5.97	5.03	2.62	3.62	13.19
1977	46.29	4.18	6.83	5.69	5.76	3.28	5.32	15.23
1978	52.12	4.87	7.10	5.87	6.29	3.98	6.40	17.61
1979	62.30	5.06	8.56	6.57	8.41	5.17	7.75	20.78
1980	89.80	7.39	12.60	10.40	11.59	9.59	18.16	20.07
1981	101.66	8.41	12.62	11.39	13.09	11.07	18.79	26.29
1982	92.99	7.74	13.27	10.05	12.89	10.62	15.16	23.26
1983	88.05	6.60	13.28	8.61	12.35	10.90	13.02	23.29
1984	113.29	8.82	15.32	10.59	15.41	14.61	16.18	32.36
1985	126.47	10.29	16.45	11.29	15.97	15.57	19.29	37.61
1986	124.77	10.60	16.81	11.13	13.61	14.17	18.88	39.57
1987	128.52	11.04	16.37	12.63	13.77	15.26	16.74	42.71
1988	144.28	12.69	18.29	14.55	14.93	18.01	16.43	49.38
1989	153.70	15.90	18.50	12.00	14.60	20.50	18.70	53.50

Note: Manufacturing excl. petroleum.

Sources: Seskin and Sullivan (1988) and earlier articles in that series.
U. S. Bureau of the Census (1991), Table 897.

Appendix Table 12

Property, Plant and Equipment Expenditures by U.S. Manufacturing Affiliates of Foreign Firms, 1974-1989
(Billions of Dollars)

	Manufac-turing	Food	Chemicals	Metals	Non. Elec. Mach.	Elec. Mach	Transp. Equip.	Other Manuf.
1974	2.36	0.18	0.89	0.52	c	c	0.22[c]	0.55
1977[a]	2.95	0.25	1.18	0.37	0.22	0.20	NA	0.72[b]
1978[a]	4.04	0.39	1.71	0.47	0.26	0.25	0.04	0.92
1979[a]	5.72	0.47	2.49	0.67	0.34	0.59	0.13	1.03
1980	8.02	0.68	2.99	0.81	0.46	1.00	0.24	1.84
1981	10.45	0.53	4.73	1.18	0.66	1.03	0.39	1.93
1982	10.48	0.61	4.85	0.99	0.61	0.99	0.62	1.81
1983	9.05	0.67	3.88	0.87	0.56	0.78	0.40	1.89
1984	10.48	0.80	4.49	0.93	0.48	1.25	0.62	1.91
1985	11.30	0.74	4.80	1.30	0.53	1.35	0.45	2.13
1986	11.09	0.85	4.32	1.18	0.42	1.38	0.97	1.97
1987	15.82	0.87	5.49	1.57	0.89	1.44	1.72	3.84
1988	20.69	1.32	7.05	2.29	1.26	2.01	1.62	5.14
1989	25.10	1.75	9.32	3.22	1.93	2.10	1.12	5.66

Source: 1974: U.S. Dept. of Commerce (1976), Table I8, p. 123.
1977-1980: U.S. Dept. of Commerce (1985).
1981-1989: U.S. Dept. of Commerce (1991c) and earlier volumes in the same series, Table D 25, Col. 1, or Table D 29, Col. 1.

Notes: a. Plant and Equipment Expenditures. Property, plant, and equipment expenditure was 8 per cent higher in 1980.
b. Includes transp. equip.
c. Machinery inc. non-elec. mach., elec. mach. and transp. equip..

Appendix Table 13

Employment of Nonbank U.S. Parent Companies, by Industry, 1977, 1982-89
(thousands)

	1977	1982	1983	1984	1985	1986	1987	1988	1989
All industries	18884.6	18704.6	18399.5	18130.9	18112.6	17831.8	17985.8	17737.6	18721.0
Petroleum, total	890.5	1225.3	1129.6	1061.5	1010.6	812.4	693.8	658.4	628.0
Manufacturing	11775.0	10532.8	10403.1	10660.4	10502.8	10431.0	10195.9	9819.9	10138.4
Foods	1016.7	1011.2	986.7	1003.5	1092.4	1215.5	1158.2	1067.9	1135.5
Chemicals	1207.7	1364.6	1368.3	1328.6	1291.4	1265.6	1258.7	1189.2	1253.4
Metals	1484.2	976.2	858.0	825.7	737.2	667.1	674.1	666.3	690.6
Non-electrical Machinery	1546.3	1457.9	1446.1	1566.0	1406.5	1217.7	1131.0	1156.9	1266.7
Electrical Machinery	1274.1	1619.5	1651.3	1689.1	1557.1	1601.0	1149.0	1042.5	1016.3
Transportation equipment	2289.0	1687.3	1735.1	1908.8	2195.8	2317.0	2331.7	2172.9	2083.0
Other manufacturing	2957.0	2416.0	2357.6	2338.6	2222.4	2147.0	2493.0	2524.1	2692.9
GOODS PRODUCTION[a]	12665.5	11758.1	11532.7	11721.9	11513.4	11243.4	10889.7	10478.3	10766.4
Wholesale excl. petrol.	2471.6[c]	396.7	378.9	372.7	367.5	317.6	314.7	341.8	423.7
Finance (exc.Bk),insur.,& real est.	862.0	1004.0	1003.8	992.2	901.4	990.8	1054.1	1049.3	1080.9
Other Services, exc.petrol.	739.6	993.8	1035.5	1060.3	1167.5	1262.5	1478.0	1530.0	1725.7
Other industries[d]	2145.8	4551.9	4448.6	3983.8	4162.7	4017.6	4249.3	4338.3	4724.2
SERVICES, BROADLY DEFINED[b]	6219.1	6946.5	6866.8	6409.0	6599.2	6588.4	7096.1	7259.3	7954.6

[a]Goods production inc. all petroleum.

[b]Services, broadly defined exc. petroleum service.

[c]Including retail trade.

[d]Including mining, agriculture, transportation, communication, and other public utilities, construction, and retail trade.

Sources: 1977: U.S. Department of Commerce (1981), Table II.S1.
1982: U.S. Department of Commerce (1985), Table II.O1.
1983-1989: U.S. Department of Commerce (1991) and earlier volumes in the same series, Table 54, Col. B.

Appendix Table 14

Assets of U.S. Affiliates of Foreign Firms,
by Industry and Investing Country
1959, 1974, 1980, and 1987
(Unit: $ million)

	WORLD	CANADA	FRANCE	GERMANY	NETHER-LANDS	UNITED KINGDOM	JAPAN
				1959			
All Industries	9,598	2,575	--	--	3,345	1,481	--
Mining	237	66	--	--	--	171	--
Petroleum	3,220	288	--	--	2,784	13	--
Manufacturing	3,921	1,272	--	--	464	978	--
Wholesale and Retail Trade	1,359	350	--	--	72	201	--
Other Industries	861	600	--	--	25	119	--
				1974			
All Industries	174,272	23,856	8,692	8,201	17,323	32,226	39,069
Mining	4,396	670	a	a	a	1,937	0
Petroleum	28,499	1,638	a	12	9,958	4,164	1,867
Manufacturing	26,213	4,936	1,483	2,347	2,909	6,550	1,384
Food	3,864	1,597	NA	5	299	603	142
Chemicals	7,895	164	412	1,503	1,134	2,046	NA
Metals	4,542	950	NA	130	363	1,289	NA
Machinery	3,511	956	108	200	459	440	NA
Other manufacturing	6,400	1,269	251	509	654	2,172	NA
Wholesale trade	23,868	1,905	2,097	1,838	1,126	2,170	10,471
Retail trade	2,259	351	26	a	a	1,156	a
Finance, Insur., Real Estate	84,758	13,393	4,500	3,856	2,085	15,428	24,360
Other Industries	4,279	962	586[b]	148[c]	1,245[c]	822	987[d]

	WORLD	CANADA	FRANCE	GERMANY	NETHER-LANDS	UNITED KINGDOM	JAPAN
				1980			
All Industries	292,033	47,879	25,654	31,196	36,103	56,594	27,626
Mining	6,813	3,342	413	193	NA	136	5
Petroleum	44,060	3,368	NA	360	NA	NA	894
Manufacturing	81,684	13,140	9,253	17,766	6,132	14,646	3,885
Food	8,203	2,636	235	94	161	2,714	355
Chemicals	26,086	553	1,793	10,347	3,023	5,502	311
Metals	10,277	1,869	1,704	1,288	NA	1,141	1,194
Machinery, exc. elect.	7,645	3,966	311	1,045	2,278	1,664	501
Elec.& electro.equip.	9,782			1,433		1,053	399
Transp. equip.	4,476	4,116	2,521	1,560	4	7	1,125
Other Manufacturing	15,214		2,689	1,999	NA	2,565	
Wholesale trade	50,068	1,898	5,108	5,459	688	5,064	18,724
Retail trade	9,685	820	NA	1,788	744	NA	161
Finance except banking	32,291	5,051	NA	495	1,061	4,706	2,082
Insurance	36,240	9,869	255	2,938	3,513	9,872	375
Real Estate	19,872	7,764	416	1,153	2,056	1,938	654
Services	4,372	409	785	148	452	765	567
Other Industries	6,948	2,218	1,068	894	NA	659	279
				1987			
All Industries	943,654	142,506	34,675	61,168	68,929	159,525	200,386
Mining	12,912	3,006	a	892	NA	3,302	26
Petroleum	79,666	3,364	4,415	1,134	NA	25,387	906
Manufacturing	223,462	50,744	16,781	28,353	13,026	48,971	15,729
Food	24,048	7,010	1,195	99	NA	7,785	541
Chemicals	77,352	NA	3,681	14,112	NA	12,982	2,557
Metals	23,170	4,911	550	1,926	NA	2,723	2,860
Machinery, exc. elect.	13,062	3,228	3,499	5,753	NA	2,482	2,851
Elec.& electro. equip.	20,372				NA	2,735	1,796
Transp. equip.	7,689	NA	2,791	510	NA	998	2,406
Other Manufacturing	57,770	NA	5,065	5,953	NA	19,265	2,719
Wholesale trade	100,740	4,040	5,769	11,333	1,173	13,557	46,561
Retail trade	26,748	9,514	461	3,982	4,235	2,547	635
Finance except banking	271,044	8,976	3,463	4,345	1,483	27,878	119,789
Insurance	109,179	34,051	339	5,318	12,946	20,449	699
Real Estate	69,682	23,033	410	2,493	4,067	9,091	10,147
Services	32,572	1,727	1,147	2,063	495	6,260	4,070
Other Industries	17,648	4,051	1,891[e]	1,254	NA	2,084	1,824

Notes to Appendix Table 14

[a]Included in Other industries

[b]Includes mining and petroleum

[c]Includes mining and retail trade

[d]Includes retail trade

[e]Includes mining

Sources: U.S. Department of Commerce (1962), Table 9; (1976), Table G-13, (1983), Table B-7; (1990), Table B-5.

Appendix Table 15

Sales of U.S. Affiliates of Foreign Firms,
by Industry and Investing Country
1959, 1974, 1980, and 1987
(Unit: $ million)

	COUNTRY OF PARENT							
	WORLD	CANADA	EUROPE	FRANCE	GERMANY	NETHER-LANDS	UNITED KINGDOM	JAPAN
INDUSTRY	1959							
All Industries	8,062	2,512	5,483	97	47	2,919	1,445	0
Mining	122	53	69	0	0	0	0	0
Petroleum	2,356	160	2,196	0	0	2,102	9	0
Manufacturing	5,131	2,063	3,020	92	47	775	1,234	0
Foods	2,299	1,353	946	NA	0	NA	654	0
Chemicals	891	45	832	6	46	NA	78	0
Metals	276	207	69	NA	0	0	17	0
Machinery exc. Elect.	432	238	189	0	0	NA	104	0
Elect. Mach. & Equip.	289	1	288	NA	0	0	52	0
Other Manufacturing	944	219	696	NA	0	NA	382	0
Other Industries	453	236	198	6	0	42	202	0

INDUSTRY	1974							
All Industries	146,771	15,934	80,311	12,796	8,727	17,106	27,138	40,106
Mining	1,409	c	941	≤31	1	330	579	0
Petroleum	26,350	c	15,910	≤630	≤49	10,550-12,332	2,602	11,296
Manufacturing	31,301	5,881	21,323	2,004	2,538	3,882	7,660	1,311
Foods	5,534	1,341	3,995	≤721	3	549	1,194	131
Chemicals	7,985	216	6,414	404	1,572	1,406	1,679	a
Metals	6,139	a	3,357	513	227	282	1,996	554
Machinery	4,400	1,250	2,750	≤370	187	680	547	267
Other Manufacturing	7,243	3,074[d]	4,807	285	550	964	2,244	359[f]
Wholesale Trade	66,499	4,378	30,164	9,418	5,715	≤1,788	8,578	27,097
Retail Trade	6,327	c	3,800	29	25	180	3,116	
Finance (exc. banking), Insurance, Real Estate	11,259	c	6,377	650	316	152	3,757	
Other Industries	3,626	5,675[g]	1,796	≤57	≤57	115	846	212

Appendix Table 15 (continued)

INDUSTRY	COUNTRY OF ULTIMATE BENEFICIAL OWNER							
	WORLD	CANADA	EUROPE	FRANCE	GERMANY	NETHER-LANDS	UNITED KINGDOM	JAPAN
	1980							
All Industries	412,390	35,456	259,414	40,806	45,620	38,618	94,410	84,207
Mining	3,388	1,777	1,392	NA	NA	NA	123	0
Petroleum	56,052	2,445	47,973	NA	NA	NA	15,470	3,717
Manufacturing	98,162	15,686	73,416	12,548	19,180	8,584	17,850	3,990
Foods	11,956	2,644	8,182	202	101	a	4,858	455
Chemicals	28,204	1,016	26,374	1,745	11,348	3,675	5,004	381
Metals	12,911	2,948	8,359	2,656	1,526	a	1,214	1,068
Machinery exc. Elect.	9,089	4,261	6,332	368	1,320	3,717	2,151	523
Elect. Mach.& Equip.	11,977		6,944		1,207		988	678
Transportation Equip.	6,390	51	6,253	7,577	1,609	4	10	885
Other Manufacturing	17,635	4,767	10,972		2,070	1,188[e]	3,625	
Wholesale Trade	197,674	5,395	96,675	18,661	14,104	1,852	49,134	75,021
Retail Trade	23,475	2,281	19,511	NA	NA	NA	c	190
Finance (exc. banking)	4,755	875	3,031	NA	58	26	492	c
Insurance	14,197	3,106	9,440	111	910	NA	4,883	c
Real Estate	3,933	2,255	1,027	124	178	294	281	107
Services	3,332	329	2,080	477	1,683	233	647	491
Other Industries	7,423	1,308	4,869	NA	NA	NA	5,560[h]	695[i]

INDUSTRY	1987							
All Industries	744,617	89,433	393,132	44,113	74,259	52,373	131,233	186,812
Mining	5,757	1,670	2,758	NA	900	NA	1,115	≤102
Petroleum	71,993	1,323	52,514	NA	NA	NA	15,896	2,169
Manufacturing	225,079	43,705	146,878	16,906	30,676	14,832	47,975	15,496
Foods	22,862	3,174	17,967	1,106	116	NA	8,201	612
Chemicals	72,105	NA	≥42,803	2,091	14,941	NA	12,811	2,134
Metals	26,658	5,954	9,372	669	2,984	116	2,795	3,600
Machinery exc. Elect.	13,766	4,191	9,405	5,149	1,619	276	2,423	2,320
Elect. Mach. & Equip.	26,577		19,895		4,240	NA	2,717	2,721
Transportation Equip.	8,384	NA	5,737	3,618	542	2	1,239	4,110
Other Manufacturing	54,727	30,386[f]	≤41,699	4,273	6,234	912	17,790	
Wholesale Trade	278,843	8,786	105,596	18,556	23,132	2,917	39,270	151,000
Retail Trade	48,433	13,720	30,847	1,355	10,943	6,799	4,419	642
Finance (exc. banking)	27,008	781	11,406	317	345	131	3,524	11,765
Insurance	39,260	10,849	20,076	167	1,920	4,720	8,417	297
Real Estate	10,907	4,588	3,358	151	411	689	1,446	745
Services	20,086	1,267	11,604	716	879	461	7,080	1,360
Other Industries	17,252	2,746	8,094	NA	5,053[j]	≥599	2,090	3,236

Notes to Appendix Table 15

[a]Included in Other manufacturing

[b]Including Foods

[c]Included in Other industries

[d]Including Metals

[e]Including Metals and Foods

[f]Including Chemicals and Transportation

[g]Including Mining, Petroleum, Retail Trade, and Finance (exc. banking), Insurance, and Real Estate

[h]Including Retail Trade

[i]Including Finance (exc. banking) and Insurance

[j]Including Petroleum

Sources: U.S. Department of Commerce (1962), Tables 13 and 14; (1976), Table K-5; (1985), Table E-5; and (1990), Table E-3.

Appendix Table 16

Expenditures For Property, Plant, and Equipment by U.S. Affiliates of Foreign Firms by Industry and Investing Country 1974, 1980, and 1987

(Unit: $ million)

	ALL COUNTRIES	CANADA	FRANCE	GERMANY	NETHER-LANDS	UNITED KINGDOM	JAPAN
	1974						
All industries	7,716	893	370	373	2,295	1,388	721
Mining	505	110	4	a	a	278	0
Petroleum	2,858	a	a	3	1,842	438	a
Manufacturing	2,358	313	158	224	291	457	299
Food	179	46	8	1	16	46	16
Chemicals	887	10	114	158	139	148	32
Metals	520	78		11	60	93	NA
Machinery	218	34	8	15	34	30	49
Other Manufacturing	555	145	28	39	41	140	NA
Wholesale trade	519	49	49	33	15	53	a
Retail trade	160	a	1	1	a	61	16
Finance (exc. banking)	748	165	a	69	44	a	a
Other industries[b]	568	256[c]	158[d]	43[e]	103[f]	101[g]	406
	1980						
All industries	25,713	6,427	1,883	2,981	4,048	3,547	1,452
Mining	567	284	78	12	a	10	0
Petroleum	5,404	893	126	67	a	a	3
Manufacturing	7,971	1,407	733	2,024	460	1,301	516
Food	681	280	8	10	NA	146	42
Chemicals	2,977	55	184	1,458	NA	672	50
Metals	810	179	120	64	NA	52	NA
Machinery, exc. elect.	448	313	23	105	228	91	NA
Elec. & electro. equip.	1,004			93		85	NA
Transp. equip.	249	580	128	99	1	1	NA
Other Manufacturing	1,802		270	196	23	254	NA
Wholesale trade	1,750	83	a	269	a	193	412
Retail trade	823	100	a	131	55	a	27
Finance (exc. banking)	254	a	a	1	0	14	a
Insurance	235	a	a	23	a	53	0
Real estate	7,101	3,122	128	328	599	436	272
Services	590	81	172	17	20	65	29
Other industries	1,019	457[i]	646[j]	109	2,914[k]	1,475[c]	193[l]

Appendix Table 16 (continued)

	ALL COUNTRIES	CANADA	FRANCE	GERMANY	NETHER-LANDS	UNITED KINGDOM	JAPAN
	1987						
All industries	45,657	9,324	1,613	3,731	4,472	7,140	9,587
Mining	1,258	a	4	126	2	224	1
Petroleum	6,239	180	405	64	a	a	101
Manufacturing	15,819	4,117	806	1,816	670	2,808	2,607
Food	870	155	85	NA	NA	333	65
Chemicals	5,488	NA	132	865	NA	563	84
Metals	1,567	228	15	112	NA	188	337
Machinery, exc. elect.	891	296	237	70	237	160	187
Elec.& electro. equip.	1,437			276		246	237
Transp. equip.	1,723	NA	337	66	0	38	1,380
Other Manufacturing	3,844	NA		NA	26	1,319	317
Wholesale trade	2,907	183	93	560	49	272	1,326
Retail trade	2,057	459	57	279	636	171	36
Finance (exc. banking)	947	82	18	6	a	120	472
Insurance	640	a	0	28	127	91	2
Real estate	11,198	3,188	30	452	a	956	3,771
Services	2,790	222	39	400	21	319	1,008
Other industries	1,801	893[m]	162		2,967[n]	2,179[o]	263

[a] Included in Other industries

[b] Includes Services

[c] Includes Petroleum and Retail Trade

[d] Includes Petroleum and Finance, Insurance, and Real Estate

[e] Includes Mining

[f] Includes Mining and Retail Trade

[g] Includes Finance, Insurance, and Real Estate

[h] Includes Petroleum, Wholesale Trade, and Finance, Insurance, and Real Estate

[i] Includes Finance (exc. banking) and Insurance

[j] Includes Wholesale and Retail Trade, Finance (exc. banking), and Insurance

[k] Includes Mining, Petroleum, Wholesale Trade, and Insurance

[l] Includes Finance (exc. banking)

[m] Includes Mining and Insurance

[n] Includes Petroleum, Finance (exc. banking), and Real Estate

[o] Includes Petroleum

Sources: U.S. Department of Commerce (1976), Table I-8; (1983), Table D-9; and (1990), Table D-27.

Appendix Table 17

Employment in U.S Affiliates of Foreign Firms, by Industry and Investing Country
1974, 1980, and 1987

(Unit: thousands)

	COUNTRY OF PARENT						
	ALL COUNTRIES	CANADA	FRANCE	GERMANY	NETHER-LANDS	UNITED KINGDOM	JAPAN
	1974						
All industries	1,083.4	176.0	57.8	59.0	172.2	284.3	70.9
Mining	22.7	a	a	a	6.0	8.1	0.0
Petroleum	93.7	a	a	a	a	11.3	a
Manufacturing	550.6	92.3	33.7	41.8	86.3	132.6	21.3
Food	74.7	15.7	NA	0.1	NA	21.2	NA
Chemicals	114.7	1.7	4.1	21.4	24.6	23.9	NA
Metals	87.8	17.0	NA	1.7	NA	28.1	NA
Machinery	99.6	23.2	3.4	4.0	19.2	12.4	7.0
Other Manufacturing	173.8	34.8	5.3	14.6	29.0	47.0	5.0
Wholesale trade	121.9	19.0	8.4	9.7	14.1	17.5	23.4
Retail trade	120.5	a	0.3	0.4	a	61.0	a
Finance (exc.banking), Insur. and RE	72.6	9.5	1.9	4.2	1.2	27.3	4.8
Other industries[b]	101.3	55.2[c]	13.5[d]	3.3[d]	64.6[e]	26.5	21.4[e]
	COUNTRY OF ULTIMATE BENEFICIAL OWNER						
	ALL COUNTRIES	CANADA	FRANCE	GERMANY	NETHER-LANDS	UNITED KINGDOM	JAPAN
	1980						
All industries	2,033.9	290.0	206.6	375.9	186.7	428.2	115.3
Mining	25.2	11.9	1.2	NA	a	988.0	a
Petroleum	101.1	11.6	5.9	1.4	a	a	0.2
Manufacturing	1,105.0	152.8	119.0	239.0	102.6	224.0	36.2
Food	120.4	19.5	1.6	1.1	3.1	58.7	4.9
Chemicals	283.8	4.3	15.4	134.4	NA	47.5	2.6
Metals	112.9	20.2	20.4	14.2	NA	16.5	0.3
Machinery, exc. elect.	116.9	20.6	2.8	17.4	58.8	32.8	5.1
Elec. & electro. equip.	172.5	30.3	2.7	16.7		17.2	7.1
Transp. equip.	65.1	0.7	76.1	55.2	4.3	0.2	16.2
Other Manufacturing	232.6	57.1				51.2	
Wholesale trade	217.2	14.5	28.2	33.4	3.7	35.0	54.7
Retail trade	304.2	35.9	0.6	NA	21.1	a	3.7
Finance (exc. banking)	24.8	a	a	0.2		6.1	1.5
Insurance	62.3	8.4	0.2	2.9	8.6	27.8	a
Real estate	19.7	13.6	0.3	0.2	0.7	1.1	0.4
Services	85.3	10.3	5.5	2.6	3.5	11.7	10.3
Other industries	88.6	31.0[g]	45.7[g]	96.2[h]	46.5[f]	11.9[e]	8.3[j]

Appendix Table 17 (continued)

	COUNTRY OF ULTIMATE BENEFICIAL OWNER						
	ALL COUNTRIES	CANADA	FRANCE	GERMANY	NETHER-LANDS	UNITED KINGDOM	JAPAN
	1987						
All industries	3,224.3	592.9	187.8	366.6	270.1	647.4	303.2
Mining	27.6	8.5	0.5	3.0	0.4	6.1	0.2
Petroleum	114.9	2.2	a	1.1	b	44.8	0.3
Manufacturing	1,542.6	275.1	110.1	193.9	93.5	391.2	86.9
Food	142.6	21.7	7.9	0.8	NA	53.6	3.7
Chemicals	395.8	a	12.0	76.2	NA	88.0	11.3
Metals	159.3	33.5	4.1	16.1	1.0	20.6	17.8
Machinery, exc. elect.	109.3	33.6	36.4	47.2	5.9	21.8	16.3
Elec.& electro. equip.	216.8			35.0	NA	31.7	12.5
Transp. equip.	55.7	186.3[i]	20.6	3.3	0.0	13.5	7.7
Other Manufacturing	463.0		29.0	50.4	7.8	161.9	17.6
Wholesale trade	321.9	18.3	29.0	50.3	7.8	45.8	108.6
Retail trade	558.7	185.7	13.6	92.2	110.0	47.8	8.2
Finance (exc. banking)	83.9	1.9	0.5	0.6	0.5	12.4	44.0
Insurance	87.4	11.2	0.1	2.9	15.1	24.2	0.4
Real estate	33.9	20.9	0.1	0.4	1.4	3.3	1.0
Services	290.3	33.7	12.1	8.9	3.9	51.4	29.6
Other industries	163.1	35.4	21.8[b]	13.3	37.5[b]	20.4	24.0

[a]Included in Other industries

[b]Includes Services

[c]Includes Mining, Petroleum, and Retail Trade

[d]Includes Mining and Petroleum

[e]Includes Petroleum and Retail Trade

[f]Includes Mining, Petroleum, and Finance

[g]Includes Finance (exc. banking)

[h]Includes Mining and Retail

[i]Includes Chemicals

[j]Includes Mining and Insurance

Sources: U.S. Department of Commerce (1976), Table L-4;
U.S. Department of Commerce (1985), Table F-4;
U.S. Department of Commerce (1990), Table F-3.