

JAPANESE TRANSPLANTS IN
THE UNITED STATES
AUTOMOBILE INDUSTRY

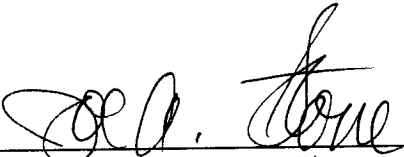
by

HIROKAZU ONO

AN HONORS THESIS

Presented to the Department of Economics
of the University of Oregon
for the degree of Bachelor of Arts

June 1993

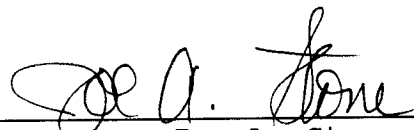
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An Abstract of the Thesis of
Hirokazu Ono for the degree of Bachelor of Arts
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Title: JAPANESE TRANSPLANTS IN THE UNITED STATES AUTOMOBILE
INDUSTRY

Approved: _____


Dr. Joe A. Stone

This study examines the impact of Japanese transplant automakers on the U.S. automobile industry. After an agreement on voluntary export restraints (VER), Japanese automobile producers have increasingly invested in assembly and parts plants in the United States. Under the VER, U.S. producers enjoyed above-normal profits, while selling fewer cars. However, due to an increase in transplant sales, the Big Three U.S. automakers have experienced worsening profits and posted substantial losses in recent years.

To investigate this transformation of the automobile market structure, I first examine the general trend of Japanese Foreign Direct Investment (FDI), and then investigate the history and structure of the U.S. automobile industry. Finally, using regression analysis, I estimate the price elasticities of demand for the Big Three and transplant compact-sized car sales.

The primary finding is that the price elasticity for Japanese transplant compact cars are^s comparable to, or possibly lower than those of similar U.S. cars. In addition, Japanese automakers have

succeeded in consolidating brand loyalty for their cars. Based on these advantages, Japanese firms are likely to focus increasingly on larger car markets in the future.

ACKNOWLEDGMENTS

I would like to express my sincere thanks to many of the people who helped to make the completion of this thesis possible, especially, Joe A. Stone and Lisa T. Johnson.

TABLE OF CONTENTS

CHAPTER	Page
I. INTRODUCTION.....	1
II. FOREIGN DIRECT INVESTMENT.....	6
Definition.....	6
FDI Theory (Macroeconomic Approach).....	10
FDI Theory (Microeconomic Approach).....	14
FDI Trends.....	19
FDI in the United States.....	32
Japanese FDI in the United States.....	42
III. UNITED STATES AUTOMOBILE INDUSTRY.....	53
United States Auto Industry Dominance.....	54
Competition with Importers.....	59
Competition with Transplants.....	67
IV. REGRESSION ANALYSIS.....	76
Review of Previous Studies.....	76
Disaggregate, Compensatory Models....	76
Disaggregate, Noncompensatory Models.	77
Aggregate Models.....	78
Estimated Models.....	79
Price Elasticities.....	92
V. CONCLUSION.....	96
APPENDIX	
A. DEMAND FUNCTIONS FOR AUTO SALES ESTIMATED BY RUBIN AND HARTMANN.....	99
B. PAASCHE PRICE INDEX.....	101
C. VARIABLES.....	107
Sources.....	107
Data.....	107
D. MODEL SELECTION.....	110
Method.....	110

E.	DIFFERENCE IN PRICE ELASTICITIES.....	116
	US(joint) vs US(best) and	
	J(joint) vs J(best).....	116
	US equation.....	116
	Transplant equation.....	116
	US(joint) vs J(joint) and	
	US(best) vs J(best).....	117
	Joint-Version.....	117
	Best-Version.....	117
	NOTES.....	118
	BIBLIOGRAPHY.....	131

LIST OF TABLES

TABLE	Page
1. Local Content of Transplants in the United States.....	4
2. The Share of Greenfield Investment and Takeover in Foreign Direct Investment in the United States, 1980-1989.....	9
3. Foreign Direct Investment (Flows) of Developed and Developing Countries, 1986-1990.....	22
4. Foreign Direct Investment of Group of Five.....	23
5. Intra-Triad Foreign Direct Investment, 1989.....	31
6. Foreign Direct Investment Clusters of Triad Members, 1986-1989.....	34
7. Inward and Outward Foreign Direct Investment of the United States (Stocks), 1977-1991.....	37
8. International Investment Positions of the United States, 1977-1991.....	38
9. Inward and Outward Foreign Direct Investment Positions of Group of Five, Current Cost, 1983-1991.....	39
10. Japanese Share in Foreign Direct Investment in the United States, 1977-1990.....	44
11. Japanese Investment Position in the United States, by Industry, 1981, 1986, 1991....	45
12. Foreign Direct Investment Position in the United States on a Historical-Cost Basis, 1976, 1981, 1986-1991.....	50
13. Market Share, 1960-1991.....	57
14. U.S. Auto Industry Net Income (Loss), 1961-1991.	62
15. Voluntary Export Restraint (VER), 1981-1992.....	64
16. Japanese (Automobile) Transplants in the United States, 1982-1992.....	69

17. Research and Development (R&D) Expenditures in the Automobile Industry, United States and Japan, 1980-1988.....	74
18. Assembly Plant Closures and Startups in the United States, 1979-1989.....	75
19. Regression Results: Four Estimated Models.....	88
20. Price Elasticities of Demand.....	93
21. Manufacturers' Suggested Retail Prices of Compact Cars.....	103
22. Market Share of Compact Cars.....	104
23. Data of Variables.....	108
24. Regression Results: The Big Three, Joint-Version.....	112
25. Regression Results: Transplants, Joint-Version..	113
26. Regression Results: The Big Three, Best-Version.	114
27. Regression Results: Transplants, Best-Version...	115

LIST OF FIGURES

FIGURE	Page
1. Japanese Transplant and the Big Three Car Production in the United States, 1982-1991.....	2
2. Trade Balance and Current Account Balance of the United States, 1970-1991.....	7
3. Exchange Rates (yen/\$) and Japanese Foreign Direct Investment in the United States, 1980-1991.....	17
4. Foreign Direct Investment of Group of Five, 1970-1991.....	20
5. Foreign Direct Investment, Gross National Product Per Capita, and Gross Domestic Investment Per Capita, 1970-1990.....	25
6. U.S. Foreign Direct Investment, International Trade, and Royalty and Fees Receipts, 1970-1990.	28
7. Economic Growth (Average Annual Growth of Gross Domestic Product) of OECD Members and World, 1970-1990.....	33
8. The Share of U.S. Affiliates in the United States, 1977-1990.....	40
9. Current-Cost Gross Private Fixed Capital in the United States, 1960-1991.....	41
10. The Share of Japanese Outward Foreign Direct Investment (Flows) of the World, 1970-1991.....	43
11. The Share of Japanese Outward Foreign Direct Investment (Flows) to North America and Asia, 1967, 1973, 1981, 1990.....	48
12. Foreign Direct Investment Position in the United States, 1962-1991.....	49
13. Prices of Domestic and Import Cars, 1960-1991...	66
14. The Change in Market Share of Each Auto Class in the United States, 1983-1989.....	80
15. Car Sales of Japanese Transplants and Grand Total, 1983-1991.....	81

16. Actual and Estimated Auto Sales of the Big Three, 1984-1992.....	89
17. Actual and Estimated Auto Sales of Japanese Transplants, 1984-1992.....	90

CHAPTER I

INTRODUCTION

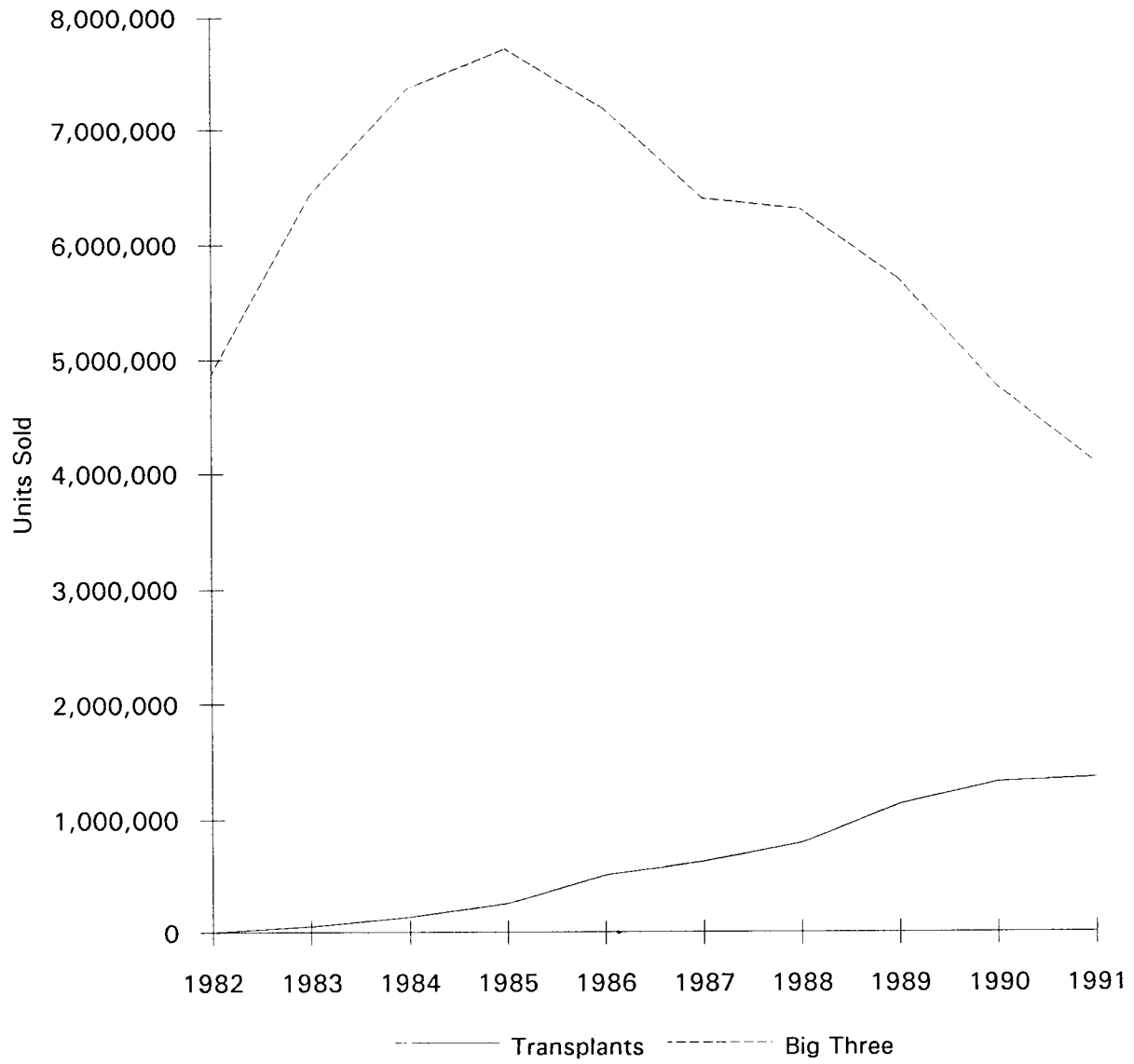
In 1991 the total car production of the "Big Three" U.S. automakers (General Motors, Ford, and Chrysler) was 4.08 million units, the worst since 1958 (Ferris, 1992; Bas, 1985). In contrast, car production of North American Japanese transplant operations has been increasing since 1982, when Honda launched its car production at the Marysville, Ohio assembly plant. Transplants in the U.S. produced 1.36 million units in 1991 (Ferris, 1992), about 25 percent of total U.S. car production. (See Figure 1.)

In addition, GM plans to eliminate 74,000 jobs and close 21 plants by 1995. However, Nissan plans to increase its capacity at the plant from 200,000 to 450,000 units. Toyota also plans to establish a second Camry line at its Georgetown, Kentucky, plant in March 1994, which will increase its capacity from 240,000 to 440,000 units (Ferris, 1992).

The change in the structure of the automobile industry in the U.S. is easily observed in the recent trends, and Japanese foreign direct investment (FDI) in assembly and parts plants has presented a greater threat to the U.S. auto manufacturers. The 'buy-American' frenzy began in early 1992 shortly after President Bush and the chairmen of the U.S. Big Three returned from Tokyo. They

Figure 1

Japanese Transplant and the Big Three
Car Production in the United States, 1982-1991



Source: Ward's Automotive Yearbook 1992, p.16.

attempted to increase the local content for transplant cars¹ (see Table 1,) and open up the automobile market in Japan. However, according to U.S. Rep. John D. Dingell (D-M), the effort resulted in "little more than empty promises and rhetoric".

In this paper I examine the various effects Japanese FDI has had on the U.S. automobile industry. These include: the overall structure of the U.S. market, Big Three production and pricing strategies, the location of assembly and auto parts plants within the U.S., and regional communities (Rubenstein, 1991). Among these four, I focus on the first two.

I suggest that Japanese FDI has played a very important role in changing the U.S. automobile industry, which was previously dominated by the Big Three, especially GM.² This transformation of the market structure has forced the Big Three to change production and pricing strategies. To test this hypothesis, first I examine carefully the general trend of Japanese FDI in light of FDI theory. Then I investigate the history of the U.S. automobile industry and trace the change in this industrial organization. Finally, to examine the change in quantitateness, using regression analysis, I estimate the price elasticities of demand for Big Three and transplant automobiles. The price elasticities show the relationship between a product price and sales volume, and are "of major interest to business firms as a basis for pricing policy, sales strategy, and achievement of profit and market share objectives" (Thompson, 1989, p.111). Therefore, it is very useful

Table 1

Local Content of Transplants in the United States

Company	Current Rate (%)	Use of U.S.-Made Auto Parts and Materials (\$ billions)	Projected	
			Rate (%)	Use of U.S.-Made Auto Parts and Materials (\$ billions)
Honda	75(Accord)	1991, 3.2		1994, 4.5
Nissan	74 (Sentra)	1992, 2.3		1994, 3.3
Mazda		1990, 1.4		1994, 3.0
Diamond-Star	about 60		75 by 1994	
NUMMI	about 75			
Toyota				1994, 5.0
Fuji, Isuzu	70 (Isuzu) 40-50 (Subaru)		70 (Subaru)	

Sources: Ward's Automotive Yearbook, 1992, p.159;
Ward's Auto World, January 1992, pp.18-28; and
Automotive News, March 4, 1991, pp.3, 18.

in evaluating the impact of Japanese FDI on the U.S. automobile industry to compare the various own- and cross-price elasticities.

CHAPTER II

FOREIGN DIRECT INVESTMENT

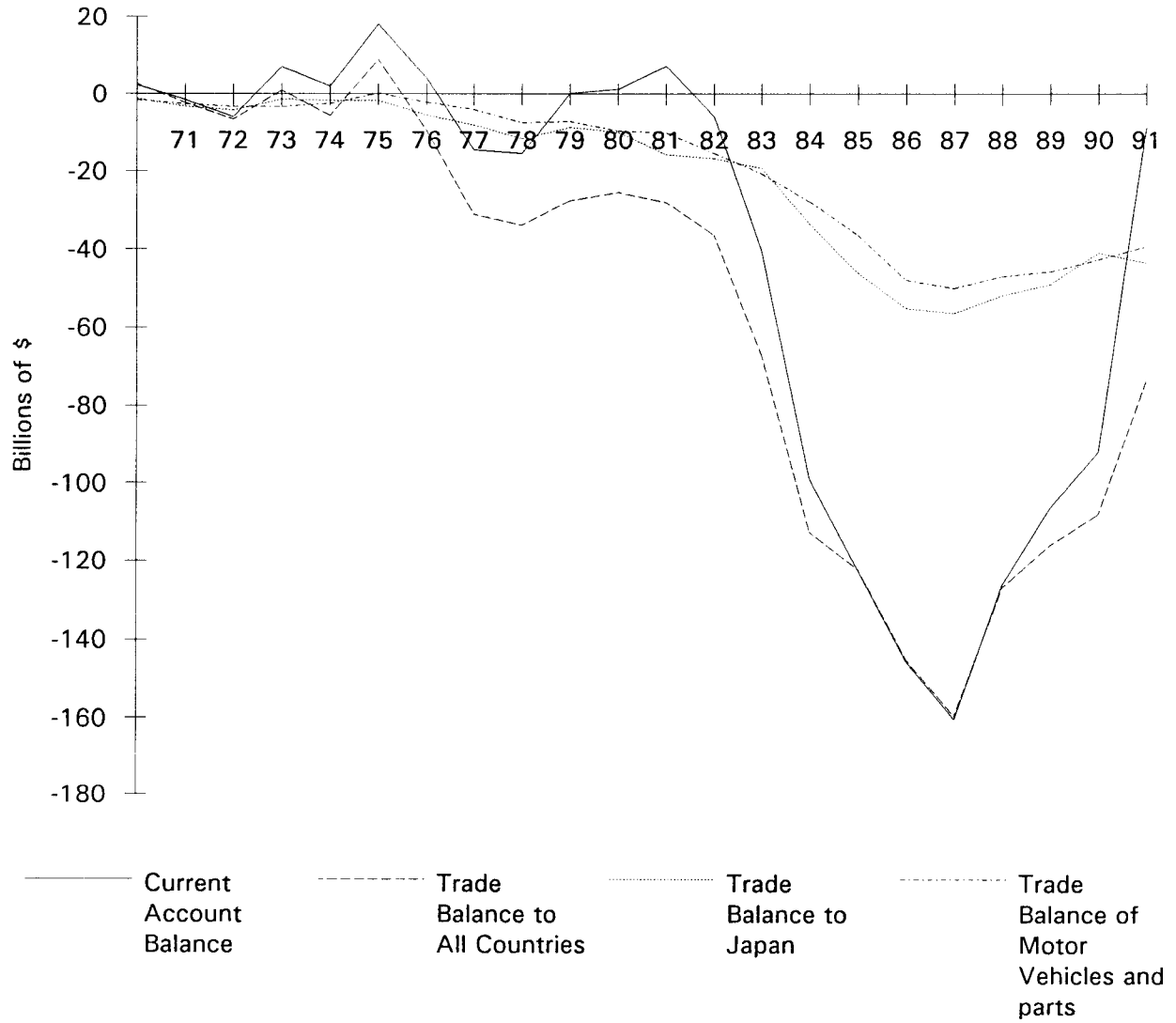
A heated debate over FDI has arisen in the U.S. over the last decade. The dispute has created tension especially after purchases of specific U.S. landmark assets such as Columbia Pictures and the Rockefeller Center, and after the continued persistence of the U.S. current account deficit. (See Figure 2.) It is useful to begin with a discussion of a definition of FDI.

Definition

The International Monetary Fund (IMF) defines FDI as an "investment that is made to acquire a lasting interest in an enterprise operating in an economy other than that of the investor, the investor's purpose being to have an effective voice in the management of the enterprise". In other words, foreigners (for example, Japanese automakers) invest in domestic assets (for instance, U.S. assembly lines) to control the use of those assets. Hence, FDI is different from portfolio investment, whose purpose is typically not to control an asset but just to realize a return on the asset. Also, the U.S. Department of Commerce defines FDI as a single foreign entity holding more than a 10 percent share of assets.³

Figure 2

Trade Balance and
Current Account Balance of
the United States, 1970-1991
(in nominal terms)



Source: IMF, International Financial Statistics Yearbook, 1992, pp. 720-721.

There are two types of FDI: greenfield investment and takeovers. The first refers to investment that creates productive assets. The second relates to the investment through which foreigners acquire existing assets.⁴ (See Table 2.)

There are three major ways a firm can expand in a foreign country: horizontal extension (dealing with the same goods or services elsewhere), vertical extension (adding a stage in the process that comes earlier or later than the firm's current activity), and conglomerate diversification (Caves, 1971).

To evaluate the extent and impact of FDI, one may use a variety of measures. Stock data represent the relative significance of historical FDI. Flow statistics show a emerging trend of FDI. On the basis of either stock or flow, methods of evaluation on FDI include assets of foreign affiliates, employment in foreign affiliates, value added by foreign affiliates, global sales of foreign affiliates, the ratio of FDI to domestic investment, and the ratio of FDI to Gross Domestic Product (GDP). Each method has both advantages and disadvantages. For example, measurement based on stock of assets of foreign affiliates has advantages such as easiness of calculation and quickness of updates. However, it also has disadvantages, such as underestimation of actual market value due to book values and a failure to measure the extent to which claims on assets are leveraged into larger control.⁵

In addition, there is a difference in the amount of FDI depending on the measurement. In the case of inward FDI to the

Table 2

The Share of Greenfield Investment and Takeover in
Foreign Direct Investment in the United States (percent), 1980-1989

Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Takeovers	58.0	29.0	22.2	39.6	47.8	57.6	51.7	55.0	62.1	57.7
Greenfield Investment	42.0	71.0	77.8	60.4	52.2	42.4	48.3	45.0	37.9	42.3

Source: E. Graham, and P. Krugman, 1991, Foreign Direct Investment in the United States, p.27.

U.S., rates of increases in employment and value added before 1981 are greater than that of after 1981. However, rates of increases in assets before 1981 is smaller than that of after 1981. This fact shows that both inward FDI flows to the U.S. and stakes in foreign affiliates have increased; however, there have not been comparable increases in employment and value added. FDI has a bias toward highly capital-intensive activities, especially banking and financing business (Graham and Krugman, 1991).

Due to absence of a perfect measurement of FDI, FDI-related issues are very complicated. Sometimes, the difficulty in measurement of FDI leads to misjudgment in the evaluating FDI.

FDI Theory (Macroeconomic Approach)

There is a close relationship between FDI and international trade. FDI and trade are mechanisms for integrating international markets. DeAnne Julius calls them "twins" (1991). Also, Mohammed Ariff has proposed four subdivisions of trade relating to FDI; i) trade substituting; ii) trade promoting; iii) trade complementing ; and iv) trade diverting (1989).⁶

Kiyoshi Kojima relates FDI to a traditional international trade theory, and takes a macroeconomic approach to FDI. The Heckscher-Ohlin Theorem states that, under several assumptions⁷, a nation will export the product with the intensive use of the nation's relatively abundant and cheap factor, and import the product with the intensive use of the nation's relatively scarce

and expensive factor. Kojima extends this theorem and generates the 'Kojima model'.

His model says that the comparative cost (or comparative advantage) of the product is a function of macroeconomic factors (relative factor endowment, relative factor price, both of which are in the Heckscher-Ohlin Theorem, and relatively advanced technology in production) and microeconomic factors (organizational techniques, ownership-specific advantages, or "intangible assets" referred by Dunning who follows microeconomic approach to FDI).

The model has the following key assumption: in general, both macro- and microeconomic elements influence the determination of the comparative cost in the same direction. However, even if both of factors effect the comparative cost in a contradictory way, microeconomic factors have no ability to reverse the pattern of the comparative cost that is determined by macroeconomic elements. Based on comparative cost and under the key assumption, Kojima explains that trade-oriented FDI "transfers a package of capital, technology and managerial skill from an industry which has a comparative disadvantage in the investing country to the recipient country, in which it develops a comparative advantage, helps the reorganization of the international division of labor and trade between them, and upgrades the industrial structure of both countries" (Kojima, 1973, p.8). In other words, the investing country improves its productivity at home by specializing in the commodity in which it has a comparative advantage.

FDI also makes it possible for the recipient country to improve its productivity and develop its would-be comparative advantage because it obtains capital, technology, or managerial skill through FDI, which it had previously lacked. As a result, the difference in the comparative advantage between both countries increases. Thus, extensions of FDI and trade lead to desirable macroeconomic effects in terms of the efficiency of resource allocation, distribution, and economic sovereignty.

On the other hand, anti-trade oriented FDI "moves out from an industry in which there is a comparative advantage in the investing country...It prevents mutual upgrading of the industrial structure and blocks the reorganization of international trade" (Kojima, 1973, p.8). The investing corporation makes use of its comparative advantage and takes advantage of market failure such as imperfect information in the market. It internalizes and monopolizes transactions, and obtains internalized profits. The investor pursues only its own profit and takes a microeconomic approach, which leads to social cost.

For an investing corporation to follow microeconomic approach with macroeconomic perspective, Kojima suggests that, with the cooperation between countries or firms, each side must specialize in different products or differentiate the commodities (Kojima, 1985). Bhagwati calls this type of cooperation as "mutual equity inter-penetration" or "mutual investment by the competing firms in one another's R&D-induced advantages" (1982).

However, there may also be externalities, which are a form of market failure. Under the market mechanism, cooperative investments advocated by Kojima and Bhagwati would not occur, and the "Pareto efficient allocation," which is the allocation of available resources in which no mutually beneficial trading opportunities are unexploited, would not be achieved. Similar to the problem of pollution, an individual firm would not pursue a profit at a macroeconomic level without the third person's demand or enforcement. The firm would ignore the macroeconomic effect which might be created by 'mutual investment', and pursue its own profits without considering about loss in social welfare. Under the profit-maximization assumption, an individual investor tends to make a decision based on private marginal cost instead of social marginal cost. Therefore, in the case of pollution, without government regulations, each firm would not try to install a system that would reduce pollution.

In the case of mutual investment, if an international organization such as the United Nations or the General Agreement on Tariff and Trade (GATT) does not seek a solution towards the cooperation of investment at the macro level⁸, then we cannot expect that an individual firm would behave itself for the sake of social welfare from the macroeconomic perspective. For example, it is almost impossible to expect that the U.S. firms solely specialize in larger cars and Japanese corporations specialize in smaller cars, based on their comparative advantages. Kojima model states that they should do that because , after specialization, both

countries would trade their differentiated products to each other and obtain much more profits from those transactions, compared to the case of non-specialization such as the current situation.

In sum, the macroeconomic approach discussed above tends to be unrealistic because of the presence of externalities or non-existence of the problem-solving international organizations. Hence, the microeconomic approach is discussed in the following section.

FDI Theory (Microeconomic Approach)

Researchers who follow a microeconomic approach to FDI attempt to understand those microeconomic factors that influence individual investors to engage in FDI. Edward M. Graham and Paul R. Krugman refer to this approach as "industrial-organization" explanations of FDI. Their theories are divided into two categories: internal characteristics of multinational corporations and intraindustry rivalry in the oligopolistic structure. The first category refers to superior product/process technology and marketing/management skills. The second relates to a "follow the leader" pattern to remain competitive in the oligopolistic industry (1991). John H. Dunning suggests the eclectic analytical framework. He claims that the determinants of FDI are influenced by three types of advantages; ownership advantages, location advantages, and internalization advantages (1988). Other previous researchers, who advocate microeconomic approach, are: Stephen Hymer (1976), Yair

Aharoni (1966), Raymond Vernon (1974), and Buckley and Casson (1976).

In sum, the determinants of FDI consists of three levels: ownership advantages or internal characteristics of multinational corporations at a intrafirm level; oligopolistic rivalry-structure at a intraindustry level; and location and internalization advantages at an international level.

A United Nations survey, which is based on Dunning's eclectic analytical framework, concludes that though some factors (for instance, R&D intensity) "are distinguished as very pervasive influences, others emerge more selectively", (depending on investing countries, receiving countries, or time period), "in ways which imply that they cannot be...assumed to be of automatic relevance" (1992a, p.53). The same survey refers to R&D, advertising-intensity, management expertise, and level of industry's concentration as key areas of the ownership advantage. The survey finds that location advantage is a limited importance and that several of the internalization factors are more or less equal with the ownership advantage (U.N., 1992a). In other words, both ownership and internalization advantages are important to investment decisions. Among those advantages, influential factors depend on individual case of an investment.

On the other hand, some determinants often mentioned as dominant are apparently impotent. The exchange rate, taxation, trade protection, and business cycles explain only a part of a story. All of them have some effect on FDI, but they offer a very

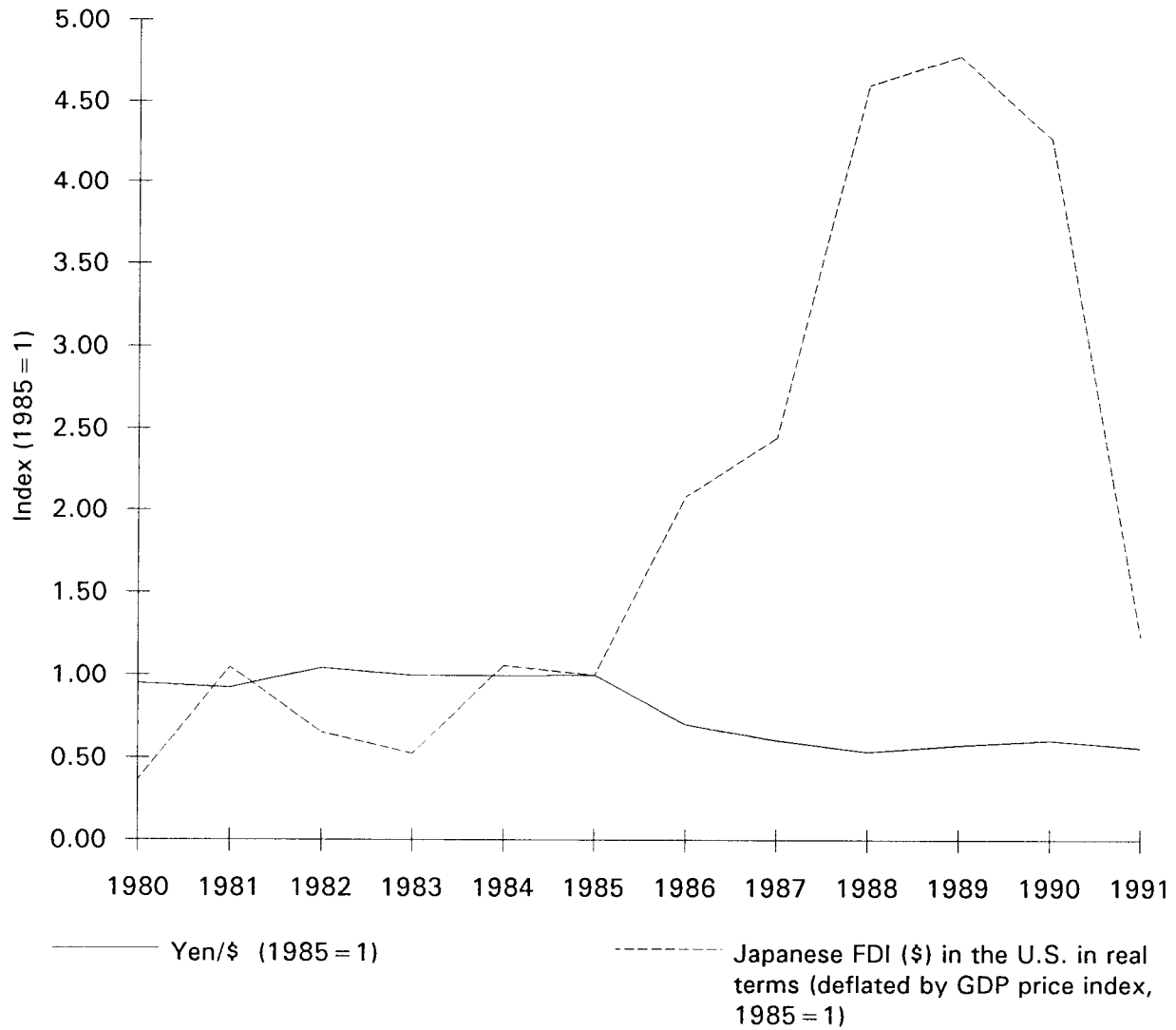
incomplete explanation of investment decisions by foreign firms to establish or acquire new affiliates (Graham and Krugman, 1991).

Over the long-term, ownership and internalization advantages are dominant influences on FDI. Other elements such as the exchange rate, taxation, trade protection, and business cycles, are only partial explanations for FDI.⁹ (See Figure 3.)

The cost of capital is also relevant to the determinants of FDI. However, foreign direct investors do not make decisions only by comparing the return on their investments with some market-determined cost of capital, which is different from the case of portfolio investment. Firms would invest in a familiar industry abroad under certain circumstances. Some of the conditions are such as when investors have organizational advantages, plenty of cash flows, and not enough local investment opportunities, and when receiving country faces a decreased saving rate, increased opportunities for investment, and increased cost of capital (Graham and Krugman, 1991). Therefore the cost of capital is not a dominant determinant of FDI, but a supplementary factor similar to the exchange rate.

In terms of consequences, FDI has both political and economic repercussions. However, it is difficult to model or evaluate political factors effectively (U.N., 1992a). Graham and Krugman suggest loss of national income and national security as political consequences of FDI. The reduction in national income results from redistribution of income to foreign firms through their involvement in political process. The risk in national security is brought

Exchange Rates (yen/\$) and
Japanese Foreign Direct Investment
in the United States, 1980-1991



Sources: IMF, International Financial Statistics Yearbook, 1992, pp. 436-437, 720-721; and BEA, Survey of Current Business, various issues.

about through technology transfer and through decrease in industrial base for national defense (Graham and Krugman, 1991). These are very controversial issues, but I focus solely on the economic consequences.

Potential gains from FDI are conventional gains from international integration and external economies. Through internalization, multinational corporations facilitate devices for trade and knowledge, decrease transaction costs, and can increase incentives to engage in R&D. FDI magnifies the traditional gains from trade.¹⁰ In terms of external economies, multinational corporation is possibly able to give valuable spillovers to the domestic industry.

Potential costs of FDI could be loss of employment and trade deficits. In terms of employment, nonaccelerating-inflation rate of unemployment (NAIRU) determines unemployment rate at national level and reflects the structure of the labor market. Currently, the figure is between five and six percent. Therefore, if FDI does not affect NAIRU, it does not change the unemployment rate for a whole country. However, FDI does have an impact on employment in a particular industry or community.

In terms of correlation between FDI flow and the balance of payments, for example, the U.K. had been a major net exporter of FDI, however, it had been running a current account deficit.¹¹ Therefore, the size or net sign of FDI is not equal to that of current account balance, and it is very difficult to link FDI to the balance of payments (Julius, 1991).

In summary, in addition to problems with measurements of FDI flow and stock, there are also difficulties in assessing probable benefits and costs of FDI. Moreover, economic impacts are created not only by an initial FDI flow but also activities after establishment through FDI. FDI has greater impacts than trade alone because a control of affiliates or transfer of technologies gives rise to more economic effects on domestic industry.

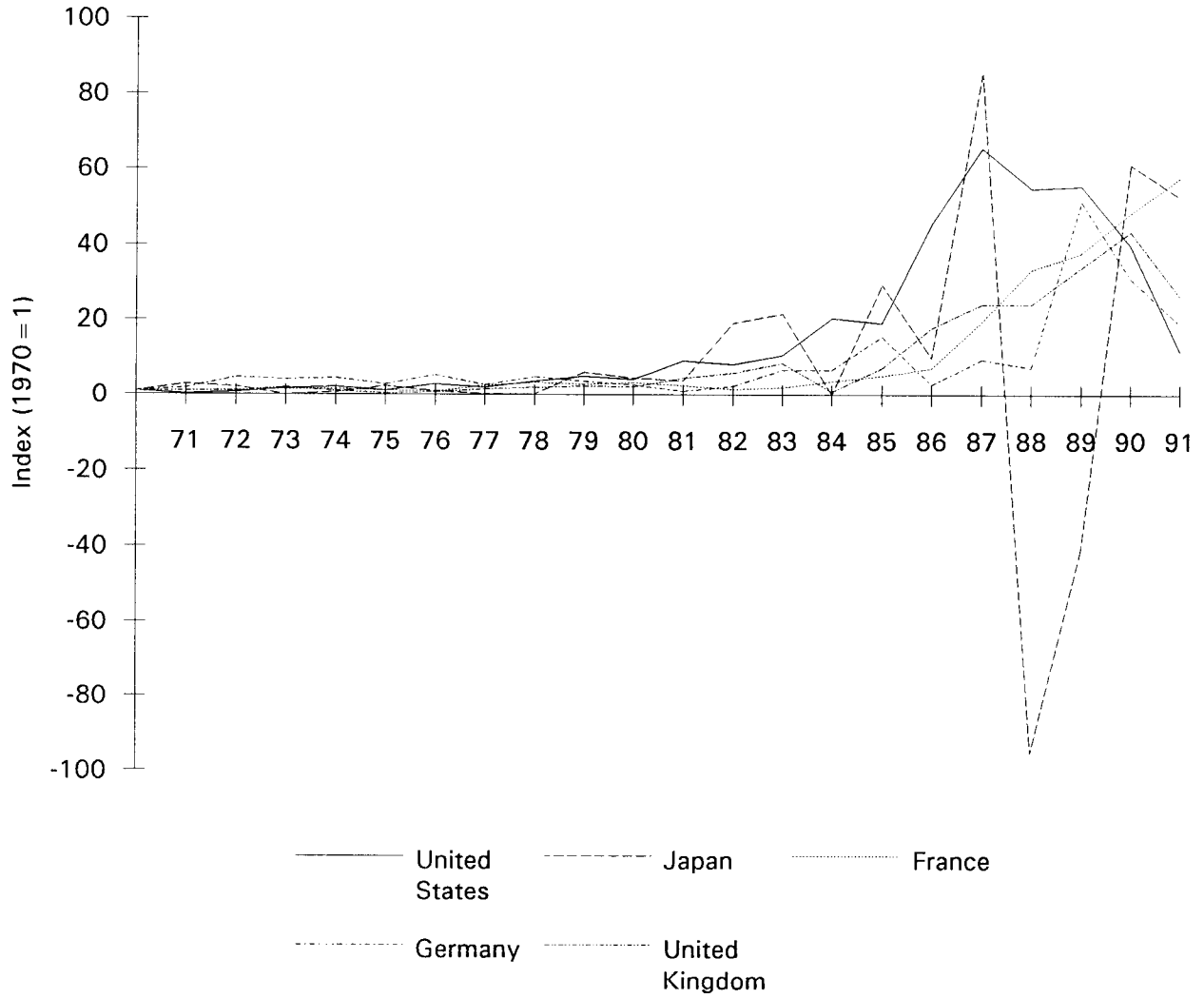
FDI Trends

A secular increase in FDI is a phenomenon broadly characteristic of most of countries, especially advanced countries. (See Figure 4.) In 1990 the total FDI outflows are 225 billion U.S. dollars, and inflows, 184 billion U.S. dollars. The annual growth rate of outflows is 34 percent, which is much higher than 13 percent of merchandise exports and 12 percent of nominal gross domestic product (GDP) (U.N., 1992b). During 1986 and 90, the share of developed countries is 83 percent in terms of FDI inflows and 97 percent in terms of outflows. (See Table 3.) Among developing countries, ten countries account for roughly two-thirds of the distribution.

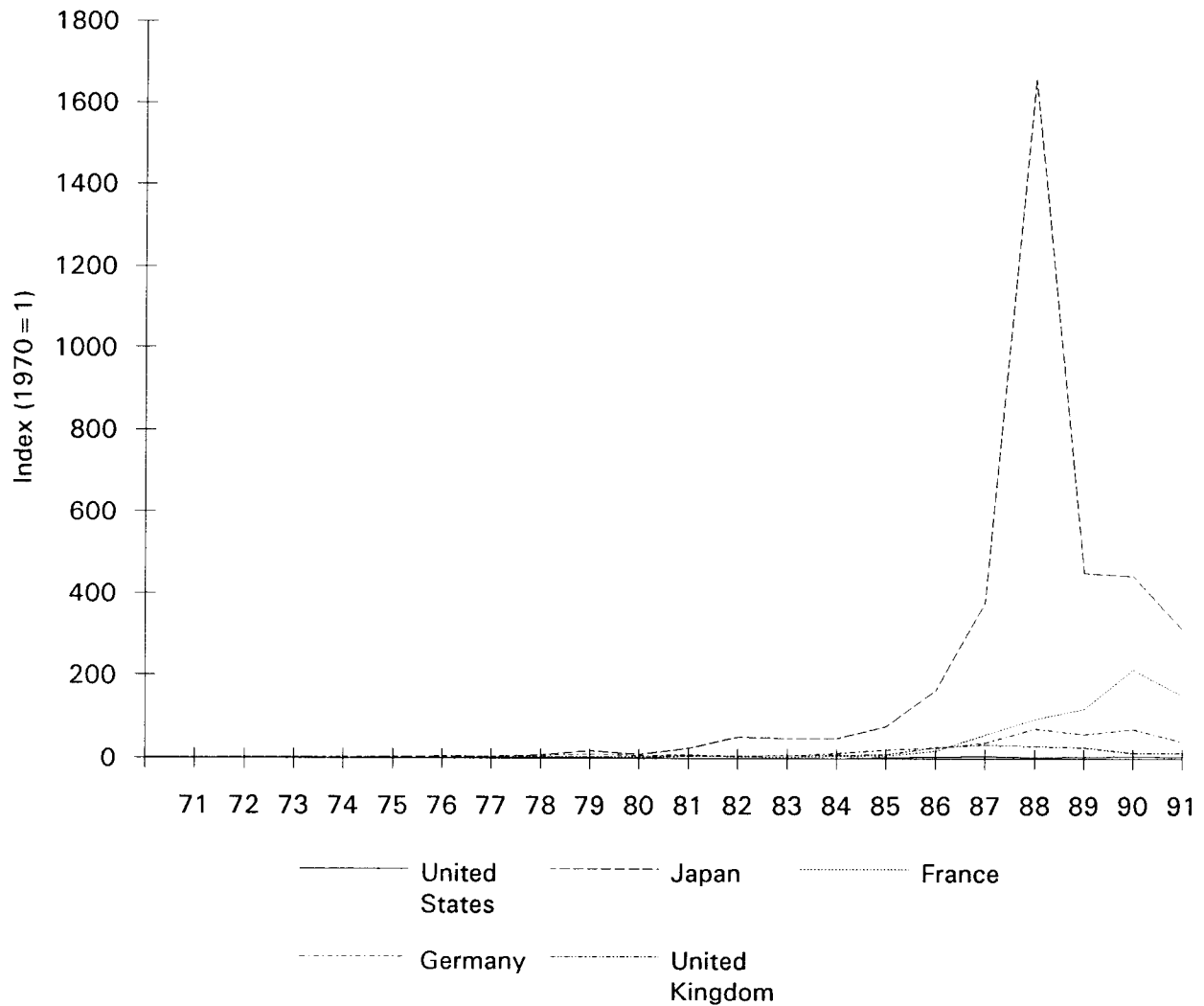
Along with the long-run increasing trend, there are cyclical fluctuations. Following the peak of 1979 and widespread recession in the early 80s, FDI began to climb rapidly in 1984 and 1985, and reached a peak in 1989. From 1983 to 1989 the Group of Five (U.S., U.K., Japan, Germany, and France) achieved real growth rates between seventeen percent and thirty seven percent. (See Table 4.)

Foreign Direct Investment of
Group of Five, 1970-1991
(in real terms)

4a. Inward Flows



4b. Outward Flows



Note: FDI flows are adjusted by the GDP price index of each country.
 Source: IMF, Balance of Payments Statistics Yearbook, various issues.

Table 3

Foreign Direct Investment (Flows) of
Developed and Developing Countries, 1986-1990
(in nominal terms)

	Amount (Billions of dollars)					Share in total (Percentage)			Growth rate (Percentage) 1980-1985 1986-1990
	1986	1987	1988	1989	1990	1980-1985	1986-1990	1980-1985 1986-1990	
Developed countries									
Inflows	64	108	129	165	152	75	83	-3	24
Outflows	86	135	161	201	217	98	97	-2	26
Developing countries									
Inflows	14	25	30	30	32	25	17	4	22
Outflows	2	2	6	10	8	2	3	1	47
all countries									
Inflows	78	133	158	195	184	100	100	-1	24
Outflows	88	137	167	211	225	100	100	-2	26

Source: U.N., 1992, World Investment Report 1992: Transnational Corporations as Engines of Growth, p. 14.

Foreign Direct Investment of Group of Five

Country	Outward Stock (1989) (\$ billions)	Real Growth in Flows (1983-89) (%)	Total Flows (1980-89) (\$ billions)	Inward Total Flows (1980-89) (\$ billions)
United States	385	33	218	324
United Kingdom	226	17	175	99
Japan	158	37	140	2
Germany	91	18	66	15
France	69	26	55	32
Total	929		654	472

Source: Julius, DeAnne, 1991, Foreign Direct Investment:
The Neglected Twin of Trade, Figure 1, p.5.

In terms of the relationship between FDI and domestic key flows (domestic investment and gross national product), all three had similar growth rates during the 1970s. However, during the early 1980s, the growth of FDI diverged from that of the other two, and since 1985 the growth of FDI has accelerated (U.N., 1992b). (See Figure 5.)

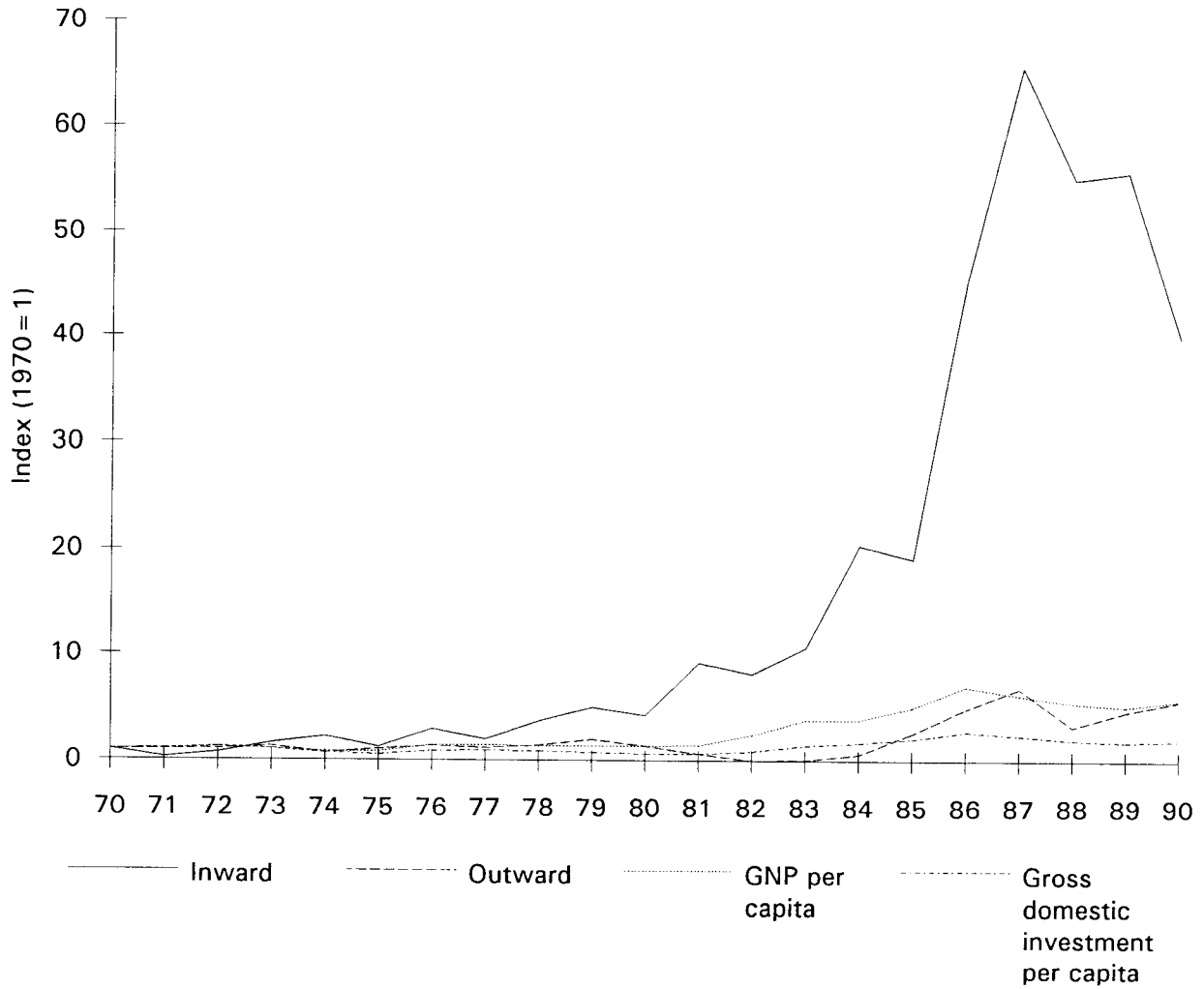
In terms of the relationship between FDI and other key international flows (international trade and technology transfer), the situation is much the same. During the 1970s, all of them had similar growth rates, however, during the 1980s the growth of FDI had accelerated more than those of the others, especially since 1985. (See Figure 6.)

The sectoral pattern of FDI shows a shift towards the services during the 1980s. In other words, the fastest growth of FDI was observed in services, relative to the increase of FDI in other sectors. The shift resulted from long-term changes in the structure of economic activities such as an increase in the role of the services sector in GNP (U.N., 1991).

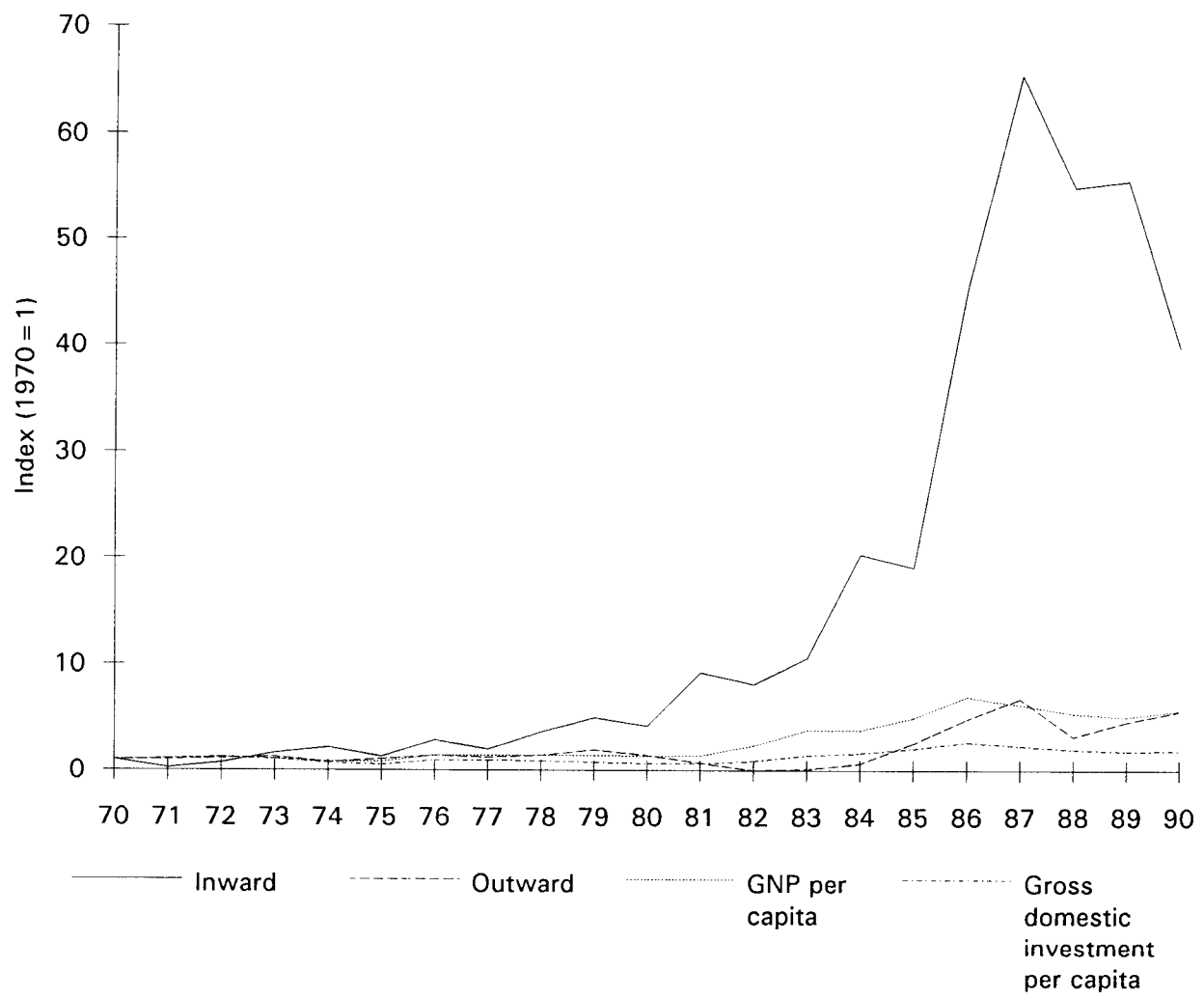
There are various explanatory factors of acceleration of FDI during the 1980s. The most important factor is the emergence of the "Triad", which consists of the European Community (EC), the United States, and Japan. During the early 1980s, there was a bi-polar FDI system where the U.S. had a dominant position and EC was not fully integrated. By the beginning of the 1990s, a tri-polar system was formed by EC, the U.S. and Japan. In the future, the tri-polar system might enlarge further to include the European

Foreign Direct Investment, Gross National Product Per Capita,
and Gross Domestic Investment Per Capita, 1970-1990
(in real terms)

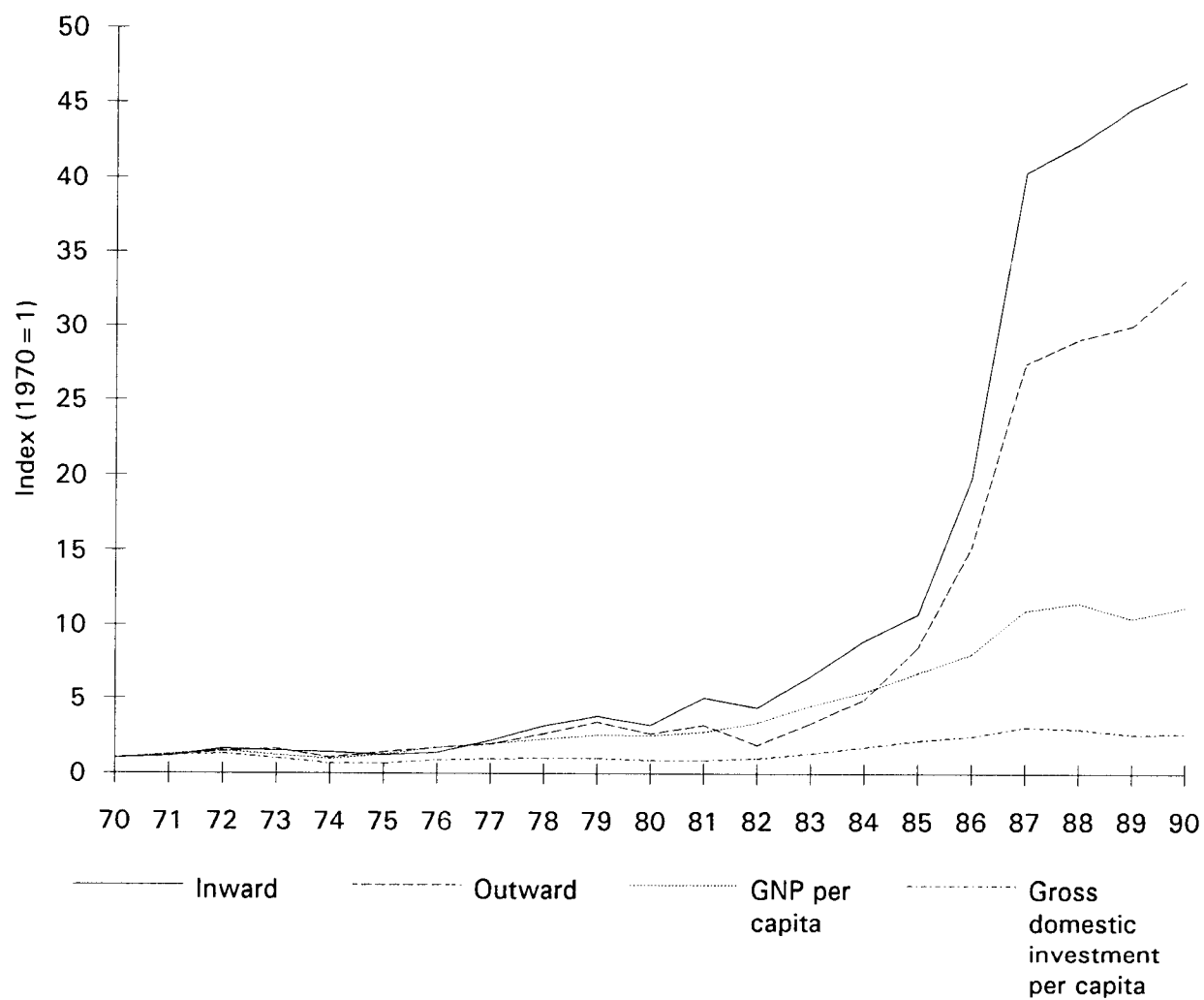
5a. United States



5b. Japan



5c. OECD Members



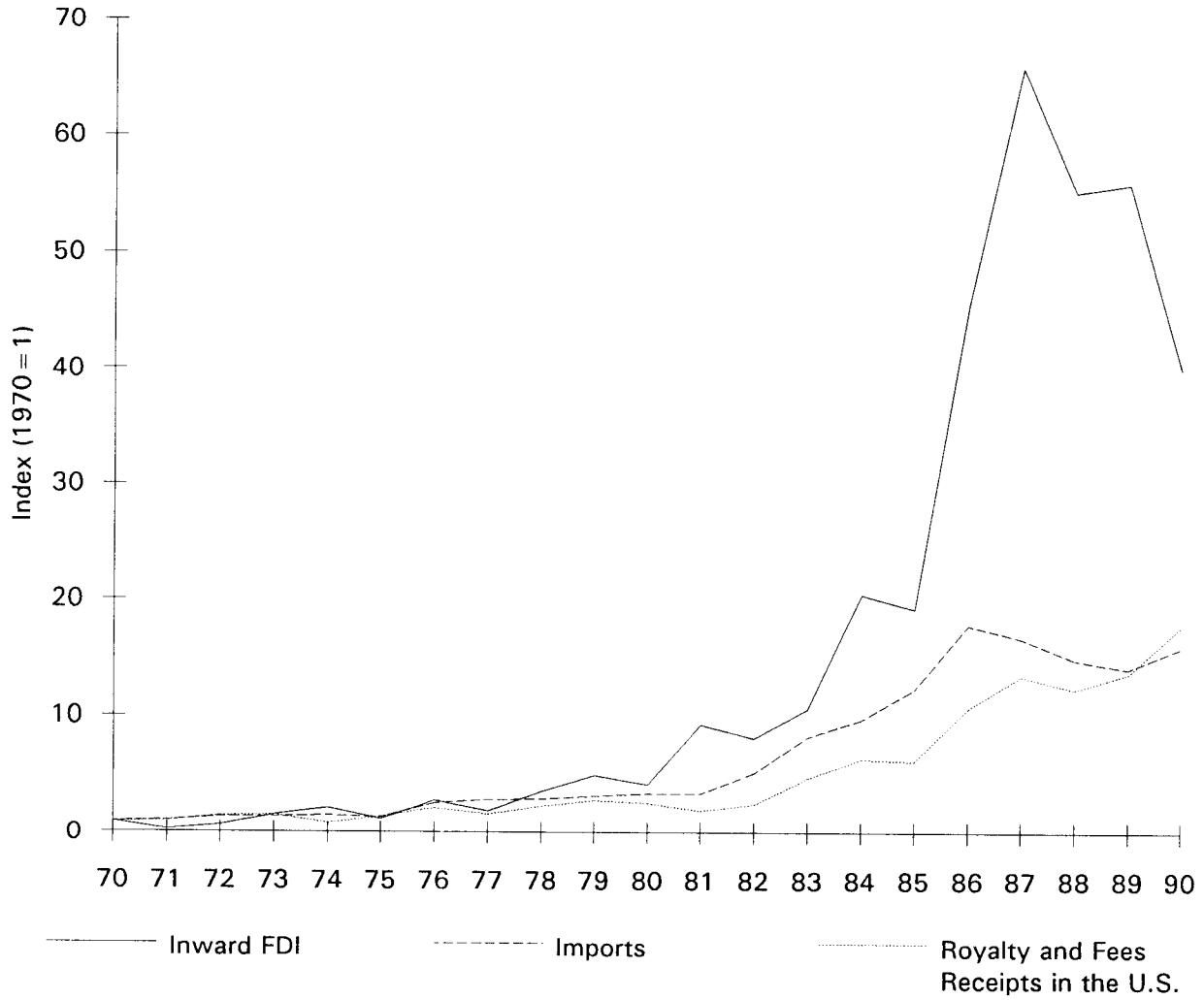
Note: All of flows are adjusted by the GDP price index of each country or group.

Sources: World Bank, World Table 1992, pp. 4, 5, 16, 17;

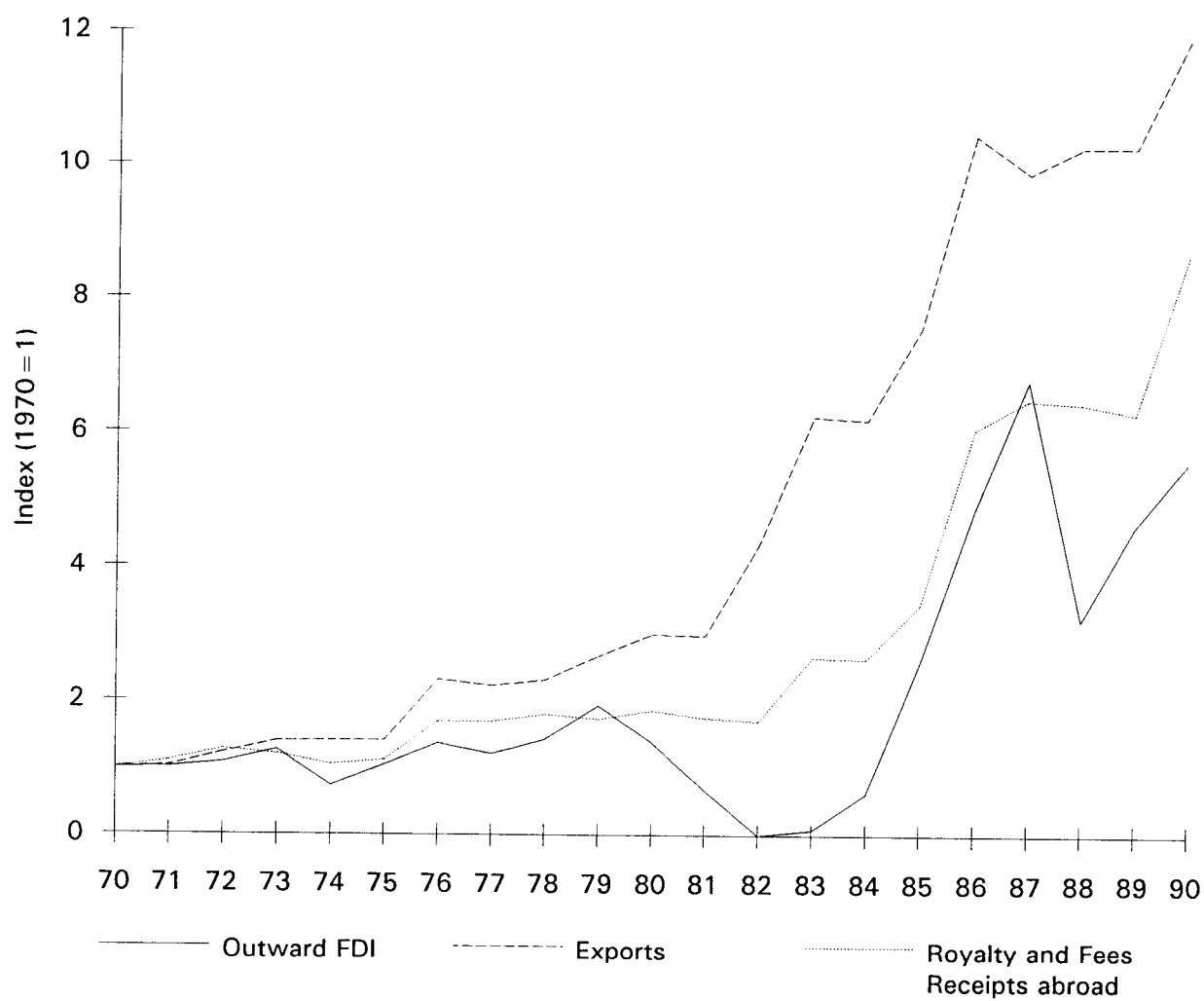
IMF, Balance of Payments Statistics Yearbook, various issues.

U.S. Foreign Direct Investment, International Trade,
and Royalty and Fees Receipts, 1970-1990
(in real terms)

6a. Inward Flows



6b. Outward Flows



Note: All of flows are adjusted by the GDP price index.

Sources: IMF, International Finance Statistics Yearbook, 1992, pp.108,109,112,113;
 ibid, Balance of Payments Statistics Yearbook, various issues; and
 BEA, Survey of Current Business, various issues.

Economic Area (EC and European Free Trade Association), North America (the U.S. and Canada), and Japan.

A growing share of world-wide investment is being concentrated in the intra-Triad. (See Table 5.) In 1990 the Triad have about 70 percent of world FDI inflows, which is the average for the 1980s, and about 83 percent of world outflows, which is a small decline from the average for the 1980s. Over the 1980s, EC had a substantial growth in intraregional FDI, and played an important role as home countries of FDI. The U.S. lost the dominant position as a home country, however, gained a significant position as a host country. Japan had a tremendously rapid growth in outward FDI.

The Triad's large and growing share in FDI stock and flows is explained by structural factors such as the large market size in the Triad, changing regulatory framework (especially the 1992 Single Market Programme), emerging corporate strategies in favor of international or regional integration at the production level, fear of an increase in protectionism, and privatization and deregulation in services industries (U.N., 1992b). In the services sector, beginning in the mid-1970s in the U.S., deregulation of service industries, especially banking, insurance, and telecommunications in the developed countries, opened previously protected sectors. This liberalization of the service led to global linkage of money and capital markets, which made it smoother to transfer global savings among countries (Julius, 1991). The growth was also helped by a healthy rate of economic growth in the Organization for

Intra-Triad Foreign Direct Investment, 1989
(in nominal terms)

Area (or country)	Amount (\$ billions)	Average annual growth rates	
		Stock 1980-1989 (percent)	Flow 1985-1990 (percent)
North America --> European Economic Area	186.0	7.3	15.5
European Economic Area --> North America	269.0	17.4	6.4
North America --> Japan	18.8	12.9	26.3
Japan --> North America	71.4	30.0	41.1
Japan --> European Economic Area	16.7	23.4	51.2
European Economic Area --> Japan	7.0	15.6	40.5

Source: U.N., 1992, World Investment Report 1992: Transnational Corporations as Engines of Growth, p.21.

Economic Cooperation and Development (OECD) between 1982 and 89. (See Figure 7.)

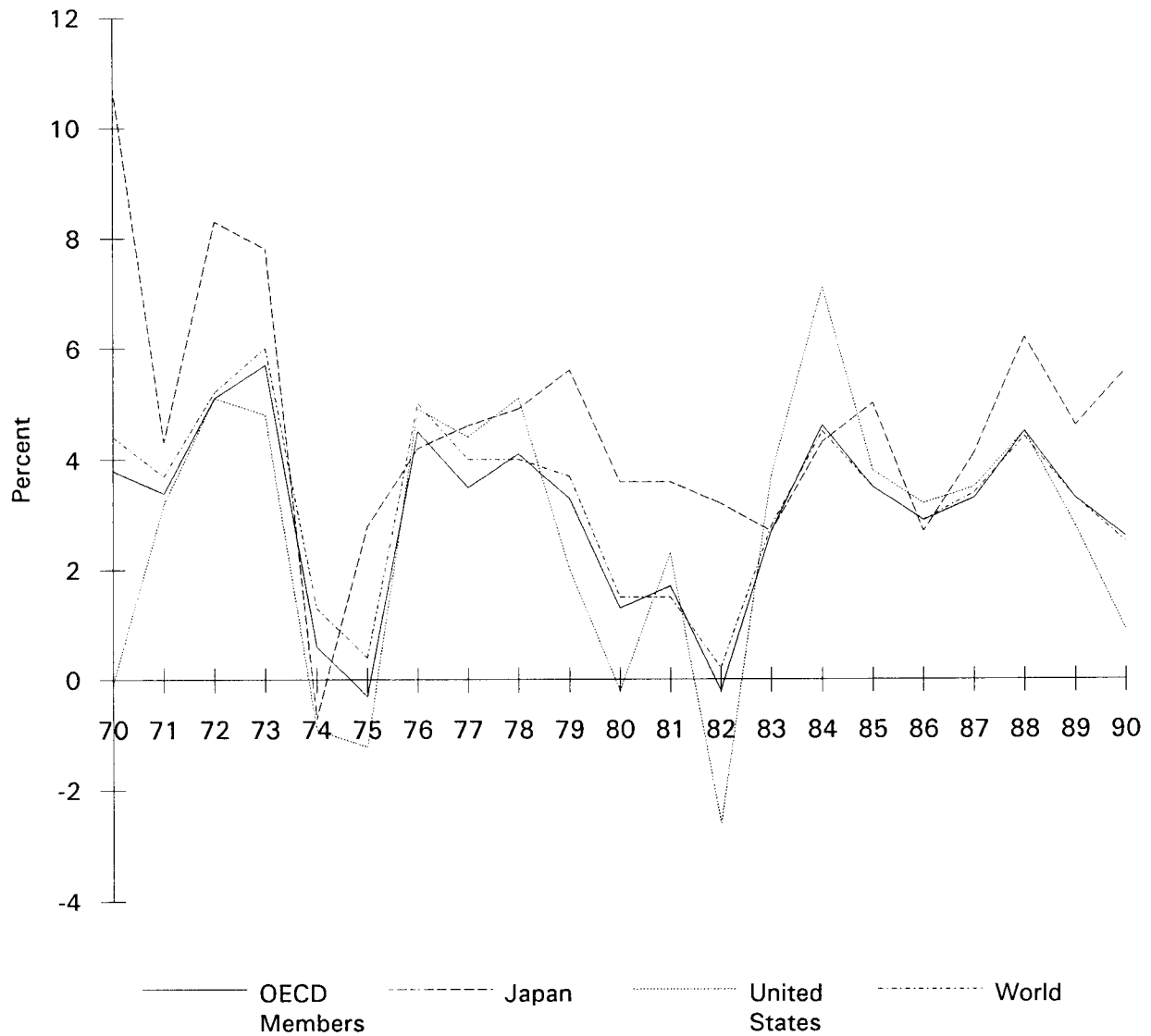
Along with the emergence of the Triad, regional integration of FDI appeared, and FDI "clusters" began to appear. Usually, developing countries and Central and Eastern Europe are dominated by a single investing country (U.N., 1992b). (See Table 6.)

As a consequence of the large increase, FDI has been increasingly the principal driving force of international economic transactions, and trade and technology transfer are being more and more structured by FDI. Multinational corporations from developed countries organize and manage FDI to a substantial degree. Therefore, they have a growing impact upon economic growth and development as "the agents that integrate trade, technology transfer, and financial flows for the purpose of international production in the context of the firm's strategy" (U.N., 1991, p.81).

FDI in the United States

The growth of FDI in the U.S. has resulted partly from the increasing long-run trend of world-wide FDI and partly from a decline in relative U.S. productivity in many industries. About twenty years ago, the U.S. had significant advantages in technologies and management skills. This left little opportunity for FDI in the U.S. However, the relative decline in the U.S. position has encouraged inward FDI in the U.S. (Graham and Krugman, 1991).

Economic Growth (Average Annual Growth of Gross Domestic Product, Percent) of OECD Members and World, 1970-1990 (in nominal terms)



Source: World Bank, World Tables 1992, pp. 22-23.

Table 6

Foreign Direct Investment Clusters of Triad Members, 1986-1989

Triad Members	Clustered Countries Latin America	Asia	Africa	Other
United States	Argentina	Bangladesh		Papua New Guinea
	Bolivia	Pakistan		Saudi Arabia
	Chile	Philippines		
	Colombia			
	El Salvador			
	Guatemala			
	Mexico			
	Panama			
	Paraguay			
	Venezuela			
EC	Brazil	India	Ghana	Czechoslovakia
		Sri Lanka	Morocco	Hungary
		Viet Nam		Poland
				USSR
				Yugoslavia

Triad Members	Clustered Countries	Asia	Africa	Other
	Latin America			
Japan		Republic of Korea		Fiji
		Singapore		
		Taiwan Province of China		
		Thailand		

Source: U.N., 1992, World Investment Report 1992: Transnational Corporations as Engines of Growth, p.33.

By historical cost, in 1977, U.S. inward FDI in stocks was \$34.6 billion, and outward FDI was \$146.0 billion. By 1991 inward FDI had grown to \$407.6 billion, whereas outward FDI stood at \$450.2 billion. (See Table 7.) During the same period, the real annual growth rate of inward FDI is 16.60 percent, whereas that of outward FDI is 7.04 percent. Certainly, inward FDI in the U.S. has increased rapidly¹², but the inward FDI grew from a very small base. Thus, the rapid of growth did not make the U.S. heavily-biased towards inward FDI. (See Table 8 and 9.) FDI has still a small fraction of overall U.S. output, employment (see Figure 8), and gross stock of fixed private capital. (See Figure 9.) The U.N. World Investment Reports shows that, during 1985 and 1987, the U.S. ranked eighth in the share of average annual FDI inflows in gross domestic capital formation among twenty one advanced countries (U.N., 1991).¹³

After the peak of FDI inflows, the U.S. experienced a decline in inward FDI in 1990. This decline is explained by the recession in the U.S., which makes investments less profitable, by the recession in the U.K., who is one of the main investors in the U.S., by an increase in domestic investment in Japan, also one of the main investors, and by a decline in world-wide merger and acquisition activities (U.N., 1992b).

In terms of characteristics, some criticize inward FDI in the U.S. for the high propensity of foreign affiliates to import, a tendency to keep high-wage jobs and high-value production in foreign countries, and lower R&D expenditures. However, Graham and

Table 7

Inward and Outward Foreign Direct Investment
of the United States (Stocks), 1977-1991 (\$ billions)

Type of FDI	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991a
Inward FDI															
By historical cost	34.6	42.5	54.5	83.0	108.7	124.7	137.1	164.6	184.6	220.4	263.4	314.8	368.9	396.7	407.6
By current cost	56.7	69.6	88.3	125.9	159.9	176.9	184.4	211.2	231.3	265.8	313.5	374.3	433.2	466.5	487.0
By market value	N.A.	N.A.	N.A.	N.A.	N.A.	130.4	153.3	172.4	220.0	273.0	316.2	391.5	534.7	536.6	654.1
Outward FDI															
By historical cost	146.0	162.7	187.9	215.4	228.3	207.8	207.2	211.5	230.3	259.8	314.3	335.9	372.4	424.1	450.2
By current cost	252.8	291.0	343.9	396.2	412.4	387.2	371.7	361.6	387.2	421.2	493.3	515.7	552.8	623.6	655.3
By market value	N.A.	N.A.	N.A.	N.A.	N.A.	226.6	270.8	265.8	379.1	518.7	577.0	678.6	807.9	716.4	802.0

a: Preliminary.

N.A.: Not Available

Sources: BEA, Survey of Current Business, various issues.

International Investment Positions
of the United States, 1977-1991 (Billions of dollars)
(in nominal terms)

Year	International Assets			Foreign Direct Investment			Portfolio Investment		
	Out	In	Balance	Out	In	Balance	Out	In	Balance
1977	519.0	328.5	190.5	252.8	56.7	196.1	164.3	130.9	33.4
1978	627.3	398.8	228.4	291.0	69.6	221.5	213.6	156.2	57.4
1979	792.9	450.0	342.9	343.9	88.3	255.6	248.3	201.8	46.5
1980	936.3	543.7	392.5	396.2	125.9	270.3	304.7	241.7	63.0
1981	1,004.2	629.9	374.3	412.4	159.9	252.5	398.4	289.6	108.8
1982	1,119.2	740.2	378.9	387.2	176.9	210.4	513.8	374.3	139.5
1983	1,169.2	831.8	337.4	371.7	184.4	187.3	594.8	452.9	141.8
1984	1,177.5	944.7	232.9	361.6	211.2	150.4	625.9	533.8	92.1
1985	1,252.5	1,113.6	139.0	387.2	231.3	155.9	659.7	679.8	-20.1
1986	1,410.2	1,391.5	18.7	421.2	265.8	155.3	759.5	884.4	-124.9
1987	1,564.7	1,591.4	-26.6	493.3	313.5	179.9	820.2	994.9	-174.7
1988	1,654.6	1,838.3	-183.7	515.7	374.3	141.4	908.8	1141.9	-233.1
1989	1,794.7	2,107.0	-312.3	552.8	433.2	119.7	988.6	1336.6	-347.9
1990	1,884.2	2,179.0	-294.8	623.6	466.5	157.1	1,003.7	1341.4	-337.7
1991 a	1,960.3	2,321.8	-361.5	655.3	487.0	168.2	1,067.1	1438.2	-371.1

Growth Rate (%, in real terms)

Year	International Assets			Foreign Direct Investment			Portfolio Investment		
	Out	In	Balance	Out	In	Balance	Out	In	Balance
1977 - 1991	4.31	9.08		1.54	10.61		8.43	12.57	

a: Preliminary

Note: Growth rates are adjusted by the GDP price index.

Sources: BEA, Survey of Current Business, various issues.

Table 9

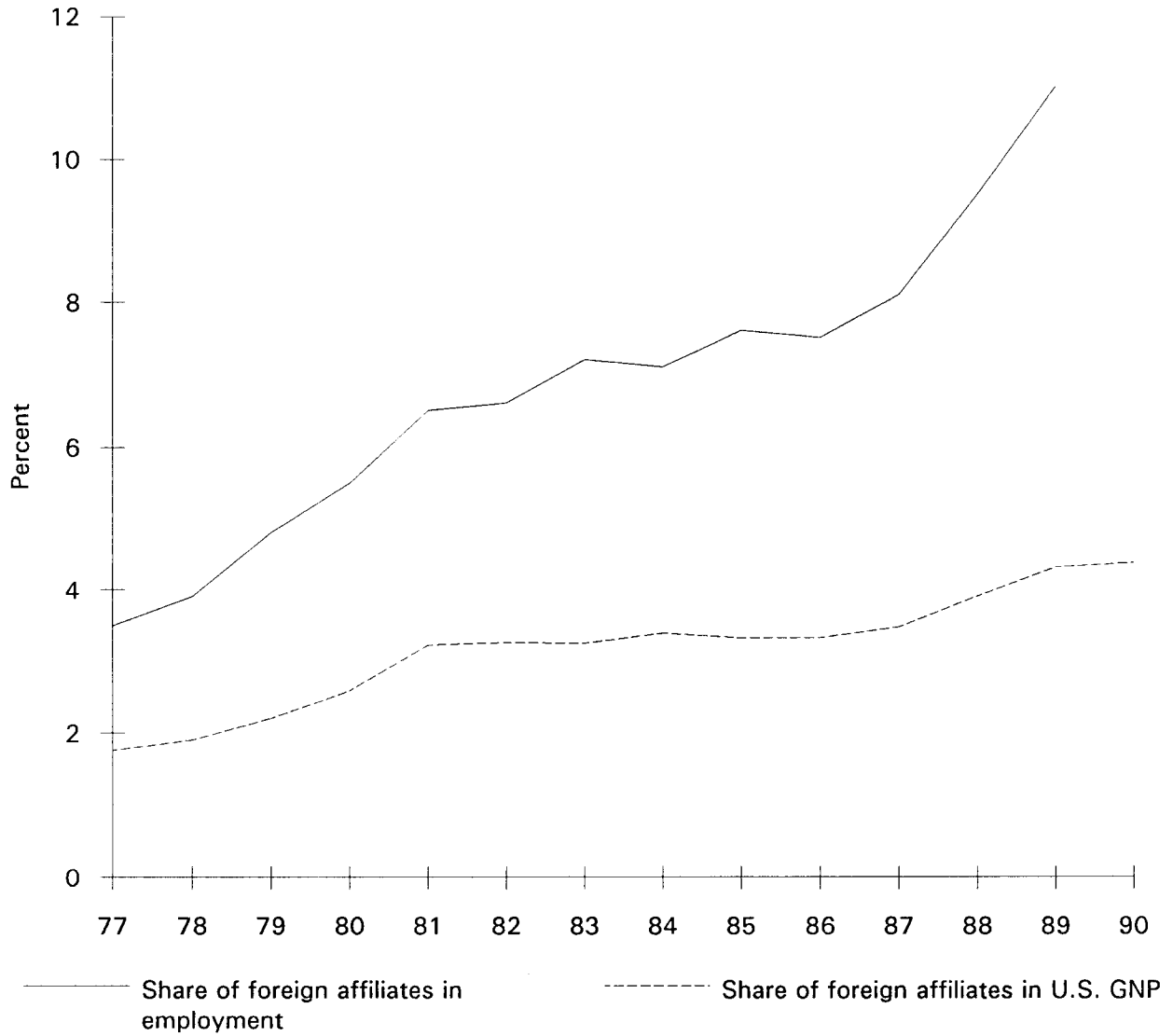
Inward and Outward Foreign Direct Investment Positions
of Group of Five, Current Cost, 1983-1991 (\$ billions)

Country		1983	1984	1985	1986	1987	1988	1989	1990	1991
United States	Inward	184.4	211.2	231.3	265.8	313.5	374.3	433.2	466.5	487.0
	Outward	371.7	361.6	387.2	421.2	493.3	515.7	552.8	623.6	655.3
	In/Out	0.50	0.58	0.60	0.63	0.64	0.73	0.78	0.75	0.74
United Kingdom	Inward	54.0	46.4	64.0	76.3	117.3	130.6	160.3	224.8	237.6
	Outward	83.9	86.9	100.3	119.0	159.6	188.8	198.7	226.6	242.4
	In/Out	0.64	0.53	0.64	0.64	0.73	0.69	0.81	0.99	0.98
Japan	Inward	4.4	4.5	4.7	6.5	9.0	10.4	9.2	9.9	12.3
	Outward	32.2	37.9	44.0	58.1	77.0	110.8	154.4	201.4	231.8
	In/Out	0.14	0.12	0.11	0.11	0.12	0.09	0.06	0.05	0.05
Germany	Inward	19.4	17.4	22.9	32.4	40.4	39.8	44.1	59.7	61.1
	Outward	31.5	32.1	42.6	58.1	75.5	80.2	95.0	126.4	148.2
	In/Out	0.62	0.54	0.54	0.56	0.53	0.50	0.46	0.47	0.41
France	Inward	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	60.6	N.A.	N.A.
	Outward	N.A.	N.A.	N.A.	N.A.	44.5	45.0	65.6	N.A.	N.A.
	In/Out							0.92		

N.A.: Not Available

Sources: IMF, Balance of Payments Statistics Yearbook, 1991 and 1992.

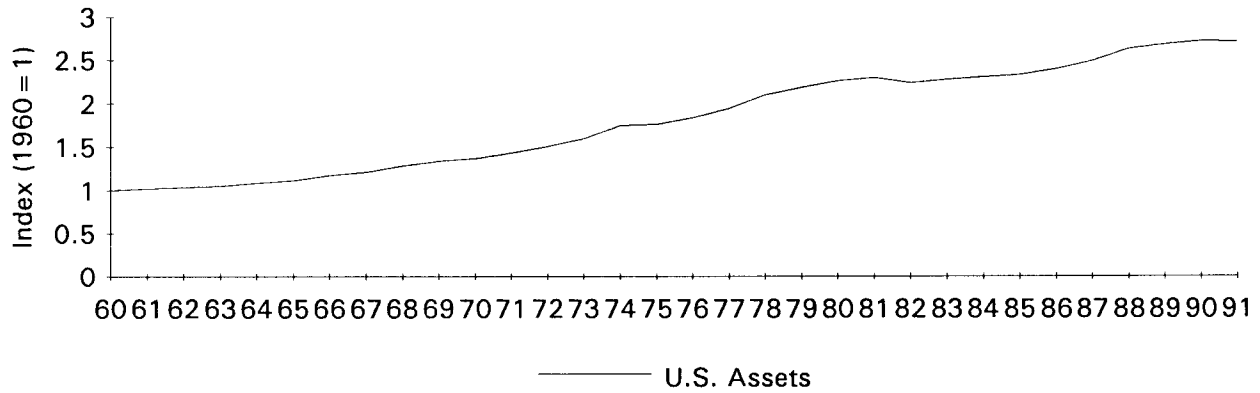
The Share of U.S. Affiliates in the United States, 1977-1990



Source: E. Graham and P. Krugman, 1991, Foreign Direct Investment in the United States, p.12; and BEA, Survey of Current Business, various issues.

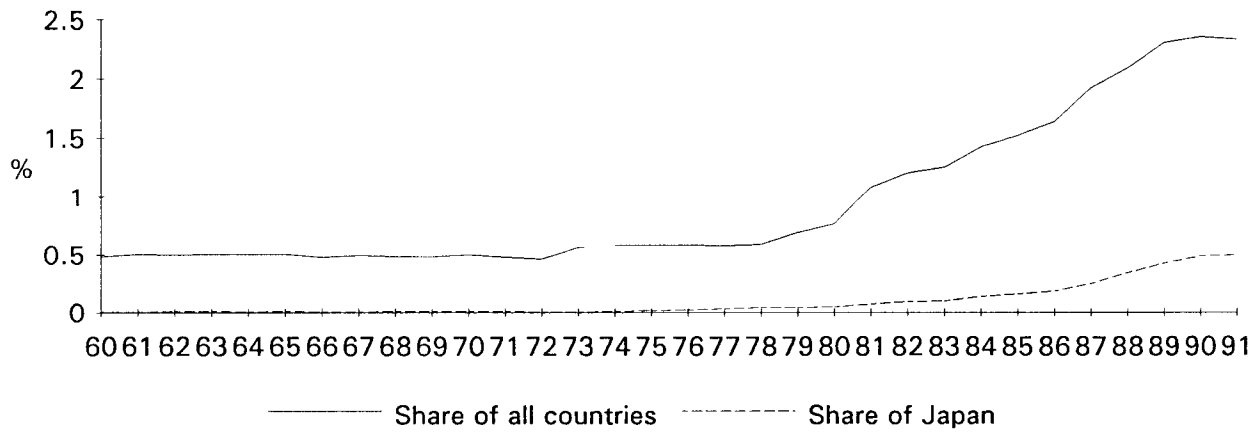
Current-Cost Gross Private Fixed Capital in the United States, 1960-1991

9a. U.S. Current-Cost Gross Stock of Fixed Private Capital, \$ billions
(Non-Residential and Residential)
(in real terms)



Note: U.S. Assets are adjusted by the GDP price index.

9b. Shares of Investment Position, %



Sources: BEA, Survey of Current Business, various issues.

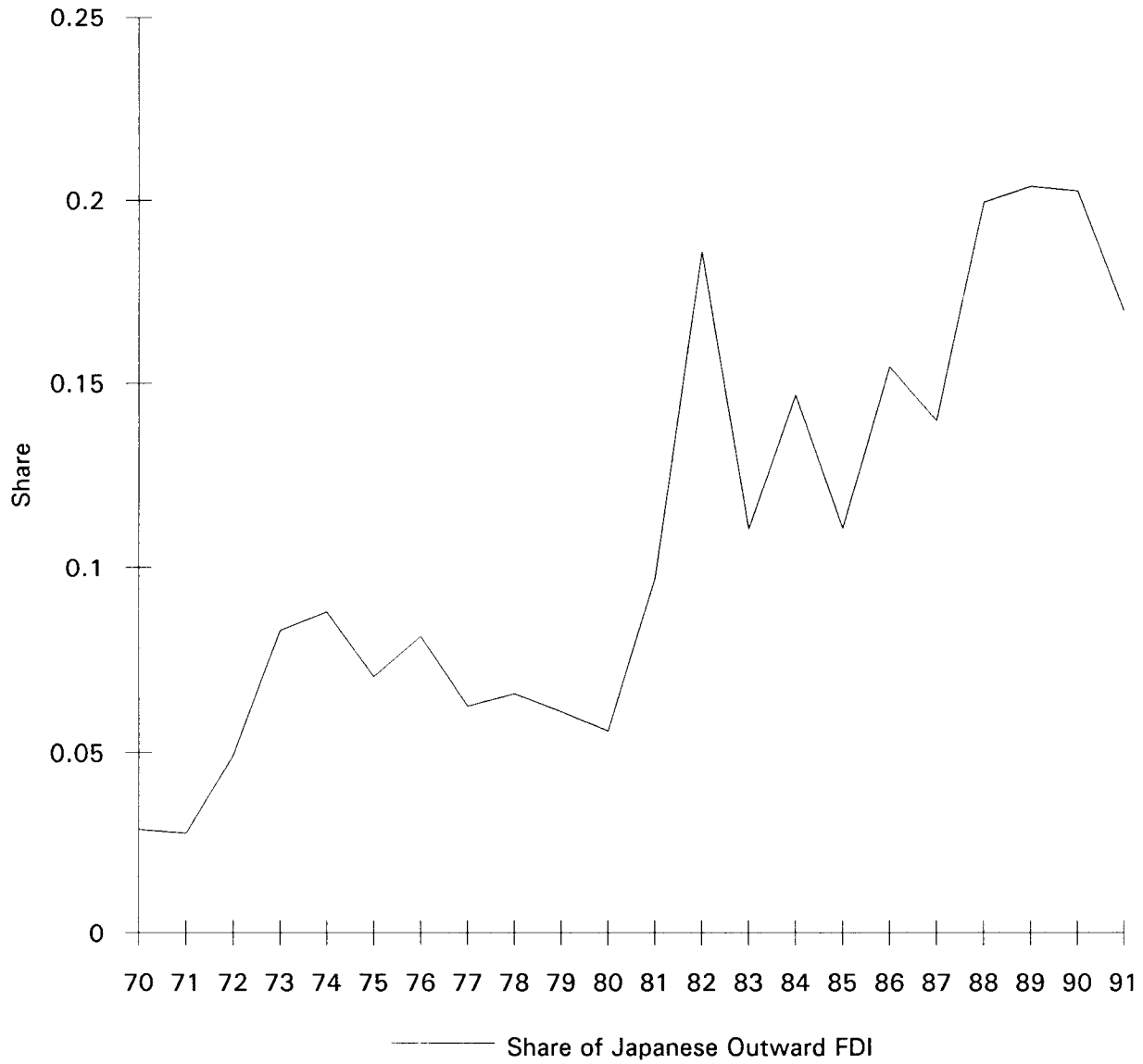
Krugman confirm that foreign firms are comparable in terms of value added, compensation, and R&D expenditures (1991).

Japanese FDI in the United States

Outward FDI from Japan has increased almost eightfold during the period between 1970 and 1989, which indicates an increase from about 2.5 to about 20.0 percent of total world FDI outflows. (See Figure 10.) Compared to world-wide FDI outflows of the U.S., Japanese outflows were one tenth of the U.S. in 1980. However, outflows increased to two-thirds higher than those of the U.S. in 1989. Japanese outward FDI matches that of the U.S. and EC in terms of the flow, but not yet in terms of the stock. (See Table 10.) Moreover, after the peak, Japan has experienced a slow-down in the growth of outflows due to a slow-down in economic growth in large countries and financial market difficulties.

The pattern of Japanese FDI outflows has shifted from vertical integration of international investments toward geographical diversification. Until the 1970s, Japanese had invested in wholesaling and distributing networks in developed countries, for instance, the U.S., and invested in primary- and intermediate-goods production in developing countries, especially Southeast Asia. However, during the 1980s, the Japanese increasingly invested in manufacturing activities and service sectors in developed countries, including finance, insurance, and real estate (Froot, 1991). (See Table 11.) This trend reflects the changing international competition environment such as regionalization and

The Share of Japanese
Outward Foreign Direct Investment
(Flows) of the World, 1970-1991



Sources: IMF, Balance of Payments Statistics Yearbook, various issues.

Table 10

Japanese Share in Foreign Direct Investment
in the United States (percent), 1977-1990

Share in	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Total FDI stock	5.0	6.5	6.4	5.1	6.4	7.8	8.3	9.0	10.5	12.2	13.1	16.2	18.0	20.7
Total assets	1.8	12.2	10.6	9.5	8.0	7.5	7.3	8.6	8.7	11.7	21.2	24.1	23.4	N.A.
Manufacturing assets	4.8	4.8	5.0	4.7	4.0	4.2	4.5	5.8	6.1	5.9	7.0	11.2	11.8	N.A.
Total employment	6.3	6.3	6.0	5.7	5.7	5.7	6.4	7.0	7.4	7.5	9.4	11.1	11.4	N.A.
Manufacturing employment	3.1	3.4	3.6	3.3	3.7	3.6	4.0	4.7	5.1	5.0	5.6	8.7	N.A.	N.A.
Total value added	7.1	6.7	6.9	7.0	6.6	7.0	7.4	9.1	10.1	9.7	11.1	N.A.	N.A.	N.A.
Manufacturing value added	3.4	3.7	3.7	3.4	3.5	3.0	3.7	4.6	5.0	5.0	5.5	N.A.	N.A.	N.A.

N.A.: Not Available

Source: E. Graham, and P. Krugman, 1991, Foreign Direct Investment in the United States, p.27.

Table 11

Japanese Investment Position in the
United States, by Industry, 1981, 1986, 1991

Industry	1981		1986		1991		1981-1991 Real Annual Growth (%)
	(\$ millions)	(%)	(\$ millions)	(%)	(\$ millions)	(%)	
Petroleum	7	0.1	-24	-0.1	113	0.1	26.97
Manufacturing	1,111	16.1	3,017	12.9	18,657	21.5	27.47
Food & Kindred Production	57	0.8	155	0.7	769	0.9	24.71
Chemicals & Allied Production	266	3.9	289	1.2	3,446	4.0	24.20
Primary & Fab. Metals	262	3.8	552	2.4	2,504	2.9	20.48
Machinery	319	4.6	873	3.7	5,396	6.2	27.56
Other Manufacturing	207	3.0	1,147	4.9	6,542	7.5	35.79
Wholesale Trade	4,128 a	59.9	12,963	55.3	26,935	31.1	
Retail Trade			292	1.2	1,102	1.3	
Banking			2,745	11.7	6,797	7.8	
Finance (except banking)	1,093 b	15.9	480	2.0	9,120	10.5	
Insurance	217	3.2	N.A.		572	0.7	5.92
Real Estate	131	1.9	2,480	10.6	14,948	17.2	54.39
Services	N.A.		N.A.		7,574	8.7	

Industry	1981		1986		1991		1981-1991 Real Annual Growth (%)
	(\$ millions)	(%)	(\$ millions)	(%)	(\$ millions)	(%)	
Other Industries	201	2.9	1,212	5.2	839	1.0	10.90
All Industries	6,887	100.0	23,433	100.0	86,658	100.0	23.84

a: Includes Retail Trade.

b: Includes Banking.

N.A.: Not Available.

Sources: BEA, Survey of Current Business, various issues.

emergence of the Triad. Japanese corporations attempted to build "regional core networks", which are the "regionally-integrated and independently sustainable networks of overseas investments centered on a Triad member" (U.N., 1991, p.42). These networks ensure market access to the U.S., EC, and Asia, and insulate market access from increasing protectionism. Among these areas Japanese outflows to the U.S. have risen more rapidly (see Figure 11 and 12), and in terms of FDI in the U.S., growth rate has increased faster than most of other industrialized countries. Japanese outflows to the U.S. had increased by two and a half times to about \$86.7 billion in 1991 since 1987 (See Table 12.)

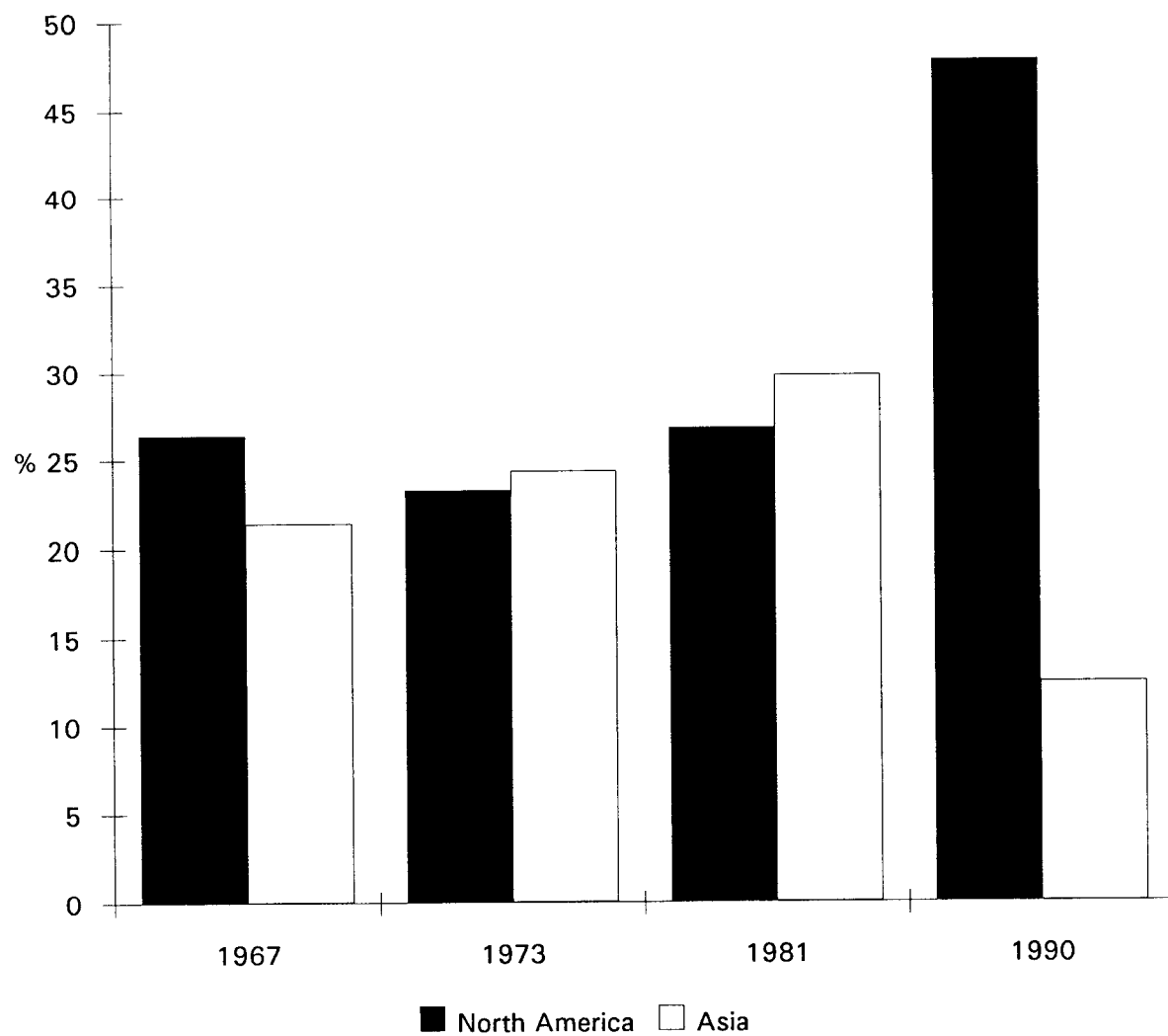
Beneficial effects of U.S. inflows from Japan, include increased demand for labor, capital inflow, introduction of new businesses or production management techniques, additions to local tax bases, and technology transfers to the U.S. (Freedman and Bauer, 1983).

There are several criticisms for Japanese FDI: that "Japanese" firms behave differently; that inward FDI to Japan is low; that government targets outward FDI by Japan, and that quid pro quo FDI gives rise to harm to the economy as a whole. First, Japanese FDI is criticized on the ground that Japanese senior executives tend to centralize key decisions in Japan and import roughly three times as much per worker as other foreign affiliates (Froot, 1991).

Second, although Japanese economy is almost half of the U.S.', Japanese FDI inflows are just around two percent of the U.S.' (Julius, 1991). The U.N. reported that, during 1985 and 1987,

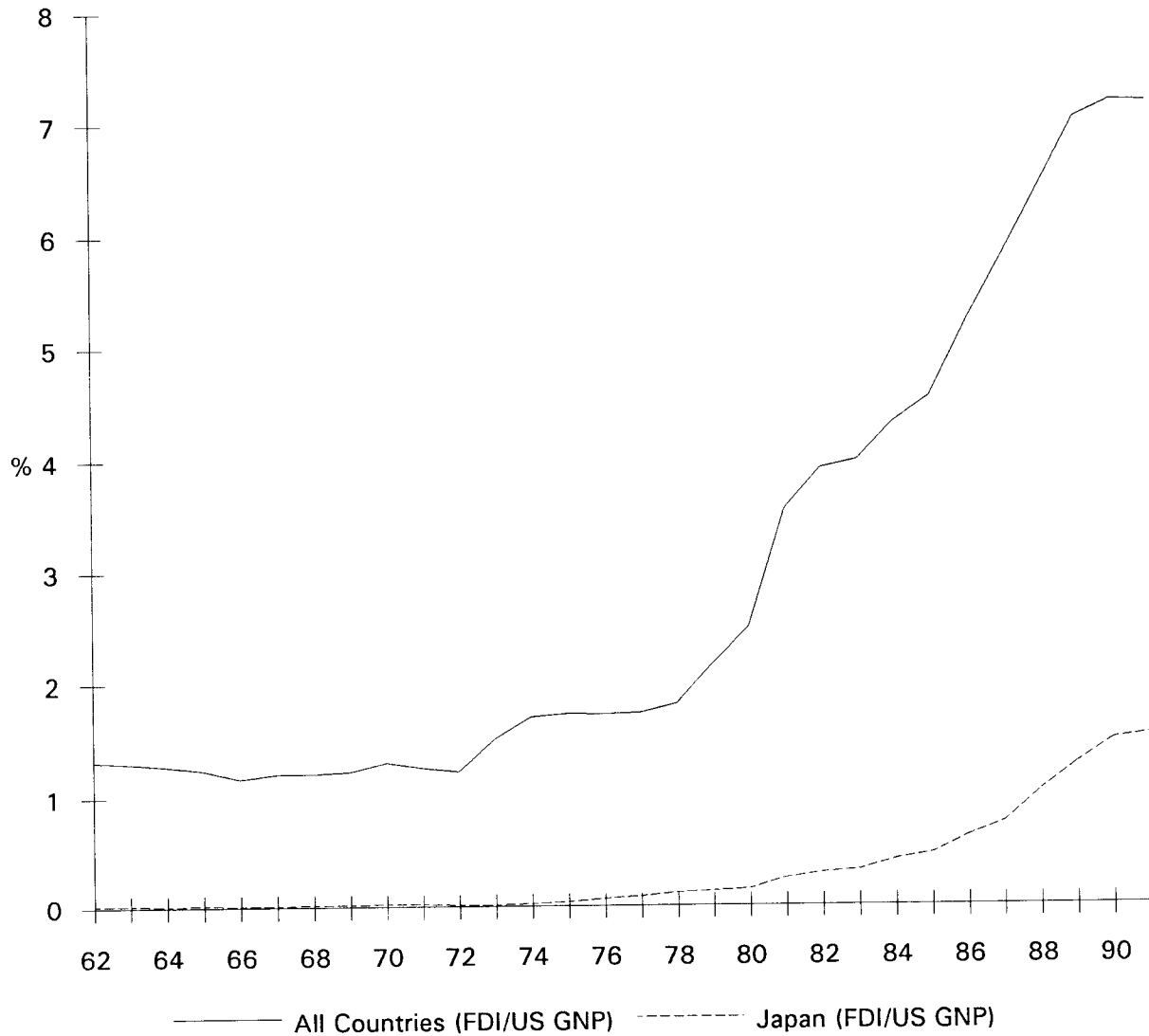
Figure 11

The Share of Japanese Outward Foreign Direct Investment (Flows)
to North America and Asia, 1967, 1973, 1981, 1990



Source: Japanese Ministry of Finance Statistics.

Foreign Direct Investment Position
in the United States, 1962-91



Sources: BEA, Survey of Current Business, various issues; and
IMF, International Financial Statistics Yearbook 1992, pp. 720-721.

12c. Real Annual Growth Rate (%)

Country	1976-81	1981-86	1986-87	1987-88	1988-89	1989-90	1990-91
United Kingdom	22.2	27.0	46.9	26.7	8.1	-0.6	3.2
Japan	50.6	27.7	46.9	48.5	31.6	21.6	6.0
Netherlands	26.7	16.3	8.8	3.2	17.9	12.7	-0.1
Germany	28.1	19.7	26.2	15.3	12.4	-0.3	-0.5
France	30.1	4.9	36.7	30.5	16.1	21.5	21.8
Above Five Countries	27.6	20.7	32.4	23.8	16.2	8.9	4.1
All Countries	24.4	18.5	25.8	19.5	17.2	7.5	2.7

Note: Real annual growth rates are adjusted by the GDP price index.
Sources: BEA, Survey of Current Business, various issues.

Japan ranked twentieth among twenty one industrialized countries in terms of FDI inflows (U.N., 1991).¹⁴

Third, Japan is sometimes criticized on the account that the government coordinates private sector investment for global strategic advantages of Japanese companies. They argue that this type of investment distorts international competition favorably toward Japanese firms.

Finally, quid pro quo FDI is used to defuse protectionist threats. Japanese FDI in the U.S. automobile industry is an example. They argue that automobile producers do not invest abroad to make use of higher productivity of capital in the U.S. relative to Japan. Then, the welfare costs are greater than the gains as compared to free trade in automobiles. This inefficiency leads to higher prices and losses in social welfare (Wong, 1989), as compared to free trade.

Against these criticisms, the attributes of Japanese FDI may be due to the relative newness. That is, such behavior may be a standard for overseas' affiliates before fully localizing production. Froot concludes that "Japanese FDI looks both plausibly similar to and legitimately different from the FDI of other major industrial countries" (1991, p.4). Against the argument of quid pro quo FDI, certainly productivity might decrease at the initial stage of production abroad right after FDI. However, FDI has dynamic effects after the establishment of foreign affiliates' activity base, and could improve productivity abroad at later stages.