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Foreign-Owned Companies in the United States: Malign or Benign?

FOREIGN DIRECT INVESTMENT in the United States increased more than eleven-fold between 1977 and 1990. The rapid increase in U.S. businesses acquired or established by foreign firms has generated much controversy.¹ Some observers worry that foreign-owned firms are more likely than U.S. firms to take actions that would reduce employment, worsen the U.S. trade deficit, inhibit technological progress or threaten national security. Defenders of foreign direct investment stress the increased economic activity stemming from new jobs and the transfer to the United States of improved management, marketing and production techniques.

This paper examines three aspects of foreign direct investment in the United States (FDIUS) to assess whether foreign-owned companies are more likely to have malign or benign effects on the U.S. economy. First, the paper highlights the basic facts about FDIUS—its amount, the home countries of the foreign-owned companies, its distribution across industries and the relative share of the U.S. economy controlled by foreign

companies. Second, it summarizes research on what causes FDIUS. Third, it scrutinizes the economic effects of this investment.

THE WHO, WHERE, HOW AND HOW MUCH OF FDIUS

Foreign direct investment (FDI) is the purchase of ownership in, or the flow of lending to, an enterprise located in a foreign country that is largely owned by residents of the investing country. FDIUS results in a foreign enterprise operating in the United States under the control of a firm (or individuals) of a country other than the United States. Thus, FDI is ownership with actual control of the enterprise, which is what distinguishes FDI from portfolio investment.²

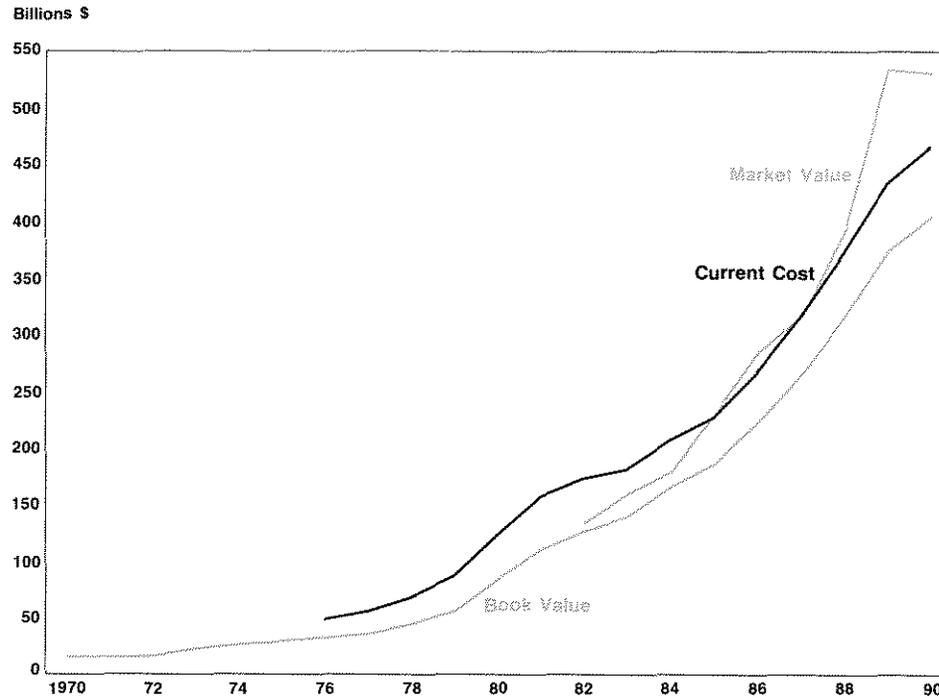
The official definition of FDIUS used by the Bureau of Economic Analysis requires the investing firm to have a minimum of 10 percent ownership of the enterprise in the United

¹In fact, the increase in foreign ownership of *all* types of assets in the United States has generated much controversy. See Ott (1989) for a discussion of this broader topic.

²Foreign portfolio investment in the United States, such as a Japanese resident owning U.S. Treasury bonds, affords

no managerial control; rather, it establishes a claim on an asset for the purpose of realizing some return. As noted in the text, when a foreign firm or resident owns stock in a firm located in the United States, the distinction between foreign portfolio investment and FDI is less clear.

Figure 1
Foreign Direct Investment in the U.S.



States. The use of 10 percent as the dividing line is arbitrary, but unlikely to cause an inaccurate measurement of FDIUS because most U.S. affiliates of foreign firms are majority-owned (that is, the ownership share held by the foreign investor exceeds 50 percent).³ For example, in 1988 the foreign parent, on average, owned 80.7 percent of the equity of its U.S. affiliate. An ownership share exceeding 50 percent is strong evidence of control, so any misstatement of FDIUS is likely to be small. In fact, preliminary calculations by the Bureau of Economic Analysis reveal that raising the minimum ownership percentage to 20 percent, or even 50 percent, affects only slightly the measure of FDIUS.

How Much FDIUS

The most common measure of FDIUS uses the cumulative stock of prior FDI. This measure is the sum of foreign owners' equity (including retained earnings) for all foreign affiliates, plus net lending to these affiliates from their parents. This investment is measured at its historical cost, that is, the value of the investment when it actually occurred. As figure 1 shows, the book value of FDIUS rose from \$13.3 billion in 1970 to \$403.7 billion in 1990, an annual growth rate of 18.6 percent.⁴ This rapid growth has made the United States the leading host country in the world for FDI.

³Graham and Krugman (1991) provide examples to show that the 10 percent ownership requirement can either understate or overstate FDIUS. To illustrate an understatement, assume that 15 Japanese residents together own 80 percent of a firm in the United States, but that no one resident owns 10 percent or more. Even if these foreign owners were not an organized group, foreign interests would largely control such a firm. On the other hand, the treatment of Du Pont illustrates a case in which the official definition of FDIUS overstates the extent of foreign control. Du Pont, 22.9 percent owned by the Bronfman family of

Canada, is classified as a Canadian firm, but foreign interests do not have managerial control of the firm.

⁴The rapid growth of FDIUS partially reflects the rapid increase in FDI worldwide. For example, according to Rutter (1990), the world stock of FDI increased from \$208 billion in 1973 to \$1,403 billion in 1989. Since FDIUS increased faster than FDI worldwide, the U.S. share increased from 10.1 percent to 28.6 percent over this period.

Unfortunately, the use of historical cost ignores the effects of both real and nominal changes in the value of the investment. For example, changes in the earnings prospects of a foreign-owned firm in the United States can change the value of a specific investment, and changes in the overall price level can affect the value of FDI generally. These drawbacks prompted the development of two other measures of FDI. The first, called current cost, re-values investment using estimates of the current value of the net stock of direct investment capital, land and inventories. A second, more general measure is the market value of a firm's net worth. This measure implicitly values both tangible and intangible assets, such as patents and trademarks, because a firm's net worth is the difference between its assets and liabilities.

The current cost and market value measures, also shown in figure 1, reveal two facts. First, like the book value measure, both have grown rapidly in recent years and, second, both differ from the book value of FDIUS. Between 1982 and 1990, the current cost value of FDIUS increased from \$173.2 billion to \$465.9 billion, an annual growth rate of 13.2 percent, while the market value measure increased from \$133.0 billion to \$530.4 billion, an annual growth rate of 18.9 percent. These different growth rates have resulted in a book value of FDIUS for 1990 that is 87 percent of the current cost value and 76 percent of the market value.

By themselves, these levels of FDIUS are not especially revealing. One way to provide perspective is to examine the counterpart of FDIUS, the levels of FDI held by U.S. firms. Not only is the United States the leading host country in the world for FDI, it is also the leading source country. Despite the rapid growth of FDIUS, FDI held by U.S. firms as of 1990 exceeds FDIUS, irrespective of the method of measurement. For example, FDI held by U.S. firms in 1990 was \$421.5 billion using the book value, \$598.1 billion using current cost value and

\$714.1 billion using the market value. Thus, FDI held by U.S. firms exceeded FDIUS by \$17.8 billion, \$132.2 billion or \$183.7 billion, respectively.

A second way to provide perspective is to calculate the ratio of FDIUS to the total net worth of U.S. non-financial corporations (using the book value of each). Between 1977 and 1990, according to Graham and Krugman (1991), this ratio increased from 2.1 percent to 10.5 percent. This suggests "foreign control" of about 10 percent of the U.S. economy.⁵

Another way to assess the extent of foreign control is to examine the share of U.S. workers employed by foreign-owned firms. Between 1977 and 1988, employment at non-bank foreign-affiliated firms rose from 1.7 percent to 4.3 percent of all U.S. non-bank employment.⁶ When one focuses only on the manufacturing sector, the share rises from 3.5 percent to 8.9 percent.

No matter which measure is used, foreign ownership and control have increased substantially in recent years.⁷ The level of foreign control, however, is not as high as it is in most other developed countries. For example, according to Julius and Thomsen (1988), the share of foreign-owned firms' manufacturing employment in 1986 was 7 percent in the United States, 21 percent in France, 13 percent in Germany, 14 percent in the United Kingdom and 1 percent in Japan. Except for Japan, the rapid increase in FDIUS has made the level of foreign control in the United States closer to that of other developed countries.

The How of FDIUS

FDIUS occurs in either of two ways. One way, termed "greenfield" investment, involves the construction of new production facilities in the United States—either brand new subsidiaries or expansions of existing subsidiaries. The other method of FDIUS is the acquisition of existing U.S. firms. Despite some greenfield investments

⁵There are problems with such an assessment. First, both the numerator and the denominator are measured according to book value. A better measure would use market values. Since the market value of FDIUS exceeds the book value, the numerator would clearly increase. To determine how the ratio would change, the market value of U.S. non-financial corporations is required. This might produce a reduction in the ratio. Another problem is that this ratio does not measure the extent to which these claims are leveraged through less than 100 percent ownership and borrowing from unrelated parties into control over a larger amount of assets. For example, a foreign investor

with 80 percent ownership of a company with \$100 million in assets controls \$80 million in assets, but the measure of FDIUS indicates control of only \$80 million (80 percent of \$100 million).

⁶For 1977, see Graham and Krugman (1991), page 12 and, for 1988, see *Survey of Current Business*, July 1991, page 77.

⁷Figures for 1990 and 1991 reveal a slowdown of FDIUS. It is premature to say whether the smaller flows are temporary or more long-lasting.

Table 1

Sources of Growth in Foreign Control of U.S. Firms (billions of dollars)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990 ¹
Investment in:											
Acquisitions	\$9.0	\$18.2	\$6.6	\$4.8	\$11.8	\$20.1	\$31.5	\$33.9	\$64.9	\$59.7	\$56.8
Establishments	3.2	5.1	4.3	3.2	3.4	3.0	7.7	6.4	7.8	11.5	7.7

¹Figures are preliminary.

SOURCE: BEA, "U.S. Businesses Acquired or Established by Foreign Direct Investors in 1990," *Survey of Current Business*, May 1990, supplementary tables 5 and 11; see various issues of the *Survey of Current Business* for prior years.

that have generated much publicity, such as the opening of Japanese-owned automobile plants, FDIUS has occurred primarily by way of acquisitions. Table 1 shows the relative dominance of acquisitions from 1980 to 1990. For example, the \$56.8 billion outlay in 1990 by foreign firms to acquire existing firms was more than seven times larger than the \$7.7 billion outlay to establish new subsidiaries.

The Who and Where of FDIUS

FDIUS occurs in various industries and involves numerous, primarily developed, foreign countries. As figure 2 shows, the United Kingdom, whose share of FDIUS was 26.8 percent in 1990, is the leading source country. The other leading investors and their shares in 1990 are: Japan—20.7 percent; the Netherlands—15.9 percent; Germany—6.9 percent; and Canada—6.9 percent. Despite having a smaller share than the British, Japanese FDIUS has generated much more publicity than British FDIUS. Part of the reason for this attention is due to the industries in which the Japanese are involved, of which more is said later, and part is due to the rapid rise of Japanese FDIUS in the 1980s. Between 1980 and 1990, Japanese FDIUS increased at an annual rate of 33.3 percent, boosting the Japanese share from 5.7 percent to 20.7 percent.

Table 2 shows that the largest share of FDIUS remains in manufacturing. Between 1980 and 1990, investment in this sector increased nearly fivefold. Since total FDIUS increased similarly, the manufacturing share of FDIUS was slightly less than 40 percent in both 1980 and 1990. The United Kingdom is the leading foreign investor in manufacturing by a wide margin. In 1990, its share was 33.1 percent, more than double the Netherlands' 15.3 percent. The other

leading investors are: Germany—9.5 percent; Japan—9.5 percent; and Canada—5.8 percent. The largest portion (26 percent) of manufacturing FDIUS in 1990 was in chemicals, followed by machinery (18.5 percent), food processing (14.3 percent) and primary and fabricated metals (11 percent).

The wholesale and retail trade sector has the second-largest share of FDIUS. Its share was 15.4 percent in 1990, down from 18.3 percent in 1980. These shares, however, are likely overstated because of the method used to allocate industry statistics: wholesale trade in automobiles includes some manufacturing of automobiles. As automobile production by Japanese-owned affiliates increases, sales of automobiles manufactured in the United States will rise relative to the sales of automobiles imported from Japan for resale. As this occurs, more affiliates will be reclassified from wholesale trade into manufacturing, causing reported FDIUS in transportation equipment manufacturing to rise and FDIUS in wholesale trade to fall.

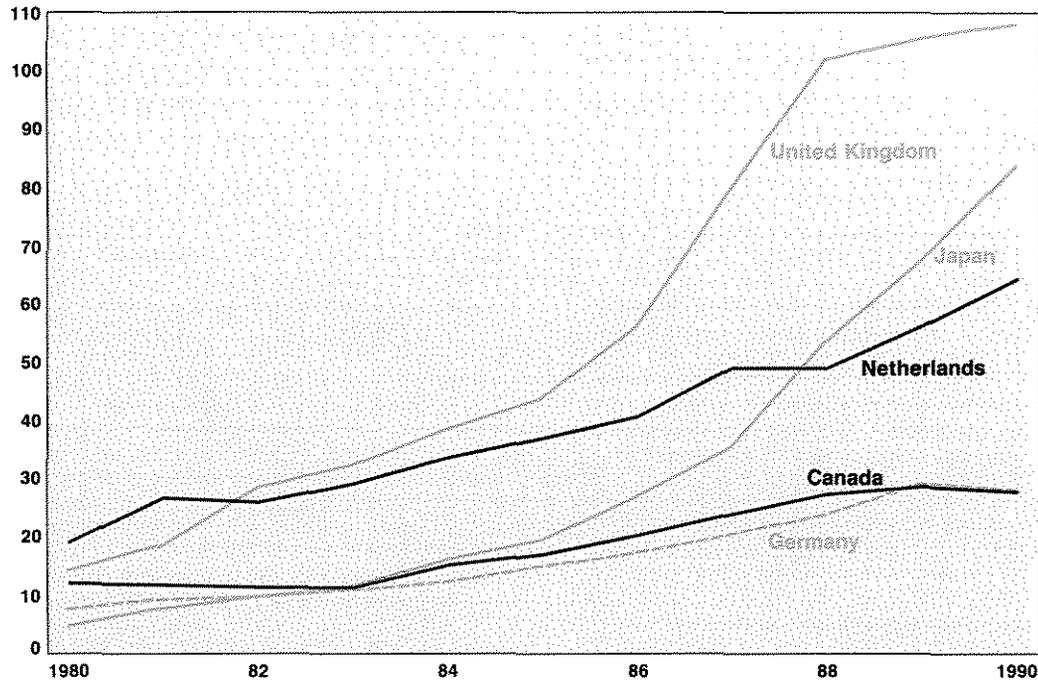
Finance and insurance accounted for 9.7 percent of FDIUS in 1990, up from 8.9 percent in 1980. Countries with major financial markets—Japan, the Netherlands, Switzerland, Canada and the United Kingdom—account for the majority of this investment.

The share of FDIUS in petroleum, the fourth-leading industry, declined from 14.7 percent in 1980 to 9.4 percent in 1990. According to Rutter (1991), there were fewer acquisitions in petroleum than in most other industries during the decade. In fact, both foreign and domestic investment in the petroleum industry grew relatively slowly during the 1980s.

The remaining industries, real estate and banking, are probably the most controversial.

Figure 2
Foreign Direct Investment in the U.S. by Major Source Country

Billions \$



The share of FDIUS in real estate increased from 7.3 percent in 1980 to 8.6 percent in 1990. The \$34.6 billion of real estate FDIUS reflects the investment of foreign parents in U.S. affiliates whose major activity is real estate. Large amounts of U.S. real estate are also held by affiliates classified in other industries. Thus, the actual level of real estate FDIUS exceeds \$34.6 billion. In addition, the value of assets actually controlled by foreign owners is likely much greater because of the high debt leverage in this industry (foreign investors are able to control real estate valued far greater than their own equity by borrowing from unrelated parties).

Some of the controversy surrounding this investment is because foreign ownership of real estate tends to be concentrated in a few loca-

tions, such as Hawaii, downtown Los Angeles and Houston and a few other urban areas. Some foreign ownership may also go unreported; however, Graham and Krugman (1991) conclude its importance is likely to be small. A final cause of controversy is the large share of Japanese ownership.⁸

The Japanese also play a prominent role in the FDIUS that has occurred in banking. Between 1980 and 1990, the share of FDIUS in banking declined from 5.5 percent to 4.7 percent; however, foreign ownership in the U.S. banking industry is large and has been increasing. In 1980, 11.9 percent of the total assets of all U.S. banks were held by financial affiliates of foreign banks and holding companies. By 1990, this figure had risen to 21.2 percent, more than half of which is held by Japanese-owned banks.⁹

⁸The U.S.-Japanese controversy encompasses much more than Japanese ownership of real estate in the United States. For an examination of one of the key sources of controversy, the U.S. bilateral trade deficit with Japan, see Butler (1991).

⁹For a more complete discussion of FDIUS in banking, see Lund (1991).

Table 2

Foreign Direct Investment in the United States by Industry (dollar amounts in billions)

Industry	1980		1990	
	Level	Share	Level	Share
Manufacturing	\$33.0	39.8%	\$160.0	39.6%
Wholesale and Retail				
Trade	15.2	18.3	62.0	15.4
Finance and Insurance	7.4	8.9	39.3	9.7
Petroleum	12.2	14.7	38.0	9.4
Real Estate	6.1	7.3	34.6	8.6
Banking	4.6	5.5	19.1	4.7
Other Industries	4.5	5.4	50.7	12.6
Total	\$83.0	100.0	\$403.7	100.0

SOURCES: Data for 1980 from BEA, "Foreign Direct Investment in the United States in 1983," *Survey of Current Business* 64, no. 10 (October) 1984, table 12; data for 1990 from BEA, "The International Investment Position of the United States in 1990," *Survey of Current Business* 71, no. 6 (June) 1991, table 7.

THE WHY OF FDIUS

Much research has been devoted to developing theoretical explanations of FDI. The importance of specific factors that might explain FDIUS has also been examined thoroughly. Rather than provide an in-depth review of this voluminous literature, let's examine the primary explanation of FDI, which is based on the "industrial-organization" approach, and the commonly identified determinants of FDI. It is important to stress that this explanation is most useful in discussing FDI in manufacturing.

FDI Theory: The Industrial-Organization Approach

Standard FDI theories rely on "firm-specific advantages" to explain why it occurs.¹⁰ The foreign investor must have some advantage over local firms to compensate for the fact that the

multinational corporation (MNC) incurs additional costs because of 1) cultural, legal, institutional and linguistic differences; 2) a lack of knowledge about local market conditions; and 3) lengthier lines of communication and, therefore, an increase in communication failures.

A foreign investor's advantages can take many forms. Technology is the primary advantage; access to large amounts of capital, superior management and products differentiated by successful advertising are also important.

A foreign company's advantages are exploited by FDI only if, given its information and expectations about prices, costs and legal environment, it can earn higher profits. Any technological advantage, defined broadly as economically valuable knowledge, can be exploited by exports to a country instead of foreign production and sales in that same country. Thus, the firm selects FDI over exporting only if the former is more profitable. FDI and exporting, however, are not the only alternatives. A firm with a technological advantage may license a firm in another country to produce a good using its technology.¹¹ Once again, the firm with the technological advantage will choose the route with the highest anticipated profits.

Firm-specific advantages have led scholars to develop theories of FDI in which the MNC has some unique market power.¹² Two variants of the so-called industrial-organization approach, one most closely associated with Hymer (1976) and the other with Magee (1977), demonstrate this approach.

In Hymer's view, because a foreign direct investor is one of a small number of producers of a specific good, the firm can affect the price of the good by altering its production. By decreasing its production, the firm can force the market price higher and vice versa. The MNC, according to Hymer, uses FDI strategically to limit competition and protect its market power. Thus, the MNC engages in FDI to beat its competitors into a particular foreign market.

¹⁰An alternative theory explains FDI by requiring that foreign firms have access to capital at a lower cost than domestic firms. As Graham and Krugman (1991) point out, this approach is subject to serious criticisms. First, foreign investors with relatively lower capital costs can achieve higher returns by portfolio investments as well as by FDI. Therefore, this approach does not differentiate among various types of investment. In addition, the facts that, first, FDI is frequently financed by funds provided by the host country and, second, FDI among developed countries, which is the

majority of worldwide FDI, often occurs in both directions, raise doubts about the cost of capital explanation.

¹¹For an elementary discussion of the choice among FDI, exporting and licensing by firms in the beer brewing industry, see Karrenbrock (1990).

¹²See Cantwell (1991) and Graham and Krugman (1991), appendix B, for summaries of industrial-organization explanations of FDI.

Some concerns have been raised about FDI in this context because of fears that the foreign investor, as part of the firm's commitment to investment, will extract promises from the host government to limit imports from other competitors or prevent FDI by other competitors. If this were to happen, there would be little competition in the host country for the foreign investor. Consumers would ultimately pay higher prices than they would in the absence of trade or investment restrictions.

In Magee's view, which is known as the appropriability theory, the firm-specific advantages that stimulate FDI do not reduce competition in product markets. Even though firm-specific advantages allow the MNC to generate profits, they do not imply that the firm will necessarily have market power in product markets. Rather, FDI allows the benefits of technology to spread.

FDI is necessary for the firm to "appropriate" the potential gains from its technology. Generally speaking, the reasons to favor FDI over the explicit sale of the advantage to outsiders revolve around the difficulties involved in market transactions. In some cases, the technology involved in an activity, such as running a factory, is spread among members of a group. Since the knowledge is not easily summarized or communicated, it is hard to package and sell. Such a market transfer is complicated further because it is difficult for a potential buyer to decide how much the knowledge is worth. If the buyer had sufficient information to value the knowledge, he would likely know as much as the seller and, thus, have no reason to buy the "technology."

The appropriability theory, therefore, stresses the importance of the transfer of technology from one country to another within an MNC. Restrictions on FDI limit the transfer of the firm-specific advantages of MNCs. Since these advantages contribute to rising productivity and incomes, restrictions on FDI flows into a country can harm that country's economic performance.

Empirical Evidence on FDIUS

The rapid rise of FDIUS since the late 1970s has prompted much research that attempts to isolate specific factors that explain it. Since FDI theory stresses the importance of technological differences, the role of technology in the rapid growth of FDIUS is examined first. The effects of exchange rate changes, taxation, protectionist

Table 3

Royalties and License Fees (millions of dollars)

	Receipts of U.S. affiliates from foreign parents	Payments by U.S. affiliates to foreign parents
1982	\$ 69	\$ 398
1983	60	465
1984	68	665
1985	102	568
1986	171	773
1987	240	1083
1988	238	1205
1989	343	1662
1990	333	1954
Compounded annual growth rate	21.7%	22.0%

SOURCE: BEA, "Foreign Direct Investment in the United States: Detail for Position and Balance of Payments Flows," *Survey of Current Business*, various issues.

pressures and the business cycle on FDIUS are then explored.

Technology and FDIUS

The preceding views of FDI stress the importance of the transfer of technology from a parent to its foreign affiliate. MNCs, however, can also transfer technology from the affiliate to the parent. Rapid increases in foreign direct investment in the United States during the 1980s have worried some observers that foreign firms are investing primarily to acquire U.S. technology, which could harm the competitive position of U.S. firms.

One way to assess international transfers of technology involving U.S. affiliates of foreign-based MNCs is to compare receipts of royalties and license fees *from* their foreign parents with payments of such fees *to* their foreign parents. Receipts measure the value of technology transferred from foreign-owned companies in the United States to their parents, while payments measure purchases of technology from their parents. According to table 3, both measures have increased at annual rates of more than 20 percent since 1982. Payments by U.S. affiliates, however, far exceed receipts in each year and were nearly six times the value of receipts in

1990. Thus, technology transfers are occurring to a far greater extent from foreign-based MNCs to their American affiliates than the reverse.

While the preceding evidence is consistent with FDI theory, it still does not explain why FDIUS has risen faster than FDI by U.S. firms. Once again, the role of technology in FDI theory provides insights. One explanation revolves around the shrinking and, in some cases, reversal of U.S. technological superiority. Generally speaking, from the end of World War II until 1970, U.S.-based firms had substantial advantages over foreign-based firms in technology and management skills. These advantages caused FDI abroad by U.S.-based firms to exceed FDIUS. Over the last 20 years, however, foreign-based firms have developed such advantages of their own to a far greater extent than they had previously; these advantages have provided a stimulus to FDIUS.¹³ Thus, the increasing role of foreign firms in U.S. production can be related to changing patterns of the development of new technology and management innovations throughout the world.¹⁴

Exchange Rate Changes and FDIUS

While a pre-eminent role in explaining FDIUS can be ascribed to technology, other factors can affect FDIUS. One common argument is that a "weak" foreign exchange value of the dollar encourages FDIUS. In many discussions, a weak dollar is not defined formally, but is used informally as a value lower than its value at some previous point. The lower value of the dollar has two effects that could stimulate FDIUS. First, it deters exports to the United States as U.S. consumers are faced with higher prices. Therefore, foreign firms might find it more attractive to locate production in the United States rather than export a smaller quantity. Second, the lower value of the dollar makes U.S. productive assets cheaper for foreign firms than they were previously.

While a weak dollar makes production in the United States more attractive, all other things the same, it is crucial to emphasize that FDIUS depends on whether the U.S. productive assets are worth more to a foreign-based firm than to a U.S.-based firm. A declining dollar raises the expected returns to both a U.S. owner and a foreign owner. How might the expected returns rise more for the latter than the former?

One argument focuses on the changing composition of production in the United States. As the dollar declines, U.S. competitiveness shifts from non-traded sectors, such as services and retail trade, to traded sectors, such as manufacturing. Since FDI is more substantial in traded than non-traded sectors, production in the United States shifts from areas in which foreign-owned companies have little involvement to areas in which they have much more involvement.¹⁵

It is unclear exactly what impact changes in the foreign exchange value of the dollar have on FDIUS.¹⁶ What is clear is that the long-run upward trend in FDIUS beginning in the late 1970s took place during a strengthening as well as a weakening of the dollar. Thus, the evidence suggests that changes in the value of the dollar are, at most, a factor that has had slight effects.

Tax Rate Changes and FDIUS

Changes in tax policy have also been viewed as a potential determinant of FDIUS. Two major changes in U.S. tax policy in 1981 and 1986 may have contributed to the timing of changes in the rate of FDIUS. To assess the impact U.S. tax changes on FDIUS, such changes must be viewed in conjunction with the tax systems of the source countries.

Generally speaking, two types of tax systems can be identified in the leading source countries for FDIUS. Countries with "territorial" corporate taxation, like the Netherlands and Canada, do

¹³Kudrle (1991) notes that four recent books on FDIUS agree that the share of advantages held by firms based outside the United States has grown substantially relative to U.S.-based firms in recent years. See Chandler (1986) for a history of MNCs and global competition.

¹⁴Ray (1991) provides evidence that superior management underlies many acquisitions, while technological advantages of new physical capital and of relatively large operating plants have stimulated greenfield investments.

¹⁵A related argument by Froot and Stein (1989) highlights the role of relative wealth effects. A declining dollar raises

the value of foreign firms compared with U.S. firms. If firms are limited in their borrowing capacity by their debt-equity ratios, the declining dollar raises the purchasing power of foreign firms. This may allow a foreign firm to outbid a U.S. firm in an attempt to acquire assets in the United States.

¹⁶Identifying the impact of exchange rate changes is complicated by the necessity of distinguishing between temporary and permanent changes. If an exchange rate change is viewed as temporary, a firm's choice between exporting and FDI is unlikely to be affected.

not attempt to tax the income earned by the subsidiaries of firms based in their countries. Countries with "worldwide" systems, like the United Kingdom and Japan, tax the earnings of subsidiaries while granting a tax credit for taxes paid to host-country governments. For example, under a worldwide system, subsidiaries of foreign firms pay corporate profit taxes similar to those paid by domestic firms. When they repatriate income to their parent, the income is subject to taxation at the home-country rate, with a credit for taxes paid to the U.S. government.

The differing tax systems provide different investment incentives for given U.S. tax changes. In the early 1980s, U.S. corporate taxes were reduced by accelerated depreciation allowances.¹⁷ By allowing firms to reduce their taxable incomes, these cuts were valuable to U.S.-owned corporations. The cuts should also have been valuable to foreign firms, though they were more valuable to those subject to territorial rather than worldwide taxation. Firms subject to worldwide taxation faced the offsetting effects of reduced tax credits.

Overall, the tax cuts provided relatively more benefits to U.S.-owned firms than foreign-owned firms and, thus, were biased against FDIUS. In addition, the bias against firms from the United Kingdom and Japan, countries with worldwide systems, was greater than against firms from the Netherlands and Canada, countries with territorial systems. These incentives were reduced in 1986 when tax legislation eliminated the special investment incentives.

Generally speaking, little empirical evidence suggests that tax rate changes have played a major role in FDIUS. The share of FDIUS from the Netherlands and Canada relative to Japan and the United Kingdom did not rise from 1981 to 1986 and fall thereafter. Slemrod (1990) also fails to find that tax changes affect FDIUS.

There is, however, some empirical evidence that changes in taxes matter. The preceding argument suggested that U.S. tax cuts deterred FDIUS, while tax increases encouraged FDIUS. Extending this argument across industries, FDIUS should be higher in industries subject to higher tax rates on capital. In fact, Swensen (1990) has found such a positive association; Klein and Rosengren (1991), on the other hand, found no such association. In addition, Auerbach and Hassett (1991) found no evidence that the 1986 tax changes have influenced FDIUS. Overall, the empirical evidence points, at most, to a very small role for tax policy in affecting FDIUS.

Trade Barriers and FDIUS

Another factor identified as a potential determinant of FDIUS is actual or potential protectionist measures. The basic idea is that a trade barrier, or the threat of imposing one, will induce FDIUS because the profitability of production in the United States by the foreign-owned firm would rise relative to exporting to the United States. Underlying such behavior, of course, is some advantage possessed by the foreign-owned firm.

The fact that trade barriers are frequently thought of as protecting U.S.-owned firms is ironic. In fact, such protection tends to increase foreign control in the U.S. economy. A domestic industry demanding protection is likely to be one in which foreign firms have special advantages. Trade barriers erected in that industry simply attract FDIUS, stimulating additional foreign-owned production.

Protectionism has played a role in FDIUS.¹⁸ The production of automobiles and color television sets are two examples.¹⁹ Nonetheless, protectionism is not likely to have become so large a factor that it can explain the rapid increase in FDIUS.

¹⁷A depreciation allowance reflects the reduction in the value of assets arising from their use in producing goods and services. For tax purposes, these allowances reduce net profit and, therefore, taxes. An acceleration of these allowances means that larger reductions in the values of assets are recognized earlier in their productive lives.

¹⁸See Ray (1991) for empirical evidence that the desire to circumvent trade restrictions has motivated FDIUS.

¹⁹See Graham and Krugman (1991) for brief case studies of production in the United States of both automobiles and color television sets. The authors state that by the mid-1970s Japanese producers of color television sets had

developed better designs and production systems than U.S. producers. As a result, Japanese producers were able to produce higher quality sets at lower prices than U.S. producers. U.S. producers sought and received protection from their foreign competitors in the form of a ceiling on the quantity of color television sets exported to the United States. To evade the export limitation, Japanese firms simply established production facilities in the United States and used their advantages to outperform their U.S. competitors. Thus, in this industry, the voluntary export restraint stimulated FDIUS.

The Business Cycle and FDIUS

A final factor affecting FDIUS is the business cycle. The business cycle characterizes the extent to which the level of economic activity in the United States and abroad changes over time. Julius (1991), in a study of inflows into France, Germany, Japan, the United Kingdom and the United States found that FDI rose faster than output during economic recoveries and fell faster during recessions.²⁰ Changes in economic activity, however, are not likely to affect the relative shares of foreign- vs. U.S.-controlled production substantially because the business cycle affects the profit expectations of foreign and domestic investors similarly.

THE EFFECTS OF FDIUS

The major controversies about the effects of FDIUS encompass economic as well as political issues.²¹ In addition, there are national security issues that involve economic and political considerations. This paper, however, examines the issues that are primarily economic.²²

Technology Transfer and Research and Development Effects

FDI facilitates the movement across national borders of goods, services and, most important, technology by reducing some transaction costs that inhibit trade. For example, reaching an agreement to transfer technology within a MNC is much easier (that is, less costly) than it is with two separate companies.

The benefits of the trade stimulated by the expansion of MNCs come from three sources. The first source is known as comparative advantage. Countries have different combinations of productive resources, and goods are produced with different combinations of these resources. Trade allows countries to benefit by producing goods that, relative to other countries, they can produce and sell cheaply and exchanging them for goods that can be produced and sold more cheaply abroad. The second

source of gains from trade requires increasing returns to scale. With trade, countries can produce a narrower range and larger quantities of goods than they could otherwise. Longer production runs may allow firms to achieve lower per unit production costs. Finally, trade reduces the power of firms to set prices (that is, increases competition) and allows consumers to enjoy larger quantities and lower prices.

Looking specifically at trade in technology, FDI allows a firm to appropriate (or capture) the benefits of its own research and development. When the foreign investor produces goods and services using its own technology, it is as if there were trade in the results of research and development. From the firm's point of view, its appropriation of benefits provides the incentive to engage in research and development in the first place. The data in table 3 illustrates the importance of trade in technology. Recall that, for 1990, the value of technology transferred from foreign parents to U.S. affiliates was nearly six times that transferred from U.S. affiliates to their foreign parents.

Proponents of FDI frequently stress the generation of what are termed "external benefits." Foreign firms may not be able to appropriate all of the gains from the technology they transfer. Instead, domestic firms can learn and imitate the transferred technology and management methods, and workers may take their acquired skills and use them in other jobs. Unfortunately, these external benefits are difficult to measure.

On the other hand, critics argue that FDIUS tends to reduce the spillover of external benefits, particularly those associated with engaging in research and development. Research and development involves many complex intellectual activities undertaken by highly skilled employees. Critics suggest that these activities tend to be located near the headquarters of the parent firm. Since the headquarters of foreign-owned firms are located outside the United States, some are concerned that research and development activities might be shifted out of the United States. For example, as more of the

²⁰Similarly, Ray (1991) found that FDIUS is associated with large and growing product markets in an expanding economy.

²¹Analyses of the impact of FDIUS on the U.S. economy have been hampered because of data problems. The Foreign Direct Investment and International Financial Data Improvements Act of 1990 authorizes different agencies of the U.S. government to exchange confidential information

to improve the quality of data, some of which is to be published during summer 1992. See Moczar (1991) for details.

²²See Graham and Krugman (1991) for an overview of both the political and national security issues associated with FDIUS. One concern is that foreign-owned firms might bias U.S. political decisions toward their interests. Choate (1990) argues that Japanese firms have an undue influence on U.S. public policy.

Table 4
Research and Development by U.S. Affiliates of Foreign Firms, 1988

	Affiliates	U.S. Firms	
		Total ¹	Company-funded
All industries			
R&D (millions of dollars)	\$7,834	\$97,889	\$65,583
R&D per worker (thousands of dollars)	2.04	1.07	0.72
Manufacturing			
R&D (millions of dollars)	6,903	89,776	60,223
R&D per worker (thousands of dollars)	3.78	4.64	3.11

¹Includes federally funded as well as company-funded expenditures.

SOURCES: Data for affiliates from BEA, "Foreign Direct Investment in the United States: Operations of U.S. Affiliates of Foreign Companies," revised 1988 estimates, tables H-1 and F-1; data for U.S. firms from National Science Foundation, *Science Indicators* (Washington: National Science Foundation, 1989).

U.S. chemical industry is controlled by foreign-owned firms, critics charge that larger shares of research and development in this industry will be shifted abroad.

One way to assess the importance of this "headquarters" effect is to compare research and development expenditures in the United States by all U.S. firms with those by U.S. affiliates of foreign firms. Table 4 contains summary information about research and development that runs counter to the headquarters effect argument. As the table shows, research and development expenditures per worker for all industries were nearly twice as large for affiliates of foreign firms (\$2,040) than for all U.S. firms (\$1,070). If one limits research and development expenditures to those that are company-funded, the difference becomes even larger.

These differences partially reflect the industrial composition of FDIUS, because most research and development occurs in manufacturing. U.S. manufacturing firms spend larger amounts per employee on research and development (\$4,640) than U.S. affiliates of foreign firms (\$3,780), a pattern that is reversed when only company-funded expenditures (\$3,110) are counted. All in

all, there is little evidence that a headquarters effect exists.

Employment and Wage Effects

Without question, the most controversy about FDIUS concerns employment. Advocates of FDIUS suggest that the rising number of U.S. employees in foreign-owned firms represents the creation of new jobs. Critics stress that FDIUS is a dynamic process, which may or may not create jobs. While critics concede that new plants and expansions of existing plants lead to the creation of new jobs, they reject the general presumption that acquisitions create new jobs. For acquisitions to create jobs, one would have to argue that, without the foreign purchase, the jobs in the acquired firm would have been eliminated and no other U.S. firm would have expanded following the closing of an acquired firm. Such an argument strains credibility. A more realistic view is that acquisitions have little effect on jobs and primarily reflect the transfer of jobs from U.S. to foreign owners.²³

Graham and Krugman (1991) argue that the focus on job creation reflects a fundamental misunderstanding of how the U.S. macroeconomy functions. The supply of labor is the key de-

²³Glickman and Woodward (1989) stress that the job creation effects of FDIUS have been "much less than meets the eye."

Table 5
Compensation per Worker in U.S. Firms and U.S. Affiliates of Foreign Firms, 1987 (thousands of dollars)

Industry	U.S. affiliates	All U.S. firms
All industries	\$29.8	\$24.2
Mining	43.8	39.7
Petroleum	41.8	56.7
Manufacturing	32.9	31.3
Food and kindred products	27.3	27.4
Chemicals and allied products	38.2	41.1
Primary and fabricated metals	36.1	33.1
Machinery	32.3	35.0
Other manufacturing	29.8	26.4
Wholesale trade	33.9	30.0
Retail trade	12.9	13.6
Finance, insurance and real estate ¹	51.2	31.5
Banking	n.a.	27.2
All other industries	29.3	23.9

n.a. = not available.

¹Excluding banking.

SOURCES: Data on U.S. affiliates from BEA, "Foreign Direct Investment in the United States: Operations of U.S. Affiliates of Foreign Companies," revised 1987 estimates, table F-1; data on all U.S. firms from "National Income and Product Accounts," *Survey of Current Business* 70, no. 7 (July) 1990, tables 6.4B and 6.6B.

terminant of employment in the long run. Aggregate demand for goods and services and, thus, the demand for labor, can vary in the short run, causing employment to change; however, in the long run, the economy will move toward its so-called natural rate of unemployment. This rate is unaffected by the degree of foreign ownership of firms in the United States. Thus, the net impact of FDIUS on U.S. employment is negligible.

More important than the number of jobs associated with FDIUS is the types of jobs.²⁴ This issue is frequently described as "good" jobs are being replaced by "bad" jobs. One argument is that foreign-based firms prefer to engage in high-wage activities at home, while engaging in low-wage activities in the United States. Some contrary evidence has already been presented. For example, there is no evidence that foreign-based firms perform research and development

in the United States, a high-wage activity, to a lesser degree than U.S. firms do.

Another way to examine job quality is to compare the wages of workers employed by foreign owners with those of U.S. owners. Table 5 indicates that compensation per worker in U.S. affiliates of foreign firms is comparable to that in U.S. firms. For all industries, pay by U.S. affiliates of foreign firms was \$29,800 in 1987, substantially more than the \$24,200 paid by U.S. firms. This difference, however, is primarily because the distribution of FDIUS tends to be more pronounced in higher-paying industries than U.S. investment generally.

Looking at specific industries, there is little difference in compensation per worker between the two sets of firms, except in petroleum and finance, insurance and real estate. For example, workers employed by U.S. affiliates of foreign firms in the primary and fabricated metals

²⁴Reich (1991) argues that a nation's standard of living is increasingly dependent on the value of the skills and insights that its workers contribute to the world economy. Since workers learn by doing, a foreign-owned firm that hires Americans to either solve or identify complex

problems helps the U.S. standard of living to a greater degree than a U.S.-owned firm that contracts with foreign workers to do the same. In such an environment, the key to well-being is to increase the skill levels of workers.

Table 6

Employment and Foreign Trade of U.S. Multinational Corporations and U.S. Affiliates of Foreign Firms, 1988

	U.S. multinationals		Affiliates of foreign firms	
	All industries	Manufacturing	All industries	Manufacturing
Employment (thousands of workers)	17,935.2	9,815.0	3,844.2	1,828.6
Exports (millions of dollars)	\$215,392	\$147,882	\$69,541	\$25,192
Imports (millions of dollars)	179,543	69,340	155,533	32,762
Exports per worker (thousands of dollars)	12.01	15.07	18.09	13.78
Imports per worker (thousands of dollars)	10.01	7.06	40.46	17.92

SOURCE: Graham and Krugman (1991), p. 68.

manufacturing sector averaged \$3,000 more in compensation than all U.S. workers in this sector. Meanwhile, in the chemicals and allied products manufacturing sector, the former averaged \$2,900 less than the latter. Thus, there is no evidence that FDIUS is causing good (high-paying) jobs to be replaced by bad (low-paying) jobs.

Trade Balance Effects

Another source of controversy concerns the export and import activity of foreign-owned firms in the United States. Critics charge that foreign-owned firms are major contributors to U.S. trade deficits. Table 6 provides data on which such charges are based.

Comparing parent companies of U.S.-based MNCs in manufacturing with U.S. affiliates of foreign firms in manufacturing, one finds that U.S. affiliates of foreign firms export less per worker (\$13,780 vs. \$15,070) and import more per worker (\$17,920 vs. \$7,060) than parent

companies of U.S.-based MNCs.²⁵ Caution is required in interpreting these numbers, however.²⁶ First, to infer that, on average, when a foreign firm acquires a firm in the United States, imports per worker will more than double, is inappropriate. There is no reason to expect the newly acquired firm to change its trading pattern substantially simply because of a change in owners.

Second, especially with greenfield investments, FDI in manufacturing frequently begins with assembly operations that require many imported inputs; however, over time, local sourcing grows. Japanese auto manufacturing in the United States provides an example of how local content has increased over time. For example, the General Accounting Office (1990) reported that the U.S. content of output by Japanese-owned U.S. automobile affiliates increased from 38 percent in 1988 to 50 percent in 1989.

Closely related is the fact that FDIUS might be displacing imports. In other words, the produc-

²⁵Graham and Krugman (1991) argue that using all industries rather than manufacturing only overstates the differences between U.S.-based MNCs and U.S. affiliates of foreign companies. These numbers, which show that U.S. affiliates of foreign firms both export and import more per worker (\$18,090 vs. \$12,010 and \$40,460 vs. \$10,010, respectively), are misleading because some foreign-owned firms are primarily trading branches. For example, the trading operations of Japanese automobile firms are foreign-owned and, as a result, have a large effect on the import numbers.

²⁶The accuracy of imports per worker by U.S. affiliates of foreign firms is important for assessing the profitability of FDIUS. Lawrence (1990) and others have noted that FDIUS has not been especially profitable. For example, the ratio of income to equity for FDIUS in manufacturing in 1987 was 5.9 percent, less than half the 12.8 percent return in U.S.

manufacturing. One explanation is that foreign-owned companies under-report their U.S. earnings by overstating the cost of imports purchased from their parents. If undertaken, this practice, termed transfer pricing, shifts profits and tax revenue from the United States to foreign countries. An alternative explanation, supported empirically in a study released by the Organization for International Investment (1992), stresses the rapid growth of FDIUS relative to investment by other corporations. The rapid growth of FDIUS has caused foreign-owned companies to incur substantial start-up costs and large expenses for interest and depreciation, causing their net income and pre-tax rates of return to fall below that of corporations in general.

tion associated with FDIUS could reduce imports. For example, prior to Japanese automobile production in the United States, purchases of Japanese automobiles were entirely imports. Now, even though the typical Japanese automobile produced in the United States might have less U.S. content than the typical U.S. automobile produced in the United States, the fact that some portion of the Japanese automobile is produced in the United States means less imports than previously.

Finally, it is important to note that the trading behavior of foreign-owned firms, like trading behavior in general, is beneficial. The technology being transferred from foreign firms to their U.S. affiliates, which the affiliate is importing, makes the affiliate more productive and, thus, more competitive. Similar statements can be made about other imported inputs. To the extent that trade allows the U.S. affiliate to make better use of its resources, the U.S. economy gains.

CONCLUSION

No matter how it is measured, foreign direct investment in the United States has increased substantially since the late 1970s, primarily via acquisitions. The current level of foreign ownership, however, is not high relative to that in most other developed countries. In addition, the foreign direct investment of U.S. firms still exceeds FDIUS.

Overall, the rise in FDIUS can be viewed as the result of technological developments abroad that are being transferred to the United States. Other factors have also affected FDIUS. There is general agreement, for example, that the business cycle affects FDIUS and that, in some industries, the threat of protectionism or protectionism itself has influenced the investment decisions of foreign firms. Foreign exchange and tax rate changes have had, at most, slight effects.

The transfers of technology are a positive development in that they reflect the expectation that production in the United States will be profitable. For the United States as a whole, this transfer of technology allows resources to be more productive, not only in the industry directly affected by the FDI, but also possibly in other industries because of external benefits.

Critics have raised numerous concerns about whether foreign-owned firms in the United

States behave differently than U.S. firms and whether this behavior might be detrimental to U.S. interests. These concerns do not stand up to empirical scrutiny. For instance, more technology is being transferred into the United States than out of the United States. The research and development activity of foreign-owned firms is similar to that of U.S. firms. Compensation in foreign-owned firms is similar to U.S. firms, suggesting that foreign ownership is not replacing good jobs with bad ones. Finally, while foreign-owned firms tend to import more than they export, it is far from certain that this is detrimental to U.S. interests.

Overall, foreign-owned companies are a positive factor in making the U.S. economy more competitive and productive. Advocates of public policies to deter foreign ownership should be viewed with skepticism.

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