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5 Foreign Direct Investment in the United States: Changes over Three Decades

Robert E. Lipsey

5.1 Historical Background

As far back as there is any statistical record, and probably earlier also, it has been a characteristic of the United States' foreign investment history 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 U.S.-controlled.

The contrast between the two sides of the investment balance sheet is summarized in table 5.1, to the extent that the historical record permits the distinction to be made. The individual figures in the table 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 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.

The author is indebted to Qing Zhang for statistical and computer assistance and to Robert Lawrence, R. David Belli, and other conference participants for comments and suggestions

Table 5.1 Share of Direct Investment in Foreign Private Investment in the United States and U.S. Private Investment Abroad: Selected Years, 1897 to 1960

	U.S. Private Investment Abroad	Foreign Private Investment in the U.S.
1897	93%	—
1908	65	—
1914	75	18%
1919	56	23
1924	50	24
1929	44	16
1935	59	25
1940	60	22
1950	62	19
1960	65	17

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

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 nineteenth 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 U.S. 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.

5.2 The Magnitude of Foreign Direct Investment in the United States

5.2.1 The U.S. Share in the World's Stock 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 United Kingdom, owning only about 15–17 percent and no other single country accounting for more than 6 percent (United Nations, 1978, Table III-32). On the other side of the account, foreign direct investment in the United States was only 9 percent of the world's total stock in 1967 and 11 percent in 1975 (United Nations 1978, table III-33).

The U.S. share of direct investment outflows since the late 1960s is described in table 5.2. 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 United States was still responsible for almost half the developed country outflow and more than 40 percent of that of the whole world. Then, in the first half of the 1980s, U.S. direct investment fell to less than 20 percent of the world outflow and by the latest period had gone below 15 percent.

Table 5.2 U.S. Share of Developed Countries' and World Direct Investment Inflows and Outflows, 1960 and 1965–1990

	Outflows		Inflows	
	Developed Countries	World	Developed Countries	World
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 ^e		31.8		42.2
1985–89		17.1		46.0
1980–85 ^f			50.4	37.6
1986–90		13.8	42.0	34.7

Source: Appendix table 5A.1.

^aComparable to 1970–72. ^bComparable to 1973–75. ^cComparable to 1985–89.

^dComparable to 1975–80. ^eComparable to 1981–85. ^fComparable to 1986–90.

The opposite change took place on the inflow side. The direct investment inflow to the United States was less than 10 percent of the total inflow to developed countries in 1960 and 1965–66, rose to 17 percent 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 percent in the early 1970s, climbed to over a quarter in the late 1970s, around 40 percent in the first half of the 1980s, and over 45 percent in the late 1980s before declining somewhat.

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 United States held 35 percent of the world stock of outward investment and 31 percent of the stock of inward investment. The U.S. share of outward investment would probably be considerably higher if either of the 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 United States was the leading foreign direct investor in the early post–World War II 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 United States reports these retained earnings as flows of direct investment, many other countries do not, and the United States share in outflows is therefore probably exaggerated. Since many other countries fail to report the re-invested earnings in their inward investment accounts, the U.S. share on the inward side is probably also overstated.

5.2.2 U.S. Inward and Outward Direct Investment Stocks and Flows

Since the United States 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 United States was small compared to U.S. holdings abroad. In 1950, for example, the inward stock was less than 30 percent 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 percent (table 5.3). As foreign direct investment in the United States 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 United States appeared almost 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 United States had gone from a major credi-

Table 5.3 Value of Stock of Foreign Direct Investment in the United States as Percentage of the Value of the Stock of U.S. Direct Investment Abroad: Selected Years, 1950 to 1991

	Book Value		Current Cost Total	Market Value Total
	Excluding Netherlands Antilles Finance Affiliates	Total		
	1950	28.8%		
1966	17.5	17.5		
1977	23.5	23.7	22.4%	
1982	54.7	60.0	45.7	57.5%
1985	73.5	80.2	59.7	58.0
1988	90.9	93.7	72.6	57.7
1990	93.0	93.5	74.8	74.9
1991	89.3	90.1	74.3	81.6

Sources: Appendix tables 5A.2 and 5A.4; Scholl, Mataloni, and Bezirgianian (1992), table 3.

tor position to being “the world’s greatest debtor” within a few years, 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. Also, since U.S. direct investment abroad was much older on average than foreign investment in the United States, 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 United States was much smaller than U.S. income on direct investment abroad, well under half in 1990 (e.g., Di Lullo 1991, table 5). In response to these doubts, the Bureau of Economic Analysis (BEA) undertook the calculation of some alternative measures. One, 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 invest-

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 percent below to almost 90 percent above the market value of the equity derived from stock prices between 1929 and 1958 (Goldsmith and Lipsey 1963, table 25), and from 30 percent below to more than twice as high between 1954 and 1977 (Cagan and Lipsey 1978, table 2-3).

ment in the United States is still considerably smaller than U.S. direct investment abroad. The other is that the foreign investment in the United States grew much more rapidly than U.S. investment abroad after 1977, not only in percentage terms but, by some measures, in dollar terms as well. Thus, compared with the 1950s, 1960s, and 1970s, the United States 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 (they are described below), the effects of 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 United States, 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 non-tradable 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.

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

The rapid growth of foreign direct investment in the United States 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 5.4). The stock of foreign direct investment looks small by this standard, but the rapid growth after 1977 does not 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 non-financial 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

Table 5.4 Book Value of Foreign Direct Investment in the United States as Percentage of Assets of U.S. Corporations: Selected Years, 1950–1991

	All Corporations	Nonfinancial Corporations
1950	0.6%	.9%
1960	0.6	1.0
1966	0.5	1.0
1974	0.7	1.4
1977	0.7	1.3
1980	1.1	1.9
1982	1.4	2.4
1985	1.5	3.0
1987	1.8	4.0
1988	2.0	4.5
1989	2.1	4.9
1990	2.2	5.2
1991	2.1	5.1

Sources: Appendix tables 5A.3 and 5A.4.

into production, such as labor or capital, but these are more limited in their time spans.

Orr (1991) calculated the share of U.S. manufacturing industry assets under foreign control in 1980 and 1988. 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 is listed in wholesale trade in the official data if its wholesale trade activities are larger than the manufacturing activity. Rather than value added, value of sales is the criterion. This 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 are much larger in wholesale trade than in manufacturing. Orr's estimates for the foreign share in manufacturing assets were 8.5 percent (1980) and 14.3 percent (1988). Even with the estimated motor vehicle industry assets added, the shares in the transportation equipment industry, 4.4 percent in 1980 and 5.9 percent in 1988, were well below the average for manufacturing.

A comparison of gross product, excluding banks, suggests slightly more than a doubling of the foreign share in U.S. output between 1977 and 1990 (table 5.5), somewhat slower than that indicated by the direct investment data. Another comparison, this time on the input side, for employment (table 5.6) shows that the levels are fairly small but the growth has been rapid: the ratio more than tripled between 1974 and 1990.

The employment shares of foreign firms vary greatly among sectors: they are much higher in goods production, particularly mining and manufacturing,

Table 5.5 Foreign Affiliate Share of U.S. Gross Product, excluding Banks: Selected Years, 1977-1990

1977	1.9%
1982	3.3
1987	3.6
1988	4.0
1989	4.4
1990	4.4

Sources: U.S. Department of Commerce (1992a; 1992d, table 1).

Table 5.6 Employment in Nonbank U.S. Affiliates of Foreign Companies as Percentage of U.S. Private Nonagricultural Employment: Selected Years, 1974-1990

1974	1.6%
1977	1.8
1980	2.7
1982	3.3
1984	3.5
1987	3.8
1988	4.4
1989	5.0
1990	5.1

Sources: Appendix tables 5A.6 and 5A.7.

than in service sectors (table 5.7). 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 of those affiliates.

For one year, 1987, new data provided by the combination of BEA and Census information permit us to make a much more exact calculation of foreign shares on an establishment basis. The main difference is that on a consistent establishment basis the foreign share is lower in goods production (6.9 percent compared with 8.2 percent) and higher in finance and services (4.6 and 2.4 percent compared with 3.1 and 1.2 percent). Within goods production, the establishment data show that the foreign share is exaggerated by the enterprise data in both manufacturing and mining, including petroleum, the latter by over 40 percent.

The development that has drawn the most public comment is the growth of the foreign share in manufacturing, from minor levels in 1974 to over 10 percent 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 U.S. weakness, it was also a part of a general

Table 5.7 Employment in U.S. Affiliates of Foreign Corporations as Percentage of Total U.S. Nonagricultural Private-Sector Employment, by Broad Industry Groups: Selected Years, 1974–1990

	1974	1977	1980	1982	1984	1987§	1988	1989	1990
Mining*	13.0%	10.4%	10.4%	12.3%	13.7%	16.2%	17.4%	21.2%	23.1%
Manufacturing	2.8	3.5	5.5	6.7	7.2	8.2	9.5	11.1	11.6
Goods production	3.2	3.9	5.8	7.1	7.6	8.6	9.9	11.6	12.2
Construction	0.2	0.3	1.0	1.3	1.0	1.0	1.1	1.4	1.4
Transp. and public utilities	1.0	0.5	0.7	1.1	1.2	1.8	2.4	3.4	4.2
Goods, construction, transportation and public utilities	2.5	2.9	4.3	5.3	5.5	6.1	7.1	8.4	8.9
Wholesale trade	2.8	3.2	4.1	5.3	5.2	5.5	6.1	6.4	7.0
Retail trade	1.0	1.0	2.0	2.6	2.8	3.0	3.5	4.1	3.8
Finance, insurance, real estate†	1.1‡	1.1	2.1	2.3	2.3	3.1	3.6	3.7	3.4
Other services	0.3	0.2	0.5	0.6	0.9	1.2	1.5	1.7	1.9
Trade and services‡	1.0	1.0	1.6	2.1	2.2	2.5	2.9	3.2	3.2

Sources: Appendix tables 5A.6 and 5A.7; U.S. Department of Commerce (1992e), table 1.1.

*Including petroleum.

†Banking included in denominator but not in numerator.

‡Including banking, it would be 1.8 percent.

§By industry of establishment, foreign affiliate shares were:

Agricultural services, forestry, and fishing	3.7%
Mining	14.0
Manufacturing	6.9
Goods production	7.0

Construction	1.0
Transportation and public utilities	1.8
Wholesale trade	6.1
Retail trade	3.5
Finance, insurance, and real estate	4.6
Services	2.4
Services, broadly defined	2.7

move toward internationalization of production by firms all around the world, in which foreign firms began to imitate the internationalization that large U.S. 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 5.8). 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 U.S. 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 U.S. companies; they are no higher in the groups in which U.S. firms are relatively weak, such as foods, metals, and 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

Table 5.8 Employment in U.S. Manufacturing Affiliates of Foreign Corporations as Percentage of U.S. Manufacturing Employment, by Industry: Selected Years, 1974–1990

	1974	1980	1987*	1989	1990
All manufacturing	2.8%	5.5%	8.2%	11.1%	11.6%
Food and kindred products	4.4	7.0	8.8	15.2	15.0
Chemicals	10.8	25.7	38.6	40.6	46.7
Metals	3.2	4.1	7.4	12.6	12.3
Machinery, except electrical	1.9	4.7	5.4	11.5	10.1
Electrical machinery and equipment	2.8	8.3	10.5	15.3	17.7
Transportation equipment	.3	3.4	2.7	3.6	4.2
Other manufacturing	2.0	2.9	5.8	6.9	7.0

Sources: Appendix tables 5A.6 and 5A.7; U.S. Department of Commerce (1992e), table 1.1.

*By industry of establishment, foreign affiliate shares were:

All manufacturing	6.9%
Food and kindred products	7.6
Chemicals	21.1
Metals	6.5
Machinery, except electrical	6.3
Electrical and electronic machinery and equipment	10.9
Transportation equipment	3.1
Other manufacturing	5.9

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. However, the establishment data for 1987 do not suggest that such mismatching between establishment and enterprise classifications was a major problem in this industry.

The high foreign share in chemicals probably reflects the characterization of Du Pont 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 Du Pont, 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 Du Pont, 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 Du Pont, chemicals would still be the industry group with the largest foreign share, by a large margin.

The suspicion that Du Pont petroleum operations may be included in the enterprise figure for chemicals is strengthened by the apparent exaggeration of the foreign share in chemicals in those data; the establishment data put that share at 21 percent in 1987 rather than at 39 percent, still by far the highest of any manufacturing sector. However, table 5.7 indicates that the foreign share is overstated in mining and petroleum, as well as in chemicals, by the use of the enterprise basis.

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. 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, 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, chap. 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. Department of Commerce 1948, 93, 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. Department of Commerce 1950, 130-31, 160).

In 1989, almost a quarter of foreign firms' employment in chemicals (even with Du Pont's employment included, if it is; almost 30 percent 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 United States 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 intracompany 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 5.9). 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

Table 5.9 Plant and Equipment Expenditures by U.S. Manufacturing Affiliates of Foreign Corporations as Percentage of Total U.S. Expenditure, by Industry: Selected Years, 1974-1989

	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, except electrical		4.0	6.5	13.2
Electrical machinery and equipment	2.0	10.4	9.4	10.2
Transportation equipment		1.3	10.3	6.0
Other manufacturing	4.2	9.2	9.0	10.6

Sources: Appendix tables 5A.11 and 5A.12

regard. In the case of the chemicals industry, the possible inclusion of Du Pont in the 1987 and 1989 data could be a major part of the high ratios. In 1984, for example, Du Pont reported over \$2 billion in plant and equipment expenditures in the United States, a large amount compared with the \$4.5 billion for all chemical affiliates of foreign companies in Appendix table 5A.12. Du Pont reported \$800 million of capital expenditures in oil and gas operations in the United States that year, but some may have been expensed and therefore not included in the capital expenditure figures.

5.3 Foreign-owned Affiliates in the United States and U.S. Trade

5.3.1 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 percent 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 metals and minerals group is mainly Japanese, and the other is split between Japanese and French affiliates. In neither group is it likely that much of the exports comes 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, \$32 billion of exports and \$41 billion of imports by manufacturing affiliates in 1989 (U.S. Department of Commerce 1992c, tables G-5, G-6). The exports were more than 10 percent of our rough estimate of exports produced by the manufacturing sector and more than 12 percent of all exports in Standard International Trade Classification (SITC) groups 4 through 9. Not all of the trade by manufacturing affiliates is of manufactured products, but the 1987 data (U.S. Department of Com-

merce 1990b, tables G-10, G-16) suggest that only about 5 percent of exports and between 5 and 10 percent 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.

Foreign-owned manufacturing operations do export less than they import. In the earliest year for which we have data, 1974, their exports were about two-thirds of their imports. The ratio jumped to more than 100 percent in 1982, after a period of low U.S. exchange rates; dropped to 62 percent in 1986 after the high-dollar period; and then rose to 80 percent (Appendix table 5A.8). By 1989, exports were almost 80 percent of imports.

The trade behavior of the foreign affiliates should be viewed against the changes that took place in U.S. trade as a whole during these years. 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 nonaffiliates reflect the general macroeconomic circumstances of the United States, exports from the United States by foreign affiliates were facing unfavorable conditions.

5.3.2 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 United States 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.

$$(1) \quad \left(\frac{EXAFF}{IMAFF} \right)_t = -12.91 - 4.29 EER_{t-1} + .007 YR \quad \bar{R}^2 = .131$$

(0.76) (1.98) (0.82)

where $EXAFF = \text{Affiliate exports} \times 100$; $IMAFF = \text{Affiliate imports}$; $EER = \text{U.S. effective exchange rate as reported in the } Federal Reserve Bulletin, \times 1,000$; and $YR = \text{Year}$; and t -statistics appear 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).

$$(2) \quad \left(\frac{EXAFF}{IMAFF} \right)_t = -13.90 + 6.60 EER_t - 9.28 EER_{t-1} + .0075 YR$$

$$\quad \quad \quad (1.02) \quad (2.71) \quad (3.68) \quad (1.09)$$

$$\bar{R}^2 = .448$$

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 United States, other than foreign affiliates, to a far greater degree than they do the affiliate trade ratios, as can be seen in equation (3).

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

$$\quad \quad \quad (6.75) \quad (5.96) \quad (6.49)$$

where $USEX = \text{U.S. exports of merchandise} - \text{exports by foreign affiliates in the United States}$; $USIM = \text{U.S. imports of merchandise} - \text{imports by foreign affiliates}$; and t -statistics appear in parentheses.

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 (equation 4). It does, however, improve the fit of the equation slightly.

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

$$\quad \quad \quad (6.85) \quad (1.20) \quad (5.03) \quad (6.59)$$

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

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

$$(5) \quad \left(\frac{EXAFF}{IMAFF} \right)_t = -62.9 + 1.33 \left(\frac{USEX}{USIM} \right)_t + .032 YR \quad \bar{R}^2 = .444$$

(2.91) (3.51) (2.93)

In this case, the time trend is again positive, implying that given the factors affecting nonaffiliate 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):

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

(4.36) (5.22) (4.36) (2.76)

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

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.

5.4 Country and Industry Composition of Foreign Direct Investment in the United States

5.4.1 Industry Composition of Investment

The longest continuous series on the industry composition of foreign direct investment in the United States is 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 either by parent funds or by borrowing in the United States itself, and the extent of financing through borrowed funds can 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 United States was the growth in importance of goods industries and decline in service industries from 1950 through the 1960s (table 5.10). That change was subsequently reversed, so that the shares in 1991 were between those of 1950 and 1960. Within these categories, petroleum first rose greatly in importance and then declined even more, ending up at less than 10 percent 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 then partially reversed, leav-

ing both groups at the end slightly below their importance in 1974. One consistent trend since 1974 has been a steady growth in investment in nonfinancial service industries, although they were still below 10 percent of the total in 1991.

If we compare the trends in the distribution of FDI in the United States with those of U.S. FDI, we can see several contrasts (table 5.10). 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 percent in the 1950s to over 30 percent in 1991, from far below the share in foreign direct investment in the United States 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 thirty years.

A different view of the distribution of foreign-owned firms' activity in the United States, 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) to labor than do measures of output or comprehensive input measures. Assets 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 United States than are 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 thirty years since then.

The most striking change in the distribution of assets of foreign affiliates in the United States is the enormous shift from goods industries to service industries, broadly defined to include trade and finance as well as other services (table 5.11). 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 the shift shown by the data on investment position (table 5.10), but the changes in the asset distribution were far larger and show a much larger financial 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 af-

Table 5.10 **Distribution of U.S. Direct Investment Position, by Broad Industry Groups: Selected Years, 1950–1991**

	1950	1960	1966	1974	1982	1990	1991
A. Foreign Direct Investment in the U.S.							
Agriculture, forestry, fishing, mining	—	—	—	1.7%	2.3%	2.7%	2.5%
Petroleum extraction and refining	11.9%*	17.9*	19.2%*	23.2	11.4	8.7	7.8
Manufacturing	<u>33.6</u>	<u>37.8</u>	<u>41.8</u>	<u>31.1</u>	<u>35.3</u>	<u>39.7</u>	<u>40.2</u>
Goods production	45.5	55.7	61.1	56.0†	49.1†	51.0†	50.5
Transportation, communication, and public utilities	—	5.9	—	1.3	1.1	1.1	1.0
Wholesale trade	—	9.2‡	—	15.7	14.8	12.8	13.1
Banking				1.9	6.3	4.7	5.1
Other finance	31.4	26.2	—	21.4	17.3	17.5	18.8
Other services	—	1.8	—	1.1	1.5	8.0	7.8
Services, broadly defined	54.5	44.3	38.9	44.0	50.9	49.0	49.5
Total, all industries	100.0	100.0	100.0	100.0	100.0	100.0	100.0
B. U.S. Direct Investment Abroad							
Agriculture, forestry, fishing, mining	14.6	12.0	8.6	4.4	2.5	1.2	1.1
Petroleum extraction and refining	28.8*	25.7§	20.6	12.5	17.4	10.5	10.3
Manufacturing	<u>32.5</u>	<u>31.5</u>	<u>42.2</u>	<u>42.1</u>	<u>36.6</u>	<u>38.6</u>	<u>38.6</u>
Goods production	75.8	69.2§	71.4	59.0	56.6	50.3	50.1
Transportation, communication, and public utilities	12.2	8.4	4.5	1.5	1.0	1.6	1.8
Wholesale trade, excluding petroleum	4.6	4.6	6.3	9.5	9.1	9.0	9.5
Petroleum trade and services	—	10.0	6.7	8.6	7.9	2.8	2.7
Banking	3.9	0.5	0.6	3.0	4.5	4.6	4.1
Other finance		3.2	6.4	15.3	16.7	26.3	26.6
Other services	1.7	1.2	2.2	2.6	2.0	2.7	2.9
Services, broadly defined	24.2	30.8	28.6	41.0	43.4	49.7	49.9
Total, all industries	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Sources: Appendix tables 5A.2 and 5A.3.

*Total petroleum including trade and services.

†Including agriculture and mining; excluding petroleum trade and services.

‡Total trade, including retail.

§Including petroleum extraction and refining, but not trade and services. Figures comparable to 1950 are 35.8 and 79.5.

||Excluding finance affiliates in the Netherlands Antilles.

Table 5.11 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*	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
Nonelectrical			2.6	1.4
Electrical			3.3	2.2
Transport equipment			1.5	.8
Other manufacturing		3.7	5.2	6.1
Goods industries†	76.9	33.9	45.4	33.5
Wholesale trade		13.7	17.1	10.7
Retail trade	14.2	1.3	3.3	2.8
Finance (excluding banking), insurance, and real estate		48.6‡	30.3	47.7
Finance (excluding banking)			11.1	28.7
Insurance	9.0§		12.4	11.6
Real estate			6.8	7.4
Other services			1.5	3.5
Other industries		2.5	2.4	1.9
Services, broadly defined	23.2	66.1	54.6	66.5
Total	100.0	100.0	100.0	100.0

Source: Appendix table 5A.14.

*Includes petroleum trade and services, a little under 20 percent of the petroleum total in 1974.

†Mining, petroleum (including petroleum trade and services), and manufacturing.

‡The share including banking would be about 48 percent.

§Includes finance, other services, and other industries.

||Includes agriculture, forestry, and fishing; transportation, communication, and public utilities (over 40 percent of the total in 1974); construction, hotels, and lodging places; and other services.

filiates. Unfortunately, the employment data cover only the second 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 5.12). 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

Table 5.12 Industry Distribution of Nonagricultural Employment: Foreign Affiliates in the United States and All U.S. Firms

	Foreign Affiliates				All U.S. Firms			
	1974	1982	1987*	1990	1974	1982	1987*	1990
Mining and petroleum	11.1%	6.7%	4.5%	4.3%	1.4%	1.8%	1.0%	.9%
Manufacturing	52.5	51.0	48.1	46.9	31.0	25.2	22.1	20.7
Foods	7.1	5.2	4.5	5.3	2.7	2.2	1.9	1.8
Chemicals	11.0	16.0	12.3	10.9	1.7	1.5	1.2	1.2
Metals	8.4	4.2	5.0	5.7	4.3	3.2	2.5	2.4
Mach. exc. electrical	4.1	5.4	3.4	4.5	3.4	3.0	2.4	2.3
Elect. mach. and equip.	5.3	6.3	6.8	6.3	3.1	2.7	2.4	1.8
Transp. equipment	0.5	2.9	1.7	1.8	2.9	2.4	2.4	2.2
Other manufacturing	16.1	10.9	14.4	12.3	13.0	10.2	9.3	9.0
Goods production	63.6	57.7	52.5	51.2	32.4	27.0	23.2	21.6
Public util. and transp.	4.3	2.3	3.0	5.2	7.4	6.9	6.3	6.4
Construction	.8	2.1	1.6	1.5	6.3	5.3	5.8	5.6
Wholesale trade	11.6	11.5	10.0	9.3	6.9	7.2	6.9	6.8
Retail trade	11.5	16.3	17.4	16.1	19.6	20.6	21.7	21.5
Finance, including banking					6.5	7.2	7.7	7.4
Finance, excluding banking	4.5	5.0	6.4	4.8				
Other services	3.9	5.0	9.0	11.4	21.0	25.8	28.4	30.8
Services, broadly defined	36.4	42.3	47.5	48.8	67.6	73.0	76.8	78.4

Sources: Appendix tables 5A.6 and 5A.7; U.S. Department of Commerce (1992e), table 1.1.

*The distribution of employment on an establishment basis was as follows:

	Foreign Affiliates	All U.S. Firms
Mining, including petroleum extraction and refining	3.6%	1.0%
Manufacturing	40.4	22.9
Foods	3.4	1.8
Chemicals	5.3	1.0
Metals	4.5	2.6
Machinery, excluding electrical	3.6	2.2
Electrical machinery and equipment	5.2	1.9
Transportation equipment	1.7	2.2
Other manufacturing	16.7	11.3
Goods production	44.0	23.9
Public utilities and transportation	2.9	6.1
Construction	1.6	6.1
Wholesale trade	10.6	6.8
Retail trade	19.4	21.4
Banking	3.3	2.0
Other finance	6.3	6.1
Other services	12.0	27.7
Services, broadly defined	56.0	76.1

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. This comparison can be read as a sign of declining comparative advantage of U.S. companies in manufacturing, although not necessarily of the United States as a production location, since the foreign firms were choosing the United States as a manufacturing location. However, as shown elsewhere (Lipsev and Kravis 1987; Blomström and Lipsey 1989; 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 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.

The comparison between foreign-owned and all U.S. firms on an affiliate basis somewhat deflates the apparent foreign firm concentration in manufacturing and goods production in general, reducing it to 40 percent in manufacturing and 44 percent in all goods production. That is still, however, almost twice the level for all U.S. firms. The affiliate data show employment in foreign affiliates much less concentrated in chemicals than is indicated by the enterprise data.

A somewhat different picture of the comparative advantages of firms appears if we compare foreign affiliates in the United States 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 United States and in foreign countries and are probably of similar size, while the total of U.S. firms in table 5.12 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 5.13. 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 case is there any clear sign of a trend over these fifteen 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 United States. Some of the trends observed for

Table 5.13 Industry Distribution of Employment by Nonbank U.S. Parent Companies: 1977, 1982, and 1989

	1977	1982	1989
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
Machinery, excluding electrical	8.2	7.8	6.8
Electrical machinery and equipment	6.7	8.7	5.4
Transportation equipment	12.1	9.0	11.1
Other manufacturing	15.7	12.9	14.4
Goods production	67.1	62.9	57.5
Wholesale trade*	13.1†	2.1	2.3
Finance‡	4.6	5.4	5.8
Other services	3.9	5.3	9.2
Other industries	11.4	24.3†	25.2†
Services, broadly defined	32.9	37.1	42.5
Total	100.0	100.0	100.0

Source: Appendix table 5A.13.

*Includes agriculture, mining (except petroleum), construction, transportation, communication, and public utilities.

†Includes retail trade.

‡Excludes banking, insurance, and real estate.

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 5.14). 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 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 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 United States were concentrated in goods industries, particularly manufacturing, to an extent never

Table 5.14 Industry Distribution of Expenditures for Property, Plant, and Equipment by U.S. Affiliates of Foreign Firms: 1974, 1980, and 1987

	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
Machinery, excluding electrical	} 2.8	1.7	2.0
Electrical machinery and equipment		3.9	3.1
Transportation equipment	} 7.2	1.0	3.8
Other manufacturing		7.0	8.4
Goods production	74.1	54.2	51.1
Wholesale trade	6.7	6.8	6.4
Retail trade	2.1	3.2	4.5
Finance (excluding banking), insurance and real estate	9.7	29.5	28.0
Finance (excluding banking)	—	1.0	2.1
Insurance	—	.9	1.4
Real estate	—	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 5A.16.

repeated in later years (table 5.15). Manufacturing and petroleum accounted for more than half 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 percent 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 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.

5.4.2 Sources of Foreign Direct Investment in the United States

The historical data on the country of origin of direct investment in the United States 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,"

Table 5.15 Industry Distribution of Sales by Nonbank U.S. Affiliates of Foreign Firms: Selected Years, 1959–87

	1959	1974	1980	1987
Mining	0.9%	1.0%	0.8%	0.8%
Petroleum	16.5	18.0	13.6	9.7
Manufacturing	36.0	21.3	23.8	30.2
Foods	16.1	3.8	2.9	3.1
Chemicals	6.3	5.4	6.8	9.7
Metals	1.9	4.2	3.1	3.6
Machinery	5.1	3.0	5.1	5.4
Nonelectrical	3.0	—	2.2	1.8
Electrical	2.0	—	2.9	3.6
Transportation equipment			1.5	1.1
Other manufacturing	} 6.6	4.9	4.3	7.3
Goods industries	53.4	40.2	38.2	40.7
Wholesale trade		45.3	47.9	37.4
Retail trade	} 30.1	4.3	5.7	6.5
Finance (excluding banking), insurance, and real estate	13.2	7.7	5.5	10.4
Finance (excluding banking)			1.2	3.6
Insurance			3.4	5.3
Real estate			1.0	1.5
Other services			0.8	2.7
Other industries	} 3.2	2.5	1.8	2.3
Services, broadly defined	46.6	59.8	61.8	59.3
Total	100.0	100.0	100.0	100.0

Source: Appendix table 5A.15.

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 over 60 percent (table 5.16). 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 U.S. Department of Commerce (1962, 4) 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.” 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 1991 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 by only the immediate foreign parent (table 5.17).

The U.K. share declined, but less than might have been expected from the overall decline in the position of the United Kingdom 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 United

Table 5.16 Country Distribution of Foreign Direct Investment in the United States, 1960

Canada	28%
Europe, total	68
United Kingdom	33
Netherlands	14
Switzerland	11
Other areas	4

Source: U.S. Department of Commerce (1962), table 1.

Table 5.17 Country Distribution of Foreign Direct Investment in the United States, 1991

	Shares by Country of			UBO minus Parent (\$ million)
	Parent	UBO*	UBO/Parent Ratio	
Canada	7.4%	10.0%	135%	\$ 10,648
Europe	63.3	59.0	93	-17,531
United Kingdom	26.0	24.3	93	-7,169
Netherlands	15.7	10.3	66	-21,712
Germany	6.9	8.2	118	5,130
France	5.6	6.6	119	4,329
Switzerland	4.3	4.6	106	1,038
Latin America and other				
Western Hemisphere	4.3	2.4	56	-7,694
Brazil	1.6	1.5	93	-433
Panama	1.1	.2	20	-3,478
Netherlands Antilles	2.0	.2	8	-7,290
U.K. Islands, Caribbean	-.1	.1	-63	869
Middle East	1.2	2.4	208	5,169
Asia and Pacific	23.7	25.0	105	5,088
Japan	21.3	21.8	103	2,275
Australia	1.6	1.7	105	303
Hong Kong	.3	.9	276	2,243

Source: U.S. Department of Commerce (1992b), table 18.

*Ultimate beneficial owner.

Kingdom. 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 it 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 United States 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 [ultimate beneficial owners] 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, 63).

The main conduits for direct investment in the United States, in quantitative terms, were the United Kingdom, the Netherlands, Panama, and the Netherlands Antilles. The main sources of investment carried out through other countries were Canada, Germany, France, Middle Eastern countries, and Hong Kong.

Some examples of Middle Eastern property holdings in the United States with intermediate parents established in the Netherlands Antilles are described in an 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 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 percent of sales, and almost all the rest were from affiliates of companies based in Europe (table 5.18). 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 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 West 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 United Kingdom and West Germany. Also, in manufacturing, the European share remained higher in 1987 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 Nether-

Table 5.18 **Distribution by Country of Ownership of Sales by All Foreign-Owned Affiliates and Foreign-Owned Manufacturing Affiliates in the United States: Selected Years, 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
United Kingdom	17.9	18.5	22.9	17.6
Netherlands	36.2	11.7	9.4	7.0
France	1.2	8.7	9.9	5.9
Germany	0.6	5.9	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
United Kingdom	24.0	24.5	18.2	21.3
Netherlands	15.1	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 5A.15.

lands affiliates; and major increases for those from France, West 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 percent 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 5A.15). Affiliates from West 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 the advantages in producing in the United States, since large parts of the affiliate sales, varying widely among firms and countries, originate from production outside the United States. The employment distributions may reflect more clearly the advantages firms from different countries have in producing in the United States.

The concentration on chemicals among West German firms in 1974 stands out clearly in the fact that 36 percent of their affiliates' employment in the United States was in that industry, as against an average for all countries of under 11 percent. 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 U.K. firms in retailing.

By 1987, West German affiliates in the United States, while still more concentrated on chemicals than those of any other country, had diversified and were then of far more importance than average in nonelectrical 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.

5.5 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 percent 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 (table 5.19). Almost half of the growth in the foreign position in the United States in the 1950s, and over 60 percent 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 less than half 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 virtually zero in the 1980s. In half the years of the 1980s, the reinvested earnings were negative, and they turned strongly negative with the onset of the recession, totaling a negative \$42 billion in 1989–91. 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

Table 5.19 Reinvested Earnings of Foreign-Owned Affiliates in the United States and Change in Foreign Direct Investment Position (\$ million)

	Change in Position	Reinvested Earnings	Share of Reinvested Earnings*
1950-59	\$ 3,483	\$ 1,718	51.1%
1960-69	5,214	3,245	71.5
1970-79	40,372	14,607	43.5
1980-89	322,856	4,431	1.7
1980	28,584	5,177	18.1
1981	25,668	2,945	11.5
1982	15,963	-2,361	- 14.8
1983	12,384	-340	- 2.7
1984	27,522	3,105	11.3
1985	20,032	90	.4
1986	35,799	-239	- .7
1987†	42,980†	1,481	3.4
1987‡		579	
1988	51,360	1,963	3.8
1989	54,170	-7,390	- 13.6
1990	27,778	-15,316	- 55.1
1991	10,875	-18,924	-174.0

Sources: 1950-79 data: U.S. Department of Commerce (1984), tables 1, 4; position in 1949 was estimated as 1950 position minus capital inflow in 1950, from table 2; change in position and reinvested earnings for 1974 on the basis of 1959 survey are from Mantel (1975). 1980-81 data: U.S. Department of Commerce (1990a), tables 1, 4. 1982-91 data: U.S. Department of Commerce (1992b), tables 9, 17; 1987 change in position and reinvested earnings is from Nicholson (1991) and Scholl (1991).

*Averages of individual-year ratios.

†Based on 1980 benchmark survey; comparable to earlier years.

‡Based on 1987 benchmark survey; comparable to later years.

investors, foreign direct investment in the United States in the 1980s went through a period of wild growth, financed by inflows of new money, followed by a sharp drop in net income after 1988 and aggregate net losses in 1991 (U.S. Department of Commerce, 1992e).

The rapid growth of foreign direct investment in recent years has consisted mainly of acquisition 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 percent of inflows of foreign direct investment were for acquisitions. High as that was, the proportions for 1988-90 surpassed them, averaging close to 90 percent. The acquisition share was even higher in manufacturing, usually over 95 percent during these years. The only industry in which the establishment of new enterprises predominated was real estate, where 90 percent of investment flow in 1984-86 and 71 percent 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 (table 5.20). 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 start-ups; 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 more severe in some groups than in others. Petroleum and manufacturing affiliates, after the sharp declines to the 1985–89 period, remained profitable in 1990–91. But equally sharp declines in finance and other industries (mining, wholesale and retail trade, and other industries) were followed in 1990–91 by even larger declines in profitability, to the point where affiliates reported net losses.

The geographic breakdown points up the relative stability of the profitability of U.K. investment. In the last period, levels of profits for European investments were far above those of firms from Canada and Japan (table 5.21). European investment was more concentrated in manufacturing than was Canada's and Japan's, 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 had losses in both of the last two periods. Japan was also the country whose investment in the United States had accelerated most rapidly in the late 1980s, a hint of a possible connection between the rate of growth of investment and its profitability.

Table 5.20 Foreign Direct Investment in the United States: Income as Percentage of FDI Position,* by Industry Group, 1950–1991

	All Industries	Petroleum	Manufacturing	Finance†	Other
1950–59	8.2	16.8	8.2	7.1	4.5
1960–69	7.2	11.3	8.2	4.5	4.2
1970–79	10.2	12.1	9.0	13.0	9.3
1980–84	7.7	18.7	4.5	8.5	5.4
1985–89	3.6	5.6	2.4	4.8	2.5
1990–91	-0.2	5.0	1.4	-2.9	-2.2

Sources: U.S. Department of Commerce (1984; 1990a; 1992b) and earlier articles in the same series.

*Income in year t as percentage of FDI position at end of year $t-1$.

†Finance, insurance, and real estate.

Table 5.21 Foreign Direct Investment in the United States: Income as Percentage of FDI Position,* by Country of Origin, 1950–1991

	Canada	Europe			Japan
		Total	United Kingdom	Netherlands	
1950–59	8.1%	8.6%	7.3%	18.0%	—
1960–69	3.4	7.7	6.8	11.0	13.3%
1970–79	7.3	10.2	10.3	11.4	4.8
1980–84	4.9	8.0	9.2	13.1	12.7
1985–89	1.5	5.0	6.3	5.3	4.5
1990–91	–3.7	1.1	4.4	0.4	–1.8

Sources: U.S. Department of Commerce (1984; 1990a; 1992b) and earlier articles in the same series.

*Income in year t as percentage of FDI position at end of year $t-1$.

Reports in the press (e.g., “How Japan got burned” 1992) suggest that the declining profitability of Japanese direct investment in the United States reported in the official data is not a mirage. A summary of a Japanese newspaper’s survey of Japanese-owned U.S. affiliates stated that “80% of the 264 units weren’t returning profits to parent companies and 63% cited earnings as their biggest concern” (“Japanese wary” 1992).

An examination of the low profitability of foreign affiliates in the United States 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 two 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 foreign firms’ income shifting 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 United States. 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. Department of Commerce 1992b, table 5).

5.6 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 late 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 United States, 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 United States has left foreign firms still controlling only a small part of total assets of U.S. firms and employing less than 5 percent of the U.S. labor force. However, the shares have become much more significant in manufacturing, quadrupling in the last fifteen years and reaching over 10 percent of employment. The most notable share of employment has been in chemicals, over 40 percent 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 percent. 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 toward 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 suggests a very large shift toward services between 1959 and 1974 but little change since then, while the shorter time series on employment indicates 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 have 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 percent of the stock of foreign direct investment in the United States, second only to the British share. Canadian investment has shrunk in importance. But aside from these two, there are many elements of continuity. The United Kingdom 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 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. It consisted, to a large and increasing extent, of new entries to the U.S. market through takeovers of existing U.S. firms. 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.

Appendix

Table 5A.1 U.S., Developed Country, and World Direct Investment Inflows and Outflows: Annual Averages, 1960–1990 (\$ million)

	Inflows			Outflows		
	United States	Developed Countries	World	United States	Developed Countries	World
1960 (1)	\$ 140	\$ 2,271		\$ 1,674	\$ 2,906	
1965–66 (1)*	72	3,215		3,564	5,492	
1965–66 (1)	72	3,816		3,564	5,564	
1967–69 (2)†	923	5,298		5,173	8,358	
1967–69 (2)	923	5,534		5,173	9,101	
1970–72 (2)	926	8,902	\$ 12,785‡	7,651	14,744	
1973–75 (2)	3,795	14,464	22,560‡	11,498	26,256	
1973–75 (3)	3,400	13,981	18,065	11,573	23,677	
1975–80 (3)	6,884	19,439	26,244	16,118	33,759	
1975–80 (4)	7,895	24,642	32,183	17,092	39,774	\$ 40,278
1981–85 (4)	19,156	36,593	48,736	8,640	44,454	45,312
1980–84 (5)	19,000		45,000	14,000		44,000
1985–89 (5)	46,000		100,000	18,000		105,000
1970–79 (6)		17,300	22,000			
1980–85 (6)	18,742	37,179	49,813			
1986–90 (6)	51,878	123,582	149,673	22,800	160,000	165,600

Sources: (1) United Nations (1973), table 9. (2) United Nations (1978), tables III-34, III-43. (3) United Nations (1983), annex tables II.1, II.2. (4) United Nations (1988), tables A.1, A.2. (5) United Nations (1991c), table 10. (6) United Nations, annex tables 1, 2; text tables I.1, I.5.

Note: Numbers in parentheses indicate source.

*Comparable in coverage to 1960.

†Comparable in coverage to 1965–66 (Austria and Switzerland omitted).

‡Inflows of developed countries plus developed country outflows to developing countries.

Table 5A.2 U.S. Direct Investment Abroad, by Industry of Affiliate (\$ billions)

	1950	1957	1966	1977	1982	1985	1987	1988	1989	1990	1991
Agriculture, forestry, and fishing	\$ 589	\$ 680	\$ 348	\$ 528	\$ 504	\$ 497	\$ 551	\$ 561	\$ 523	\$ 607	\$ 558
Mining, excluding petroleum	1,129	2,361	4,109	5,998	5,210	4,916	4,745	4,850	4,236	4,652	4,555
Petroleum extraction and integrated refining and extraction	—	5,518	9,134	12,987	32,693	34,171	38,067	36,847	34,181	37,634	38,984
Primary production	—	8,559	13,591	19,513	38,407	39,584	43,363	42,258	38,940	42,893	44,097
Petroleum refining and petroleum and coal products	—	1,009	1,524	5,259	7,028	7,840	7,237	7,847	6,725	7,319	8,011
Petroleum, total	3,390	(9,055) ^a	(14,132) ^b	(28,030)	(57,817)	(57,695)	(59,774)	(57,807)	(51,393)	(56,957)	(59,160)
Manufacturing	3,831	8,009 ^a	21,843 ^b	62,019	83,452	94,700	131,645	138,725	144,679	164,466	175,413
Goods production	8,939 ^c	17,577	36,958	86,791	128,887	142,124	182,245	188,830	190,344	214,678	227,521
Construction ^d		118	378	905	1,061	1,331	969	1,057	892	1,087	1,280
Transportation, communication and public utilities excluding petroleum	1,425	2,145	2,346	2,186	2,273	2,679	1,911	2,098	3,166	6,674	8,036
Petroleum tankers, pipelines, storage		1,198	1,154	5,108	1,648	1,602	1,359	1,431	1,422	1,659	2,051
Wholesale exclusive petroleum	542	1,156	3,271	14,011	20,788	22,790	31,847	34,054	35,319	38,217	43,218
Petroleum wholesale trade	—	1,212 ^c	1,841 ^c	5,380	10,835	8,048	8,365	8,078	5,372	6,882	6,431
Retail excluding petroleum	220	513	911	2,825	3,697	3,997	5,087	6,376	7,084	7,867	8,759
Petroleum retail trade ^f	—	—	—	272	222	215	189	221	479	540	659
Trade, excluding petroleum	762	1,669	4,182	16,836	24,485	26,787	36,934	40,430	42,403	46,084	51,977
Trade, including petroleum	—	—	6,023	22,488	35,542	35,050	45,488	48,729	48,254	53,506	59,067
Banking		131	286	4,370	10,317	14,461	18,027	19,109	19,077	19,783	18,756
Finance (excluding banking), insurance, and real estate	} 463	802	3,314	21,248	18,018	22,591	53,046	63,386	96,828	112,374	117,094

(continued)

Table 5A.2 (continued)

	1950	1957	1966	1977	1982	1985	1987	1988	1989	1990	1991
Netherlands Antilles ^a				-1,216	-20,089	-20,784	-14,496	-10,335	-6,879	-2,460	-3,919
Holding companies ^b	56	111	789	11,477	19,597	22,775	34,541	37,506	57,055	64,977	70,077
Other services, excluding petroleum	199	293	1,139 ^c	3,870	4,615	4,683	6,706	7,869	9,222	11,401	13,368
Oil and gas field services	—	117	479	1,914	5,392	5,820	4,557	3,383	3,213	2,924	3,024
Services, broadly defined ^d	2,849 ^e	7,817	14,834	60,414	98,954	108,910	146,558	157,398	188,954	211,868	226,594
Total	11,788	25,394 ^e	51,792 ^b	145,990	207,752	230,250	314,307	335,893	372,419	424,086	450,196
Total, excluding Netherlands Antilles ^a	11,788	25,394	51,792	147,205	227,841	251,034	328,803	346,228	379,298	426,546	454,115

Sources: 1950 and 1957 data: U.S. Department of Commerce (1960, 93–94, tables 5 and 6; 1982, table 1). 1966 data: U.S. Department of Commerce (1982, table A; 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 data: U.S. Department of Commerce (1981), 10–11, table C; table I.W 3. 1982–91 data (unrevised): U.S. Department of Commerce (1992e, tables 5 and 18) and earlier articles in the same series.

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

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

^cIncludes all petroleum operations. Corresponding 1957 figure is 20,105.

^d1950 data included with other services.

^eIncludes petroleum retail trade (service stations).

^f1979 and 1960 data included with petroleum wholesale trade.

^gWe 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.

^hThe operating companies owned by the holding companies are often outside the finance sector.

ⁱHotels, advertising and other business services, motion pictures, and all other, including inactive.

^jExcludes petroleum trade and services. Corresponding 1957 figure is 5,178.

^kAll except goods industries.

Table 5A.3 U.S. Corporation Financial and Fixed Capital Stocks: Selected Years, 1950–1991 (\$ millions)

Year	Financial Assets				Current Dollar Net Stocks of Fixed Capital				
	Total Corporate*	Nonfinancial Corporate Business	Commercial Banking	Private Nonbank Financial Institution	Corporate			Corporate Nonfinancial	
					Total†	Non-residential	Residential	Total‡	Non-residential
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
1950	\$ 395.2	\$ 102.4	\$ 149.6	\$ 143.2	\$ 171.3	\$ 166.6	\$ 4.7	\$ 167.9	\$ 163.2
1959	738.5	178.7	218.6	341.2	314.1	308.0	6.1	297.9	291.8
1960	780.8	181.7	228.3	370.0	323.0	316.7	6.3	306.9	300.6
1966	1,249.5	272.3	361.9	614.1	450.1	439.2	10.9	434.0	423.1
1973	2,428.1	526.8	761.3	1,135.6	922.2	898.4	23.8	913.9	890.1
1974	2,440.1	516.7	794.9	1,128.5	1,107.4	1,081.9	25.5	1,058.2	1,032.7
1977	3,580.0	779.8	1,067.9	1,732.3	1,520.5	1,489.9	30.6	1,447.7	1,417.1
1978	4,110.7	907.9	1,221.1	1,981.7	1,723.6	1,690.1	33.5	1,637.5	1,604.0
1979	4,673.8	1,063.1	1,356.3	2,254.4	1,976.2	1,939.4	36.8	1,871.7	1,834.9
1980	5,277.7	1,191.2	1,482.9	2,603.6	2,277.8	2,238.1	39.7	2,151.4	2,111.7
1981	5,808.8	1,294.1	1,619.9	2,894.8	2,579.6	2,538.2	41.4	2,429.7	2,388.3
1982	6,400.6	1,322.2	1,732.4	3,346.0	2,756.9	2,714.8	42.1	2,587.3	2,545.2
1983	7,126.3	1,422.9	1,888.8	3,814.6	2,844.9	2,802.0	42.9	2,656.9	2,614.0
1984	7,990.1	1,506.5	2,128.8	4,354.8	2,993.2	2,949.2	44.0	2,780.0	2,736.0
1985	9,038.1	1,600.7	2,376.5	5,060.9	3,158.1	3,112.4	45.7	2,918.3	2,872.6
1986	10,344.1	1,765.9	2,617.2	5,961.0	3,317.2	3,269.4	47.8	3,043.1	2,995.3
1987	11,125.4	1,911.6	2,772.8	6,441.0	3,459.6	3,409.2	50.4	3,152.4	3,102.0
1988	12,115.2	2,074.0	2,951.7	7,089.5	3,681.1	3,630.8	50.3	3,333.4	3,283.1
1989	13,312.3	2,189.9	3,231.6	7,890.8	3,886.4	3,834.1	52.3	3,495.2	3,442.9
1990	13,758.8	2,310.7	3,336.4	8,111.7	4,083.9	4,030.2	53.7	3,659.0	3,605.3
1991	14,831.7	2,379.0	3,442.5	9,010.2	4,171.1	4,116.5	54.6	3,725.5	3,670.9

Sources: Financial assets—1950–59: Federal Reserve Board (1979); 1960–87: Federal Reserve Board (1992a); 1988–91: Federal Reserve Board (1992b).

Fixed capital: Musgrave (1992, 1992b).

*Column (1) = Column (2) + Column (3) + Column (4).

†Column (5) = Column (6) + Column (7).

‡Column (8) = Column (7) + Column (9).

Table 5A.4 Foreign Direct Investment in the United States, by Industry of Affiliate (\$ millions)

	1950	1960	1966	1974A	1974B	1977
Agriculture, forestry, and fishing ^a	—	—	—	32 ^b	—	—
Mining, excluding petroleum	—	88	—	427	—	—
Petroleum extraction and integrated refining and extraction	—	—	—	\$ 6,153 ^c	—	—
Primary production	—	—	—	6,612	—	—
Petroleum refining and petroleum and coal products	—	—	—	—	—	—
Petroleum, total	\$ 405	\$1,238	\$1,740	(6,354)	\$ 5,614	\$ 6,573
Manufacturing	1,138	2,611	3,789	8,242	10,387	14,030
Goods production	—	—	—	14,855	—	—
Manufacturing and petroleum ^d	1,543	3,849	5,529	14,596	16,001	20,603
Construction ^a	—	—	—	36 ^b	—	—
Transportation, communication, and public utilities, excluding petroleum	—	408	—	347	—	—
Petroleum tankers, pipelines, storage	—	—	—	232 ^c	—	—
Wholesale, excluding petroleum	—	—	—	4,153	—	—
Petroleum wholesale trade	—	—	—	-52	—	—
Retail, excluding petroleum ^f	—	—	—	425	—	—
Trade, excluding petroleum	784 ^c	634	—	4,578	5,613 ^c	8,594 ^c
Trade, including petroleum wholesale	—	—	—	4,526	—	—
Banking	—	—	—	510	—	—
Finance (excluding banking), insurance, and real estate	—	—	—	5,686	—	—
of which holding companies	—	—	—	3,807	—	—
Finance	1,065	1,810	2,072	6,196	3,530	5,398
Other services, excluding petroleum	—	121 ⁱ	—	302	—	—
Oil and gas field services	—	—	—	21	—	—
Services, broadly defined	1,848	3,061	3,525	11,916	9,143	—
Total investment minus goods production	—	—	—	—	—	13,992
Total investment minus goods production and excluding petroleum trade and services.	—	—	—	—	—	—
Total	3,391	6,910	9,054	26,512	25,144	34,595

Sources: 1950, 1960, 1966, 1974B, 1977 data: U.S. Department of Commerce (1984), table 1; trade and finance data for 1950 and 1960 are from U.S. Department of Commerce (1962, 34, table 1). 1974A data: U.S. Department of Commerce (1976), tables 2, 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). 1980-91 data: U.S. Department of Commerce (1992e, 113-114, table 17) and earlier articles in the same series.

^a1950 data included in other services.

^bInvestment in unincorporated affiliates in agriculture and construction is combined in the sources. We assumed that half was in agriculture, half in construction.

Table 5A.4 (continued)

1980	1982	1985	1986	1987	1988	1989	1990	1991
\$ 773 1,320	\$ 1,049 1,876	\$ 1,106 4,039	\$ 1,250 5,090	\$ 1,250 5,591	\$ 1,116 7,440	\$ 1,350 4,741	\$ 1,334 9,230	\$ 1,235 8,802
10,229	14,199	24,305	24,225	33,151	30,806	31,033	32,876	30,177
12,322	17,124	29,450	30,555	39,992	39,362	37,124	43,440	40,214
39 (12,200)	44 (17,660)	21 (28,270)	58 (29,094)	687 (37,815)	764 (36,006)	1,964 (40,345)	1,515 (42,165)	1,701 (39,955)
33,011	44,065	59,584	71,963	93,865	122,582	150,949	157,431	162,853
45,372	61,233	89,055	102,576	134,544	162,708	190,037	202,386	204,768
45,211		4,037	3,602	1,345	1,519	2,407	2,519	2,706
522	3,692	1,934	2,292	3,136	3,576	4,528	4,504	3,920
774	1,379	501 ^e	534 ^e	609	1,007	1,038	1,077	1,578 ^e
368 ⁱ	457 ⁱ	29,051	33,997	37,427	43,725	45,456	50,750	52,962
11,560	18,397	2,767	3,734	3,101	2,827	5,756	5,831	6,110
962	1,909	6,822	8,923	7,972	9,865	8,549	8,877	6,730
3,650	5,207		5	437	426	405		
15,210	23,604	35,873	42,920	45,399	53,590	54,005	59,627	59,692 ^c
16,172	25,513	38,640	46,654	48,505 ^e	56,854 ^e	60,187 ^e	65,863 ^e	65,802
4,617	7,846	11,377	12,394	14,354	16,906	18,431	18,731	20,655
13,530	21,607	35,454	45,096	47,126	52,971	71,552	69,603	76,249
857	1,772	3,793	3,560	3,131	4,795	6,189	2,395	2,102
18,147	29,453	46,831	57,490	61,480	69,877	89,983	88,334	96,904
1,089	1,899	2,943	6,724	13,514	19,048	20,614	31,557	31,511
601	1,051	676	542	262	166	128	461	389
37,674	63,444			128,850	147,251	178,887	194,316	200,809
37,835		95,560	117,838					
83,046	124,677	184,615	220,414	263,394	314,754	368,924	396,702	405,577

^eIncludes petroleum refining and petroleum and coal products.

^dIncludes all petroleum; excluding agriculture, forestry, fishing, and mining.

^cIncludes petroleum retailing.

^f1985 and 1986 data included in petroleum tankers, pipelines, storage.

^gTrade, services, construction, transportation, communication, and public utilities.

^h1991 data included in petroleum tankers, pipelines, storage.

ⁱIncludes agriculture and construction.

Table 5A.5 Total Assets of Nonbank Foreign Affiliates in the United States: 1959, 1973, 1977-1989 (\$ billions)

Year	Total Nonbank Affiliates	Finance other than Banking	Total excluding Finance
1959	\$ 9.6*	—	—
1973	93.5†	\$ 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‡	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 data: U.S. Department of Commerce (1962), table 9. 1973 data: U.S. Department of Commerce (1976), table G1. 1977-80 data: U.S. Department of Commerce (1985), table B1. 1981-89 data: U.S. Department of Commerce (1991a, table B1) and earlier volumes in the same series.

*Includes banking.

†Banking affiliate assets were \$40.6 billion.

‡Banking affiliate assets were \$229.9 billion (U.S. Dept. of Commerce 1983, table 5).

Table 5A.6 Employment of Nonbank U.S. Affiliates of Foreign Corporations, by Industry of Affiliate (thousands of employees)

	1974	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Agriculture, forestry, and fishing	8	9	10	10	10	11	11	11	9	10	11	14	15	22	21
Mining and petroleum	117	106	114	104	127	168	163	150	158	155	144	143	154	180	201
Manufacturing	551	686	804	1,006	1,105	1,300	1,242	1,321	1,382	1,455	1,412	1,543	1,829	2,139	2,197
Food and kindred products	75	72	84	111	120	128	126	139	148	151	160	143	177	251	250
Chemicals	115	198	224	261	284	414	390	398	407	430	377	396	391	437	510
Primary and fabricated metals	88	85	84	107	113	111	103	146	157	168	158	159	200	280	268
Machinery, excluding electrical	43	65	86	112	117	138	132	125	125	116	92	109	194	245	212
Electrical machinery and equipment	56	95	110	149	173	164	153	168	184	194	223	217	271	267	296
Transportation equipment	5	3	21	50	65	73	71	65	66	64	62	56	55	74	84
Other manufacturing	169	168	195	217	233	273	266	280	297	332	339	463	541	584	578
Goods production	675	800	928	1,120	1,242	1,479	1,416	1,482	1,549	1,620	1,567	1,700	1,998	2,341	2,420
Transportation, communication and public utilities	45	23	25	27	36	43	57	56	63	58	74	96	131	190	242
Construction	8	13	23	28	43	58	52	45	43	41	42	52	57	72	72
Wholesale trade	122	153	172	196	217	254	280	269	287	295	308	322	365	399	437
Retail trade	121	142	172	236	304	344	398	420	457	482	561	559	678	804	756
Finance, except banking and insurance	9*	10	11	13	25	18	25	37	43	47	56	84	99	95	54
Insurance	33	33	38	45	62	68	71	68	62	69	74	87	102	112	127
Real estate	5	8	11	22	20	29	26	27	27	31	32	34	36	38	46
Other services	41	37	51	66	85	124	123	143	184	219	224	290	379	461	534
Services, broadly defined†	382	419	502	633	792	938	1,032	1,065	1,165	1,242	1,371	1,524	1,847	2,171	2,286
Total all industries	1,057	1,219	1,430	1,753	2,034	2,417	2,448	2,547	2,714	2,862	2,938	3,224	3,844	4,512	4,705

Sources: 1974 data: U.S. Department of Commerce (1976), table 2. 1977–80 data: U.S. Department of Commerce (1985), table F-1. 1981–88 data: U.S. Department of Commerce (1991b, table F-1) and earlier volumes in the same series. 1989 and 1990 data: Bezirgianian (1992), table 2.

*Banking: 26,000.

†All except goods production.

Table 5A.7 Private Nonagricultural Employment in the United States, by Industry: Selected Years, 1974–1990
(thousands of employees)

	1974	1977	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Mining and petroleum*	894	1,015	1,225	1,353	1,329	1,148	1,155	1,106	946	881	883	849	869
Manufacturing†	19,880	19,480	20,087	19,956	18,580	18,238	19,189	19,081	18,796	18,860	19,241	19,285	18,951
Food and kindred products	1,707	1,711	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	1,107	1,109	1,075	1,043	1,049	1,044	1,022	1,026	1,065	1,076	1,093
Primary and fabricated metals	2,747	2,765	2,755	2,712	2,349	2,202	2,320	2,273	2,175	2,148	2,205	2,223	2,179
Machinery, excluding electrical	2,208	2,175	2,494	2,498	2,244	2,033	2,198	2,174	2,053	2,008	2,082	2,130	2,095
Electrical machinery and equipment	1,968	1,878	2,091	2,094	2,008	2,013	2,208	2,197	2,116	2,069	2,070	1,747	1,673
Transportation equipment	1,868	1,872	1,900	1,898	1,735	1,747	1,901	1,980	2,025	2,051	2,051	2,054	1,980
Other manufacturing	8,321	8,005	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	21,312	21,309	19,909	19,386	20,344	20,187	19,742	19,741	20,124	20,134	19,820
Transportation, communication, and public utilities	4,725	4,713	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	4,346	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	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	15,035	15,189	15,179	15,613	16,545	17,356	17,930	18,483	19,110	19,549	19,683
Finance, including banking, insurance, and real estate	4,148	4,467	5,160	5,298	5,341	5,468	5,689	5,955	6,283	6,547	6,676	6,695	6,739
Other services	13,441	15,303	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	46,849	52,854	53,817	53,820	54,944	58,128	60,938	63,090	65,449	68,088	70,416	71,829
Total all industries	64,095	67,344	74,166	75,126	73,729	74,330	78,472	81,125	82,832	85,190	88,212	90,550	91,649

Source: U.S. Department of Commerce (1992a), 45–47.

*Including petroleum and coal products.

†Excluding petroleum and coal products.

Table 5A.8 Exports and Imports of Merchandise from and into the United States and Total Sales by U.S. Manufacturing Affiliates of Foreign Firms, 1974 and 1977-1989 (\$ millions)

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 data: U.S. Department of Commerce (1976). 1977-80 data: U.S. Department of Commerce (1985). 1981-89 data: U.S. Department of Commerce (1991a and earlier issues in the same series), tables E3, G3, and G6.

Table 5A.9 U.S. Manufacturing Exports (U.S. \$ millions)

Total	Food	Chemical	Metals	Non-			Other	
				Electrical Machinery	Electrical Machinery	Transport Equipment		
United Nations 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: U.N. tape data: UN trade tapes. Shortcut method: United Nations (1991a, 1991b).

Table 5A.10 U.S. Total Manufacturing Shipments,* by Industry, 1966, 1977, 1982-1991 (\$ millions)

	Total*	Food	Chemicals	Metals	Nonelectrical Machinery	Electrical Machinery	Transport Equipment	Other Manufacturing
1966	\$ 518,579	\$ 79,665	\$ 40,569	\$ 84,718	\$ 47,417	\$ 36,066	\$ 72,500	\$157,644
1977	1,263,714	192,913	120,905	193,205	122,749	77,845	166,954	389,143
1982	1,756,810	280,529	176,254	224,110	186,773	125,728	201,347	562,069
1983	1,882,776	289,314	189,552	232,323	178,446	136,138	245,392	611,611
1984	2,103,696	304,584	205,963	258,422	211,075	162,362	284,593	676,697
1985	2,157,882	308,606	204,790	255,533	218,408	163,951	307,380	699,214
1986	2,213,276	318,203	205,711	250,928	213,574	164,811	322,688	737,361
1987	2,345,492	329,725	229,546	267,615	217,671	171,287	332,936	796,712
1988	2,551,077	351,513	259,698	307,911	243,258	186,949	354,048	847,700
1989	2,693,954	379,543	275,187	333,600	260,805	195,225	372,436	877,158
1990	2,738,108	397,090	285,612	332,300	263,573	200,430	377,319	881,784
1991	2,696,261	398,110	288,018	309,105	250,080	205,789	375,221	869,938

Source: U.S. Department of Commerce (1992*), 11-12.

*Excluding petroleum and coal products.

Table 5A.11 U.S. Manufacturing Plant and Equipment Expenditures, by Industry, 1970-1989 (\$ billions)

	Total Manufacturing*	Food	Chemicals	Metals	Non- electrical Machinery	Electrical Machinery	Transport Equipment	Other Manufacturing
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

Sources: Seskin and Sullivan (1988), and earlier articles in that series.

U.S. Bureau of the Census (1991), table 897.

*Manufacturing excluding petroleum.

Table 5A.12 Property, Plant, and Equipment Expenditures by U.S. Manufacturing Affiliates of Foreign Firms, 1974 and 1977–1989 (\$ billions)

	Total Manufacturing	Food	Chemicals	Metals	Non- electrical Machinery	Electrical Machinery	Transport Equipment	Other Manufacturing
1974	\$ 2.36	\$0.18	\$0.89	\$0.52	*	*	\$0.22*	\$0.55
1977†	2.95	0.25	1.18	0.37	\$0.22	\$0.20	—	0.72‡
1978†	4.04	0.39	1.71	0.47	0.26	0.25	0.04	0.92
1979†	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

Sources: 1974 data: U.S. Department of Commerce (1976), table I8, p. 123. 1977–80 data: U.S. Department of Commerce (1985). 1981–89 data: U.S. Department of Commerce (1991a and earlier volumes in the same series), table D 25, col. 1, or table D 29, col. 1.

*Figure in column (7) includes nonelectrical machinery, electrical machinery, and transport equipment.

†Plant and equipment expenditures only. Property, plant, and equipment expenditure was 8 percent higher in 1980.

‡Includes transportation equipment.

Appendix Table 5A.13 Employment of Nonbank U.S. Parent Companies, by Industry 1977, 1982–1989 (thousands of employees)

	1977	1982	1983	1984	1985	1986	1987	1988	1989
Petroleum, total	890.5	1,225.3	1,129.6	1,061.5	1,010.6	812.4	693.8	658.4	628.0
Manufacturing	11,775.0	10,532.8	10,403.1	10,660.4	10,502.8	10,431.0	10,195.9	9,819.9	10,138.4
Foods	1,016.7	1,011.2	986.7	1,003.5	1,092.4	1,215.5	1,158.2	1,067.9	1,135.5
Chemicals	1,207.7	1,364.6	1,368.3	1,328.6	1,291.4	1,265.6	1,258.7	1,189.2	1,253.4
Metals	1,484.2	976.2	858.0	825.7	737.2	667.1	674.1	666.3	690.6
Nonelectrical machinery	1,546.3	1,457.9	1,446.1	1,566.0	1,406.5	1,217.7	1,131.0	1,156.9	1,266.7
Electrical machinery	1,274.1	1,619.5	1,651.3	1,689.1	1,557.1	1,601.0	1,149.0	1,042.5	1,016.3
Transportation equipment	2,289.0	1,687.3	1,735.1	1,908.8	2,195.8	2,317.0	2,331.7	2,172.9	2,083.0
Other manufacturing	2,957.0	2,416.0	2,357.6	2,338.6	2,222.4	2,147.0	2,493.0	2,524.1	2,692.9
Goods production*	12,665.5	11,758.1	11,532.7	11,721.9	11,513.4	11,243.4	10,889.7	10,478.3	10,766.4
Wholesale, excluding petroleum	2,471.6 [†]	396.7	378.9	372.7	367.5	317.6	314.7	341.8	423.7
Finance (excluding banking), insurance, and real estate	862.0	1,004.0	1,003.8	992.2	901.4	990.8	1,054.1	1,049.3	1,080.9
Other services, excluding petroleum	739.6	993.8	1,035.5	1,060.3	1,167.5	1,262.5	1,478.0	1,530.0	1,725.7
Other industries [‡]	2,145.8	4,551.9	4,448.6	3,983.8	4,162.7	4,017.6	4,249.3	4,338.3	4,724.2
Services, broadly defined [§]	6,219.1	6,946.5	6,866.8	6,409.0	6,599.2	6,588.4	7,096.1	7,259.3	7,954.6
Total all industries	18,884.6	18,704.6	18,399.5	18,130.9	18,112.6	17,831.8	17,985.8	17,737.6	18,721.0

Sources: 1977 data: U.S. Department of Commerce (1981), table II.S1, col. 1. 1982 data: U.S. Department of Commerce (1985), table II.O1, col. 1. 1983–89 data: U.S. Department of Commerce (1991a and earlier volumes in the same series), table 54, col. 8, or table 84, col. 1.

*Goods production including all petroleum.

[†]Including retail trade.

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

[§]Excluding petroleum service.

Table 5A.14 Assets of U.S. Affiliates of Foreign Firms, by Industry and Investing Country 1959, 1974, 1980, and 1987 (\$ millions)

	World	Canada	France	West Germany	Netherlands	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	—*	—*	—*	1,937	0
Petroleum	28,499	1,638	—*	12	9,958	4,164	1,867
Manufacturing	26,213	4,936	1,483	2,347	2,909	6,550	1,384
Foods	3,864	1,597	—	5	299	603	142
Chemicals	7,895	164	412	1,503	1,134	2,046	—
Metals	4,542	950	—	130	363	1,289	—
Machinery	3,511	956	108	200	459	440	—
Other manufacturing	6,400	1,269	251	509	654	2,172	—
Wholesale trade	23,868	1,905	2,097	1,838	1,126	2,170	10,471
Retail trade	2,259	351	26	—*	—*	1,156	—*
Finance, insurance, real estate	84,758	13,393	4,500	3,856	2,085	15,428	24,360
Other industries	4,279	962	586†	148‡	1,245‡	822	987§
1980							
All industries	\$292,033	\$47,879	\$25,654	\$31,196	\$36,103	\$56,594	\$27,626
Mining	6,813	3,342	413	193	—	136	5
Petroleum	44,060	3,368	—	360	—	—	894
Manufacturing	81,684	13,140	9,253	17,766	6,132	14,646	3,885
Foods	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	—	1,141	1,194
Machinery, excluding electrical	7,645	3,966	311	1,045	2,278	1,664	501
Electrical and electronic equipment	9,782			1,433		1,053	399
Transportation equipment	4,476			2,521		1,560	4
Other manufacturing	15,214	4,116	2,689	1,999	—	2,565	

(continued)

Table 5A.14 (continued)

	World	Canada	France	West Germany	Nether- lands	United Kingdom	Japan
Wholesale trade	50,068	1,898	5,108	5,459	688	5,064	18,724
Retail trade	9,685	820	—	1,788	744	—	161
Finance, exclud- ing banking	32,291	5,051	—	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
Other services	4,372	409	785	148	452	765	567
Other industries	6,948	2,218	1,068	894	—	659	279
				1987			
All industries	\$943,654	\$142,506	\$34,675	\$61,168	\$68,929	\$159,525	\$200,386
Mining	12,912	3,006	—*	892	—	3,302	26
Petroleum	79,666	3,364	4,415	1,134	—	25,387	906
Manufacturing	223,462	50,744	16,781	28,353	13,026	48,971	15,729
Foods	24,048	7,010	1,195	99	—	7,785	541
Chemicals	77,352	—	3,681	14,112	—	12,982	2,557
Metals	23,170	4,911	550	1,926	—	2,723	2,860
Machinery, exclud- ing electrical	13,062					2,482	2,851
Electrical and electronic equipment	20,372		3,499	5,753		—	1,796
Transportation equipment	7,689	—	2,791	510	—	998	2,406
Other manufacturing	57,770	—	5,065	5,953	—	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, excluding 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
Other services	32,572	1,727	1,147	2,063	495	6,260	4,070
Other industries	17,648	4,051	1,891	1,254	—	2,084	1,824

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

*Included in other industries.

†Includes mining and petroleum.

‡Includes mining and retail trade.

§Includes retail trade.

^{||}Includes mining.

Table 5A.15 Sales of U.S. Affiliates of Foreign Firms, by Industry and Investing Country, 1959, 1974, 1980, and 1987 (\$ millions)

A. Country of Parent	Europe							
	World	Canada	Total	France	Germany	Netherlands	United Kingdom	Japan
1959								
All industries	\$14,354	\$4,710	\$8,653	—	—	—	\$2,162	0
All industries, excluding finance	12,353	4,062	7,330	\$360	\$292	\$3,131	3,061	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	—	0	—	654	0
Chemicals	891	45	832	6	46	—	78	0
Metals	276	207	69	—	0	0	17	0
Machinery, excluding electrical	432	238	189	>0.5	0	0	52	0
Electrical machinery and equipment	289	1	288	—	0	—	52	0
Other manufacturing	944	219	696	—	1	—	382	0
Wholesale and retail trade	4,291	1,550	1,847	263	245	212	717	0
Banking ^a	115	52	44	—	—	—	15	0
Finance (excluding banking), insurance, and real estate	1,886	596	1,279	—	—	—	≥867	0
Other industries ^b	453	236	198	6	0	42	202	0
1974								
All industries	\$146,771	\$15,934	\$80,311	\$12,796	\$8,727	\$17,106	\$27,138	\$40,106
Mining	1,409	≤468	941	≤31	1	330	579	0
Petroleum	26,350	≤3,087 ^c	15,910	≤630	≤49	10,564–10,818	2,602	9,133 ^d
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	•
Metals	6,139	— ^e	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 ^f	4,807	285	550	964	2,244	359 ^g
Wholesale trade	66,499	4,378	30,164	9,418	5,715	1,534–1,788	8,578	27,097
Retail trade	6,327	— ^h	3,800	29	25	180	3,116	— ^h
Finance (excluding banking), insurance, and real estate ^a	11,259	1,950 ⁱ	6,377	650	316	152	3,757	2,163 ⁱ
Other industries ^b	3,626	638 ^j	1,796	≤57	≤57	210	849	402

(continued)

Table 5A.15 (continued)

	Europe							
	World	Canada	Total	France	Germany	Netherlands	United Kingdom	Japan
B. Country of Ultimate Beneficial Owner								
	Europe							
	World	Canada	Total	France	West Germany	Netherlands	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	—	—	—	123	0
Petroleum	56,052	2,445	47,973	—	—	—	15,470	3,713
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	—	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	—	1,214	1,068
Machinery, excluding electrical	9,089	4,261	6,332	368	1,320	3,717	2,151	523
Electrical machinery and equipment	11,977							
Transport equipment	6,390	51	6,253	7,577	1,609	4	10	885
Other manufacturing	17,635	4,767	10,972		2,070	1,188*	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	—	—	—	3,915-4,601	190
Finance, excluding banking	4,755	875	3,031	—	58	26	492	≤2,439
Insurance	14,197	3,106	9,440	111	910	—	4,883	
Real estate	3,933	2,255	1,027	124	178	294	281	107
Other Services	3,332	329	2,080	477	117	233	617	491
Other industries ^b	7,423	1,308	4,869	1,442	1,566	115	959-1,645	292-361
1987								
	Europe							
	World	Canada	Total	France	West Germany	Netherlands	United Kingdom	Japan
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	≤741	900	—	1,115	≤102
Petroleum	71,993	1,323	52,514	≤4,582	≤3,073	≤21,225	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	—	8,201	612
Chemicals	72,105	—	≤42,803	2,091	14,941	—	12,811	2,134
Metals	26,658	5,954	9,372	669	2,984	116	2,795	3,600

Table 5A.15 (continued)

	World	Canada	Europe					Japan
			Total	France	Germany	Nether-lands	United Kingdom	
Machinery excluding electrical	13,766	} 4,191	9,405	} 5,149	1,619	276	2,423	2,320
Electrical machinery and equipment	26,577		19,895		4,240	—	2,717	2,721
Transport equipment	8,384	—	5,737	3,618	542	2	1,239	
Other manufacturing	54,727	30,386 ^a	≤41,699	4,273	6,234	912 ⁱ	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, excluding banking	27,008	780	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 ^b	17,252	2,746	8,094	1,363– 3,607	1,980– 3,002	≥599	2,090	3,236

Sources: U.S. Department of Commerce (1962), tables 13 through 14; (1976), tables K-4 and K-5; (1985), table E-5; (1990b) table E-3.

^aGross income.

^bIncluding transportation, communication, and public utilities.

^cIncluding metals.

^dIncluding retail trade.

^eIncluded in other manufacturing.

^fIncluding metals.

^gIncluding chemicals.

^hIncluded in petroleum.

ⁱTotal income, assumed equal to net sales.

^jIncluding other industries' total income, assumed equal to net sales.

^kIncluding metals and foods.

^lIncluding foods, chemicals, and electrical machinery and equipment.

Table 5A.16 Expenditures for Property, Plant, and Equipment by U.S. Affiliates of Foreign Firms, by Industry and Investing Country, 1974, 1980, and 1987 (\$ millions)

	All Countries	Canada	France	West Germany	Netherlands	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		158	139	148	32
Metals	520	78	} 114	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, excluding banking	748	165	— ^a	69	44	— ^a	— ^a
Other industries ^b	568	256 ^c	158 ^d	43 ^e	103 ^f	101 ^g	406 ^h
	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	—	146	42
Chemicals	2,977	55	184	1,458	—	672	50
Metals	810	179	120	64	—	52	—
Machinery, excluding electrical	448			105		91	—
Electrical and electronic equipment	1,004	} 313	23	93	} 228	85	—
Transport equipment	249		128	99	1	1	—
Other manufacturing	1,802	} 580	270	196	23	254	—
Wholesale trade	1,750	83	— ^a	269	— ^a	193	412
Retail trade	823	100	— ^a	131	55	— ^a	27
Finance, excluding banking	254	— ^a	— ^a	1	0	14	— ^a
Insurance	235	— ^a	— ^a	23	— ^a	53	0

Table 5A.16 (continued)

	All Countries	Canada	France	West Germany	Netherlands	United Kingdom	Japan
Real estate	7,101	3,122	128	328	599	436	272
Other services	590	81	172	17	20	65	29
Other industries	1,019	457 ⁱ	646 ⁱ	109	2,914 ^k	1,475 ^e	193 ^j
				1987			
All industries	45,647	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	—	—	333	65
Chemicals	5,488	—	132	865	—	563	84
Metals	1,567	228	15	112	—	188	337
Machinery, excluding electrical	891			70		160	187
Electrical and electronic equipment	1,437			276		246	237
Transport equipment	1,723	—		0	38	1,380	
Other manufacturing	3,844	—	337	—	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, excluding 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
Other services	2,790	222	39	400 ^l	21	319	1,008
Other industries	1,801	893 ^m	162		2,967 ⁿ	2,179 ^o	263

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

^aIncluded in other industries.

^bIncludes services.

^cIncludes petroleum and retail trade.

^dIncludes petroleum and finance, insurance, and real estate.

^eIncludes mining.

^fIncludes mining and retail trade.

^gIncludes finance, insurance, and real estate.

^hIncludes petroleum, wholesale trade, and finance, insurance, and real estate.

ⁱIncludes finance (excluding banking) and insurance.

^jIncludes wholesale and retail trade, finance (excluding banking), and insurance.

^kIncludes mining, petroleum, wholesale trade, and insurance.

^lIncludes finance (excluding banking).

^mIncludes mining and insurance.

ⁿIncludes petroleum, finance (excluding banking), and real estate.

^oIncludes petroleum.

Table 5A.17 Employment in U.S. Affiliates of Foreign Firms, by Industry of Affiliate and Investing Country: 1974, 1980, 1987 (thousands of employees)

A. Country of Foreign Parent							
	All countries	Canada	France	West Germany	Netherlands	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	—	0.1	—	21.2	—
Chemicals	114.7	1.7	4.1	21.4	24.6	23.9	—
Metals	87.8	17.0	—	1.7	—	28.1	—
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 (except banking), insurance, and real estate	72.6	9.5	1.9	4.2	1.2	27.3	4.8
Other industries	101.3	55.2 ^c	13.5 ^d	3.3 ^d	64.6 ^c	26.5	21.4 ^e
B. Country of Ultimate Beneficial Owner							
	All countries	Canada	France	West Germany	Netherlands	United Kingdom	Japan
1980							
All industries	\$2,033.9	\$290.0	\$206.4	\$375.9	\$186.7	\$428.2	\$115.3
Mining	25.2	11.9	1.2	— ^a	— ^a	1.0	— ^a
Petroleum	101.6	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	—	47.5	2.6
Metals	112.9	20.2	20.4	14.2	—	16.5	— ^f
Machinery, excluding electrical	116.9	20.6	2.8	17.4	} 58.8	32.8	5.1
Electrical and electronic equipment	172.5	30.3	2.7	16.7		17.2	7.1
Transport equipment	65.1	0.7	} 76.1	55.2	4.3	0.2	16.5 ¹
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	— ^a	—	21.1	— ^a	3.7
Finance, excluding banking	24.8	— ^a	≤5.2	0.3	— ^a	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
Other services	85.3	10.3	5.5	2.6	3.5	11.7	10.4
Other industries	88.6	31.0 ^g	46.1 ^g	96.2 ^h	46.5 ⁱ	121.6 ^c	8.2 ^j

Table 5A.17 (continued)

	All Countries	Canada	France	West Germany	Netherlands	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	— ^a	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	—	53.6	3.7
Chemicals	395.8	— ^a	12.0	76.2	—	88.0	11.3
Metals	159.3	33.5	4.1	16.1	1.0	20.6	17.8
Machinery, excluding electrical	109.3	} 33.6		47.2	2.9	21.8	16.3
Electrical and electronic equipment	216.8		36.4	35.0	—	31.7	12.5
Transport equipment	55.7		20.6	3.3	0.0	13.5	7.7
Other manufacturing	463.0	} 186.3 ^k	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, excluding 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

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

^aIncluded in other industries.

^bIncludes services.

^cIncludes mining, petroleum, and retail trade.

^dIncludes mining and petroleum.

^eIncludes petroleum and retail trade.

^fIncluded in other manufacturing.

^gIncludes finance, excluding banking.

^hIncludes mining and retail trade.

ⁱIncludes mining, petroleum, and finance.

^jIncludes mining and insurance.

^kIncludes chemicals.

^lIncludes metals.

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Discussion Summary

Raymond Vernon led off the discussion by agreeing with Robert Lipsey that exchange rate movements might offer an important explanation of at least some of the FDI patterns. In addition, he feels that FDI may influence the impact of exchange rate movements on other economic variables such as ex-

ports: he conjectures that the *J*-curve phenomenon might be less pronounced in markets characterized by substantial FDI, since firms can adjust the trade between their own affiliates more easily and quickly than unaffiliated trading patterns could be changed.

Vernon offered three reactions to the low reported profit rates of foreign direct investors in the United States. First, he noted that firms may undertake FDI to attenuate certain other business risks; firms that do FDI for this reason may do so—wisely—even though the expected rate of return is low. Second, and similarly, foreign firms may undertake FDI in the United States to strengthen their competitive positions vis-à-vis other multinationals (including U.S. multinationals); such investment might make sense even though its measured U.S. profitability is low. Third, Vernon observed that measures of FDI profitability (and, for that matter, the stock of FDI capital) are inherently arbitrary and noisy; consequently, it might be a mistake to focus too much attention on the apparently low profit rates of FDI in the United States.

Robert Lipsey argued that the data, and the theories, that underlie profitability calculations for FDI subject the statistics to large standard errors and make them difficult to interpret. In addition, Lipsey emphasized that there is an important distinction between *mature* FDI, which is largely financed out of retained earnings, and *immature* FDI, which cannot be so financed (because FDI is frequently unprofitable in the early years).

G. Peter Wilson noted that the low profitability of FDI in the United States in the 1980s is probably too dramatic to represent tax avoidance exclusively.

Robert Z. Lawrence recommended that the trade flow equations be reestimated using real, rather than nominal, exchange rates. He observed that the estimated elasticities are quite high relative to those found elsewhere in the literature.

Lawrence then suggested that there are two hypotheses consistent with the profitability figures. One is that foreigners have paid too much for their investments in the United States. A second story is that foreigners receive a benefit to their FDI in the United States that does not appear in the data (one possibility is international portfolio diversification); if this second story is correct, then FDI in the United States may represent an efficient and mutually (to Americans and foreigners) beneficial way to finance the U.S. current account deficit.

Edward Graham observed that a recent study by Grubert, Goodspeed, and Swenson examines the profitability of FDI in the United States and finds it to be low after trying to correct for several factors such as the maturity of investments. Graham then conjectured that foreigners should be expected to overpay for their acquisition of U.S. firms, since there may be complementarities between foreign firms and the U.S. firms they acquire.

Geoffrey Carliner pointed out that not enough time has elapsed to evaluate fully the profitability of FDI in the United States in the 1980s, in particular since FDI is often concentrated in growth industries that may not mature for many years to come.

James Hines insisted that the Grubert, Goodspeed, and Swenson study represents the most careful examination of FDI profitability in the United States and that it makes a compelling case that FDI was not earning normal rates of return in the 1980s. He pointed out that this contrasts sharply with the profitability of outbound foreign investments of U.S. multinationals, which was quite high in the 1980s. He cautioned, however, against attributing these profitability differentials entirely to tax-induced transfer price manipulations, since there are many possible explanations, including that foreigners made mistakes in choosing their investments in the United States.

Martin Feldstein suggested that FDI in the United States in the 1980s may have been largely oriented toward buying market share and should not be expected to be very profitable in its early years. *Deborah Swenson* said that such a conclusion is consistent with some of her empirical findings about FDI.

David Yoffie pointed out that it is difficult to measure the profitability of new investments, especially when they may offer complementarities with existing investments. *Kenneth Froot* asked whether BEA could match its data with tax reform information in order to refine its profitability calculations. *David Belli* replied that BEA was prohibited from doing so.

Edward Graham complained that BEA suppresses a considerable amount of data for confidentiality reasons and claimed that, since foreign-owned firms file 10-K reports with the SEC anyway, there was no reason for the suppressions. *David Belli* pointed out that 10-Ks contain different information than that reported by BEA.