Making Sense of the Profits of Foreign Firms in the United States

David S. Laster and Robert N. McCauley

The scant profit of foreign firms operating in the United States has emerged as one of the biggest puzzles in international finance That 4.7 million workers using $1 8 trillion in assets to generate sales of $1.2 trillion could fail to turn a profit strikes many as unbelievable. Could foreign companies have paid $316 billion in the past decade for firms earning $10.7 billion in the year before acquisition only to lose money overall on their holdings in 1992—a year in which U S.-owned firms earned record profits?[1]

Although foreign firms have earned lower U.S. profits than their domestic counterparts since World War II, the gap has widened substantially in the last two decades. In manufacturing, the gap in return on equity averaged 3.4 percent in 1951-75, then doubled to 6.8 percent in 1976-80, and reached 8 8 percent in 1981-91 (Chart 1, top panel) Returns worsened in petroleum, wholesale and retail trade, and finance and insurance as well (Chart 1, middle panel). Realized returns also deteriorated in real estate, and mark-to-market losses wiped out much of the foreign stake in this

industry (Appendix I).

The pretax income reported by foreign firms has remained low, dropping to $4 billion in 1990, according to the most recently published Internal Revenue Service data (Chart 1, bottom panel). Had foreign firms earned the same return on sales as U S firms, they would have made an additional $32 1 billion in profits. Some claim that such additional profits would yield the U S Treasury substantially larger tax revenues each year (U.S Congress, House Committee on Ways and Means 1990, pp 186, 250, 288, 300).
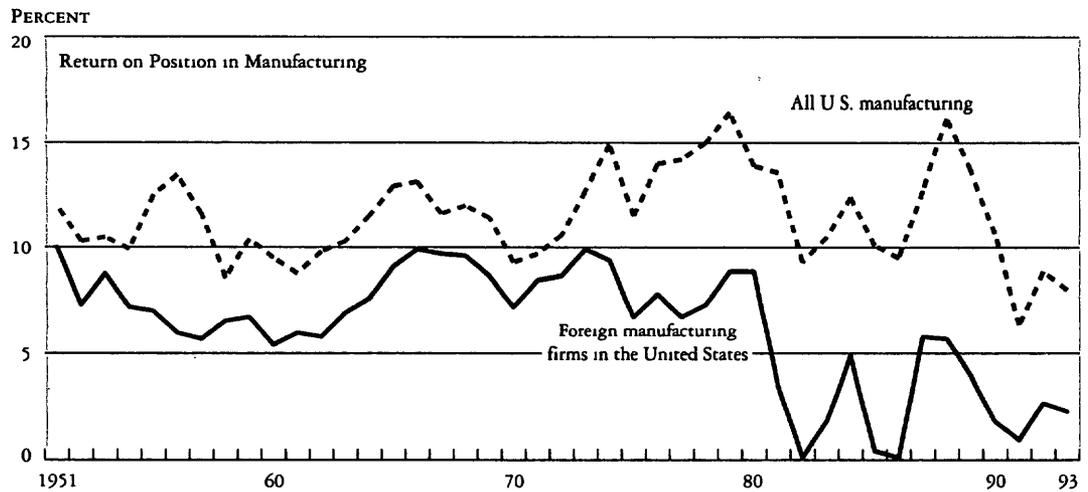
This article attributes the depressed earnings of foreign firms to the firms' rapid buildup of U.S. operations in the late 1970s and the 1980s These companies paid top dollar for underperforming U S. firms, borrowed heavily, and then spent freely on investment and marketing As the share of recently acquired foreign firms in the United States rose in the 1980s, aggregate returns deteriorated

The article also investigates two other explanations often advanced for the low returns of foreign firms: 1) a weak dollar has depressed the firms' profits, and 2) foreign firms are
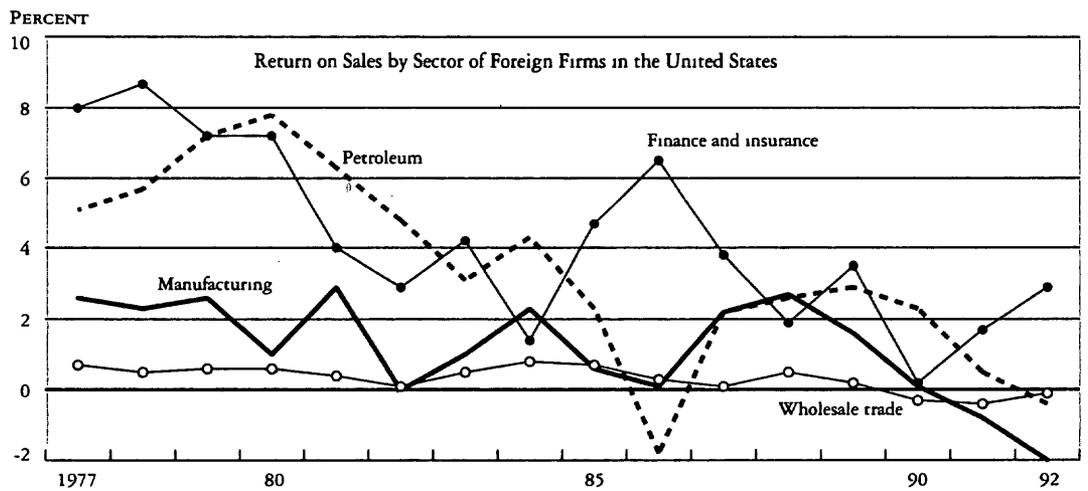
- *Chart 1*

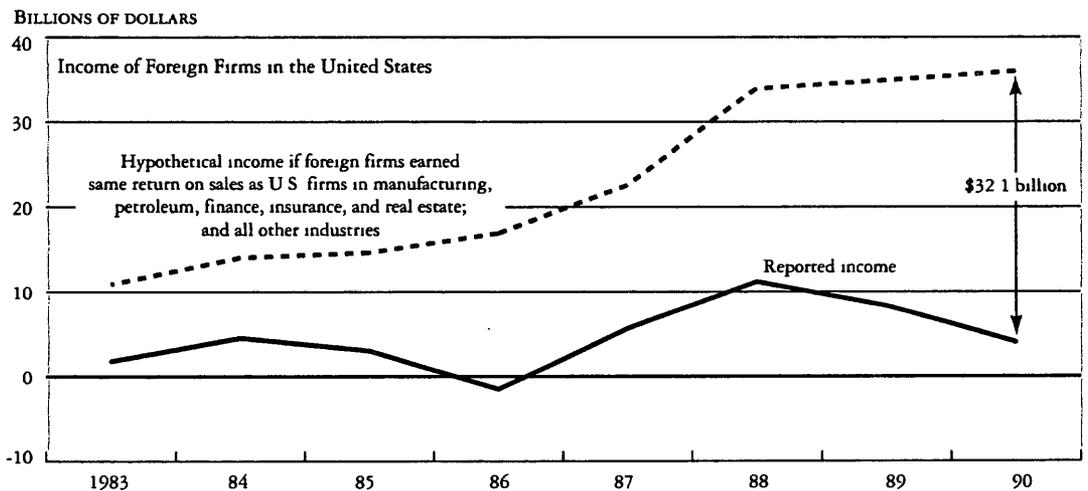PROFITABILITY OF FOREIGN FIRMS IN THE UNITED STATES

PERCENT

The longstanding gap
between the returns
of foreign-owned
manufacturing firms in
the United States and
U S manufacturing firms
widened in the late 1970s
and again in the 1980s.

Return on Position in Manufacturing

All U S. manufacturing

Foreign manufacturing
firms in the United States

1951　　60　　70　　80　　90　93

PERCENT

Foreign firms' returns
in other sectors deteriorated
in the 1980s as well.

Return on Sales by Sector of Foreign Firms in the United States

Petroleum

Finance and insurance

Manufacturing

Wholesale trade

1977　　80　　85　　90　92

BILLIONS OF DOLLARS

As a result, the taxable
income of foreign firms
remained low

Income of Foreign Firms in the United States

Hypothetical income if foreign firms earned
same return on sales as U S firms in manufacturing,
petroleum, finance, insurance, and real estate;
and all other industries

$32 1 billion

Reported income

1983　　84　　85　　86　　87　　88　　89　　90

Sources U S Department of Commerce, Bureau of the Census and Bureau of Economic Analysis, balance of payments data (top panel)
and operations data (middle panel), Internal Revenue Service (bottom panel)

Notes In the top panel, petroleum products are included in U S manufacturing but excluded from foreign manufacturing, before
1974, U S manufacturing included affiliates abroad Top panel plots both post-tax profit and interest earned by foreign firms as a
percentage of their equity and debt claims on affiliates Position is average of beginning-of-year and end-of-year data on a historic-cost
basis, position so measured was only 14 percent lower than the position on a current-cost basis in 1993 Middle panel plots only
post-tax profit as a percentage of sales Bottom panel plots pretax profits

understating their earnings to avoid paying U.S taxes. We find no clear evidence for the first claim and some support for the second. Firms with the most incentive and opportunity to shift profits out of the country report lower profits than other firms. Nevertheless, the rapid rate at which foreign firms divest their U S subsidiaries suggests that many investments really have performed poorly.

The last section of the article considers the implications of our findings Just as the rush of foreign acquisitions in the 1980s depressed returns, so the subdued pace of such acquisitions in the 1990s points to higher returns in the near future Improved profits of foreign firms should narrow the internal or fiscal deficit but widen the external, current account deficit

ACQUISITIONS: CAUSES AND CONSEQUENCES

The U S Commerce Department defines foreign direct investment as a U S company or partnership in which a foreign entity holds a voting share of more than 10 percent. The term "foreign direct investment" may conjure up images of construction workers building car factories in the Midwest. Yet such "greenfield" entry represents a small share of the increase in foreign holdings of U.S corporate assets: for every dollar foreign investors spend to establish a new business, they spend five dollars to acquire existing ones.[2]

CAUSES OF FOREIGN ACQUISITION ACTIVITY IN THE 1980s

Before examining how strong acquisition activity drove down the aggregate returns of foreign companies in the United States, let us consider the reasons for growth in acquisitions (Chart 2). As mergers and acquisitions accelerated in the United States in the mid- to late 1980s, foreign firms won more and more bidding contests After a wave of activity in 1978-81 that carried the foreign share of U.S. acquisitions outlays to a fifth or a quarter of total U S mergers, foreign acquisitions subsided only to surge to a third of total activity in 1987-90 (Merrill Lynch Business Services 1992, pp. 7, 50).

Foreign firms' cost of equity advantage (McCauley and Zimmer 1994, 1989) permitted them to outbid domestic firms for corporations "in play" in the U.S mergers and acquisitions market. Because foreign firms generally denominate their U.S. affiliates' debt in dollars, any cheap foreign currency debt confers little advantage. The cost of foreign equity matters far more. When the stock exchange in Tokyo or London places a higher value on a given stream of earnings than does the New York Stock Exchange, a Japanese or British firm can outbid a U.S firm and still satisfy its shareholders. In the late 1970s, foreign companies took advantage of low U.S equity prices in the first postwar wave of foreign acquisitions. The more sizable surge of foreign acquisitions in the 1980s drew strength from the high valuations in foreign equity markets, especially the Japanese market

Regression analysis of acquisitions by companies from the seven major source countries of foreign direct investment shows the importance of both foreign and U.S. equity prices in the timing of purchases over the 1980-92 period. We set out to relate the variation over time in acquisition activity (measured against home-country GDP) to equity prices, real interest rates, overall economic growth, the exchange rate, unit labor costs, and other plausible variables

Chart 2

OUTLAYS BY FOREIGN INVESTORS FOR THE ACQUISITION· OF U.S. BUSINESSES
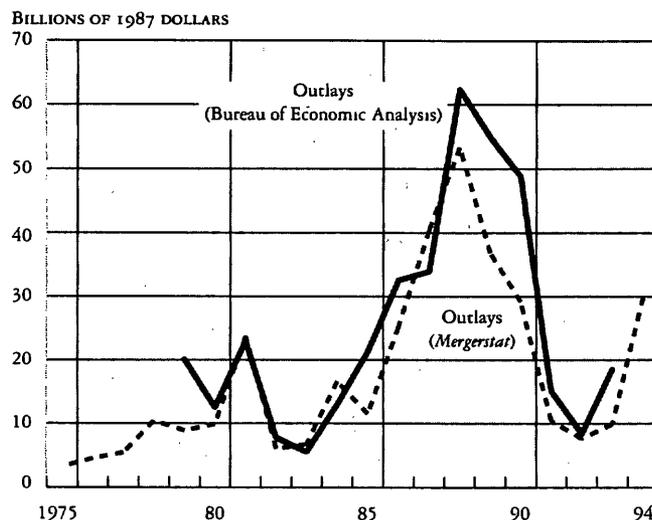
BILLIONS OF 1987 DOLLARS

Sources U S Department of Commerce, Bureau of Economic Analysis, Merrill Lynch Business Brokerage and Valuation, *Mergerstat Review*

Notes Reported dollar amounts were converted from current to 1987 dollars using the GDP implicit price deflator The 1994 datum is through June, annualized

(Table 1). Equity prices exert a substantial influence: a 10 percent rise in foreign prices relative to U.S prices raises foreign acquisitions by 18 to 32 percent.[3]

CONSEQUENCES OF ACQUISITIONS

The wave of foreign acquisitions in the 1980s raised the *share* of foreign-owned assets that were recently acquired. This share can be measured as the ratio of outlays by foreigners in acquiring and establishing U.S. firms to the total foreign ownership stake in U.S.-based firms (Chart 3).[4] By 1990 about half of foreign holdings in the United States had come into foreign hands by acquisition in the previous five years. Another 10 percent of foreign holdings had been newly established in that same period.

The preponderance of new acquisitions helps to explain the weak aggregate profitability of foreign firms because recently acquired firms tend to have low returns. We review several factors that depress the profits of recent acqui-

sitions: poor selection, high acquisition prices, heavy debt, and a rise in post-acquisition operating expenses. Profitability improves only slowly over time as investment and consolidation expenditures pay off, as new managers learn through experience, and as foreign parents sell off unsuccessful acquisitions.

The profitability of new acquisitions traces a J curve (Chart 4), dropping after acquisition and then recovering over time [5] Consider the factors behind this profile.

POOR SELECTION. Foreign firms buying U.S firms do not get the pick of the litter (Chart 5). In the 1980s, foreign multinationals bought U.S manufacturers that were only a quarter as profitable as a broad U.S. norm (Landefeld, Lawson, and Weinberg 1992, p. 83).

Table 1
REGRESSION ANALYSIS OF FOREIGN ACQUISITIONS IN THE UNITED STATES, 1980–92

Dependent variable   Acquisition outlays in the United States as a fraction of source-country GDP for the United Kingdom, Japan, Canada, Germany, France, the Netherlands, and Switzerland

Independent Variable	Coefficient	Standard Error
Real foreign equity price	1 82***	0 42
Real U S equity price	−3 21**	1 42
Foreign currency per dollar	−0 12***	0 04
Foreign unit labor costs relative to U S	0 74	0 60
Real foreign GDP growth	0 08	0 05
Real foreign GDP growth, lagged	0 08*	0 05
Real U S GDP growth	0 08*	0 04
Real U S GDP growth, lagged	0 07*	0 04
Real foreign bond yield	0 01	0 04
Real U S bond yield	−0 20**	0 09
Exchange rate volatility	−0 17	2 20
Time trend	0 05	0 10

N = 91
Adjusted R² = 0 55

Sources U S Department of Commerce, Bureau of Economic Analysis, national sources
Notes Observations are weighted by 1992 position Dependent variables are de-meaned by country All variables are expressed in logarithmic form except for GDP growth rates, bond yields, and the time trend Estimated intercept is not reported Real equity price is stock index deflated by GDP deflator Real bond yield is nominal bond yield less contemporaneous inflation as measured by GDP deflator
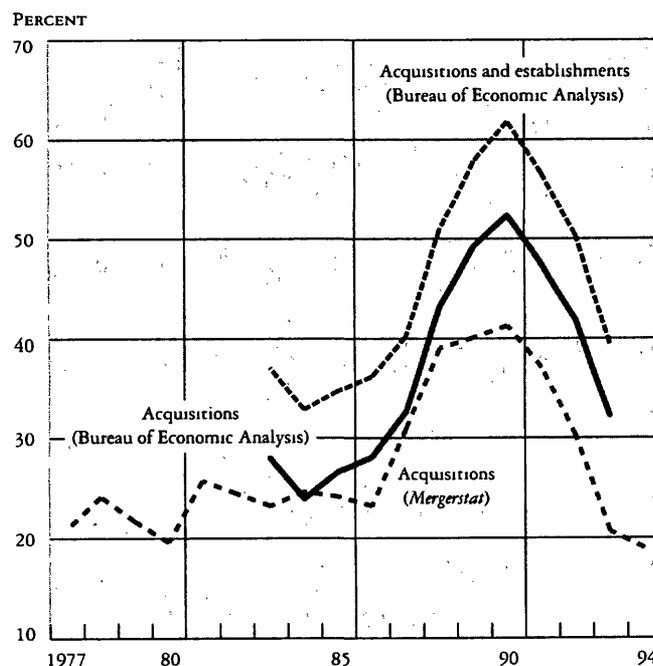 *Significant at 10 percent level
  **Significant at 5 percent level
  ***Significant at 1 percent level

Chart 3

IMMATURITY OF FOREIGN FIRMS IN THE UNITED STATES
Acquisition and Establishment Outlays over the Preceding Five Years in Relation to Foreign Direct Investment Position

Sources U S Department of Commerce, Bureau of Economic Analysis, Merrill Lynch Business Brokerage and Valuation, *Mergerstat Review*

Notes Foreign direct investment position is valued at current cost The 1994 datum is through June, annualized

Of course, foreign companies did not buy money-losers exclusively. The modal target made a profit in the broad range of the U.S. norm, and some were very profitable indeed (Chart 6) Nonetheless, year after year, 40 percent of the foreign firms' targets lost money, and many lost substantial sums.[6]

HIGH ACQUISITION PRICES Foreigners pay full price for subpar performers. As noted at the outset, in 1980-90, foreign firms paid $316 billion for firms that had earned an aggregate of $10.7 billion in the year before acquisition. This price-earnings ratio of nearly thirty-to-one well exceeded the price-earnings ratio for the Standard and Poor's 500, which ranged from the high teens to the low twenties in the late 1980s, when most of the acquisitions took place.[7]

The observation that foreign firms in aggregate pay prices well above market norms for a dollar of earnings need not imply that they pay more for their U.S targets than do U.S. acquirers in merger contests Takeovers, foreign or domestic, require a premium to be paid over usual share prices. Thus, studies measuring acquisitions premia, defined as the percent excess of the price per share at acquisition over price per share pre-bid, have not consistently shown that foreign firms pay higher premia than domestic firms (Cakici, Hessel, and Tandon 1991, Cebenoyan, Papaioannou, and Travlos 1992; Dewenter 1992; Swenson 1993; Harris and Ravenscraft 1991; Kogut and Chang 1991) Foreign firms could be paying premia similar to those paid by U S. firms, say 30 to 50 percent, for a set of firms that contains more money-losers than do the targets of U.S. firms. In that case,

---

Foreign firms buying U.S. firms do not get the pick of the litter.

---

foreign firms would not overpay by the test of these studies but would nonetheless pay a hefty aggregate price-earnings ratio. Similarly, if foreign firms concentrated their purchases in periods with higher acquisition premia (that is, the late 1980s) or in industries with high premia, then they could pay a full price without paying more than U.S. acquirers in

Chart 4

PROFITABILITY OF FOREIGN ACQUISITIONS IN THE
UNITED STATES
Foreign-owned Manufacturing Firms
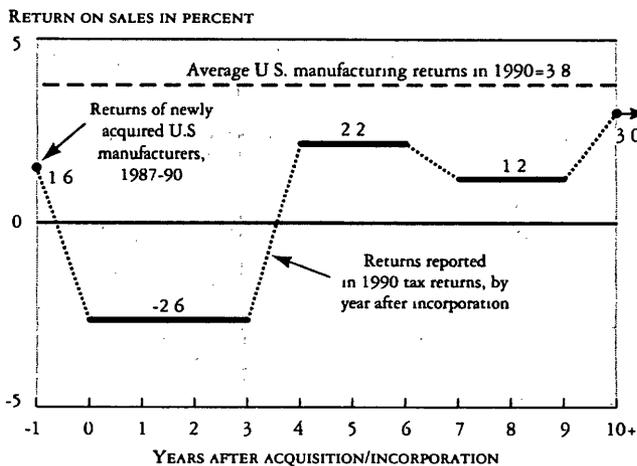
Sources U S Department of Commerce, Internal Revenue Service, Corporate Statistics Branch

Notes 10+ includes corporations that did not report year of incorporation
Returns of newly acquired U S firms represent an average for year before acquisition

Chart 5

PROFITABILITY OF FOREIGN ACQUISITIONS IN YEAR BEFORE
ACQUISITION COMPARED WITH PROFITABILITY OF ALL
U.S. MANUFACTURING FIRMS
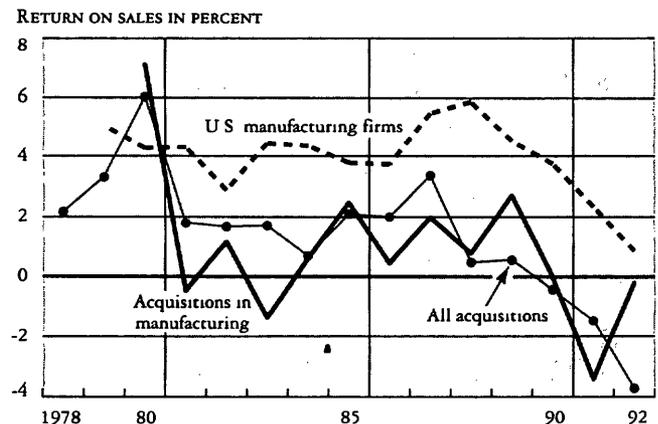
Sources U S Department of Commerce, Bureau of Economic Analysis and Bureau of the Census

Notes Manufacturing excludes petroleum products Values plotted for acquisitions in each year show profitability of firms acquired in subsequent year

those periods or in those industries. Note also that the studies of acquisition premia cited above take the firm as the unit of analysis, whereas the price-earnings ratio of thirty gives more weight to large transactions and so could reflect a few big money-losers.

HEAVY DEBT: Servicing the debt that often finances a high-priced acquisition eats up profits. RJR-Nabisco—to offer a purely domestic example—changed from a money-spinner to a money-loser after it was taken private in a highly leveraged buyout in 1989.
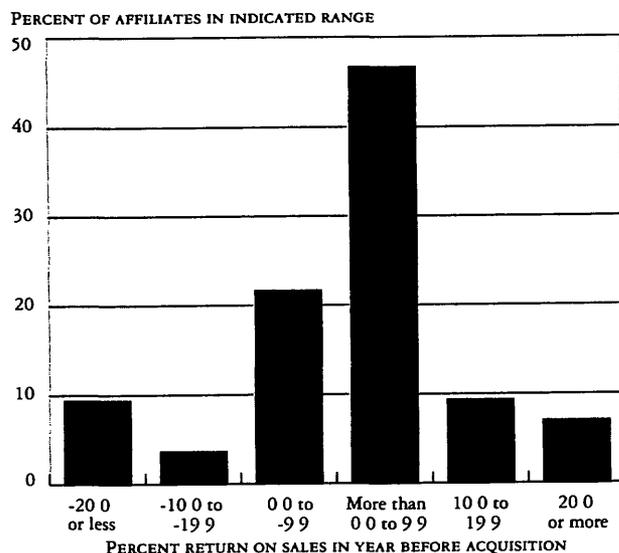
In manufacturing, foreign companies in the United States have generally operated with more debt than have U.S firms. Including debt to parent group, foreign firms' leverage—the ratio of debt to assets—ranged from 5 to 15 percentage points higher than that of domestic manufacturers (Chart 7). The increase in foreign firms' leverage here in the late 1980s contrasted with the general deleveraging trend of companies in major countries abroad (Remolona 1990). We hypothesize that debt-financed acquisitions in the late 1970s and again in the late 1980s (Chart 2) ratcheted up the lever-

age of foreign firms in the United States, just as such acquisitions pushed up U.S. firms' leverage from 1984 through the end of the decade.

The more leveraged foreign industries showed weaker profits. Across manufacturing, the greater the excess of foreign firms' debt ratio over that of their domestic counterparts, the weaker the foreign firms' relative performance as measured by return on assets (Chart 8).
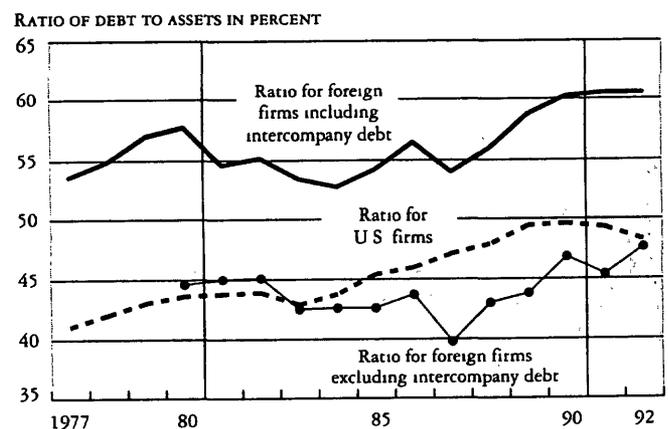
How much did higher leverage reduce affiliate profits? Foreign-owned manufacturing firms financed their $429 billion in assets with 10.9 percentage points more debt in 1990 than did their U.S. counterparts. The resulting $47 billion in excess debt, at an interest rate of 8 percent, lowered taxable profit by $3.8 billion This figure is just shy of an estimate of $4.0 billion derived by a parallel calculation using Internal Revenue Service data on net interest paid in relation to sales by "foreign-controlled" and "other domestic" manufacturers (Table 2) The latter calculation, extended to all industries, shows the total shortfall of taxable income owing to comparatively high leverage to be $14.5 billion, almost half of the profit gap (Table 2; Chart 1, bottom panel).

Chart 6

PROFITABILITY DISTRIBUTION OF U.S. FIRMS ACQUIRED BY FOREIGN FIRMS 1987-89

PERCENT OF AFFILIATES IN INDICATED RANGE

PERCENT RETURN ON SALES IN YEAR BEFORE ACQUISITION

Source Fahim-Nader 1994, p 58

Chart 7

LEVERAGE OF U.S. MANUFACTURING FIRMS OWNED BY FOREIGN INVESTORS

RATIO OF DEBT TO ASSETS IN PERCENT

Sources U S Department of Commerce, Bureau of Economic Analysis and Bureau of the Census

Notes Debt denotes current liabilities plus long-term debt Payables to foreign parents have been subtracted from debt, and receivables from foreign parents have been subtracted from assets, in the numerator and denominator, respectively, of the ratio for foreign firms excluding intercompany debt Petroleum products are included for U S companies but excluded for foreign affiliates

POST-ACQUISITION COSTS: Profits deteriorate further after acquisition. In manufacturing, acquisition targets in 1987-90 managed after-tax profits of $2.0 billion in the year before acquisition (Chart 5) [8] Yet 1990 tax returns show that foreign manufacturers incorporated in 1987-90 collectively *lost* $2.1 billion.

This $4 billion decline in profits derived from two sources: finance and accounting charges and operating results. If foreign manufacturers incorporated in 1987-90 financed 10.9 percent more of their assets with debt than did domestic manufacturers (as indicated above), their interest expense would have been $1 billion higher.[9] Also, newly acquired firms sometimes increase their depreciation expense by revaluing tangible assets or increase their amortization by revaluing intangible assets. Under the generous assumption that recently incorporated firms accounted for the entire difference between "foreign-controlled" and "other domestic" manufacturers' propensity to deduct depreciation and amortization expenses, the extra expense would have amounted to only $0.7 billion (Policy Economics Group, KPMG Peat Marwick, 1994, pp IV-2 through IV-4). Taken together, higher debt, depreciation, and amortization expenses can

therefore explain just $1 7 billion of the $4 billion decline in profits

The sharp decline in profitability of newly acquired firms thus seems to derive largely from a deterioration in operating margins. Stepped-up investment, increased marketing expenditures, and consolidation expenses all raise operating costs.[10] Anecdotes support this inference. An executive from Sony of America described the high initial investments required after the acquisition of Columbia Pictures and Tristar as follows "The operation spent a lot of money the first year. .We had to make more movies. They had to spend more. They renovated the Culver City studio They installed a lot of new technology from Sony."[11] To cite another example, Thomson of France bought RCA for $1 billion in cash and assets five years ago, quadrupled capital spending in two years, and only began to post operating profits, not including interest payments, in 1992 (Browning 1993, p A7).

In this matter, foreign acquisitions perform differently from U S acquisitions in the period. In contrast to recently incorporated foreign-owned firms (Chart 9), U S.-owned manufacturers incorporated in the three preceding years turned a profit in 1990 U.S manufacturing industries with heavy (unrelated) acquisition activity in the 1980s show declines in nonproduction workers, a development that is consistent with improved operating results (Caves and Krepps 1993, pp 251-54) U.S leveraged buyouts, hardly

Chart 8
RETURN ON ASSETS AND LEVERAGE OF FOREIGN-OWNED
FIRMS 1977-92
Manufacturing Industry Averages

FOREIGN AFFILIATE RETURNS MINUS
DOMESTIC RETURNS IN PERCENT

Return gap = -2 56 - 0 17 * Debt ratio gap
(-2 22)
$R^2 = 0 25$ N = 17

FOREIGN AFFILIATE DEBT RATIO MINUS DOMESTIC DEBT RATIO IN PERCENT

Sources U S Department of Commerce, Bureau of Economic Analysis and Bureau of the Census, Federal Reserve Bank of New York staff estimates

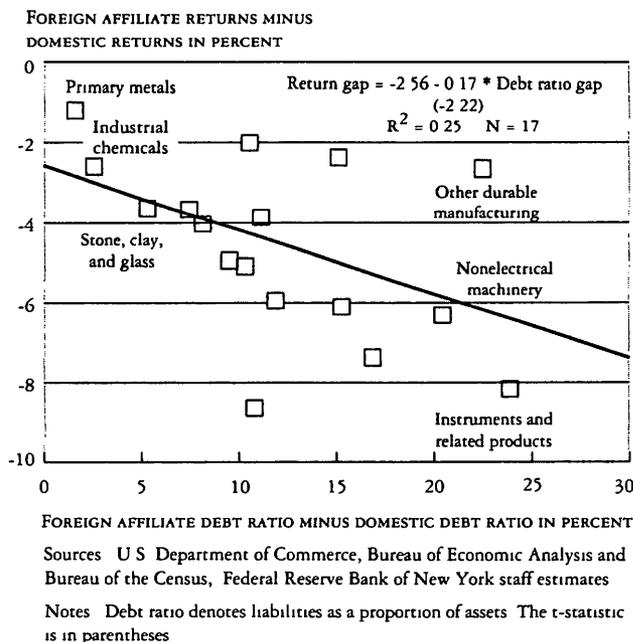Notes Debt ratio denotes liabilities as a proportion of assets The t-statistic is in parentheses

Table 2
LEVERAGE AND PROFIT OF FOREIGN-OWNED FIRMS IN THE
UNITED STATES

| | Ratio of Net Interest to Sales (Percent) | | | Sales (Billions of Dollars) (4) | Additional Profit (3) x (4) (Billions of Dollars) |
	Foreign-controlled Corporations (1)	Other Domestic Corporations (2)	Difference (3)		
Manufacturing	2 71	1 82	89	446	4 0
Wholesale and retail trade	1 28	1 00	0 28	416	1 2
Finance, insurance and real estate	–9 00	–17 20	8 20	113	9 3
Others	2 95	2 97	–0 02	86	0 0
Total				1060	14 5

Source Hobbs 1993

Notes Foreign-controlled corporations and other domestic corporations within finance, insurance, and real estate are said to differ in that most foreign banks operate as branches, which are excluded from these data The negative net expense is said to reflect financial firms' earning interest on their unborrowed funds See Policy Economics Group 1994

typical acquisitions but the only ones where the target firm continues to report independent results, generally show improvements in operating results, usually because of cutbacks in investment and working capital (Long and Ravenscraft 1993; Kaplan and Stein 1993).

A difference in post-acquisition expenditure between U.S. and foreign acquirers is entirely consistent with our explanation of the surge in foreign acquisitions. If foreign buyers enjoyed a cost of equity advantage, then they were able to put more money in a U.S. firm than its previous management could justify By contrast, domestic acquisitions in the 1980s have been interpreted as a device for disciplining managers to accept the consequences of their (high U.S) cost of capital (Blair and Litan 1990).

SUBSEQUENT RECOVERY OF PROFITS: Direct investment profits improve with age. Researchers who have observed this

phenomenon both here and abroad ascribe it to payoffs from investment in plant, equipment, and market share, the slackening of consolidation expenses, managerial learning, and the divestment of unsuccessful enterprises A study of 1966 benchmark data on U.S. direct investment abroad found that the return on equity earned by U S.-owned manufacturers rose by 1 percent per year since incorporation [12] More recent Internal Revenue Service data on foreign operations of U.S. multinational corporations confirm this strong positive relationship between profitability and experience among manufacturing affiliates in 1988; this relationship also applies to affiliates in the finance and trade sectors (Lutzy and Miller 1992, p. 86).

The relation holds even more strongly for foreign firms' operations in the United States. Cross-sectional data for 1990, provided at our request by the Corporation Statistics Branch of the Internal Revenue Service, show that return

Chart 9

PROFITABILITY OF FOREIGN FIRMS IN THE UNITED STATES IN 1990, BY NUMBER OF YEARS SINCE INCORPORATION
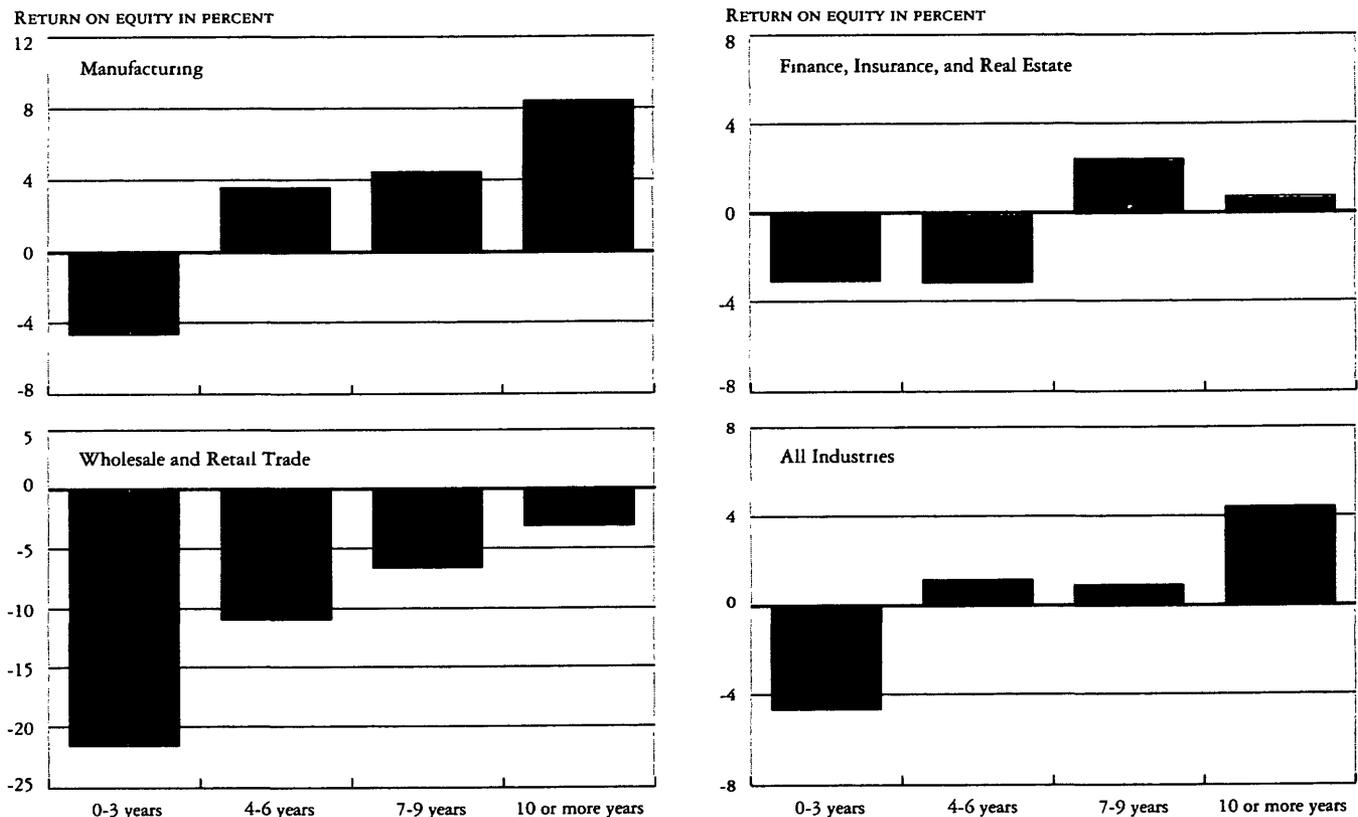
Source Internal Revenue Service, Corporation Statistics Branch

Note Affiliates whose age was not reported are grouped together with affiliates of ten or more years of age

on equity improves at a rate of about 1.2 percent per year (Chart 9). The results are equally strong in a fixed sample over the years 1980-87 [13]

SUBSEQUENT DIVESTMENT. Returns improve over time as foreign firms sell off their U.S operations at a surprisingly rapid rate Because drawing inferences from the post-merger performance of firms poses difficulties (Magenheim and Mueller 1988, Franks, Harris and Titman 1991; Healy, Palepu, and Ruback 1992), researchers have measured the success of domestic mergers by their survival over time Thus, analysts have interpreted the sale by the mid-1980s of 47 percent of 6000 firms

---

Returns improve over time as foreign firms sell off their U.S. operations at a surprisingly rapid rate.

---

acquired between 1950-76 (Ravenscraft and Scherer 1987) and the sale by 1989 of 44 percent of 271 large firms acquired between 1971 and 1982 (Kaplan and Weisbach 1992) as demonstrating that hoped-for results remained elusive. Similarly, major corporations had divested half of the 2000 acquisitions that they had made between 1950 and 1986 by the latter date (Porter 1987).

The Bureau of Economic Analysis has measured the sales and liquidations of whole divisions by foreign firms in the United States for selected years. Liquidation refers to the fate of the foreign owners' interest rather than the fate of the corporate assets Thus, the 1992 data (Zeile 1994, p. 157) apparently include the Allied-Federated store chain, which passed from its Canadian owner's hands when the firm exited Chapter 11, and perhaps the Santa Fe railroad, whose Canadian minority owners, the real estate developers the Reichmanns, sold off their share. The unit for this count is employees: the number of U S workers at firms or divisions sold or liquidated by foreign-owned firms. We chart these numbers as a fraction of all Americans working for foreign-owned firms at the end of the previous year.[14] The attrition rate so measured

has a median value of 4 percent per year (Chart 10) Thus, substantial new investment and expansion of existing businesses must occur each year just for the existing stock of foreign direct investment to remain stable When new foreign investment slackened in 1992, the number of Americans working for foreign firms declined for the first time in at least fifteen years (Zeile 1994). The attrition rate reached as high as 10 percent in 1986 (Chart 10). At the latter figure, the half-life of foreign holdings in the United States is seven years—a year longer than Renault's investment in American Motors and three years longer than Volkswagen's venture producing cars in Pennsylvania (Hood and Young 1986, pp. 175-78).

U S DIRECT INVESTMENT ABROAD. A natural test for any explanation of low profits of foreign firms in the United States is whether it can account for the respectable performance of U.S. direct investment abroad, which earned 8.3 percent on position valued at current cost in 1993 (Weinberg 1994, p. 114, Scholl 1994, p. 63; see also Kapler 1994). Our explanation, which relates profitability to the recency of acquisitions, passes this test. Internal Revenue Service data

Chart 10

ATTRITION OF FOREIGN FIRMS IN THE UNITED STATES
Proportion of Foreign Firms' Employees Whose Firm Was Sold, Liquidated, or Cut Back
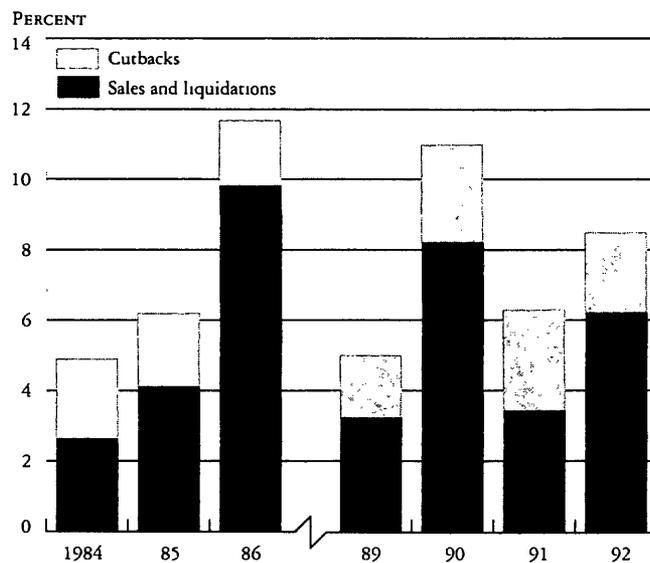
Sources Howenstine 1987, p 38, Herr 1988, p 61, Bezirganian 1993, p 92, and Zeile 1994, p 156

for 1988 show that the median year of incorporation (measured by sales) for U.S.-owned firms abroad was between 1960 and 1964 overall and between 1955 and 1959 for manufacturers (Lutzy and Miller 1992, p 86). By contrast, Internal Revenue Service data for 1990 indicate that the median foreign-owned firm in the United States dated only to the late 1970s, a generation later. Despite the shortcomings of years since incorporation as a measure of the maturity of direct investment stocks, U.S. direct investment abroad clearly has stood the test of time and shows it in its returns. Moreover, U.S. manufacturers abroad showed weak profits in the 1950s and 1960s, when their holdings were growing rapidly

FOREIGN VERSUS U.S. ACQUISITIONS· Foreign acquisitions of U.S. firms have to some extent yielded poor returns for the same reasons as have domestic acquisitions. Foreigners pay acquisition premia between 30 and 50 percent, not much more than U.S. acquirers. Rapid rates of divestiture suggest that foreign and U S. managers alike experience disappointment with their acquisitions. Foreign firms may differ from domestic acquirers, however, in their selection of targets. While domestic firms purchase targets whose profits are at or near industry standards (Ravenscraft and Scherer 1987, pp. 56-74), foreign firms buy a large proportion of money-losers. Another major difference lies in money spent after acquisition· new foreign owners open their wallets wider than new U.S owners Even absent any differences between foreign and domestic acquisitions, the fact that recently acquired firms constitute a substantially larger share of foreign firms than of domestic firms allows acquisition activity to drive a

wedge between the profitability of foreign and domestic firms.

In summary, the after-effects of a wave of acquisitions help explain the declining profitability of foreign firms in the United States in the 1980s. As foreign firms' recent acquisitions bulked larger in their overall holdings here, the low returns associated with these acquisitions dragged down the aggregate profitability of foreign firms.

Before proceeding to consider the role of the weak dollar, let us estimate how the characteristics that we have ascribed to foreign firms in the United States—higher leverage and recency of acquisition (immaturity)—may have hurt profits. As noted above, if foreign firms paid the same net interest in relation to receipts as U S. firms, the profits of the former would have been higher by $14.5 billion in 1990. If all foreign firms earned as much as the ones that had been here for ten years, then they would have earned $11.9 billion more income in 1990 (Table 3). On this showing, leverage and recency account for much of the 1990 shortfall of profits of $32.1 billion (Chart 1, bottom panel).

THE DOLLAR'S VALUE

Observers have proposed another explanation for the low profits of foreign-owned companies in the United States: the sharp depreciation of the dollar since 1985 Because U S. affiliates of foreign firms import nearly twice as much as they export, a decline in the dollar could easily raise their dollar-denominated input costs more than it raises their export revenues.

Certain high-profile industries provide support for this hypothesis. Affiliates engaged in automotive wholesale

Table 3
MATURITY AND PROFIT, 1990

| | Return on Sales (Percent) | | | | Profit (Billions of dollars) | | |
	All Affiliates	Incorporated before 1981	Incorporated after 1981	Sales (Billions of Dollars)	At pre–1981 Return on Sales	Actual	Difference
Manufacturing	1 8	3 0	0 3	446	13 4	8 1	5 3
Wholesale and retail trade	–0 6	–0 5	–1 6	416	–2 1	–2 6	0 5
Finance, insurance, and real estate	–0 6	0 5	–2 1	113	0 6	–0 7	1 3
Other	–1 1	4 7	–4 7	85	4 0	–0 9	4 9
Total				1060	15 9*	4 0	11 9

Source Internal Revenue Service, Corporation Statistics Branch

*Datum is sum of four hypothetical profits above

trade have suffered a sharp decline in profitability owing to a weak dollar (Chart 11) In particular, each 10 percent depreciation of the dollar reduces their return on assets by 1 5 percentage points, which at 1992 levels amounts to $850 million. During the mid-1980s, when the dollar was strongest, return on assets peaked at over 9 percent In 1990 and 1991, with the dollar 35 percent lower, the affiliates suffered losses.[15]

The compression of profits in automotive wholesale trade suggests that the conventional analysis of how exporters to the United States have responded to the weak dollar is incomplete Economists have measured the varying extent to which foreign exporters respond to a strengthening of their currencies by permitting higher dollar costs to pass through to higher dollar export prices or, alternatively, by slashing profit margins to price to the U S. market These studies have found that foreign companies have responded to a weak dollar by maintaining dollar prices on exports to the United States to some extent at the expense of their profit margins (Krug-

man 1987, Froot and Klemperer 1989; Hooper and Mann 1989; Okuro 1989, Marston 1990, Knetter 1994, Rangan and Lawrence 1993)[16] Chart 11 suggests that foreign auto companies have not only maintained dollar prices on their exports but have also squeezed wholesaling margins in the United States—a strategy that serves the same goal of keeping prices to U S. consumers competitive. In short, the pricing strategies of multinational firms, at least in autos, have offset the weakening of the dollar by much more than international trade prices can demonstrate.

While the evidence on automobile trade is compelling, a comprehensive industry-by-industry review finds that the impact of the dollar's value on foreign firms' profitability is small and ambiguous The dollar should have little impact on affiliate profits in services, finance, insurance, real estate, construction, transportation, or food stores, which together constitute 22 percent of the gross product of direct investment in the United States, because imports and exports combined amount to less than 5 percent of sales in these seven industries (Zeile 1994, pp. 173, 177). For each of the remaining twenty-eight industries (see endnote 41), we regress return on assets on the logarithm of the trade-weighted U.S exchange rate as computed by the Federal Reserve Board for the years 1977-92

The twenty-eight industries vary in the response of their profit to the dollar's exchange rate. The regression results suggest that a weak dollar reduces profits in eleven industries but boosts profits in seventeen industries (Chart 12). In four industries, profit showed a statistically significant (at the 01 level) contemporary or lagged response to the dollar (Table 4) In contrast to automotive wholesale affiliates, whose profits suffer from a weak dollar, foreign firms in several export-intensive industries—mining, agricultural wholesale trade, and agriculture—show higher profits when the dollar is weak.[17] Whether exchange rate effects are summed across just the industries that show a significant relation or across all twenty-eight industries (Table 4), the net impact of a 10 percent dollar depreciation is well under $1 billion. Explanations for the $32.1 billion shortfall in profits must be found elsewhere.

Given that affiliates import substantially more than they export, the finding that a weak dollar does little to
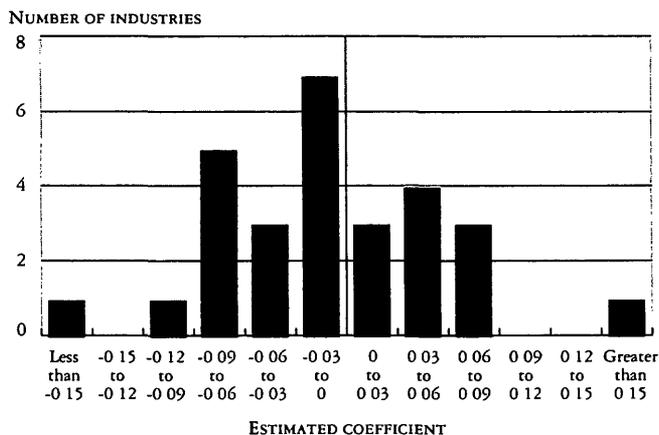
Chart 11

THE DOLLAR EXCHANGE RATE AND PROFITABILITY IN MOTOR VEHICLE WHOLESALE TRADE 1977-92
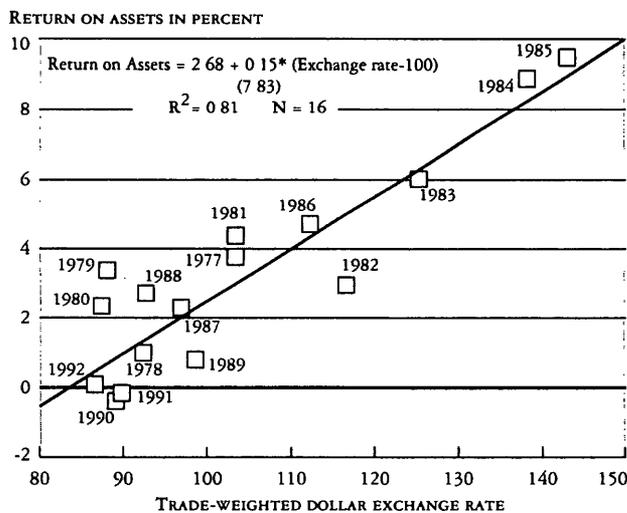
RETURN ON ASSETS IN PERCENT

Sources U S Department of Commerce, Bureau of Economic Analysis, Board of Governors of the Federal Reserve System, Federal Reserve Bank of New York staff estimates

Notes The exchange rate used is the Federal Reserve Board's multilateral trade-weighted dollar index (March 1973=100) The profitability data also include manufacturing results for some automotive firms whose primary activity was in wholesale trade The t-statistic is in parentheses The regression of return on sales on the exchange rate yields an estimated equation return on sales =0 85+0 05* (exchange rate-100) The t-statistic is 8 09, the R-squared is 0 82

Chart 12

EFFECT OF DOLLAR EXCHANGE RATE ON FOREIGN
FIRMS' PROFITS
Distribution across Industries

NUMBER OF INDUSTRIES

| Less than -0 15 | -0 15 to -0 12 | -0 12 to -0 09 | -0 09 to -0 06 | -0 06 to -0 03 | -0 03 to 0 | 0 to 0 03 | 0 03 to 0 06 | 0 06 to 0 09 | 0 09 to 0 12 | 0 12 to 0 15 | Greater than 0 15 |

ESTIMATED COEFFICIENT

Sources U S Department of Commerce, Bureau of Economic Analysis, Board
of Governors of the Federal Reserve System, Federal Reserve Bank of New York
staff estimates

Notes Return on assets is regressed on a constant and the natural logarithm of
the trade-weighted dollar The regression was run for each of twenty-eight
industries for the years 1977-92 The exchange rate used is the Federal Reserve
Board's multilateral trade-weighted dollar index (March 1973=100) A
positive coefficient implies that profits rise when the dollar appreciates, a
negative coefficient, that profits fall when the dollar appreciates

depress affiliate profits seems surprising Foreign-owned
wholesalers account for most of the excess of imports over
exports but, as we have seen, their parents share their profit
compression when the dollar weakens. In U S manufactur-
ing, both exporting firms and import-competing firms tend
to benefit from dollar weakness (Hung 1992-93).[18] More-
over, compared with the wholesalers, foreign manufacturers
are larger and their profits stronger to begin with, so their
improvement in response to the dollar's weakness carries
more weight

PROFIT SHIFTING

Public discussion of the low profitability of foreign firms has
centered on assertions that they understate their profits to
avoid U.S. taxes A multinational firm can shift profits from
one tax jurisdiction to another in at least two different ways.
A firm's treasurer can load debt onto its operations in one
country and thereby shelter the income earned there with tax
deductions for interest paid. Or a firm can arrange for its
operations in one tax jurisdiction to pay those in other juris-
dictions high prices for goods and services, or outsize royalty
or interest payments.

Table 4
THE DOLLAR EXCHANGE RATE AND THE PROFITABILITY OF FOREIGN FIRMS IN THE UNITED STATES
Annual Data 1977–92

| Industry | Regression Results | | | | Forecasted Impacts | | |
| | Contemporaneous Exchange Rate | | Lagged Exchange Rate | | 1991 Industry Assets (Billions of Dollars) | Estimated Impact of a 10 Percent Depreciation of the Dollar (Millions of Dollars) | |
	Beta	R-squared	Beta	R-squared		Same Year	Subsequent Year
Selected industries							
Motor vehicles and equipment wholesale trade	0 160** (0 022)	0 80	0 0133** (0 035)	0 51	58 2	−931	−774
Mining	−0 162** (0 032)	0 64	−0 165** (0 034)	0 62	22 0	356	363
Farm-product raw materials wholesale trade	−0 053** (0 012)	0 58	−0 056** (0 012)	0 60	9 1	48	51
Agriculture, forestry, and fishing	−0 087** (0 022)	0 54	−0 074* (0 027)	0 36	4 2	37	31
				Total of selected industries		−490	−329
		Memo Sum of estimated impacts for all 28 industries in sample				−678	482

Sources U S Department of Commerce, Bureau of Economic Analysis, Board of Governors of the Federal Reserve System
Notes Return on assets is regressed on a constant and the natural logarithm of the trade-weighted exchange rate The indicated regression is run for each of twenty-eight
industries for the years 1977–92 Selected industries are those whose contemporaneous or lagged regressions are significant at the 1 percent level Standard errors are in
parentheses Estimated intercepts are not reported
  *Significant at 5 percent level
  **Significant at 1 percent level

The U.S. tax code tries to prevent both forms of profit shifting. Foreign firms lose the full tax deductibility of interest payments if the fraction of their global consolidated debt in the United States is higher than the fraction of their assets in the United States [19] Similarly, multinational firms lose deductions for internal, or transfer, prices if they differ from prices that would be set in arm's-length transactions.

In the remainder of this section we consider whether the low profit reported by foreign-owned firms in the United States stems from profit shifting strategies that allow these firms to avoid U.S. taxes.

EARNINGS STRIPPING THROUGH EXCESSIVE LEVERAGE

As established above, the U.S. affiliates of foreign firms operate at higher leverage in the United States than do U.S. firms. But the tax code specifies a different standard of comparison: does the interest-bearing debt of a U.S affiliate (including debt to foreign affiliates) in relation to U.S. assets exceed the foreign firm's consolidated worldwide ratio of debt to assets (U.S Congress, Joint Committee on Taxation 1989, p. 34)? That leverage of foreign firms' affiliates in the United States rose in the 1980s while leverage was falling in most major source countries increases the likelihood that some companies attempted to reduce their taxes here by burdening their U.S. affiliates with excessive debt. Lacking the company-by-company data necessary to test for excessive debt, we simply note that the evidence does not permit the inference that foreign firms burden their U.S. operations with more than their fair share of debt.

TRANSFER PRICING

The second method of shifting profits, transfer pricing, may help explain why foreign firms report lower profits than domestic firms. But it cannot readily explain why the profitability of foreign firms declined in the 1980s, a trend better explained by acquisition activity. Transfer pricing could only help to account for developments in the 1980s if the U.S. tax authorities failed to step up the enforcement effort as foreign acquisitions accelerated during this period [20]

Foreign firms might want to shift profits out of the United States if they could thereby lower their global tax burden. A scan of corporate tax rates in major source countries suggests at first that foreign companies do not have much to gain by shifting income out of the United States. That is, companies based in most foreign countries would pay as much in home country taxes on an extra dollar of income as they would pay in combined U.S. and home country taxes if they reported the income in the United States (Landefeld, Lawson, and Weinberg 1992, p 84).[21]

Such a comparison does not prove that foreign firms face no immediate tax incentive to shift profits out of the United States, however, for at least two reasons [22] First, statutory tax rates at home may overstate the effective tax rate.[23] Second, foreign firms need not shift profit to their home country; they can shift profit to low-tax third countries as well.

RETURNS OF FOREIGN FIRMS BY HOME TAX REGIME:
Shifting income to low-tax countries pays off best for firms from countries, mostly in Continental Europe, that apply the principle of territorial taxation to their home firms Firms headquartered in these countries are exempt from local taxes on their foreign profits. When these firms transfer income out of the United States into a low-tax third country, they pay only the taxes of that third country. By contrast, in a country that applies the principle of worldwide taxation, such as Japan or Britain, a firm receives a credit for taxes paid abroad but must pay additional taxes to its home fiscal authorities when it brings home income from a tax haven Thus, firms from countries universally applying the territorial principle of taxation stand to benefit most from transferring income out of the United States.[24]

How do firms from the two kinds of countries compare in their U.S. profitability? Broadly following previous analysts (Slemrod 1990; Auerbach and Hasset 1993), we look for differences in behavior across firms from the two types of countries. The U.S. operations of firms from countries that tax strictly on the territorial principle report lower profitability (Chart 13) than do the U S. operations of firms from countries that tax worldwide profits (United Kingdom, Japan) or tax profits from nontreaty countries (Canada, Germany).[25] This finding is no more than suggestive, however, in view of the different mix and vintage of industries across
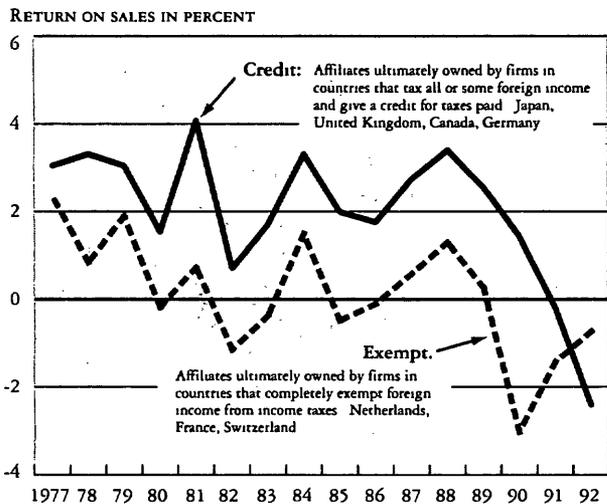
countries. We now consider another approach to the transfer pricing question that focuses not on country-specific incentives to shift income, but on industry-specific opportunities to shift income.

RETURNS OF FOREIGN FIRMS AND EXTENT OF INTRAFIRM TRADE: Trade between the U.S. operations of foreign firms and the firms' affiliated companies abroad has exceeded $100 billion per year since the mid-1980s and in 1992 reached about $200 billion. Two-thirds of such trade takes the form of imports from the foreign parent group.

Such extensive intrafirm international trade suggests that modest deviations from arm's-length pricing could succeed in shifting substantial income abroad. Indeed, merchandise trade issues account for 75 percent of the adjustments that the Internal Revenue Service recommends (U.S. Department of Treasury and Internal Revenue Service, 1988, Appendix B, p. 1). Accordingly, we investigate whether a larger opportunity to manipulate prices is associated with weaker reported profits in the United States.
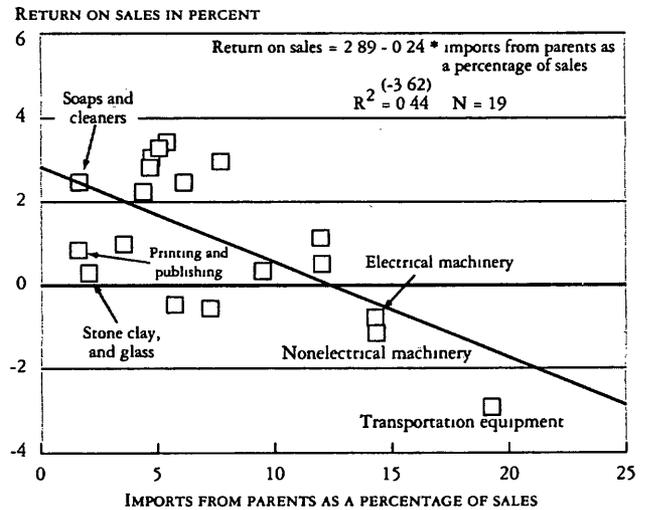
An analysis of nineteen major manufacturing industries for the period 1977-92 shows that industries in which affiliates import a higher fraction of their sales from their parent group report lower returns on sales (Chart 14).[26] Reported profits vary inversely with the opportunity to transfer income.

This finding is only suggestive. Imports from parents may simply proxy for overall imports. In that case, the observed relationship could mean only that a weak dollar crimped the profits of manufacturing industries heavily dependent on imports. This relationship between low profits and high imports, however, gains further credibility when it survives in a regression analysis controlling for overall import propensities and exchange rate effects (Appendix II).[27]

How big might profit shifting through the pricing of imports from related parties be? The relationship between profitability and imports from parents across manufacturing suggests that for every additional dollar of imports from parents, returns are 24 cents lower. Since manufacturing affiliates of foreign firms imported $33.2 billion from their parents in 1990, transfer pricing could reduce profits by as much as $8 0 billion By this calculation, transfer pricing in

PROFITABILITY OF FOREIGN MANUFACTURERS IN THE UNITED STATES BY HOME TAX REGIME

RETURN ON SALES IN PERCENT

Credit: Affiliates ultimately owned by firms in countries that tax all or some foreign income and give a credit for taxes paid Japan, United Kingdom, Canada, Germany

Exempt. Affiliates ultimately owned by firms in countries that completely exempt foreign income from income taxes Netherlands, France, Switzerland

1977 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92

Sources U S Department of Commerce, Bureau of Economic Analysis, Organization for Economic Cooperation and Development 1991

Note Canada and Germany exempt income from those countries with which they have tax treaties but tax income from other countries

PROFITABILITY AND IMPORTS FROM FOREIGN PARENTS 1977-92
Manufacturing Industry Averages

RETURN ON SALES IN PERCENT

Return on sales = 2 89 - 0 24 * imports from parents as a percentage of sales
$(-3\ 62)$
$R^2 = 0\ 44$ N = 19

Soaps and cleaners

Printing and publishing

Electrical machinery

Stone clay, and glass

Nonelectrical machinery

Transportation equipment

IMPORTS FROM PARENTS AS A PERCENTAGE OF SALES

Source U S Department of Commerce, Bureau of Economic Analysis, Federal Reserve Bank of New York staff estimates

Note The t-statistic is in parentheses

manufacturing might account for a quarter of the $32 billion profit gap (Chart 1, bottom panel)

Even were this result accepted at face value, it could only help explain the low *level* of foreign firms' profits. The puzzle of the declining profitability of foreign firms in the United States would still remain. As a fraction of sales, international trade with affiliated companies has fallen from 22 percent in 1977 to 16 percent in 1991 A declining proportion of affiliate transactions does not accord with a widening profitability gap

ASSESSING RELATIVE IMPACTS

We can now estimate how much each factor discussed in this article has contributed to the low profit of foreign firms in the United States (Table 5) We have already considered the individual relationship between each of these factors and profitability In this section, we return to these bivariate relation-

ships and then summarize the results of a multivariate analysis that is described in more detail in Appendix II.

Our factor-by-factor analysis overexplains the profitability gap, reflecting overlap in the factors considered The acquisition-related factors of leverage and recency are most prominent, together accounting for five-sixths of the gap between the profits of foreign firms in the United States and those of domestic firms. Possible transfer pricing accounts for about a fourth of the gap. The exchange rate effect is negligible

The multivariate analysis employs the variable RECENCY to measure the fraction of assets acquired in the previous three years. RECENCY captures a variety of influences: acquisition, selection, pricing, post-acquisition expenses, and eventual attrition. These acquisition-related influences are more clearly distinguished from leverage in the multivariate analysis than in the bivariate analysis.

The multiple regression analysis confirms the importance of those influences represented by the variable RECENCY, yielding results remarkably consistent with the bivariate analysis. Both regressions sharply downplay the role of leverage Possible transfer pricing now explains only a fifth of the gap The impact of the dollar was ambiguous in this analysis, so again we attribute no effect.

IMPLICATIONS FOR TAXES

Observers have calculated how many more billions of dollars foreign-owned firms would earn if they were as profitable as comparable U.S. firms. Using the 1990 IRS data on return on sales by sector, they would arrive at $32.1 billion. They would then multiply this sum by the 34 percent top corporate tax rate to generate an estimate of potential additional tax receipts of about $10 billion [28]

Were it simply a matter of transforming low-profit foreign firms in the United States into normally profitable firms, these calculations would hold. But roughly 60 percent of foreign firms report losses each year, while only half of U.S.-owned firms report losses.[29] When solidly unprofitable firms become somewhat less unprofitable, they may not pay any more income taxes.

That taxes paid in 1990 exceeded foreign firms' aggregate pretax income underscores the importance of the

Table 5
EXPLAINING THE PROFITABILITY GAP BETWEEN FOREIGN FIRMS IN THE UNITED STATES AND DOMESTIC FIRMS IN 1990

| | Estimates (Billions of Dollars) | | |
| | | Based on Multiple Regression Analysis | |
Factor	Based on Bivariate Analysis	Return on Assets	Return on Sales§
Recency	11 9	12 6*	10 1
Leverage	14 5	6 8†	4 0
Dollar exchange rate	−	−	−
Transfer pricing	8 0	6 7‡	6 5
Total	34 4	26 0	20 6
Memo Gap between profits of			
U S and foreign firms	32 1	32 1	32 1

* Regression 1 (Table B2) coefficient of − 058 multiplied by 140 (1990 value of 222 [Table B1] less U S value of 082) yields 0081 of assets of $1 55 trillion, or $12 6 billion U S value of 082 is estimated on the basis of the comparative levels of acquisition activity from 1988–90 (Merrill Lynch 1992) as share of 1990 assets (Hobbs 1993) for domestic and foreign firms

† Regression 1 (Table B2) coefficient of − 081 multiplied by 054 (1990 value of 775 less U S value of 721, both from Hobbs 1993) yields 0044 of assets of $1 55 trillion, or $6 8 billion We use Statistics of Income data for foreign and domestic firms because we lack a domestic benchmark for Bureau of Economic Analysis data outside of manufacturing and other selected subsectors

‡ Regression 1 (Table B2) benchmark coefficient of − 052 multiplied by 083 (1990 value of MPAR (Table B1) less 0) yields 0043 of assets of $1 55 trillion, or $6 7 billion XPAR was not used as it was statistically insignificant, its inclusion would have raised the impact of transfer pricing to $7 8 billion

§ The impacts are calculated in the same manner as in the three prior notes, except that the coefficients for return on sales regression 7 are used instead − 061 for RECENCY, − 063 for LEV, and − 067 for MPAR We then multiply results by 1990 sales of $1 18 trillion to arrive at dollar amounts

distribution of profitable and unprofitable firms. Profitable foreign firms earned $29 billion while unprofitable ones lost $25 billion, so the firms earned $4 billion in aggregate The $4 billion in aggregate earnings offers no clue to the taxes paid by foreign companies.

It is revealing to compare taxes paid by foreign companies with those paid by U.S firms. As a fraction of sales, taxes paid by foreign firms in the United States did not differ much from the taxes paid by U.S -owned firms in 1983-85 (Chart 15). Since then, a gap has opened up: if foreign firms paid as high a fraction of their sales in taxes as U.S. firms, they would have paid about $2 billion more in taxes in 1990. This calculation, subject to several caveats,[30] points to the conclusion that the shortfall in taxes paid by foreign firms is much narrower than one might guess from the shortfall in aggregate income.

IMPLICATIONS FOR THE TWIN DEFICITS

Foreign firms building up their holdings in the United States helped to finance a decade's excess of imports over exports. As foreign firms built up their holdings, rising payments of profit and interest should have widened the current account deficit. But the surprisingly low returns on those holdings short-circuited the compounding effect whereby the cost of

Chart 15

TAXES PAID BY FOREIGN FIRMS IN THE UNITED STATES

BILLIONS OF DOLLARS

Sources Internal Revenue Service, *Statistics of Income Bulletin*, various issues, Federal Reserve Bank of New York staff estimates

Note Hypothetical taxes represent revenues if foreign firms paid the same taxes as a proportion of sales as U S firms in each of the following sectors manufacturing, wholesale and retail trade, finance, insurance, and real estate, and all other industries

financing last year's deficit adds to this year's deficit Owing to the poor returns of foreign companies in the United States, the U.S economy is not yet paying the full cost of its external deficits

If foreign firms achieve a more normal profit in the future, the servicing costs so far avoided will begin to come due and compound The current account deficit would therefore widen. On the home front, however, higher profits by foreign firms would mean higher corporate tax payments and a narrower fiscal deficit In short, the maturing of foreign affiliates will nudge the "twin" deficits in opposite directions, with the external deficit widening by a multiple of the amount that the fiscal deficit narrows.

This prospect differs from that held out by analysts who interpret the poor profitability of foreign firms as a sign of tax evasion. In their view, if the foreigners can be made to own up to their success and pay taxes, the fiscal deficit would narrow. Higher profits would be reported because of smaller
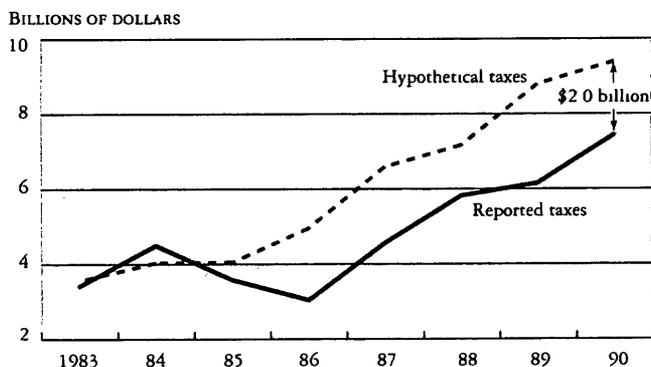

The slowdown of foreign acquisitions in the United States in 1991–93, coupled with ongoing divestitures, points to a rebound in the profits of foreign firms in the years ahead.

---

payments to (or larger receipts from) foreign parents Thus, this scenario would imply a narrower trade deficit matching the higher pretax profits of foreign firms here and would leave the current account deficit initially unchanged. But as foreign firms paid more taxes on their higher declared income, the current account deficit would narrow by the same amount as the fiscal deficit.

This interpretation implies a win-win outcome on the twin deficits. In our interpretation, by contrast, the prospective improvement in foreign returns over time if foreign acquisitions remain modest implies a lose-win outcome· more borrowing from foreigners but also higher tax revenues from foreign firms

CONCLUSION

This article has shown how the surge in foreign acquisitions of U.S. companies in the 1980s drove down the aggregate return on foreign direct investment in this country Foreigners acquired U.S. firms that barely turned a profit. These firms lost money just after acquisition and then gradually recovered their profitability. Strong acquisition activity raised the share of foreign holdings at an early stage in this process. Foreign firms that sold or liquidated their money-losing holdings both contributed to the restoration of profits and provided concrete evidence of disappointing returns.

Other proposed explanations carry some weight, but do not bear as much as this A weak dollar works both ways It hurts foreign firms principally engaged in selling foreign goods, but it leaves services untouched and ultimately justifies investment in U.S. manufacturing.

We find some evidence consistent with profit shifting. Foreign firms from countries whose fiscal systems offer the greatest reward for shifting profits to tax havens show lower profits in the United States. And firms with greater opportunities to transfer profits through the pricing of imports from their U S. affiliates show weaker profits.

Our interpretation suggests that the performance of foreign firms in the United States will improve over the next several years. The slowdown of foreign acquisitions in the United States in 1991-93 (Chart 2), coupled with ongoing divestitures (Chart 10), points to a rebound in the profits of foreign firms.

APPENDIX I: FOREIGN INVESTORS' LOSSES IN U.S. REAL ESTATE

Theodore Fischer and Robert N. McCauley

Much of the publicity attending the surge in foreign direct investment in the United States in the 1980s focused on foreign purchases of commercial real estate. Official data show that foreign investments in the real estate sector have performed as poorly as those in other sectors. The Bureau of Economic Analysis (BEA) has reported that foreign-owned real estate companies lost money every year after 1985, culminating in $10 1 billion in pretax losses in 1990-92 (U.S. Department of Commerce 1984-94).[31]

Questions have been raised about foreign firms' use of excessive debt or transfer pricing to reduce their U.S. operations' reported profits. But informed observers would agree that in real estate, reported losses actually understate true economic losses The profitability of foreign real estate companies in the BEA data reflects scheduled depreciation expenses, while an economic measure of net income must incorporate changes in the market value of property holdings Our estimates of market value returns confirm this hunch. foreign-owned real estate companies racked up $23 billion in economic losses before taxes in 1990-92. The further decline in real estate values in 1993 took cumulative estimated losses to $27 billion. Thus, an industry that in 1990 accounted for 9 percent of the investment and 7 percent of the assets of all foreign direct investment in the United States has done significantly worse than the reported data indicate (U.S. Department of Commerce, Bureau of Economic Analysis 1992, pp. 113-14, and 1993, Table A-1).

REAL ESTATE VALUES

Both domestic and foreign-owned real estate companies have seen their commercial property values crash since 1989. We can assess this decline using the Russell-NCREIF index,[32] a measure of real estate value. According to the capital value portion of this index, a building bought at the end of 1985 for $100 million would only have been worth $67.5 million at the end of 1993. Most of this decline occurred in the years 1990-93, when commercial property values fell by 31 percent (Chart A1). Because real estate companies are highly

leveraged, their return on equity was even worse We shall assume that the Russell index tracks the price of U.S. property held by foreigners. Even if foreign investors did no worse than U.S. investors buying at the same time,[33] the foreigners' timing looks unfortunate in hindsight.

## ACCOUNTING FOR CAPITAL GAINS AND LOSSES

Generally accepted accounting principles (GAAP) hide the magnitude of the losses suffered by foreigners holding commercial property during the decline in property values from 1990 to 1993. The GAAP balance sheets collected by the BEA as part of its annual financial surveys only require companies to mark commercial real estate to market when it is

sold or in other special circumstances. As a result, foreign-owned real estate companies do not generally report unrealized gains or losses in the value of their commercial property. Still, the GAAP income of foreign-owned real estate showed considerable losses as early as 1990 (see table, column 4)

The reported losses in 1990-91 must have arisen in large part from continuing operations. While realized gains or losses are included in net income, press accounts and BEA data suggest that foreign investors increased sales markedly only as late as 1992. Thus in 1990-91, high vacancies and falling rents combined to push rental income from commercial property below interest on debt and (noncash) depreciation expenses based on historic cost and GAAP. These depre-

Chart A1

FOREIGN OUTLAYS FOR U.S COMMERCIAL REAL ESTATE AND COMMERCIAL REAL ESTATE PROPERTY VALUES
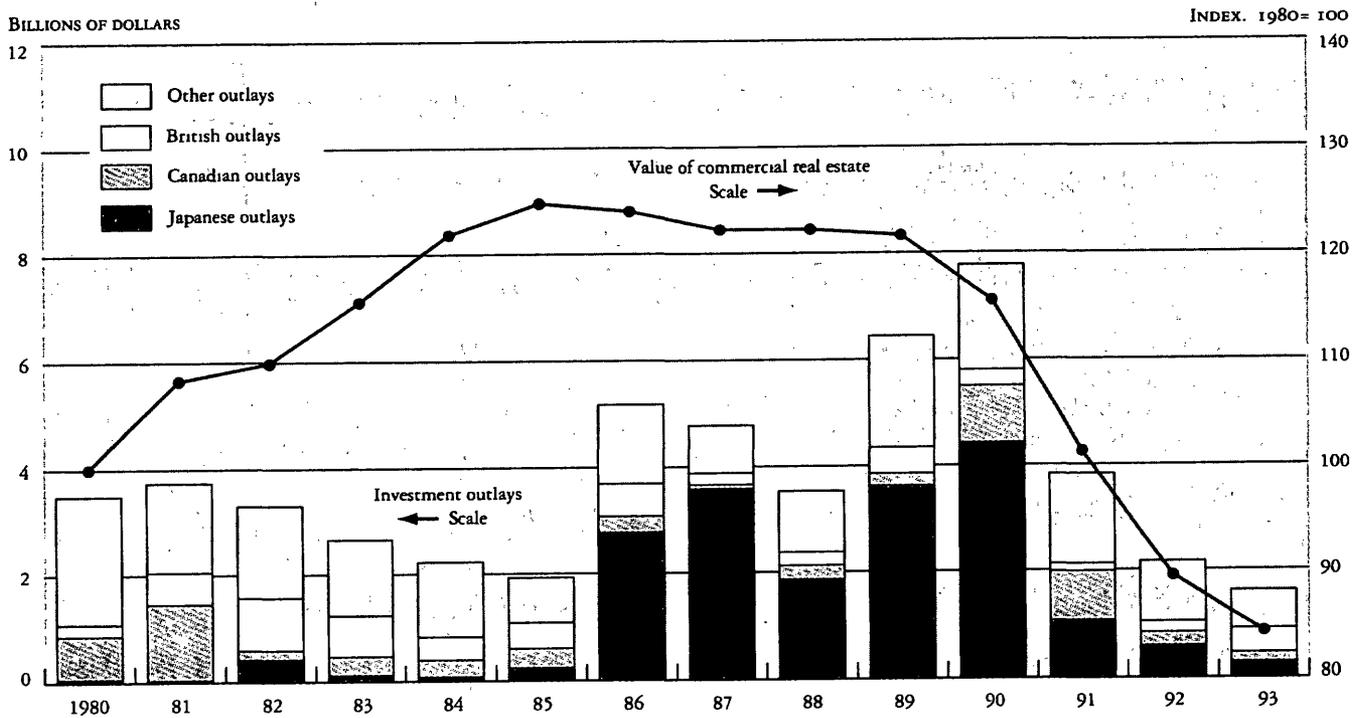
Sources U S Department of Commerce, Bureau of Economic Analysis, Frank Russell Company

Notes Investment outlays are the amounts spent by real estate companies to acquire commercial property Expenditures on hotels and construction are not included

ciation charges, however, depend on the book value rather than market value of property. As bad as GAAP income was in 1990-92, economic returns were worse.

ESTIMATION OF RETURNS

We estimate economic returns for foreign-owned real estate firms, including unrealized capital gains and losses (see table).[34] The exercise combines the income and balance sheet data on real estate affiliates reported to the BEA with the

Russell-NCREIF index of the value of property (shown in column 1). The exercise makes the key assumption that this index captures the market value of foreign-owned commercial real estate: that is, foreigners did no worse than all investors.

We trace the value of foreign-owned real estate companies' investments over time. BEA data on plant, property, and equipment, of which about 90 percent reflect commercial property, measure the amount spent on acquisitions and

ESTIMATED NET INCOME AND RETURN ON EQUITY FOR FOREIGN-OWNED REAL ESTATE COMPANIES

	Russell Index of Returns in Commercial Real Estate (Percent) (1)	Total Investment in PP&E by Real Estate Companies (Billions of Dollars) (2)	Estimated Gains or Losses in Commercial Property (Billions of Dollars) (3)	Published Net Pretax Income (Billions of Dollars) (4)	Estimated Economic Net Pretax Income (Billions of Dollars) (5)	Published Pretax Return on Equity (Percent) (6)	Estimated Economic Pretax Return on Equity (Percent) (7)
1977	N A	6 10*	N A	−0 15	N A	−10 80	N A
1978	6 81	1 60	0 38	−0 08	0 25	−4 90	14 64
1979	10 80	2 18	0 76	−0 05	0 63	−2 04	25 91
1980	9 11	7 10	0 83	0 13	0 24	3 29	6 63
1981	8 30	8 42	1 22	0 17	0 91	2 75	15 07
1982	1 46	9 59	0 32	−0 47	−0 34	−5 70	−3 82
1983	5 23	8 29	1 47	0 07	1 84	0 67	15 20
1984	5 38	7 44	1 87	0 76	2 88	6 60	17 54
1985	2 45	8 63	0 99	0 34	1 45	2 71	6 91
1986	−0 60	9 51	−0 28	−0 57	−0 06	−4 05	−0 23
1987	−1 47	11 20	−0 78	−0 66	−0 36	−4 48	−1 48
1988	−0 01	9 25	−0 01	−0 60	−0 12	−3 71	−0 49
1989	−0 48	13 33	−0 32	−0 12	−0 20	−0 60	−0 66
1990	−4 99	14 01	−3 75	−1 87	−4 07	−7 70	−11 91
1991	−12 34	9 92	−9 99	−3 27	−9 88	−12 92	−30 18
1992	−11 66	6 18	−8 94	−4 94	−9 00	−20 25	−32 14
1993e	−5 82	5 00	4 16	−4 00	−4 00	−16 00	−16 32

Cumulated using only years for which Bureau of Economic Analysis data are available						Average annual returns†	
1978–92	15 6		−16 21	−11 15	−15 84	−5 42	−4 66
1978–88	57 8		6.79	−0 96	7 31	−0 89	5 41
1989–92	−26 8		−23 00	−10 19	−23 15	−10 51	−17 52

Cumulated using estimated Bureau of Economic Analysis data						Average annual returns†	
1978–93	8 9		−20 38	−15 15	−19 84	−6 59	−5 55
1978–88	57 8		6 79	−0 96	7 31	−0 89	5 41
1989–93	−31 0		−27 17	−14 19	−27 15	−11 66	−17 33

Sources Frank Russell Company, U S Department of Commerce, Bureau of Economic Analysis, Federal Reserve Bank of New York staff estimates

Note Data for 1993 are all estimates except for the Russell return

* Includes the book value of the holdings of PP&E (plant, property, and equipment) as of the start of 1977

†Weighted by the book value of owners' equity for the published return on equity and the market value of owners' equity for the economic return on equity

construction by foreign-owned real estate companies (column 2) from 1977 onward. We assume these purchases occur at market value (and that 1977 book value equals market value, a fairly innocent assumption given the small scale of foreign investment in U S. real estate then). The value of these purchases then changes in accordance with the Russell-NCREIF index The change in value (after accounting for sales[35]) is the total mark-to-market gain or loss to the real estate companies (column 3).

These capital gains and losses are added to operating income, namely, rental revenues less operating and interest expense, to calculate a measure of economic income (column 5). Operating income is obtained by excluding depreciation expenses and realized capital gains and revaluations from pre-tax net income.[36] We compute the changes in the market value of owners' equity as the sum of increases in external capital and economic net income.[37] A return on equity is then computed as the ratio of economic income to the cumulated market value of owners' equity (column 7).

RESULTS

Our estimates of economic returns for foreign investors in U S real estate suggest that foreign firms have done at least as badly as they are reported to have done. In 1978-92, BEA reports a $11.2 billion loss; we compute a $15.8 billion loss (columns 4 and 5)

Our calculations for the late 1970s and early 1980s help make sense of the foreign buying since then, but our estimates make the results of this recent buying worse. The BEA data show that through the mid-1980s, net income fluctuated around zero, but economic returns were respectable if varying (Chart A2 and Table A1, columns 4 and 6 versus 5 and 7). And although the Russell-NCREIF returns turn negative in 1986, our calculated returns remain better than the reported returns because the market price declines remain smaller than GAAP depreciation. While the earlier

economic returns make the investment in the late 1980s less anomalous, our calculation leaves foreign investors with a $27 billion loss in 1989-93, probably twice the loss that BEA will eventually report.[38]

These results do not include commercial property owned by industries other than real estate and so understate the total impact of the fall in property values on foreign investors. Foreign real estate companies only owned 51 percent of all foreign-owned commercial property in the United States in 1991 Foreign-owned hotel firms, classified as service firms, have the next largest share of commercial property, with 11 percent of the total foreign investment in U.S. real estate (U.S Department of Commerce 1994, Table D-10). On the basis of a 31 percent decline in the Russell index in 1989-93, we estimate that including hotels would increase the 1989–93 losses by an additional $6 billion, to $33 billion

Chart A2

NET INCOME OF FOREIGN-OWNED REAL ESTATE COMPANIES
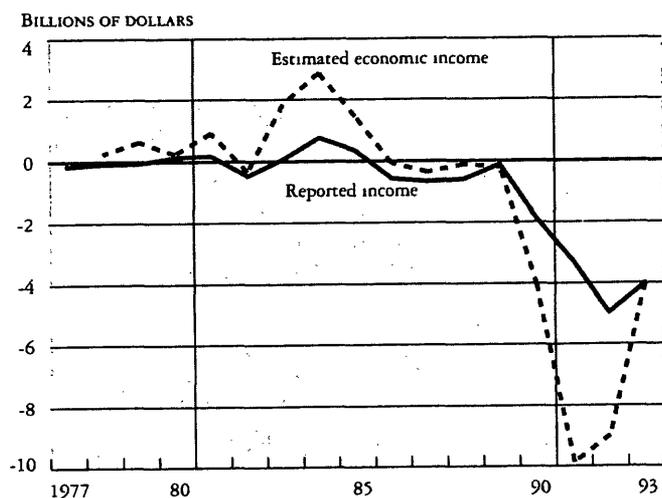
Sources U S Department of Commerce, Bureau of Economic Analysis, authors' estimates, Federal Reserve Bank of New York staff estimates.

Notes Economic income is the sum of operating income (rental revenues less operating and interest expenses) and calculated capital gains and losses Data for 1992 are preliminary, data for 1993 are partly estimated

Because other industries own the remaining 38 percent of commercial property, the total loss could be even higher, in the neighborhood of $50 billion

CONCLUSION

In losing $27 billion over 1989–93, foreign-owned real estate companies have incurred an average annual return on equity of –17 percent. The economic loss over 1989–93 is likely to be $13 billion worse than the published loss. These are very conservative estimates.

Two important factors left out of our calculation would only deepen the losses. From the standpoint of the foreign investors, what matters is the rate of return in home currency. The substantial leverage associated with real estate investment still typically leaves the equity exposed to exchange rate changes So for investors from the Continent and Japan, dollar losses have been compounded by the declines in the dollar against the home currency. Our estimates also assume that foreign-owned commercial property performed no worse than the overall U.S. market But at least

some foreigners appear to have invested more heavily in locations and types of commercial property that suffered the largest declines in value [39] At the same time, despite the scale of the losses in the United States, we make no claim that foreigners' investments turned out any worse than their investments in their home or third markets, since commercial property values have fallen worldwide (Bank for International Settlements 1993, pp. 155-81).

Both BEA data and market observers indicate that foreign investors have not liquidated their U.S. real estate holdings en masse Yet in view of the price decline and leverage, many foreign investors in U.S. real estate must have lost all of their equity. In some cases, loan collateral may have extended beyond U.S. properties to home country property. In other cases, banks and other creditors may have chosen to restructure debt service rather than to foreclose. In the event of restructurings or liquidations, the losses would have spread from the equity investors examined here to creditors, including foreign banks.[40]

APPENDIX II: MULTIPLE REGRESSION ANALYSIS
David S. Laster

The analysis in the text focuses on the bivariate relationships between profitability and each of four factors· the recency of acquisition of U.S. operations, leverage, exchange rates, and transfer pricing. In this appendix we use multiple regression analysis to assess the impact of each of these factors while holding the others constant.

The analysis uses annual data from the Bureau of Economic Analysis that fall into two general categories. Data on the operations of foreign-owned affiliates cover the years

1977 through 1991. Data on U S businesses acquired or established by foreign investors are for the years 1980 through 1992. The data are aggregates for each of the thirty-five industry categories that together account for all nonbank foreign direct investment.[41]

DEFINITIONS OF VARIABLES

To proxy for the maturity of foreign holdings within an industry, we define RECENCY for a given industry as the

assets of affiliates acquired or established in the current year or previous two years in that industry, divided by assets of all affiliates currently in the industry To measure the effect of leverage, the debt ratio LEV (total liabilities divided by assets) is used. Two variables capture the effect of transfer pricing. MPAR is the ratio of imports from foreign parent corporation to sales; XPAR is the ratio of exports to foreign parent corporation to sales. To control for any impact that trade activity, per se, has on profitability, we include two additional variables. MOTH is imports from other parties divided by total sales; XOTH is exports to other parties divided by sales.[42] While we have no expectations concerning the signs of the coefficients of MOTH and XOTH, we expect for reasons discussed above that RECENCY, LEV, MPAR, and XPAR will all have negative coefficients.

The exchange rate is the most difficult factor to model because it has widely diverse impacts on different industries. We assume, as a first approximation, that the sensitivity of an affiliate's profits to exchange rates is a linear function of its import and export exposure. In particular, we define $M*E = (MPAR + MOTH)*E$, and $X*E = (XPAR + XOTH)*E$, where E is the de-meaned natural logarithm of the trade-weighted dollar, as measured by the Board of Governors of the Federal Reserve System. Our expectation that an appreciation of the dollar will benefit importers and harm exporters means that the coefficients of $M*E$ and of $X*E$ should be positive and negative, respectively.

SUMMARY STATISTICS

Table B1 provides sample means for the dependent and explanatory variables used in the analysis, in aggregate and by major sector.[43] In aggregate, the profitability measures were strongest during the first five years of the sample, 1977-81; they were weakest in 1990 and 1991. Note that the average affiliate debt ratio (LEV), steady from 1977 to 1984, increased by 8 full percentage points from 1984 to 1991.

REGRESSION ANALYSIS

A series of twelve pooled regressions were run to test the impact of each of the factors discussed above on affiliate

Table B1
CHARACTERISTICS OF FOREIGN FIRMS IN THE UNITED STATES, 1977–91
Sample Means for All Industries

	Annual Averages															Average 1981-1991
	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	
ROA (percent)	2 94	2 83	3 14	2 22	2 80	0 51	1 24	2 33	0 98	−0 02	1 31	1 83	1 12	0 16	−0 66	1 05
ROS (percent)	2 79	3 50	3 31	2 27	2 63	0 18	0 96	1 81	0 81	0 20	1 31	1 79	1 26	−0 24	−1 34	0 85
RECENCY	N A	N A	N A	N A	0 343	0 299	0 212	0 121	0 129	0 192	0 224	0 280	0 248	0 222	0 157	0 22
LEV	0 659	0 672	0 678	0 676	0 665	0 673	0 655	0 656	0 667	0 677	0 679	0 690	0 710	0 735	0 738	0 69
MOTH	0 024	0 068	0 041	0 066	0 054	0 069	0 034	0 041	0 037	0 036	0 035	0 036	0 035	0 036	0 037	0 04
XOTH	0 038	0 032	0 036	0 044	0 047	0 042	0 041	0 038	0 033	0 03	0 032	0 047	0 046	0 048	0 05	0 04
MPAR	0 123	0 077	0 094	0 060	0 056	0 069	0 067	0 084	0 085	0 092	0 089	0 085	0 085	0 083	0 082	0 08
XPAR	0 022	0 024	0 024	0 024	0 022	0 023	0 020	0 023	0 021	0 018	0 017	0 022	0 022	0 021	0 024	0 02
E	−0 05	−0 16	−0 21	−0 21	−0 05	0 07	0 15	0 24	0 28	0 04	−0 11	−0 16	−0 09	−0 20	−0 19	0 00

Sources U S Department of Commerce, Bureau of Economic Analysis, Board of Governors of the Federal Reserve System

Notes Statistics represent an average of measures for component industries, weighted by the 1987 gross product of affiliates ROA = net income/assets, ROS = net income/sales, RECENCY = assets of U S affiliates acquired or established in the current year or previous two years/assets of all U S affiliates, LEV = (current liabilities + long-term debt)/ assets, MOTH = imports excluding those from foreign parent/sales, XOTH = exports excuding those to foreign parents/sales, MPAR = imports from foreign parent/sales, XPAR = exports to foreign parent/sales, E = de-meaned log of trade-weighted dollar Fluctuations in average values of MOTH and MPAR reflect changes in the set of industries for which the variables' values are available N A = not available

profitability. Two dependent variables were used return on assets and return on sales Each regression was run for the entire sample of thirty-five industries, for the nineteen manufacturing industries, and for the five wholesale trade industries.[44] The regressions were run using weighted least squares. Each observation, representing the performance of affiliates in a given industry, had a weight proportional to the 1987 gross product of affiliates in that industry. To control for variations in macroeconomic conditions over the sample period, year dummies were employed in each regression. Finally, each specification was run with and without industry dummies. When industry dummies are omitted, the regression explains variations in profitability across industries. When industry dummies are included, the regression explains variations in profitability within each industry over time.

The regression results are reported in Table B2 Because RECENCY and LEV are asset-based measures, their performance can best be discussed in the context of return on assets regressions 1-6.

RECENCY OF ACQUISITION OF U S OPERATIONS

As predicted, RECENCY has a negative coefficient in all six return on assets regressions; in five of these regressions, the estimated coefficient is significant at the 5 percent level. The coefficient of the first equation, –.058, implies that the difference in the return on assets of an industry whose affiliates have been purchased or established in the past three years and another all of whose affiliates have been operating under current ownership for three or more years would be 5.8 percent.[45] While of a similar magnitude for each sector, the estimated effect has greatest statistical significance for manufacturing affiliates.

LEVERAGE

In specifications without industry dummies, the leverage variable LEV is negative and significant at the 5 percent level

Its estimated coefficient in aggregate equation 1, – 081, means that each additional dollar of debt on an affiliate's books reduces its profits by 8.1 cents, consistent with a plausible 8.1 percent rate of interest. The corresponding coefficient for manufacturing, –.048, while smaller, is still within a standard error of a credible value, the coefficient for wholesale trade, – 163, seems too large. Equations 2, 4, and 6 suggest that the variable is better at explaining differences in profitability across industries than at explaining variations in the profitability of a given industry over time. The reason could be that leverage ratios vary less within a given industry than across industries.

EXCHANGE RATES

Because transfer pricing and exchange rate effects are transactions-based, the discussion concerning them focuses on the return on sales regressions 7-12. Five of these six regressions satisfy our expectation that the coefficients of M*E would be positive and those of X*E negative. X*E is most significant in the "all industries" regression, M*E is most significant for wholesale trade.

To interpret the magnitude of the parameter estimates, imagine two affiliates—one a "pure exporter," the other a "pure importer." The pure exporter sells all of its output abroad; the pure importer has imports equal to sales. Were the dollar to depreciate by 10 percent, the pure exporter would benefit. If the exporter held its export prices fixed in foreign currency terms, its profit margin would rise by 10 percentage points The estimated coefficient for X*E in equation 7 states that the pure exporter's profit margin actually rises by less, by 5.6 percentage points.

The pure importer, by contrast, would be harmed by a 10 percent dollar depreciation because it would raise the price of its inputs, all of which are imported In addition to any compression of profit margins by exporters to the United States, our estimate of M*E in equation 7 implies that the

pure importer's contemporaneous profit margin would decline by 1 2 percent

TRANSFER PRICING

Of the two proxies for transfer pricing, the variable XPAR fails to be significant in every specification, suggesting that affiliates do not extensively manipulate transfer prices when exporting Imports are a different story When industry dummies are not used, the variable MPAR is significantly negative at the 1 percent level for all industries and for manufacturing. Thus, reported profits are lowest for industries in which affiliates have the greatest opportunity to transfer price. Equation 7 associates each additional dollar of imports from the foreign parent with profits that are 6.7 cents lower. This effect is more pronounced in manufacturing (30 cents), and virtually nil in wholesale trade.

Table B2
PROFITABILITY OF FOREIGN FIRMS IN THE UNITED STATES BY INDUSTRY: 1981–91
Regression Results

Explanatory Variables	Return on Assets						Return on Sales					
	All Industries		Manufacturing		Wholesale Trade		All Industries		Manufacturing		Wholesale Trade	
	No Industry Dummies (1)	Industry Dummies (2)	No Industry Dummies (3)	Industry Dummies (4)	No Industry Dummies (5)	Industry Dummies (6)	No Industry Dummies (7)	Industry Dummies (8)	No Industry Dummies (9)	Industry Dummies (10)	No Industry Dummies (11)	Industry Dummies (12)
RECENCY	−0 058** (0 009)	−0 033** (0 009)	−0 039** (0 011)	−0 043** (0 012)	−0 078* (0 038)	−0 056 (0 056)	−0 061** (0 010)	−0 025* (0 010)	−0 036** (0 011)	−0 035** (0 011)	−0 023 (0 014)	−0 013 (0 019)
LEV	−0 081** (0 014)	−0 036 (0 019)	−0 048* (0 021)	0 005 (0 026)	−0 163** (0 033)	−0 113* (0 044)	−0 063** (0 017)	−0 020 (0 022)	−0 059** (0 021)	−0 008 (0 025)	−0 051** (0 012)	−0 035* (0 015)
M*E	0 331** (0 078)	0 324** (0 066)	−0 210 (0 268)	0 052 (0 257)	0 515** (0 089)	0 509** (0 091)	0 116 (0 094)	0 138 (0 073)	−0 128 (0 259)	0 176 (0 242)	0 145** (0 031)	0 144** (0 032)
X*E	−0 398* (0 173)	−0 450** (0 152)	−0 068 (0 333)	−0 512 (0 320)	−0 004 (0 122)	−0 077 (0 133)	−0 554** (0 208)	−0 570** (0 169)	−0 108 (0 321)	−0 652* (0 302)	−0 007 (0 043)	−0 023 (0 046)
MOTH	0 154** (0 045)	0 042 (0 058)	0 097 (0 063)	0 044 (0 073)	0 221** (0 055)	0 309** (0 108)	0 153** (0 054)	0 043 (0 065)	0 090 (0 061)	0 040 (0 069)	0 096** (0 019)	0 141** (0 037)
XOTH	−0 064 (0 049)	−0 093 (0 086)	−0 033 (0 062)	−0 250 (0 128)	−0 041 (0 063)	−0 016 (0 098)	0 030 (0 059)	−0 105 (0 096)	0 012 (0 059)	−0 258* (0 120)	−0 012 (0 022)	−0 015 (0 034)
MPAR	−0 052** (0 017)	−0 007 (0 049)	−0 312** (0 053)	−0 054 (0 084)	0 015 (0 031)	−0 087 (0 054)	−0 067** (0 021)	−0 027 (0 054)	−0 300** (0 051)	−0 067 (0 079)	0 007 (0 011)	−0 028 (0 019)
XPAR	−0 035 (0 089)	0 050 (0 140)	0 224 (0 173)	−0 432 (0 280)	0 090 (0 087)	0 151 (0 113)	−0 036 (0 107)	0 047 (0 156)	0 242 (0 167)	−0 384 (0 264)	0 028 (0 031)	0 038 (0 039)
Number of observations	327	327	202	202	51	51	327	327	202	202	51	51
Adjusted R-squared	0 32	0 60	0 34	0 58	0 91	0 93	0 23	0 58	0 33	0 60	0 90	0 92
F-statistic	15 1**	5 6**	10 4**	2 4*	44 5**	19 5**	9 9**	2 7**	10 2**	2 4*	38 0**	15 5**

Sources U S Department of Commmerce, Bureau of Economic Analysis, Board of Governors of the Federal Reserve System

Notes Return on assets = net income/assets, return on sales = net income/sales, RECENCY = assets of U S affiliates acquired or established in the current year or previous two years/assets of all U S affiliates, LEV = total liabilities/assets, M*E = (total imports/sales) *E, where E is the de-meaned log of the trade-weighted dollar, X*E = (total exports/sales) *E, MOTH = imports excluding those from foreign parent/sales, XOTH = exports excluding those to foreign parent/sales, MPAR = imports from foreign parent/sales, XPAR = exports to foreign parent/sales Observations are weighted by 1987 gross product of U S affiliates Standard errors are in parentheses Constant term, industry dummies, and year dummies are not reported Banking affiliates are excluded from the data The F-statistic is a joint test of the significance of the eight explanatory variables listed in the table

  *Significant at 5 percent level
  **Significant at 1 percent level

Conclusion

To summarize, the regression results closely conform to expectations. Recent acquisition activity and high leverage are associated with low profits Importers' profits move together with the dollar, while exporters' profits move against it And while exports to foreign parents prove insignificant, affiliates importing the most from their parent companies report the lowest profits.

ENDNOTES

1. Figures cited in paragraph are from Zeile (1994, p 154), and U.S. Department of Commerce (1993 Appendix D, Tables 16, 17, 32, 33).

2 Fahim-Nader 1994, p 50. "Acquisitions" and "establishments" in the Bureau of Economic Analysis data do not exactly correspond to purchases of existing assets and greenfield investment, respectively. Many greenfield investments proceed within firms already operating here The Japanese automotive companies, for example, have built up their manufacturing capacity within extant sales operations. Conversely, establishments can own preexisting assets. For example, a new partnership can hold an existing office building

3 From a regression for 1979-91 that does not control for interest rates or economic growth, Klein and Rosengren (1994, p. 382), report a slightly smaller elasticity of 1.56. Using International Trade Administration data for 1977-86, Caves (1989) derives similar results for relative equity prices His measure is significant for only some specifications. Given the strong trend of stock prices and acquisitions from Japan, it is not surprising that without Japan, the R^2 in our regression falls from 55 to .41. While foreign and domestic equity prices retain their respective signs, the significance of foreign equity price declines to the .08 level and the significance of U.S equity prices is lost The last wave of the British acquisitions in the late 1980s is hard to reconcile with the cost of equity explanation (McCauley and Eldridge 1990).

4 This measure is only indicative since outlays that are financed with debt to unaffiliated parties do not become part of the ownership stake.

5 Note that profitability is measured as a return on sales rather than on assets to eliminate the effect of asset revaluations in an acquisition.

6. Fahim-Nader (1994, p 58) provides return on sales data for foreign acquisitions in 1987-93. Chart 6 focuses on 1987-89 to avoid any distortions owing to recession The consistency of the underperformance of targets of foreign acquisitions in the BEA data makes it odd that a sample of 118 acquisitions showed no difference in profit between acquisition targets and nonfinancial firms on Compustat (Grubert, Goodspeed, and Swenson 1993, p. 256). "The inconsistency may be due to differences in sample size and coverage, to purchases of parts or divisions of a company, rather than the whole firm, and other differences" (Grubert 1993, p 93). To the factors cited may be added the possibility that the universe of Compustat nonfinancial firms may not offer an appropriate basis of comparison.

7. Swenson (1993, pp 255-84) finds that price-earnings ratios of foreign targets are 19 percent higher than those of domestic targets.

8 This discussion confines itself to manufacturing for two reasons. First, doing so avoids the question of the comparability of interest expense

Note 8 continued

between "foreign-controlled" and "other domestic" firms in the finance, insurance, and real estate sector, owing to differences in composition within the sector Second, focusing on the sector in which foreign firms were most profitable in 1990 minimizes the possibility of mistaking a general decline in corporate profits for evidence of post-acquisition costs. Indeed, foreign manufacturers were more profitable in 1990 than in 1986-89, so the estimate of more than $4 billion for the post-acquisition decline in manufacturing profits is, if anything, understated. Data on the profitability of firms in the year before acquisition are from U.S. Department of Commerce (1993) Appendix D, Tables 16, 17, 32, 33. The Internal Revenue Service data on firms recently incorporated differ slightly from the Commerce Department figures The Internal Revenue Service data include newly established firms, but these are small relative to newly acquired firms. In particular, for the years 1987-90, foreign firms that were newly established generated in their first year of operation only about a twentieth as many sales as did newly acquired firms in the year before they were bought. Note also that some newly acquired firms do not get re-incorporated

9. Manufacturers incorporated 1987-90 reported assets of $109 billion on their 1990 tax returns; $109 billion x 10.9 percent x 8 percent interest rate yields $0.95 billion

10. Grubert, Goodspeed, and Swenson (1993, p. 251) reach a different conclusion. "The date of incorporation variables reflect asset revaluations rather than operating start-up losses " Curiously, these authors later (p. 258) embrace a "maturation" effect as showing improved operating results over time. Note that the 1986 Tax Act removed much of the opportunity for acquirers of firms to step up the value of assets for the purpose of taking larger depreciation expenses

11. The reporter explained that "development spending for new products soared partly because Coca-Cola, in anticipation of a sale of the studios, had sharply curtailed production, and the new owners were left with only a handful of projects " An unnamed source was cited as saying that "operating profits never exceeded a hundred million dollars," and that figure did not include the debt incurred in buying the studios for "the official price of $3 4 billion," or "closer to six billion, considering all the collateral costs" (Stewart 1994, pp. 48, 51).

12. Canada was the exception, suggesting that geographic, linguistic, and cultural distance matters (Lupo, Gilbert, and Liliestedt, 1978). Year of incorporation is a noisy proxy for age because new operations can be absorbed into, or made a subsidiary of, long-standing operations without a new incorporation Long-standing operations can be reorganized and freshly incorporated.

13 See Grubert, Goodspeed, and Swenson (1993, p 256) The results are not comparable since the firms in the fixed sample that were recently acquired in 1980 would have benefited from the General Utilities step-up of assets for tax depreciation

14 The time that elapses between an acquisition and the sale or liquidation that stems from a recognition of its failure (perhaps after a management change) suggests that the (smaller) number of employees some years before the divestment would be a more appropriate denominator Our attrition rate is therefore a conservative measure

15 Note that these data also include manufacturing results for Japanese automotive firms whose primary activity was in wholesale trade

16 Knetter (1994) recognizes that these studies overlook the fact that the U S importer is an affiliate of the foreign exporter Ragnan and Lawrence (1993) represent an exception on the export side, they find that although dollar export prices respond little to the dollar's exchange rate, U S multinationals' foreign affiliates do vary margins in response to exchange rate changes

17 By contrast, Grubert, Goodspeed, and Swenson (1993, pp 256-7) force the profitability of all of wholesale trade and all of manufacturing to respond in the same manner to the dollar's value and find a positive relation for wholesale trade and no relation for manufacturing See Appendix II for a regression design that tests the interaction of the dollar's exchange rate with each industry's net imports

18 Offsetting this general relation to some extent is the greater import propensity of foreign-owned manufacturing firms (Graham and Krugman 1991, pp 67-70)

19 This test does not preclude the opportunity for foreign firms to be more leveraged at home, and therefore in the United States, than are U S firms Moreover, note that if U S assets are accounted at closer to market value than are global assets because they are recently acquired, then even this standard permits effectively higher leverage in the United States than in the consolidated global firm

20 "IRS efforts in the transfer pricing area are of relatively recent vintage, as they relate to FCCs [foreign-controlled corporations]" (IRS Commissioner Fred T Goldberg, cited in U S Congress, Committee on Ways and Means, 1990, p 203) The international staffing at IRS can be interpreted in various ways "While the number of foreign-owned subsidiaries in this country has soared in the last decade, the number of international examiners at IRS has remained flat, between 400 and 500, for the last four years " Cf "The number of foreign-owned corporate income tax returns filed increased from twenty thousand in 1980 to forty-five thousand in 1987

Note 20 continued
International staffing increased from approximately two hundred international examiners in 1980 to almost five hundred positions in 1987" (Statements of Rep David E Bonier and Patrick G Heck, Assistant Counsel, *ibid*, p 54

21 Foreign firms might also have other incentives for shifting income from the United States Managers' performance could, for example, be evaluated more on the basis of home market results than on the performance of foreign subsidiaries Or firms might decide that it is in their ultimate self-interest to pay taxes to local tax authorities rather than to the U S Treasury

22 Statements of Fred T Goldberg, Commissioner of Internal Revenue, and Charles S Triplett, IRS Deputy Assistant Chief Counsel (U S Congress, House Committee on Ways and Means, 1990, pp 78 and 104)

23 In Britain, the integration of corporate and individual taxation allows shareholders a tax credit for corporate income taxes paid to the Inland Revenue on income earned in Britain But many multinationals based in Britain lack sufficient British earnings and thus British income taxes paid. They therefore must pay additional advance corporation tax on dividends paid

24 But see Hufbauer and Van Rooij (1992, p 132) for the view that major countries other than the United States de facto tax on the territorial principle

25 The 1992 loss for the credit countries reflects a loss of $3 4 billion by Canadian manufacturers in 1992, compared with a profit of $1 5 billion in 1991 This swing is entirely explained by DuPont, in which the Canadian firm Seagram's holds a 24 4 percent stake DuPont swung from a $1 4 billion profit in 1991 to a $3 9 billion loss in 1992 owing to $4 8 billion in accounting charges for post-retirement medical benefits and for higher deferred taxes (Moody's 1994, pp 1126, 4185)

26 Grubert, Goodspeed, and Swenson (1993, pp 252-53) find no relation between affiliate profitability and total purchases from other firms (which at best proxies intrafirm transactions only crudely) When the relationship between reported profits and exports to parents was tested, no correlation was found

27 Recency of acquisition might also play a role New affiliates are both less profitable and more reliant on intrafirm imports than are old affiliates. Accordingly, the multivariate regression controls for recency of acquisition as well

28 A similar calculation may have generated the estimate of the tax revenues to be raised by "prevent[ing] tax avoidance by foreign corporations"

Note 28 continued
$9 0 billion in 1993, $11 0 billion in 1994, $11 5 billion in 1995, and $13 5 billion in 1996 (Clinton 1992, p 22)

29 The comparable figure for other U S firms was 47 percent in 1990 (Hobbs 1993, p 131)

30 The Internal Revenue Service data on which the calculation is based do not include any adjustments resulting from audits The comparability of the activities of foreign and domestic firms in wholesale trade has been questioned owing to the high import intensity of, and relatively low value added by, foreign firms (KMPG Peat Marwick 1994, p 9) Offsetting this bias is the failure of the calculation for manufacturing to account for the long-noted heavy mix of more profitable, more research-and-development-intensive industries among foreign firms here

31 Unless otherwise noted, "real estate" includes foreign affiliates principally engaged in development and management of property It excludes hotels, which are grouped into services in the foreign direct investment data gathered by the Bureau of Economic Analysis (BEA) This appendix also excludes from the analysis commercial property owned by other kinds of industries such as manufacturers, oil companies, or banks, as well as residential property used for personal purposes The BEA also computes income data in an annual analysis of the balance of payments (BOP) flows caused by foreign direct investment The balance of payments income includes that part of the operations net income that is earned by the foreign parent as well as net interest paid on intercompany debt In 1990–92, the BOP data show losses of $3 8 billion (U S Department of Commerce, 1993a, p 86) This number is smaller than the sum of the income reported in operations data because the foreign parents owned only 75 percent of their real estate affiliates and were owed interest on a net debt of $17 billion in 1991 Despite these differences, the general results of this appendix also apply to the BOP concept of income

32 The Russell capital index tracks the assessed market value of unleveraged property only, while the total index also includes rental income and operating costs The capital index measures the change in appraised value less the cost of any capital improvements, it excludes the depreciation of book values Giliberto terms the index "the most widely used performance measure for real estate " See Giliberto 1994, p 55, for the formula

33 Because most domestic real estate companies are privately owned, little data are available on their financial performance Until quite recently, exchange-traded real estate investment trusts remained a small and probably unrepresentative proxy for real estate values Moreover, like closed-end funds, such trusts trade at values that bear a varying relation to underlying asset values A direct comparison between domestic and foreign real estate companies is therefore not attempted

34 See Theodore Fischer, "Foreign Investors' Losses in Real Estate: A Methodological Note," Federal Reserve Bank of New York working paper, for details on the estimation

35 The sales data do not include the property of companies that are liquidated or pass out of foreign ownership, events akin to sales The value of property, plant, and equipment of real estate affiliates that ceased to exist is reported in a residual category labeled "restatements " The value of liquidated or sold firms' property could be as high as $2 billion and $5 billion in 1991 and 1992, respectively, as opposed to the sales of $4 5 billion and $2 9 billion, respectively, for which we have accounted Because such liquidations naturally occurred after most of the real estate price decline, including them in our estimates would decrease estimated 1992-93 losses by no more than $0 6 billion

36 Depreciation is excluded from operating income since the Russell index captures the drop in assessed value if needed capital improvements are not made, or their cost if they are made Estimated realized capital gains and revaluations are excluded from operating income as it is used here since they are already accounted for in our measure of capital gains based on the Russell index

37 Because consistent information is not available on the size of dividends, they are assumed to be zero External capital infusions are obtained by taking the annual change in the BEA published value for owners' equity and excluding an estimated change in retained earnings of all affiliates (including unincorporated ones)

38 We have projected that next year, BEA will report $2 4 billion for 1993 depreciation The gap will be wider if this estimate proves too large

39 In its report *1993 Japanese Disinvestment in U.S Real Estate,* Kenneth Leventhal & Company indicates that the Japanese investors put 50 percent of their nonhotel investments into offices, while offices constitute only 32 percent of the Russell-NCREIF index (hotels only make up a very small part of the Russell index) The Russell office index declined by 36 2 percent over 1990-92, while the overall index declined by only 26 7 percent However, there is no information on the sectoral distribution of all foreign-owned real estate

40 Losses on U S real estate can appear in odd places In 1993, Long Term Credit Bank's Australian subsidiary reportedly made a A$45 million provision against a loan to the U S subsidiary of EIE Limited, a troubled Japanese real estate company that financed a New York hotel ("No Relief from Bad Debts in Australia," Asia Money, July-August 1994, p 25)

41 Our thirty-five industries are petroleum, food and kindred products, industrial chemicals and synthetics, drugs, soap, cleaners, and toilet goods,

Note 41 continued

other chemicals, primary metal industries, fabricated metal products, machinery, except electrical, electric and electronic equipment, textile products and apparel, lumber, wood, furniture, and fixtures, paper and allied products, printing and publishing, rubber and miscellaneous plastics products, stone, clay, and glass products, transportation equipment, instruments and related products, other manufacturing, motor vehicles and equipment wholesale trade, metals and minerals wholesale trade, other durable goods wholesale trade, farm-product raw materials wholesale trade, other nondurable goods wholesale trade, food stores, other retail trade, finance, except banking, insurance, real estate, services, agriculture, forestry, and fishing, mining, construction, transportation, and communication and public utilities The Bureau of Economic Analysis, for reasons of confidentiality, suppresses data for some industries in certain years Thus, our "all industries" regressions have 327 observations of a possible 385 for the eleven-year sample period The regressions are run on the observations available

42   A second reason for including these variables is that they, together with MPAR and XPAR, serve as slope dummies for the interaction terms

Note 42 continued

M*E and X*E

43   To be consistent with the regression estimates, these averages are weighted by the 1987 affiliate gross product of each industry

44   Since six of the explanatory variables used in the regression are trade-related, and the finance sector is virtually uninvolved in trade, efforts to apply the analysis to that sector yield few results and are therefore not reported

45   This estimate is much larger than the 2 2 percent gap implied by IRS data In 1990, affiliates incorporated within the three previous years earned a return on assets of −1 7 percent, while those incorporated more than three years earlier earned 0.5 percent One reason for the discrepancy is that year of incorporation is an unreliable indicator of the true age of a corporation Thus, some newly acquired affiliates are misclassified as more mature ones and vice versa, downwardly biasing the gap between new and old affiliates For further discussion, see Hobbs 1993, pp 132-34

REFERENCES

"A 25-Year Profile of Mergers and Acquisitions " MERGERS & ACQUISITIONS, September-October 1990

Auerbach, Alan J , and Kevin Hassett 1993 "Taxation and Foreign Direct Investment in the United States A Reconsideration of the Evidence " In Alberto Giovannini, R Glenn Hubbard, and Joel Slemrod, eds , STUDIES IN INTERNATIONAL TAXATION Chicago University of Chicago Press

Bank for International Settlements 1993 ANNUAL REPORT. Basle Bank for International Settlements

Bezirganian, Steve D. 1993 "U S Affiliates of Foreign Companies Operations in 1991," SURVEY OF CURRENT BUSINESS 735 (May) 89-112

Blair, Margaret M., and Robert Litan 1990 "Corporate Leverage and Leveraged Buyouts in the Eighties " In John B Shoven and Joel Waldfogel, eds , DEBT, TAXES, AND CORPORATE RESTRUCTURING Washington, D C Brookings, 1990

Browning, E S 1993 "Thomson's RCA Unit No TV Bonanza " WALL STREET JOURNAL, August 19

Cakici, Nusret, Chris Hessel, and Kishore Tandon 1991 "Foreign Acquisitions in the United States and the Effect on Shareholder Wealth " JOURNAL OF FINANCIAL MANAGEMENT AND ACCOUNTING 3 39-60

REFERENCES *(Continued)*

Caves, Richard E , and Matthew B Krepps 1993 "Fat The Displacement of Nonproduction Workers from U S Manufacturing Industries " BROOKINGS PAPERS ON ECONOMIC ACTIVITY· MICROECONOMICS 2 227-88

Caves, Richard E 1989. "Exchange-Rate Movements and Foreign Direct Investment in the United States " In D B Audretsch and M P Claudon, eds , THE INTERNATIONALIZATION OF U S. MARKETS New York New York University Press.

Cebenoyan, A Sinan, George J. Papaioannou, and Nickolaos G Travlos 1992 "Foreign Takeover Activity in the U S and Wealth Effects for Target Firm Shareholders " FINANCIAL MANAGEMENT 58-68

Clinton, Bill 1992 "Putting People First A National Economic Strategy for America "

Conn, R L., and F. Connell. 1990. "International Mergers Returns to U S and British Firms " JOURNAL OF BUSINESS FINANCE & ACCOUNTING 17 689-711

Dewenter, Kathryn L 1992a "Do Exchange Rate Changes Drive Foreign Direct Investment?" University of Chicago

——— 1992b "Do Foreign Investors Pay More than Domestic Investors for U S Acquisition Targets?" University of Chicago.

Encarnation, Dennis J 1992 RIVALS BEYOND TRADE New York Cornell University Press

Fahim-Nader, Mahnaz 1994 "U.S Business Enterprises Acquired or Established by Foreign Direct Investors in 1993 " SURVEY OF CURRENT BUSINESS 74 5 (May) 50-61

Franks, Julian, Robert Harris, and Sheridan Titman 1991. "The Postmerger Share-Price Performance of Acquiring Firms " JOURNAL OF FINANCIAL ECONOMICS 29 81-96

Franks, Julian, and Robert S Harris 1989 "Shareholder Wealth Effects of Corporate Takeovers The U K Experience 1955-1985 " JOURNAL OF FINANCIAL ECONOMICS 23 225-50

Froot, Kenneth, and P Klemperer 1989 "Exchange Rate Passthrough When Market Share Matters " AMERICAN ECONOMIC REVIEW 79 637-51

Giliberto, S Michael 1994 "The Inside Story on Rates of Return " JOURNAL OF REAL ESTATE FINANCE 11 1 (Spring) 51-54

Graham, Edward M , and Paul R Krugman 1991 FOREIGN DIRECT INVESTMENT IN THE UNITED STATES, 2d ed. Washington, D C Institute for International Economics

Grubert, Harry. 1993 "Taxes and Foreign-Controlled Companies in the United States " In FOREIGN DIRECT INVESTMENT IN THE UNITED STATES AN UPDATE Washington, D C U S Department of Commerce

Grubert, Harry, Timothy Goodspeed, and Deborah Swenson 1993. "Explaining the Low Taxable Income of Foreign-Controlled Companies in the United States " In Alberto Giovannini, R. Glenn Hubbard, and Joel Slemrod, eds , STUDIES IN INTERNATIONAL TAXATION Chicago University of Chicago Press.

Harris, Robert S , and David Ravenscraft 1991 "The Role of Acquisitions in Foreign Direct Investment Evidence from the U S Stock Market " JOURNAL OF FINANCE 46 3 (July)· 825-44

Healy, Paul M , Krishna G Palepu, and Richard S Ruback. 1992 "Does Corporate Performance Improve After Mergers?" JOURNAL OF FINANCIAL ECONOMICS 31 135-75

Herr, Ellen M 1988 "U S Business Enterprises Acquired or Established by Foreign Direct Investors in 1987 " SURVEY OF CURRENT BUSINESS 68 5 (May) 50-75

Hobbs, James R. 1993 "Domestic Corporations Controlled by Foreign Persons, 1990 " INTERNAL REVENUE SERVICE STATISTICS OF INCOME BULLETIN, 13 2 (Fall) 125-41

Hood, Neil, and Stephen Young. 1986 "Foreign Direct Investment in the U S Automobile Industry " In H Peter Gray, ed , UNCLE SAM AS HOST, RESEARCH IN INTERNATIONAL BUSINESS AND FINANCE, vol 5 Greenwich, Connecticut SAI Press

Hooper, Peter, and Catherine Mann 1989 "Exchange Rate Passthrough in the 1980s The Case of U S Imports of Manufactures " BROOKINGS PAPERS IN ECONOMIC ACTIVITY 1 297-329

Howenstine, Ned G 1987 "U S Affiliates of Foreign Companies· Operations in 1985 " SURVEY OF CURRENT BUSINESS 67 5 (May) 36-51

Hufbauer, Gary Clyde, and Joanna M. Van Rooij 1992 U S TAXATION OF INTERNATIONAL INCOME BLUEPRINT FOR REFORM Washington, D C Institute for International Economics

REFERENCES *(Continued)*

Kaplan, Steven N , and Jeremy C Stein 1993 "The Evolution of Buyout and Financial Structure in the 1980s " QUARTERLY JOURNAL OF ECONOMICS (May) 313-57

Kaplan, Steven N , and Michael S. Weisbach 1992. "The Success of Acquisitions Evidence from Divestitures " JOURNAL OF FINANCE 47 107-38

Kang, Jun-Koo. 1993 "The International Market For Corporate Control Mergers and Acquisitions of U S Firms By Japanese Firms " JOURNAL OF FINANCIAL ECONOMICS (December) 345-71

Kapler, Janis 1994 "Measuring Real Economic Rates of Return TNCs vs Domestic Firms " Paper presented at the Eastern Economic Association Meeting, March 1994

Kenneth Leventhal & Company 1993 1993 JAPANESE DISINVESTMENT IN U S REAL ESTATE

Klein, Michael W , and Eric Rosengren 1994 "The Real Exchange Rate and Foreign Direct Investment in the United States· Relative Wealth vs Relative Wage Effects " JOURNAL OF INTERNATIONAL ECONOMICS 36 373-389

Knetter, Michael M. 1994 "Exchange Rates and Corporate Pricing Strategies." In Yakov Amihud and Richard M Levich, eds , EXCHANGE RATES AND CORPORATE PERFORMANCE New York Irwin Professional Publishing

Kogut. Bruce, and Sea Jin Chang. 1991 "Technological Capabilities and Japanese Foreign Direct Investment in the United States " REVIEW OF ECONOMICS AND STATISTICS 73· 401-13

Krugman, Paul 1987 "Pricing to Market When the Exchange Rate Changes " In Sven W Arndt and J. David Richardson, eds , REAL-FINANCIAL LINKAGES AMONG OPEN ECONOMIES Cambridge, Mass MIT Press

Landefeld, J Steven, Ann M Lawson, and Douglas B Weinberg. 1992 "Rates of Return on Direct Investment " SURVEY OF CURRENT BUSINESS 72 8 (August) 79-86

Lipsey, Robert E. 1993 "Foreign Direct Investment in the United States Changes Over Three Decades " In Kenneth A Froot, ed , FOREIGN DIRECT INVESTMENT Chicago University of Chicago Press

———— 1991 "Foreign Direct Investment in the United States and U S Trade " ANNALS OF THE AMERICAN ACADEMY OF POLITICAL AND SOCIAL SCIENCE 516 76-90

Long, William F , and David J Ravenscraft. 1993 "Decade of Debt Lessons from LBOs in the 1980s " In Margaret M Blair, ed , THE DEAL DECADE Washington, D C Brookings Institution

Lupo, L A , Arnold Gilbert, and Michael Liliestedt. 1978 "The Relationship Between Age and Rate of Return of Foreign Manufacturing Affiliates of U S Manufacturing Parent Companies " SURVEY OF CURRENT BUSINESS 58 8 (August) 60-66

Lutzy, John, and Randy Miller. 1992 "Controlled Foreign Corporations, 1988 " Internal Revenue Service STATISTICS OF INCOME BULLETIN 12 2 (Fall). 60-87

Magenheim, Ellen B , and Dennis C Mueller 1988 "Are Acquiring-Firm Shareholders Better Off After An Acquisition?" In John Coffee Jr., Louis Lowenstein, and Susan Rose-Ackerman, eds , KNIGHTS, RAIDERS AND TARGETS New York Oxford University Press

Marston, Richard. 1990 "Pricing to Market in Japanese Manufacturing " JOURNAL OF INTERNATIONAL ECONOMICS 29 217-36

McCauley, Robert N , and Dan P Eldridge 1990 "The British Invasion Explaining the Strength of U K Acquisitions of U S Corporations " In INTERNATIONAL PRIVATE CAPITAL FLOWS Basle Bank for International Settlements

McCauley, Robert N , and Steven A Zimmer 1994 "Exchange Rates and International Differences in the Cost of Capital " In Yakov Amihud and Richard M. Levich, eds , EXCHANGE RATES AND CORPORATE PERFORMANCE New York Irwin Professional Publishing

———— 1989 "Explaining International Differences in the Cost of Capital " FEDERAL RESERVE BANK OF NEW YORK QUARTERLY REVIEW 14 2 (Summer) 7-28

Merrill Lynch Business Services MERGERSTAT REVIEW 1992

Moody's Investor Services 1993 MOODY'S INDUSTRIAL MANUAL New York Moody's

Okuro, Kenichi 1989 "Export Price Behavior of Manufacturing A U S - Japan Comparison " INTERNATIONAL MONETARY FUND STAFF PAPERS 36 550-79

Organization for Economic Cooperation and Development 1991 TAXING PROFITS IN A GLOBAL ECONOMY DOMESTIC AND INTERNATIONAL ISSUES Paris

Quijano, Alicia M 1990 "A Guide to BEA Statistics on Foreign Direct Investment in the United States." SURVEY OF CURRENT BUSINESS 70 2 (February) 29-37

Policy Economics Group, KPMG, Peat Marwick 1994 Review of Internal Revenue Service Statistics on Foreign Controlled Corporations, 1986 through 1990

Porter, Michael E 1988 "From Competitive Advantage to Corporate Strategy." HARVARD BUSINESS REVIEW 43-59

Rangan, Subramanian, and Robert Lawrence 1993 "The Responses of U S. Firms to Exchange Rate Fluctuations Piercing the Corporate Veil." BROOKINGS PAPERS ON ECONOMIC ACTIVITY 2 341-69

Ravenscraft, David J., and F M Scherer 1987 MERGERS, SELL-OFFS, AND ECONOMIC EFFICIENCY Washington, D C The Brookings Institution

Remolona, Eli M. 1990 "Understanding International Differences in Leverage Trends." Federal Reserve Bank of New York QUARTERLY REVIEW 15 1 (Spring) 31-42

Scholl, Russell B 1994 "The International Investment Position of the United States in 1993." SURVEY OF CURRENT BUSINESS 74 6 (June) 63-71

Slemrod, Joel 1990 "Tax Effects on Foreign Direct Investment in the United States Evidence from a Cross-Country Comparison." In Assaf Tazin and Joel Slemrod, eds, TAXATION IN THE GLOBAL ECONOMY Chicago University of Chicago Press

Stewart, James B 1994 "Sony's Bad Dream." NEW YORKER, February 28

Swenson, Deborah L 1993 "Foreign Mergers and Acquisitions in the United States." In Kenneth A Froot, ed, FOREIGN DIRECT INVESTMENT Chicago University of Chicago Press

U S Congress House Committee on Ways and Means Subcommittee on Oversight 1990 TAX UNDERPAYMENTS BY U S SUBSIDIARIES OF FOREIGN COMPANIES HEARINGS, 101st Congress, 2d Sess

U S Congress Joint Committee on Taxation 1989 FEDERAL INCOME TAX ASPECTS OF CORPORATE FINANCIAL STRUCTURES (JCS-1-89), January 18

U S Department of Commerce. Bureau of Economic Analysis 1984-94 FOREIGN DIRECT INVESTMENT IN THE UNITED STATES OPERATIONS OF U S AFFILIATES OF FOREIGN COMPANIES REVISED 1977-91 ESTIMATES

U.S. Department of Commerce. Bureau of Economic Analysis 1989 "Foreign Direct Investment in the United States U S Business Enterprises Acquired or Established by Foreign Direct Investors 1980-1986." Unpublished paper

U S. Department of Commerce Bureau of Economic Analysis 1992 "Foreign Direct Investment in the United States Detail for Historical-Cost Position and Balance of Payments Flows, 1991." SURVEY OF CURRENT BUSINESS 72 8 (August) 87-144

U S Department of Commerce Economics and Statistics Administration 1993 FOREIGN DIRECT INVESTMENT IN THE UNITED STATES AN UPDATE Washington, D C Department of Commerce

U.S. Department of the Treasury and Internal Revenue Service 1988 "A Study of Intercompany Pricing." STANDARD FEDERAL TAX REPORTS 75

Weinberg, Douglas B 1994 "U S International Transactions, First Quarter 1994." SURVEY OF CURRENT BUSINESS (June) 86-127

Zeile, William J. 1994 "Foreign Direct Investment in the United States 1992 Benchmark Survey." SURVEY OF CURRENT BUSINESS (July) 154-86