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Chapter Author: Shujiro Urata

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10 Japanese Foreign Direct Investment and Its Effect on Foreign Trade in Asia

Shujiro Urata

The world has witnessed a rapid expansion of foreign direct investment (FDI) in the latter half of the 1980s. During the 1960s, world FDI grew at about the same rate as world trade. Although the annual average growth rate of world FDI during the 1970s increased to around 15 percent, it was lower than the corresponding rate for world trade, which was recorded at 19.9 percent. In the early 1980s, world FDI declined mainly owing to slow economic growth and a recession. In 1983, the growth of world FDI regained growth momentum. It was only in 1986, however, that world FDI started to experience an unprecedented increase. Between 1985 and 1989, world trade grew at an average annual rate of 12.5 percent; world FDI grew even faster, at the rate of 33.1 percent.[1]

Major investing countries have been the United States, the United Kingdom, Japan, Germany, and other developed countries. In particular, the increase of Japanese FDI has been remarkably high since the mid-1980s, and in 1989 Japan was the world's largest FDI supplier in terms of the value of annual flows. Most of the leading investing countries are also major recipient countries of FDI, with the notable exception of Japan. In spite of the relative decline of developing countries as recipients of FDI, FDI inflow to developing Asian countries has increased remarkably in the latter half of the 1980s.

The rapid world FDI expansion in the latter half of the 1980s can be attributed to various factors. Strong world economic performance provided a favorable environment for FDI. Changes in the policies concerning FDI and foreign trade contributed to the expansion of FDI in developing countries. Specifically, liberalization and promotion policies toward FDI, as well as restrictive

Shujiro Urata is associate professor of economics at Waseda University, Tokyo.

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1. International Monetary Fund, *International Financial Statistics* (various issues).

policies toward imports, promoted FDI in developed countries. The substantial realignment of the exchange rates of the major currencies also played an important role in precipitating FDI by changing the pattern of comparative advantage of a number of countries. Finally, technological progress in services such as transportation and communications provided an added impetus to the increase of FDI.

FDI has been argued to influence the economic and trade performance of the investing as well as the recipient countries. FDI promotes the economic growth of recipient countries by creating employment, by transferring foreign technology, and possibly by expanding exports. The effect on investing countries is more mixed. FDI may improve the allocation of resources by speeding up the process of structural adjustment, while it may deteriorate the economic situation by removing the industrial base out of the investing countries, a "hollowing out" of the industry.

The purpose of this paper is twofold. One is to examine the changing pattern of Japanese FDI over time. My analysis, which will be focused on Japanese FDI in Asia, attempts to identify the distinguishable characteristics that emerged in the latter half of the 1980s. The other objective is to examine empirically the behavior of the Asian affiliates of Japanese firms and their effect on foreign trade in the Asian region. Such analyses not only deepen our understanding of Japanese FDI but also provide policymakers with valuable information in formulating foreign economic policies.

The structure of the paper is as follows. In section 10.1, the changing patterns of Japanese FDI are discussed chronologically, and, in section 10.2, the effect of Asian affiliates of Japanese firms on Asian trade is analyzed by comparing the pattern of affiliates' trade and that of overall Asian trade. Finally, in section 10.3, some concluding comments will be presented.

10.1 The Changing Pattern of Japanese Foreign Direct Investment[2]

10.1.1 The Period before the Mid-1980s

After World War II, Japanese FDI had resumed by 1951, but its magnitude remained low until the late 1960s, for various reasons. First, government regulations on FDI, which were imposed strictly until the late 1960s to cope with the shortage of foreign exchange, discouraged Japanese firms from undertaking investment abroad. Second, abundant investment opportunities inside Japan provided by the rapidly growing economy reduced the attractiveness of overseas investment. Third, lack of experience in undertaking FDI as well as lack of firm-specific assets such as technology and management know-how of the Japanese firms led to a decision by the Japanese firms that overseas markets would be better served by exports rather than FDI.

2. This section expands the discussion in Urata (1990, 1991).

Until the late 1960s, Japanese FDI was concentrated mainly in natural resource sectors and in commerce. FDI in natural resource sectors was undertaken mainly in developing countries in order to secure a stable supply of raw materials for manufacturing production in Japan, whose endowment of natural resources is very limited. Examples of such FDI in Asia include petroleum drilling in Indonesia, iron ore mining in Malaysia, and copper mining in the Philippines. In contrast, FDI in commercial activities taking the form of setting up a distribution network for Japanese exports was undertaken mainly in developed countries, in order to promote Japanese exports. Of the limited amount of FDI in manufacturing during the 1960s, a large portion was undertaken in developing countries to capture their local market because the import protection policies pursued by these countries made exporting to these markets difficult; local production therefore proved to be the only means for serving the local market.

In the late 1960s, Japanese FDI started to increase rapidly, with a concentration in Asian newly industrializing economies (NIEs) (the NIEs hereafter) and in manufacturing activities such as textiles and consumer electronics. Indeed, FDI by Japanese firms was so active at that time that the period around 1970 was characterized as the "first FDI boom." Active FDI by Japanese firms may be explained by both internal factors in Japan and external factors in Asia. As for the internal factors, a decline in the competitiveness of Japanese products in the foreign market, which emerged in the late 1960s, played a crucial role in promoting Japanese FDI. Faced with a decline in competitiveness, Japanese producers shifted their production to the countries where production would be carried out at lower cost.

Several factors that led to a decline in the competitiveness of Japanese products may be identified. To begin with, an increase in the price of Japanese products in overseas markets, resulting from rising wages and appreciation of the yen, led to a loss of competitiveness of Japanese products, especially for labor-intensive products. The rising wages resulted from the shortage of labor, which in turn was attributable to rapid economic expansion, and the appreciation of the yen was the consequence of accumulated current account surplus. Furthermore, trade friction with developed countries made further expansion of Japanese exports difficult, forcing Japanese firms to seek to move production overseas. Finally, liberalization of Japanese policies toward foreign exchange transactions provided an added impetus to the outflow of FDI.

Turning to the factors in Asia that attracted Japanese FDI, one can identify the abundance of low-wage labor with good quality and FDI promotion policies, which were pursued by setting up export processing zones and by providing preferential tax treatment. The export promotion policies of the NIEs, especially strongly applied to foreign investors, led to an increase of Japanese FDI because one of the motives behind active FDI by Japanese firms was to secure an export base. Moreover, provision of GSP (Generalized System of Preferences) treatment by developed countries to a number of Asian develop-

ing countries including the Asian NIEs increased the attractiveness of these countries as an export base for Japanese firms.

The outbreak of the first oil crisis in 1973 brought an end to the first FDI boom by Japanese firms (figure 10.1). The balance-of-payments situation deteriorated precipitously not only in Japan but also in other oil-importing countries. Contractionary monetary policies adopted in the oil-importing countries to overcome the difficult economic situation discouraged FDI. In addition, anti-Japanese movements in some Asian countries caused by the "overpresence" of Japanese firms discouraged Japanese FDI as well.

With economic recovery in the aftermath of the first oil crisis, Japanese FDI started to increase slowly in the second half of the 1970s. The rate of increase was intensified in 1978, when the Japanese yen appreciated. Despite a slight recovery, however, Japanese FDI did not increase much until the early 1980s. One notable development during the latter half of the 1970s is the change in geographic distribution of Japanese FDI. The share of developed countries increased, as Japanese firms stepped up their efforts in increasing FDI in these countries to cope with intensified trade friction in products such as electronics. Among the Asian countries, Japanese FDI shifted from the NIEs to Association of Southeast Asian Nations (ASEAN) countries for the following reasons. The increase in wages in the NIEs resulting from the shortage of labor reduced the attractiveness of these economies as hosts to FDI. To deal with the unfavorable labor situation in the Asian NIEs, Japanese firms in search of lower wages shifted FDI from the Asian NIEs to ASEAN countries.

In 1981, Japanese FDI increased sharply, as a number of direct investments related to natural resources were undertaken in the developing countries in Asia and in Latin America. Because of a remarkable increase in Japanese FDI, the early 1980s was characterized as the "second FDI boom." The second FDI boom did not last long, however, as Japanese FDI declined in 1982 and remained at about the same level until 1986. The stagnation of Japanese FDI in the early 1980s can be attributed to the following factors. As for Japanese FDI in developed countries, depreciation of the yen vis-à-vis the U.S. dollar made exporting profitable for Japanese firms and thus reduced the incentive for them to undertake FDI. As for Japanese FDI in developing countries, a slowdown in their economic growth, caused mainly by the deterioration in their foreign debt situation, discouraged FDI. Deterioration in the foreign debt situation could in turn mainly be attributed to the expansionary development policies pursued by these countries in the 1970s and in the early 1980s.

10.1.2 The Period after the Mid-1980s

Japanese FDI started to increase rapidly in 1986, and the increase continued until 1989. In 1990, Japanese FDI declined for the first time in eight years. The speed of the increase during the period 1986–89 was unprecedentedly high, as the average annual growth rate for the period was as high as 53.3

percent.[3] As a result of rapid FDI growth, the ratios of FDI to GNP and to gross fixed investment in Japan increased from 1.0 and 0.2 percent, respectively, in 1980 to 5.9 and 1.7 percent in 1989.[4] The rapid increase of Japanese FDI at this time, which is described as the "third FDI boom," was precipitated by the rapid appreciation of the yen. In addition, protectionist policies and movements toward regionalization in developed countries, and liberalization policies and favorable economic performance in developing countries, contributed to the increase of Japanese FDI in both regions.

Several notable characteristics of Japanese FDI in the latter half of the 1980s can be identified. First, the share of developed countries increased, as the combined share of North America and Europe in overall Japanese FDI increased from 54.1 percent in 1980–85 to 73.9 percent in 1986–89. Second, following the pattern originated in the early 1980s, a large portion of Japanese FDI in the latter half of the 1980s was undertaken in the nonmanufacturing sector; for the period 1951–79, the share of nonmanufacturing in overall FDI was 65.8 percent, while the corresponding share for the period 1980–89 was 75.1. Below I discuss some of the characteristics of Japanese FDI in the latter half of the 1980s in more detail and examine the factors behind such development by focusing separately on Japanese FDI in developed countries and in developing countries, with a particular emphasis on the developing countries in Asia.

Among the recipient countries of Japanese FDI, the share of developed countries increased during the 1980s. Several reasons may be given for this development. First, yen appreciation increased the attractiveness of overseas production as it reduced the export competitiveness of Japanese products by increasing the prices of Japanese products in the foreign market. It should be noted that the appreciation of the yen facilitated overseas investment by Japanese firms as it lowered the value of foreign assets in terms of the yen. Second, continuing trade friction with the United States and European countries forced Japanese firms to undertake FDI in these countries in order to maintain their markets. Third, the anticipated integration of the European Community (EC) in 1992 accelerated the pace of Japanese FDI as Japanese firms are eager to secure a foothold in the enlarged EC. The industries that have undertaken FDI in developed countries acting on these motivations include automobiles and electronic machinery. Finally, Japanese firms with abundant liquidity have found such assets as real estate in the developed countries, especially in the United States, very attractive.

The share of the developing countries in overall Japanese FDI declined during the 1980s because Japanese firms expanded their investment in the devel-

3. Unless otherwise noted, the statistics on Japanese FDI used in the paper are based on data reported by firms to the Ministry of Finance.

4. These figures are on a balance-of-payments basis.

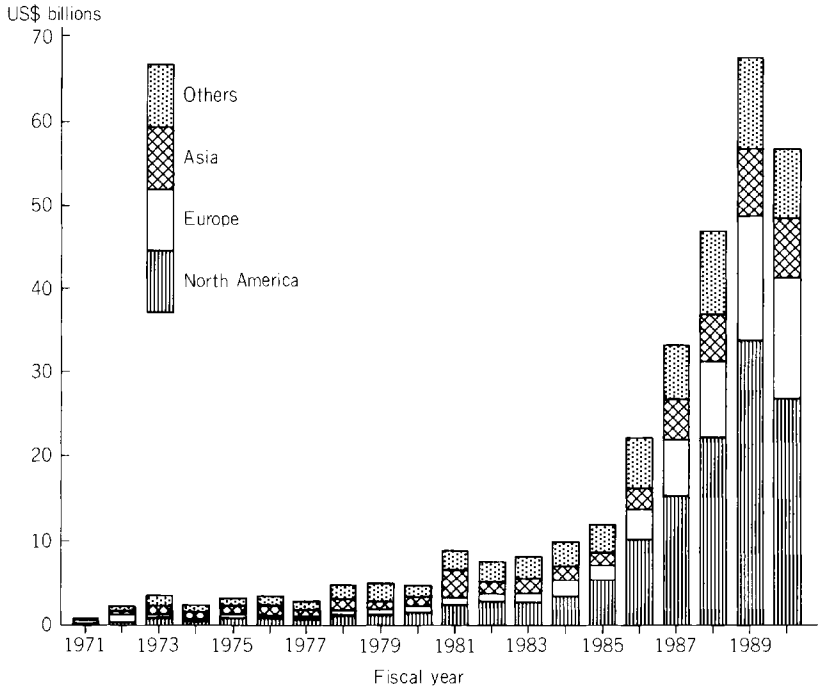

Fig. 10.1 Japanese foreign direct investment by region.
Source: Ministry of Finance statistics (reporting basis).

oped countries very rapidly. In spite of the relative decline in their shares, the magnitude of Japanese FDI in developing countries, especially the Asian developing countries, increased substantially. Annual reported Japanese FDI in Asia increased from $1.4 billion in 1985 to $8.2 billion in 1989. In 1989, the share of Asia in overall Japanese FDI stood at 12.2 percent. Among the countries in Asia, the Asian NIEs, the ASEAN countries, and China captured as much as 98.6 percent of Japanese FDI in 1989. As for the individual countries among the NIEs and ASEAN countries, the largest recipients in 1989 were Singapore, Hong Kong, and Thailand, in descending order in terms of the reported value of FDI; this pattern represents a shift away from Korea, Taiwan, and Indonesia, which captured substantial shares of Japanese FDI in the earlier period.

As a result of the rapid expansion of Japanese FDI in Asia since 1986, the Japanese share of overall FDI inflow for a number of Asian countries increased, although there are sizable year-to-year fluctuations. On an individual country basis, in 1989 Japan was the largest foreign investor in all Asian NIEs and ASEAN countries except Hong Kong.[5] These statistics indicate that the

5. Based on statistics published by official sources of the individual countries.

effect of Japanese FDI on the economic activities of the Asian countries is likely to be substantial. It should be noted, however, that the importance of the NIEs as an investor in Asia has been growing rapidly.

A large share of Japanese FDI in Asia has been in the nonmanufacturing sector. Indeed, the share of nonmanufacturing for Japanese FDI in Asia has been increasing over time; on the basis of the cumulative FDI since 1951, the share of nonmanufacturing increased from 56 percent in 1978 to 62 percent in 1989. The increase in the share of nonmanufacturing in Japanese FDI in Asia has been realized as a rapid increase of FDI in commerce, construction, finance, services, transportation, and real estate. The rapid expansion of Japanese FDI in nonmanufacturing in Asia can be attributed not only to such supply-side factors as the globalization of Japanese nonmanufacturing firms but also to such demand-side factors as the rapid increase of local demand for nonmanufacturing activities, resulting from remarkable economic expansion. Specifically, increased demand for final consumption by household has given rise to demand for retail services provided by supermarkets and department stores, while active fixed investment induced by favorable economic performance has led to an increase in demand for construction services. Moreover, liberalization and deregulation in the financial sector in a number of Asian countries resulted in active FDI in that sector.

Although the share of manufacturing in Japanese FDI in Asia has been declining over time, its share is still somewhat larger than the corresponding share for Japanese FDI in other parts of the world; the share of manufacturing in the cumulative Japanese FDI in Asia at the end of 1989 was 38.5 percent, whereas the corresponding share for the world as a whole was substantially lower, at 26.9 percent (see table 10.1). Among the manufacturing subsectors, the share of electrical machinery has been increasing rapidly for both the NIEs and ASEAN countries. For the manufacturing subsectors other than electrical machinery, there are wide variations in shares between the NIEs and ASEAN countries. For the NIEs, chemicals, general machinery, and food captured significantly large shares, whereas, for ASEAN countries, ferrous and nonferrous metals and textiles captured large shares. It should be noted here that, over time, the composition of Japanese FDI in the NIEs has been changing from such labor-intensive sectors as textiles to such capital intensive and technology-intensive sectors as machinery, while the composition of Japanese FDI in ASEAN countries shifted from such natural resource–based sectors as food and wood and pulp to labor-intensive sectors and then to capital intensive sectors.

Various factors contributed to the active FDI in the manufacturing sector in Asia by Japanese firms. Let us first discuss the factors mainly associated with the investor, Japan, and later those related to the recipients, the Asian countries. As already mentioned, the rapid appreciation of the yen deteriorated the competitiveness of Japanese products, thereby prompting Japanese producers to shift their production overseas. Moreover, rising wages due to the shortage

Table 10.1 **Japanese FDI in Asia: Cumulative Reported Amount (in million U.S. dollars), 1951–89**

	Asia		NIEs		ASEAN		World	
Sector	Amount	Share	Amount	Share	Amount	Share	Amount	Share
Food	1,049	2.6	685	3.4	301	1.7	3,266	1.3
Textiles	1,569	3.9	433	2.2	1,003	5.7	3,203	1.3
Wood and pulp	450	1.1	50	.3	385	2.2	2,654	1.0
Chemicals	2,077	5.1	1,307	6.6	712	4.1	8,649	3.4
Metals	2,578	6.4	449	2.3	2,072	11.8	9,261	3.6
General mach.	1,387	3.4	774	3.9	543	3.1	6,479	2.6
Electric mach.	3,348	8.3	1,637	8.2	1,447	8.3	14,676	5.8
Trans. mach.	1,326	3.3	625	3.1	622	3.5	9,009	3.5
Other manufac.	1,807	4.5	929	4.7	739	4.2	8,932	3.5
Manufac. total	15,591	38.5	6,891	34.6	7,824	44.6	66,127	26.9
Agri.-forestry	297	.7	46	.2	236	1.3	1,205	.5
Fishing	177	.4	8	.04	119	.7	678	.3
Mining	7,124	17.6	14	.07	6,997	33.9	15,211	6.0
Construction	643	1.6	375	1.9	257	1.5	2,089	.8
Commerce	2,575	6.4	2,077	10.4	439	2.5	25,159	9.9
Finance	3,588	8.9	3,054	15.3	514	2.9	57,271	22.6
Services	4,815	11.9	3,617	18.2	540	3.1	23,375	9.2
Transportation	982	2.4	901	4.5	58	.3	15,268	6.0
Real estate	2,351	5.8	1,957	9.8	297	1.7	34,742	13.7
Others	1,632	4.0	493	2.5	121	.7	7,515	3.0
Nonmanufac.	24,184	59.8	12,542	63.0	9,577	54.6	182,514	71.9
Branches	628	1.6	473	2.4	118	.7	4,659	1.8
Real estate	37	.1	14	.07	13	.07	595	.2
Total	40,465	100.0	19,919	100.0	17,531	100.0	253,896	100.0

Source: Ministry of Finance.

of labor and rising land prices in Japan provided an additional incentive for overseas production. Faced with changes in the cost of production between that in Japan and that in Asia, Japanese firms sought mainly three objectives from overseas production. One was to shift the sources of exports to developed countries by Japanese firms from Japan to Asian countries. Another was to substitute local production for exports to Asian countries. Finally, a number of Japanese firms set up a production base in Asia to supply products to the Japanese market; as such activity has become popular among Japanese producers, it has come to be called "reverse import" in Japan.

In addition to these cost factors, the factors associated with industrial organization, such as the behavior of rivals and customer firms, prompted some Japanese firms to undertake FDI. Specifically, a number of cases are reported in which some Japanese firms undertook FDI in order to keep up with rival firms that set up affiliates overseas. It is also rather common to observe that the motivation behind FDI by some Japanese firms is to follow their customers overseas in order to maintain their sales. This type of FDI is particularly noticeable in the machinery sectors, as the production of machinery products requires numerous components that are supplied by subcontractors. Indeed, one of the distinctive characteristics of Japanese FDI in Asia is the high share of small and medium-sized firms, a large portion of which supply components to large assembly firms.

Turning to the factors in Asia that promoted the inflow of FDI, it would be useful to divide Asia into the NIEs, on the one hand, and ASEAN countries, on the other. This is because the timing of active inflow of FDI differs in these two groups of countries and because the causal factors that induced FDI inflow differ between them. For the NIEs that attracted FDI notably until 1987, FDI promotion policies played an important role. Such policies were adopted in the hope that FDI would speed up the process of structural change required for their continued economic growth. Specifically, policymakers in Korea, Singapore, and Taiwan thought that the development of high-tech sectors, their targeted sectors, would be promoted by FDI because FDI brings in valuable technologies. In Hong Kong, such policies as the provision of technical training to factory workers were implemented to make Hong Kong a more desirable place for prospective FDI.

In the late 1980s, however, the NIEs became less attractive as hosts to manufacturing FDI for various reasons. For example, the appreciation of these currencies against the U.S. dollar and to some extent against the Japanese yen, as well as rising wages in the NIEs, increased the cost of production in these countries. Moreover, the abolition by the United States of the GSP status of the NIEs' exports in 1989 discouraged FDI inflow in the NIEs. Instead of the NIEs, the economies of the ASEAN countries, especially Thailand, attracted FDI in manufacturing, as they could provide the low-wage labor necessary for undertaking labor-intensive manufacturing processes. Liberalization policies toward FDI as well as foreign trade adopted by these countries also helped

attract FDI. Behind the shift toward the outward-oriented development strategy of ASEAN countries, there must have been a recognition on the part of ASEAN governments that the economic success of the NIEs was achieved by an outward-looking strategy.

10.1.3 The Regional Strategy of Japanese Firms

So far we have examined the changing patterns of Japanese FDI and the factors behind such developments without explicitly analyzing the corporate strategy of Japanese firms. In this section, I attempt to identify the corporate strategy of Japanese firms that lies behind the patterns of FDI observed above, with a focus on Asia. It should be noted that a number of Japanese firms formulate global strategies, covering the following three regions: Asia (including Japan), North America, and Western Europe. Two notable developments should be mentioned. One is an increasing emphasis on regional strategy. Such a development is not only in response to regionalization movements in Western Europe and North America but also in recognition of the fact that it is advantageous to undertake production in the proximity of the market. The other development is that, within each region, different processes such as research and development and manufacturing are assigned to the areas where they may be performed most efficiently. As such, for a number of Japanese firms, corporate strategy toward the domestic market (i.e., the Japanese market) and that toward the overseas market (especially the Asian market) are formulated in close coordination.

Among various manufacturing subsectors, I examine the corporate strategy of the Japanese firms in the machinery sector for the following two reasons. One is the large share of the machinery sector in Japanese FDI, as described above. The other is because a new strategy has been adopted by some Japanese machinery firms, one whose characteristics are different from the characteristics of the corporate strategies employed by Japanese firms in other sectors or those observed in the earlier period.

Earlier, we found that the machinery sector, especially electrical machinery, has actively undertaken FDI. At least two reasons may be given for such a development. First, machinery products were frequently subject to trade friction. In order to get around the barriers imposed on Japanese exports, Japanese firms set up plants in developed countries as well as in developing countries. Second, machinery products are suitable for a production arrangement under which international division of labor is pursued within the firm. This is because the production process of the machinery products may be broken down into a number of subprocesses, and thus each process may be located in a country where that particular process may be performed most efficiently. Indeed, this is the strategy that a number of Japanese firms adopted in the latter half of the 1980s.

Specifically, the following kind of production arrangement has been

adopted by some Japanese electronics producers. High-tech products such as semiconductors are produced by a parent company in Japan or by subsidiaries in other developed countries or in the NIEs, where high technological capability exists. These electronic components are then shipped to subsidiaries in ASEAN countries, where final products such as televisions or refrigerators are assembled by local labor. Such a division of the production process may be described as an interprocess, intrafirm production arrangement, and the type of international trade that such an arrangement gives rise to may be called interprocess, intrafirm, intraindustry trade. In the next section, I will examine empirically whether such production and trade patterns may be observed in Asia.

In a development somewhat related to the production arrangement just described, a number of Japanese firms have adopted a product differentiation strategy internationally by assigning the production of a product to the country where that particular product may be produced most efficiently or to a country where such a product is in great demand. For example, standard color televisions are produced by affiliates in ASEAN countries because their production requires only standardized technology and because they are in great demand in these countries. In contrast, large-screen televisions capable of receiving satellite broadcasts are produced in Japan because the sophisticated technologies necessary for their production exist in Japan and because there is a rapidly growing demand for such products in Japan.

New types of production arrangements under the new strategy discussed above are quite different from those under the old strategy. Under the old strategy, production is undertaken in the country where the market exists, without considering production efficiency. Several factors may be singled out as promoting the new strategy. One is the accumulated experience of Japanese firms in overseas business activities. Another is improvements in the quality of international communications and transportation services, which in turn were made possible by technological progress and liberalization policies. This factor played an important role, especially in the development of the interprocess, intrafirm, international production system. A number of firms have set up international procurement offices (IPOs) to manage the system efficiently. Singapore has been the most popular site for the IPOs because of its advantageous geographic location and its efficient and restriction-free communications and transportation services. It should be noted that Japanese FDI in these service sectors contributed significantly to setting up service networks throughout Asia.

10.2 Asian Affiliates of Japanese Firms and Foreign Trade in Asia

In the previous section, the changing patterns of Japanese FDI from the 1960s to the 1980s were discussed, and a number of hypotheses regarding the behavior of Japanese firms were presented without any statistical evidence

being provided. In this section, I attempt to examine empirically the validity of some of those hypotheses with the objective of deepening our understanding of the behavior as well as the effect of Japanese firms in Asia.

10.2.1 Patterns of Sales and Procurement

Earlier, I argued that a main motive behind Japanese FDI in Asia is to set up an export base. In this section, I test the validity of this hypothesis by examining the pattern of sales of the Asian affiliates of Japanese firms. Moreover, I examine the pattern of procurement of intermediate goods and capital equipment of these affiliates. In the analysis, I compare the behavior of the affiliates in Asia with that of affiliates in other parts of the world to determine the special characteristics of the sales and procurement patterns of the affiliates in Asia.

Table 10.2 shows the geographic distribution of the sales of overseas affiliates of Japanese firms. The table shows the figures for the manufacturing sec-

Table 10.2 **Sales and Procurement of Foreign Affiliates of Japanese Firms (percentage shares)**

Affiliates	Local Market	Japan	Asia	N. America	Europe	Others
Sales destinations (1988):						
Asia	59.8	13.7	11.4	8.7	4.5	1.9
NIEs	56.1	15.1	11.7	9.8	5.3	2.1
ASEAN4	61.1	12.5	13.0	7.9	3.6	1.9
U.S.	95.0	3.4	.2	.9	.4	.1
EC	75.7	1.3	.7	1.3	20.3	.6
World	78.2	7.1	4.1	3.8	5.4	1.4
Procurement sources:						
Intermediate goods (1988):						
Asia	47.2	41.3	9.1	.6	.7	1.0
NIEs	49.6	41.9	6.9	.3	.3	1.1
ASEAN4	41.9	39.2	14.9	1.7	1.6	.9
U.S.	36.1	61.7	1.4	.2	.2	.4
EC	37.1	51.9	2.8	.6	7.5	.07
World	40.4	52.9	3.8	.6	1.7	.5
Capital equipments (1986):						
Asia	47.4	51.3				1.3
ASEAN5	24.9	75.1				.0
U.S.	66.4	33.6				.0
EC	81.4	18.6				.0
World	56.9	42.6				.5

Source: Wagakuni kigyo no kaigai jigyo katsudo (Survey of the overseas activities of Japanese companies), no. 19 (Tokyo: MITI, 1990). *Kaigai toshi tokei soran* (A comprehensive survey of foreign investment statistics), no. 3 (Tokyo: MITI, 1987).

Note: The figures are for manufacturing total. ASEAN4 are Indonesia, Malaysia, the Philippines, and Thailand; ASEAN5 are ASEAN4 plus Singapore. For the procurement of capital equipment, import sources are broken down into only Japan and others. Some numbers do not add to 100 percent, not only because of rounding, but also because of data inconsistency.

tor as a whole for 1988. In the table, one observes an interesting contrast in the geographic distribution of sales between affiliates in Asia and those in developed countries. For affiliates in Asia, the ratio of exports to total sales (the export-sales ratio) amounts to 40 percent, while the corresponding ratios for affiliates in the United States and in the EC are lower, at 5 and 25 percent, respectively. For affiliates in the EC, the export-sales ratio declines to less than 5 percent if intra-European trade is regarded as local sales. These observations indicate that the main motive behind Japanese FDI in Asia is to set up an export base, while the main motive behind Japanese FDI in the United States and in the EC is to maintain or capture the local market.

As for the destinations of the exports of Asian affiliates, Japan is the most important market as it absorbs 13.7 percent of their sales. Japan is followed by Asia (11.4 percent) and then by North America (8.7 percent). As the share of exports to Japan in total sales was significantly lower at 9.8 percent in 1980, the attractiveness of Japan as an export destination increased over time, mainly as a result of the following three factors: the appreciation of the yen, buoyant economic activity in Japan, and the import-promotion policies pursued by the Japanese government. Indeed, Japanese imports from overseas affiliates of Japanese firms—"reverse imports"—are growing rapidly. Among various kinds of products that are imported to Japan in the form of reverse imports, electrical products such as refrigerators, color televisions, and car stereos have grown rapidly in recent years (JETRO 1991).

Among the manufacturing subsectors, there are wide variations in the pattern of sales of the Asian affiliates of Japanese firms (table 10.3). The export-

Table 10.3 Sales and Procurement of Asian Affiliates of Japanese Firms, 1988

	Sales Destination (%)				Procurement Sources (%)			
		Exports to:				Imports from:		
Sector	Local Sales	Japan	Other Asia	Non-Asia	Local Procurement	Japan	Other Asia	Non-Asia
Manufacturing	59.8	13.7	10.9	15.6	47.2	41.3	9.0	2.4
Food	56.5	20.4	11.9	11.2	87.3	4.1	5.9	2.7
Textiles	52.3	10.8	7.7	29.2	48.8	19.1	6.7	25.4
Wood & pulp	31.2	41.4	18.5	8.9	82.4	2.7	13.2	1.8
Chemicals	81.6	3.8	9.8	4.8	59.6	23.1	2.9	14.4
Iron & steel	86.2	6.4	1.7	5.7	29.2	54.8	12.1	3.9
Nonfer. metals	60.1	14.4	14.0	11.5	69.1	22.6	.3	7.9
General mach.	64.0	17.3	6.9	11.9	44.2	52.3	3.0	.5
Elec. mach.	43.1	19.4	16.5	20.9	43.6	44.3	11.1	.9
Trans. mach.	93.2	1.7	1.4	3.7	47.7	44.4	7.6	.3
Precision mach.	40.3	26.7	20.9	12.1	28.9	60.1	10.6	.4
Petro. and coal prods.	98.7	.8	.2	.2	64.4	35.6	.0	.0
Others	72.4	10.6	4.3	12.7	58.7	29.1	8.4	3.8

Source: Wagakuni kigyo no kaigai jigyo katsudo (Survey of the overseas activities of Japanese companies), no. 19 (Tokyo: MITI, 1990).

sales ratio is high for wood and pulp, precision machinery, and electrical machinery, as more than 50 percent of their sales are exported. In contrast, petroleum and coal products, transport machinery, and iron and steel show low export-sales ratios, as less than 20 percent of their sales are exported.

The observed differences in the export-sales ratios for different subsectors can be attributed mainly to the differences in the motives behind Japanese FDI in these sectors, which in turn are influenced by the policies pursued by the host governments. For example, the main purpose of undertaking FDI in wood and pulp in Asia is to supply wood and wood products to Japan, where these products are in short supply. Therefore, a large part of wood and pulp sales goes to Japan. The remarkable difference in the export-sales ratios between electrical machinery and transport machinery appears to reflect different policies applied to these industries by host governments. For the development of the electrical machinery sector, a number of Asian countries adopted export-promotion policies and FDI-promotion policies. One of the notable developments in this regard was the setting up of export-processing zones. Responding to these incentives, Japanese firms have established an export base by FDI and exported a substantial portion of their sales. In contrast, import-protection policies are applied for the development of the transport machinery sector. As a consequence, as much as 93 percent of its sales were made locally.

There are notable differences in the pattern of export destinations among different manufactured products that are produced by Asian affiliates of Japanese firms. Japan is an important market for natural resource–based products such as wood and pulp and food. Japan is also an important market for precision machinery. For textile products, the market in non-Asia, consisting mainly of developed countries, is important.

Turning to the pattern of procurement of intermediate goods by overseas affiliates of Japanese firms, one finds that dependence on Japan is significantly higher than is observed in the case of sales (table 10.2 above). On the basis of the worldwide average, 50 percent of intermediate goods purchased by overseas affiliates of Japanese firms are imported from Japan. This high dependence in procurement is quite a contrast to the case of sales, where only 7.1 percent of sales were shipped to Japan. For the remaining portion of procurements, 40 percent are purchased locally, and 10 percent come from foreign countries other than Japan.

Despite a high level of dependence on Japan for the procurement of intermediate goods in general, there are variations in the geographic pattern of sources of procurement among affiliates in different regions. One distinctive characteristic of Asian affiliates is a high level of dependence on local markets. Specifically, for Asian affiliates, the local market is the most important source of procurement of intermediate goods, as 47.2 percent of procurement is made locally. Following local procurement, Japan is the next important source, as 41 percent of total intermediate goods are purchased in Japan. Far

behind these two major sources of supply of intermediate goods is Asia, excluding Japan, as it supplies 9 percent of the intermediate goods procured by Asian affiliates of Japanese firms. As opposed to affiliates in Asia, for affiliates in the United States and the EC Japan is the most important source of intermediate goods, as Japan supplies 61.7 and 51.9 percent, respectively, of intermediate goods to these regions.

At least two reasons may be given for Asian affiliates' low level of dependence on Japan, in comparison with affiliates in the United States or the EC. One is that Japanese FDI in Asia has a relatively long history, compared to that in the United States or the EC. Consequently, a procurement network in Asia has been developed, and Asian affiliates therefore rely less on Japanese sources for the supply of intermediate goods. Another reason is that local content requirements have been imposed on FDI in Asia while such restrictions have not been formally applied in developed countries. These differences in FDI policy in Asia, on the one hand, and in the United States and the EC, on the other, have resulted in the different patterns of procurement identified above.

For affiliates in the NIEs and those in ASEAN countries, there is an interesting difference regarding the importance of the local market and that of Asian countries as sources of procurement. For affiliates in the NIEs, local procurement amounts to 50 percent of total procurement, and imports from Asia amount to only 7 percent. In contrast, for affiliates in ASEAN countries, local procurement is significantly smaller at 42 percent, and imports from Asia account for 15 percent of total procurement, significantly higher compared to the case of affiliates in the NIEs. In other words, for affiliates in ASEAN countries, the NIEs are important suppliers of intermediate goods, while, for affiliates in the NIEs, the local market supplies a significantly greater percentage of total procurement, and thus dependence on Asia is smaller. These differences reflect the differences in the production capability of intermediate goods in these two regions, which in turn can be mainly attributed to differences in the timing of Japanese FDI undertaken and in the level of economic development in these two regions. Compared to affiliates in ASEAN countries, affiliates in the NIEs have a longer history, and the level of economic development is significantly higher in the NIEs than in ASEAN countries. These two factors lead to high local capability in the NIEs in supplying intermediate goods.

The patterns of procurement of intermediate goods by Asian affiliates of Japanese firms differ substantially among different subsectors. As may be expected, the share of local procurement in total procurement is high for the natural resource–based sectors such as food, wood and pulp, and nonferrous metals (table 10.3 above). In contrast, for the machinery subsectors, which use manufactured intermediate goods as inputs, import dependence is high. Import dependence is particularly high for precision machinery, as more than 70 percent of intermediate goods are imported. One common characteristic

concerning the procurement pattern among the machinery subsectors is a high level of dependence on Japan. This pattern is distinctively apparent for precision machinery, for which as much as 60 percent of intermediate goods is procured in Japan. It is interesting to note that, for textiles, non-Asia is an important source of procurements. Considering that a large share of sales in textiles is exported to non-Asia, one is led to the observation that Asian affiliates of Japanese textile firms appear to be involved in international production arrangements with non-Asian firms.

The pattern of procurement of capital equipment for overseas affiliates of Japanese firms presents quite a contrast to that observed for the procurement of intermediate goods (table 10.2 above). Unlike the case of intermediate goods, for capital equipment dependence on imports is significantly greater for Asian affiliates than for affiliates in the United States or the EC. Specifically, for affiliates in Asia, approximately half of capital equipment is supplied by local firms, while the other half is purchased from Japan. In contrast, for affiliates in the United States and for those in the EC, the local market supplies around 65–80 percent of total capital equipment, and the share of capital equipment imported from Japan in the total procurement of capital equipment amounts to around 15–35 percent.

The observed differences in the importance of the local market as a source of capital equipment in Asia, on the one hand, and in the United States and the EC, on the other, can be attributed to the differences in the capability of local firms in the production of capital equipment in these regions, which in turn largely reflect the differences in the level of economic development of these regions. As the production capability of capital equipment is rather limited in Asia, Asian affiliates depend on Japan for their supply, while affiliates in the United States and the EC face little difficulty in purchasing capital equipment in their respective local markets.

What is notable about the pattern of procurement of capital equipment by affiliates of Japanese firms is its remarkably high level of dependence on Japan among foreign sources. Indeed, for affiliates in ASEAN countries, the United States, and the EC, Japan is the only source of supply among foreign countries, while, for affiliates in Asia, including those in the NIEs, ASEAN countries, and the rest of Asia, some capital equipment, amounting to as little as 1.3 of total procurement, was imported from countries other than Japan. The extraordinarily high dependence on Japan for the procurement of capital equipment found in table 10.2 is consistent with the finding in Kreinin (1988), based on a survey of Australian affiliates of Japanese, American, and European firms, that, in sourcing capital equipment, dependence on the home country is notably high for Japanese firms. Kreinin argues that the purchasing pattern of affiliates of Japanese firms is explained mainly by their strong reliance on parent companies in making corporate decisions, including procurement decisions. Kreinin also found that the recent appreciation of the yen prompted some Japanese firms to consider diversifying their procurement sources. One of the problems of Kreinin's study is the small sample size,

approximately twenty affiliates each for the Japanese, American, and European firms. In order to increase the confidence level of the findings, statistical information on procurement patterns of foreign affiliates of U.S. and European firms should be collected in a similar fashion as the data collected for Japanese firms in table 10.2, and then the information should be compared.

10.2.2 Foreign Trade Structure

In the previous section, I examined the geographic patterns of sales and procurement of Asian affiliates of Japanese firms. One of my main interests there was to analyze the degree of dependence on the foreign market for sales and procurement by Asian affiliates. In this section, I examine the effect of Asian affiliates on the trade structure of the Asian region. For the analysis, I examine the commodity trade statistics of Asian affiliates, on which information is available only for 1986.

Before pursuing the analysis, it is important to note the differences between the statistics based on industrial activities that I used for the analysis of the patterns of sales and procurement in the previous section and the commodity statistics that I use in this section. To be specific, there is no one-to-one correspondence between exports and overseas sales or between imports and overseas procurement. The lack of such correspondence is probably more serious for imports and procurements, as may be seen from the following example. Assume that we are interested in the value of imports of automobiles, which are obviously produced by the firms in the transport machinery sector. One may be tempted to use the value of procurements from foreign countries by transport machinery for the value of automobile imports, but such a practice is not appropriate since the procurements include imports not only of automobiles but also of those items not classified under "transport machinery," such as tires, which come under "other manufacturing" in the Ministry of International Trade and Industry (MITI) classification used in this study. In fact, most of the automobile imports may be classified under "procurements in commerce."

Table 10.4 shows the trade structure of Asia and that of Asian affiliates of Japanese firms (under the heads "overall" and "affiliates," respectively). For each trade structure, two types of trading partners are distinguished, the world and Japan. I first examine the export structure and then turn to the import structure.

Starting with Asian exports to the world, one finds that textiles and electrical machinery have large shares by capturing, respectively, 24.0 and 17.6 percent of total exports. The composition of exports to the world by Asian affiliates is not so different from that observed for Asian exports to the world. In spite of the similarity in the export structure of Asian affiliates and that of Asia, the differences in the magnitudes of the respective shares for some products reveal interesting characteristics of the activities of the affiliates of Japanese firms in Asia. The products whose compositional shares in affiliates' exports are larger than those in the overall Asian exports are electrical ma-

Table 10.4 **The Trade Structure of Asian Countries and Asian Affiliates of Japanese Firms, 1986**

	Exports (%)				Imports (%)			
	World		Japan		World		Japan	
Sector	Overall	Affiliates	Overall	Affiliates	Overall	Affiliates	Overall	Affiliates
Manufacturing	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Food	5.4	1.5	23.7	3.6	4.3	2.8	1.1	.0
Textiles	24.0	20.6	17.7	13.0	10.1	6.5	5.7	1.5
Wood & pulp	4.0	.9	4.1	.7	3.5	.4	1.7	.03
Chemicals	4.6	7.0	6.4	2.6	14.9	15.4	11.3	12.1
Iron & steel	5.4	3.8	6.0	3.1	7.3	6.7	12.2	7.7
Nonfer. metals	1.2	6.6	3.2	14.0	2.4	2.8	1.8	2.1
Gen. mach.	8.0	3.7	3.5	9.5	15.7	6.0	20.1	6.7
Elec. mach.	17.6	27.9	9.2	41.7	19.2	37.0	24.0	43.2
Trans. mach.	4.6	11.8	1.1	4.7	6.6	12.1	8.7	15.4
Precision mach.	3.0	2.8	2.2	2.6	4.0	2.1	5.6	3.4
Petro. and coal prods.	4.0	.0	9.8	.0	3.5	.1	.4	.07
Others	18.3	13.5	13.0	4.6	8.5	8.1	7.3	7.8

Source: Computed from AIDXT, an international trade data base developed by the Institute of Developing Economies, Tokyo; and *Kaigai toshi tokei soran* (A comprehensive survey of foreign investment statistics), no. 3, (Tokyo: MITI, 1987).

chinery, transport machinery, chemicals, and nonferrous metals. Except for nonferrous metals, these products are so called high-tech products. The differential in the compositional shares is particularly large for electrical machinery, as its share in affiliates' exports is larger than the corresponding share in overall Asian exports by 10.3 percentage points. These observations indicate that the exports of Asian affiliates of Japanese firms are relatively more concentrated in high-tech products than in traditional products such as textiles and food. Based on these findings, one may argue that Japanese FDI contributes to the upgrading of the export structure of the Asian countries.

Let us now turn to Asian exports to Japan. The compositional structure of Asian exports to Japan differs somewhat from that of Asian exports to the world. The most distinctive characteristic associated with Asian exports to Japan is the high share of food products, as its share in total Asian exports to Japan amounts to 23.7 percent, significantly higher than 5.4 percent, which was recorded for Asian exports to the world. In contrast, the shares of four machinery products in Asian exports to Japan are much smaller, compared to the case for Asian exports to the world. These differences in the structure of Asian exports to the world and that of Asian exports to Japan reflect differences in the patterns of the comparative advantage of Japan vis-à-vis the rest of the world. Relatively speaking, Japan has a comparative advantage in machinery products and a comparative disadvantage in natural resource–intensive products such as food. Consequently, compared to Asian exports to the world, Asian exports to Japan are concentrated in natural resource–intensive products.

A comparison of the structure of Asian exports to Japan and the corresponding structure of Asian affiliates shows that the exports of Asian affiliates to Japan are heavily concentrated in electrical machinery, registering as high as 41.7 percent of total exports of Asian affiliates to Japan, indicating that Japanese FDI contributes to the export expansion of electrical products from Asia to Japan. This is not surprising once one recognizes the large magnitude of Japanese FDI that has been undertaken in the electrical sector and also that one of the main motives behind such FDI is to expand "reverse imports," as was pointed out earlier. Although accurate estimation of the proportion of exports by Asian affiliates to overall Asian exports to Japan is difficult because of data problems, the fact that the compositional share of electrical machinery in affiliates' exports to Japan is tremendously higher than that in Asian exports to Japan indicates that a significantly large portion of Asian exports to Japan in electrical machinery is conducted by Asian affiliates of Japanese firms.[6] In contrast, exports of food products and textiles, which are traditional exports of the Asian countries, appear to be undertaken largely by firms other than affiliates of Japanese firms.

6. Admitting data problems, Takeuchi (1990) estimates the proportion of Asian manufactured exports conducted by affiliates of Japanese firms in 1986 to be around 20 percent. Hirata and Yokota (1991) estimate the corresponding proportions for the NIEs and ASEAN countries to be 3.5 and 7.5 percent, respectively, in 1987.

Turning to Asian imports from the world, one finds that electrical machinery, general machinery, chemicals, and textiles have large shares. Compared to this, imports of Asian affiliates of Japanese firms are more concentrated in electrical machinery and transport machinery and less concentrated in textiles and general machinery. It must be noted here that the share of general machinery in the imports of affiliates is underestimated, possibly by a substantial margin. This is because their imports of capital equipment, most of which would be classified under "general machinery," are not included in the figures in table 10.4, as the figures in the table refer to the purchase of intermediate goods only. Incorporation of the imports of capital equipment into the imports of affiliates cannot be readily done as information on the imports of capital equipment is given only as the share of total fixed investment in the MITI sources, as presented in table 10.2 above. This problem should be kept in mind in interpreting the discussion of the import structure of Asian affiliates below.

The structure of Asian imports from Japan is not much different from the pattern observed for Asian imports from the world, although their imports from Japan are somewhat more concentrated in machinery products, especially in general machinery and electrical machinery, and less concentrated in textiles and natural resource–intensive products such as food, wood and pulp, and petroleum and coal products. The differences in the structure of Asian imports from the world, on the one hand, and those from Japan, on the other, reflect the differences in the pattern of comparative advantage of Japan vis-à-vis the rest of the world, which will not be repeated here, as it was discussed earlier.

Finally, an examination of the import structure of Asian affiliates in their trade with Japan reveals a significantly high concentration in electrical machinery, which accounts for 43.2 percent of total imports from Japan by Asian affiliates of Japanese firms. It is also worth noting that the share of electrical machinery in total imports from Japan by Asian affiliates is significantly higher than the share for imports from the world as a whole by Asian affiliates.

The findings from the analysis of the structure of foreign trade by Asian affiliates of Japanese firms show that their export and import activities are heavily concentrated in electrical machinery, pointing to the high degree of intraindustry trade in electrical products, in particular in their trade with Japan. To a lesser degree, a similar pattern may be observed for the trade in other machinery products. Moreover, the fact that a high proportion of trade in the machinery sector is conducted by Japanese firms suggests that a large portion of such trade takes the form of intrafirm transactions. In the next section, I examine these points in more detail.

10.2.3 Intrafirm, Interprocess, Intraindustry Trade

I have argued that the new pattern of foreign trade that emerged from the activities of Japanese firms in Asia in the latter half of the 1980s is intrafirm,

interprocess, intraindustry trade. In this section, I examine whether such a trading pattern may be identified by focusing on the intraindustry, interprocess, and intrafirm aspects of Asian affiliates' trade in turn.

The large shares of machinery products in both manufactured exports and imports of Asian affiliates of Japanese firms found in table 10.4 suggest that a large portion of trade in machinery products by Asian affiliates may take the form of intraindustry trade.[7] Intraindustry trade takes two different forms: horizontal and vertical. Horizontal intraindustry trade involves trade in differentiated products. A typical example is trade in automobiles. Japan exports Toyotas to Germany, while Japan imports BMWs from Germany. This type of intraindustry trade, which arises because consumers have a taste for variety, tends to take place among developed countries. Vertical intraindustry trade involves trade in products that are at different stages in the production process. For example, Japan exports electronic components such as ICs to Thailand and imports finished products such as color televisions from Thailand, which are often produced with the integrated circuits (ICs) imported from Japan. This type of intraindustry trade may be classified as interindustry trade if detailed commodity classification is applied. Under a rough classification, such as the one used here, such trade falls into the category of intraindustry trade. Vertical intraindustry trade, or interprocess trade, tends to take place between developed and developing countries, where factor endowments or technological capabilities differ. Under such an arrangement, countries specialize in the process, which they can perform efficiently.

To see which type of intraindustry trade takes place in Asian trade with Japan by Asian affiliates, I examine the types of commodities traded between Japan and Asia by these affiliates. The types of commodities procured (imported) and sold (exported) in Asian trade with Japan by Asian affiliates are shown in table 10.5. Such statistics are available only for electrical machinery, transport machinery, and precision machinery. From the table, it is clear that vertical intraindustry trade, or interprocess trade, takes place in electrical machinery between Asia and Japan by Asian affiliates of Japanese firms; Japan exports electrical components to Asia and imports finished electrical products from Asia. A similar trading pattern is observed for precision machinery, but the presence of intraindustry, interprocess trade is hardly detected in transport machinery. For transport machinery, Asia imports not only parts and compo-

7. Intraindustry trade is of relatively little importance for Japan in comparison with other developed countries, but its importance as a factor in Japan's trade with Asian countries, especially with the NIEs, has been increasing since the mid-1980s. For more details, see MITI (1990). One should be reminded that, although several measures of intraindustry trade have been suggested and estimated, no single measure has been recognized as the best. Specifically, the level of commodity disaggregation and the treatment of trade surplus and deficit are shown to affect significantly estimates of intraindustry trade, making comparison of the estimates difficult. A lack of detailed data prevents me from estimating an intraindustry trade index for Asian affiliates of Japanese firms, although such estimates may prove helpful in examining the validity of the assertion given in the text.

Table 10.5 **Procurement and Sales of Asian Affiliates for Selected Products, 1986 (million yen)**

Products	Local Market	Japan	Other Countries	Total
Electrical machinery:				
Components:				
Procurement	45,076	79,591	17,376	142,043
Sales	74,269	20,182	46,759	141,210
Finished products:				
Procurement	8,634	26,634	393	35,661
Sales	97,758	48,192	58,752	204,702
Transport Machinery:				
Components:				
Procurement	7,518	16,473	6,204	30,105
Sales	41,715	5,937	25,059	72,711
Finished products:				
Procurement	6,754	21,326	0	28,080
Sales	66,569	1,808	4,497	72,874
Precision machinery:				
Components:				
Procurement	493	3,021	0	3,514
Sales	201	213	253	667
Finished products:				
Procurement	729	5,449	574	6,752
Sales	15,097	4,035	14,705	33,837

Source: Computed from *Kaigai toshi tokei soran* (A comprehensive survey of foreign investment statistics), no. 3 (Tokyo: MITI, 1987).

nents but also finished products from Japan, indicating that Asia has developed the necessary technological capability neither in the production of auto components nor in the efficient assembly of automobiles.

It was found above that Asian affiliates of Japanese firms, especially those in electrical machinery and precision machinery, are involved with vertical intraindustry trade with Japan. These findings tend to suggest that such trade takes place within a firm or in the form of intrafirm trade. This assertion is supported by the statistics on intrafirm trade by Asian affiliates of Japanese firms given in table 10.6. The figures in the table show the percentage share of intrafirm transactions in total transactions with various trading partners. According to the table, the average shares of intrafirm transactions in total transactions for sales and for procurement are, respectively, 24.0 and 37.3 percent.[8] The share of intrafirm trade is in general higher for foreign trade

8. Direct comparison of the importance of intrafirm trade in sales and procurement between affiliates of Japanese firms and those of non-Japanese firms is difficult because of a lack of comparable data. Affiliates of U.S. firms may be the only exception, as somewhat comparable statistics are reported. According to the U.S. Department of Commerce (1990), in 1988, for manufacturing, the share of U.S. imports shipped to U.S. parents by all affiliates in U.S. imports shipped by all affiliates was 79.9 percent, while the share of U.S. exports shipped by U.S. parents to all

Table 10.6 **Shares of Intrafirm Transactions in Sales and Procurement of Asian Affiliates of Japanese Parent Firms, 1986**

	Sales (%)				Procurement (%)			
		Exports to:				Imports from:		
Industry	Local Market	Japan	Others	Total	Local Market	Japan	Others	Total
Manufacturing	8.9	76.5	23.7	24.0	6.8	66.6	34.3	37.3
Food	.0	87.8	.0	27.5	.0	100.0	.0	3.1
Textiles	8.0	57.7	2.5	10.7	15.5	46.7	12.0	18.0
Wood & pulp	.0	27.7	.0	7.1	27.9	93.8	.0	23.5
Chemicals	2.6	83.9	1.5	5.8	5.5	24.4	67.5	20.9
Iron & steel	3.2	100.0	.0	8.2	16.5	40.2	3.5	32.1
Nonfer. metals	15.1	99.2	.6	36.3	.0	65.1	.0	6.9
Gen. mach.	29.9	94.7	46.6	54.3	15.8	80.0	96.8	52.7
Elec. mach.	9.6	73.0	32.1	31.6	6.2	78.1	55.9	49.9
Trans. mach.	9.1	46.0	62.8	22.0	4.0	56.1	67.9	42.0
Precision mach.	59.8	86.1	59.5	65.4	26.1	95.8	62.7	84.6
Petro. and coal prods.	.0	.0	.0	.0	.0	.0	.0	.0
Others	.0	88.5	13.8	8.9	7.9	81.5	9.7	33.2

Source: Kaigai toshi tokei soran (A comprehensive survey of foreign investment statistics), no. 3 (Tokyo: MITI, 1987).

than for local trade, and the share is very high for trade with Japan. The sectors with a high share of intrafirm trade in trade with Japan are food, general machinery, electrical machinery, and precision machinery.[9] It is also worth noting that the share of intrafirm transactions in total transactions with the regions other than Japan is also high for the machinery sectors.

Several reasons may be given for the prevalence of intrafirm trade. As for the high share of intrafirm trade in the exports of machinery, the distribution networks of Japanese firms are already well established, and it is therefore advantageous to export machinery products through these distribution networks, especially since machinery products may require after-sales services. The high share of intrafirm trade in imports may be attributable to the special characteristics of machinery production. For the production of machinery products, a great number of components, often those specifically made for certain products, are required. For the stable supply of such components, in-

affiliates in U.S. exports to all affiliates was 85.9 percent. These statistics are available only for affiliates in all the countries combined, not just for those in Asia. The comparable statistics for all affiliates of Japanese firms—the shares of intrafirm transactions in affiliates' exports and imports with Japan—were, respectively, 75.9 and 73.4 percent in 1986 (for data sources, see table 10.7 below). These findings suggest that the share of intrafirm trade in affiliates' trade for Japanese firms is somewhat lower than that for the U.S. firms.

9. According to a survey of Thai affiliates of Japanese electrical firms conducted by JETRO (1990), for 56.2 percent of the firms the motive behind FDI was to assemble the final products by utilizing intrafirm, interprocess trade.

trafirm procurement is regarded as more efficient than interfirm procurement. This is because production planning and coordination may be much easier within the firm. The importance of the quality of components also increases intrafirm transactions. Monitoring the quality of components is difficult if they are traded at arm's length. To avoid the problem of monitoring quality, which is especially important for machinery production, intrafirm transactions are preferred.[10]

The preceding discussion points to some of the problems associated with interfirm transactions, problems caused by market failure. To deal with the problem of market failure effectively, firms internalize these transactions. Before ending this discussion of the high share of intrafirm transactions of Asian affiliates of Japanese firms, it should be recalled that some Japanese firms initially undertook FDI in order to engage in interprocess, intrafirm division of labor and thus achieve efficient production. It may therefore be only natural to observe high rates of intrafirm transactions.

10.2.4 The Effect of Japanese Firms on Regionalization in Asia

Japanese firms have actively undertaken FDI as a means of globalizing their activities. However, international trade that emerges from globalization through FDI may lead to regionalization in foreign trade. Such a development may already have occurred in the EC and in North America: regional trading blocs have already been established there, and Japanese firms have undertaken FDI in these regions in order to maintain or capture local or regional markets. An interesting question, then, is the effect of Japanese FDI on foreign trade in Asia. Is it a force working toward the regionalization of Asia, or is it likely to increase the ties between Asia and the rest of the world? To answer this interesting question, I examine empirically the effect of Japanese FDI on intra-Asian as well as extra-Asian trade.

In table 10.7, for the NIEs and ASEAN countries, a comparison of the interregional patterns of foreign trade is made between the overall trade of the respective regions and trade conducted by affiliates of Japanese firms in each region. Several interesting points can be observed. To begin with, for both the NIEs and ASEAN countries, compared to their overall trade, trade by affiliates is heavily dependent on Japan. This tendency is particularly strong in imports. Second, because of affiliates' heavy reliance on the Japanese market for their imports, the shares other than Japan—in particular, those of North America and "others"—in the total imports of affiliates are much smaller than the corresponding shares for their overall trade. Finally, as is the case for imports, the exports of affiliates are concentrated in Asian countries other than Japan. These findings indicate that Japanese FDI in Asia is leading to the regionalization of foreign trade in Asia.

10. Caves (1982) presents a concise summary of the issue.

Table 10.7 **Interregional Dependence in Foreign Trade of Asian Affiliates**

	Trading Regions (%)				
	Japan	Asia	N. America	Others	Total
Exporting regions:					
NIEs:					
Overall trade	12.4	25.5	33.4	28.7	100.0
Affiliates	34.4	25.4	21.2	19.1	100.0
ASEAN 4:					
Overall trade	24.6	27.0	20.7	27.7	100.0
Affiliates	33.7	31.5	19.1	15.8	100.0
Importing regions:					
NIEs:					
Overall trade	23.8	27.4	18.0	30.8	100.0
Affiliates	83.1	13.2	.6	3.1	100.0
ASEAN 4:					
Overall trade	23.7	34.0	14.1	28.2	100.0
Affiliates	67.5	25.5	2.4	4.6	100.0

Sources: Computed from *Chosa*, no. 138 (Development Bank of Japan, February 1990); and *Wagakuni kigyo no kaigai jigyo katsudo* (Survey of the overseas activities of Japanese companies), no. 19 (Tokyo: MITI, 1990).

10.3 Conclusions

The history of Japanese FDI is relatively short, as it started to expand rapidly only in the 1980s. However, Japanese FDI has already affected the economies of the recipient countries as well as that of Japan since the speed and the magnitude of its increase have been quite substantial. For the recipient countries, Japanese FDI contributed to the expansion of employment, output, and exports: in 1988, Asian affiliates of Japanese firms employed more than 650,000 workers (580,000 in manufacturing), and their sales and exports amounted to 10,947 (5,541) billion and 2,384 (1,454) billion yen; export values amounted to U.S. $18.6 (11.4) billion. Net exports (exports-imports), which may be a better indicator of the net contribution of Japanese firms to the recipient countries, are estimated to be 308 billion yen, or U.S. $2.4 billion, for Asia. Despite positive net exports for Asia as a whole, there are substantial differences between the values for the NIEs and ASEAN countries—398 billion and −56 billion yen, respectively. These contrasting patterns appear to be mainly due to the differences in the lengths of the periods under operation of affiliates in the two different regions. Affiliates in the NIEs have longer histories, and thus their local procurement networks have been established, networks that rely less on imports. These observations indicate that the net export position for affiliates in ASEAN countries is likely to improve in the future.

In addition to the easily quantifiable benefits discussed above, Japanese FDI

also produces benefits that are difficult to quantify. First, through FDI, technology is transferred from the investing country to the recipient. The kinds of technology transferred are not confined to technical technology, such as the production process, but also include management skills, such as the "just-in-time" production system. As technological progress is one of the most important factors in economic development, FDI could play a very important role in promoting the economic development of the recipient country. Second, through FDI, the recipient countries could gain access to various kinds of international networks, such as information networks and sales and procurement networks, affording them opportunities for further economic development. Needless to say, these unquantifiable benefits are closely related to the quanitifiable benefits discussed above, as, for example, better technology leads to export expansion.

Not only does Japanese FDI contribute to the economic development of the Asian countries, but it also improves resource allocation in Japan by speeding up the process of industrial adjustment. Given the labor shortage situation, the use of resources in Japan would be improved if labor-intensive production were reduced. Such a shift in the production structure would be facilitated by an outflow of FDI. As was found in this paper, labor-intensive processes have been shifted from Japan to Asian countries. These favorable effects of FDI in the recipient countries as well as those in investing countries are magnified through the interaction of economic growth and trade expansion. Such favorable interaction through FDI in Asia has been increasing recently, as the NIEs have joined Japan as important investors in the region.

The dynamic economic performance of the Asian region, which is partly propelled by Japanese FDI, undoubtedly contributes favorably to world economic growth. Balancing this favorable effect of Japanese FDI, however, the findings of the paper point to the closedness of the transactions involving Asian affiliates of Japanese firms as an area needing improvement. Two kinds of closedness were identified in these firms' behavior. One is an unusually strong orientation toward parent firms in affiliates' transactions. Although more studies have to be undertaken before bringing in a verdict on the validity of the hypothesis that the practices of Japanese firms are distinctly different from those of firms from other countries, diversification of trading partners should be sought by Japanese firms on at least two grounds: efficiency and fairness. With an opening up of trading opportunities, competition will be enhanced, leading to higher efficiency and minimizing unfair trading practices. The second kind of closedness of Japanese firms is their emphasis on regional trade. Such a pattern was realized partly in response to protectionism in the rest of the world. Recognizing the importance of free trade for world economic expansion, policymakers not only in Asia but also in other parts of the world should avoid protectionist or interventionist policies and a move toward regionalization so that FDI as well as trade flows will not be distorted.

References

Caves, R. 1982. *Multinational enterprise and economic analysis.* Cambridge: Cambridge University Press.

Hirata, A., and K. Yokota. 1991. Impact of industrial adjustment in Japan on developing countries. Paper presented at the conference on Industrial Adjustment in Developed Countries and Its Implications for Developing Countries, Tokyo: Institute of Developing Economies, 1–2 February.

Japan External Trade Organization (JETRO). 1990. *Kaigai toshi to Nihon kigyo no kigyonai bungyo* (Foreign direct investment and intrafirm trade by Japanese firms). Internal report. Tokyo, March.

———. 1991. *Sekai to Nihon no kaigai chokusetsu toshi* (White paper on overseas direct investment). Tokyo.

Kreinin, M. 1988. How closed is the Japanese market? Additional evidence. *World Economy* 11 (December): 529–42.

Ministry of International Trade and Industry (MITI). 1990. *Tsusho hakusho* (White paper on international trade). Tokyo.

Takeuchi, K. 1990. Does Japanese direct foreign investment promote Japanese imports from developing countries? PRE Working Paper on International Trade, WPS 458. Washington, D.C.: World Bank.

Urata, S. 1990. The rapid globalization of Japanese firms in the 1980s: An analysis of the activities of Japanese firms in Asia. Working paper. Paris: OECD Development Centre, Paris, 20–21 June.

———. 1991. The rapid increase of direct investment abroad and structural change in Japan. In *Direct investment in developing countries and structural change in the Asia-Pacific Region,* ed. E. Ramstetter. Boulder, Colo.: Westview.

U.S. Department of Commerce. 1990. *U.S. direct investment abroad: Preliminary 1988 estimates.* Washington, D.C.

Comment Tran Van Tho

The paper by Shujiro Urata can be divided into two parts. The first part describes the evolution of Japanese direct investment in Asia with an emphasis on trends since the latter half of the 1980s. The second part analyzes the effect of Japanese foreign direct investment (FDI) on Asian trade with Japan and other countries. It is in the second part of the paper that a number of important issues have been raised, and I have read this part with great interest. In particular, Urata raised the following important and interesting question: whether Japanese FDI is a force toward regionalism in Asia or whether it is likely to increase economic ties between Asia and the rest of the world. My comments will center on this question.

The question is of great importance and practical significance for at least

Tran Van Tho is professor of economics at Obirin University, Tokyo, and senior economist at the Japan Center for Economic Research (JCER), Tokyo.

two reasons. First, at present, the exports of most Asian countries must rely heavily on the American market, and protectionism in the United States is a serious problem for Asia. Thus, the current problem for Asia is how to diversify its export market away from the United States. In this regard, one of the important diversification strategies is to expand intraregional trade in Asia. In that sense, the question raised by Urata is very relevant. Second, at a time when we are concerned about the world trend toward the formation of trading blocs, the question of whether Asia will converge into a relatively autonomous economic region has many important implications. If Japanese FDI tends to strengthen economic ties between Asia and other regions, the trend is favorable in the sense that it contributes to a weakening of the world trend toward regionalism. In this case, however, if Japanese FDI tends to strengthen economic ties in a way that exacerbates the imbalance in Asian trade with the United States and other regions, Japanese FDI in Asia may also have a negative effect.

Let us see the empirical results of Urata's paper on the question raised above. Regarding this question, the paper concluded that Japanese FDI tends to regionalize trade in Asia. My first comment is that the paper should have gone further to discuss the implications of this conclusion. My second comment is on the empirical evidence, which is not sufficiently convincing. The evidence is provided only by the data in table 10.7, and, moreover, there are some problems with these data. These problems include the following. First, it is true that, in the trade of Asian NIEs or of ASEAN countries, Japanese affiliates tend to depend more heavily on Japan than is the case for overall trade. However, we cannot know whether affiliates' trade influences overall trade unless data on the share of affiliates' trade in overall trade are also provided. Second, looking at the data on Asian NIEs' imports from the rest of Asia excluding Japan (this appears as "Asia" in table 10.7) or ASEAN's imports from "Asia," we see that overall trade depends much more heavily on "Asia" than does trade by Japanese affiliates. Regarding exports by NIEs and ASEAN countries, "Asia" is almost equally important for the two types of trade. These observations tend to weaken the paper's conclusion on the issue under consideration. Third, the data in table 10.7 reflect the situation at only one point in time. We need time-series data to confirm or disprove the trends.

Finally, regarding table 10.7, let me point out an important problem that is not mentioned in the paper—the nonsymmetry of the Asian exports and imports of Japanese affiliates vis-à-vis North America. In both the NIEs and ASEAN countries, about 20 percent of Japanese affiliates' exports go to North America, while their imports from the same market are negligible. This trend tends to strengthen the overall imbalance of trade between Asia and North America. The trading behavior of Japanese affiliates in Asia has therefore had a negative effect on the economic relationship between Asia and North America. Such behavior is partially responsible for the increasing protectionism in the United States that is directed toward Asia's manufacturing goods.

Comment

Yoo Jung-ho

Shujiro Urata's paper on Japanese foreign direct investment (FDI) is mostly about investments in Asia in the late 1980s, with some discussion of Japanese FDI in industrial countries and in earlier periods. It is highly informative, and the behavioral facts about Asian affiliates of Japanese firms are well documented. My comments on the paper are organized around the three issues that piqued economists' interest in FDI, namely, the determinants, the effects on the host and home economies, and the effects on the trade pattern.

The Determinants of Japanese FDI

As the reasons for Japanese FDI in developed countries, the paper mentions trade friction with the industrial countries, the formation of trade blocs such as EC 1992, and Japanese firms' newly acquired abundance of liquidity as the major reasons. While these are commonly cited, one wonders whether FDI has indeed been good insurance against import restrictions. One would also like to know whether Japanese firms have always made FDI when they had excess liquidity. The rapid increase in FDI could have been a response to a decline in the risk premium of the Japanese yen at the time, if there was such a decline. Aliber (1983) theorized that a decline in a currency's risk premium provides an advantage to firms located in the country of the currency in the form of the lowered cost of raising funds compared to firms elsewhere.

Regarding Japanese FDI to developing countries, the paper mentions as the major reasons the rise in the value of the yen, the rise in the wage rate at home, and the need to secure export bases to get around the industrial countries' import restrictions on Japanese goods and to supply to the host countries' domestic markets. Noting that Japanese investments in the late 1980s flowed relatively more to the member countries of ASEAN than to the newly industrializing countries (NICs), the paper mentions as reasons the appreciation of the NICs' currencies, the rise in the NICs' wage rates, and the economic policies of the Southeast Asian countries that became outward oriented.

Except for Japanese firms' desire to secure an export base, the reasons lead one to expect an increase in exports from the Southeast Asian countries to third markets such as the United States and Europe, replacing Japanese and NIC exports, and, perhaps, later on to Japan and the NICs. Since the Southeast Asian countries are technologically behind Japan and, in a few areas, behind the NICs, their rapid export increase would entail an increase in imports of technologically sophisticated parts and capital goods. Indeed, their exports and imports have been rapidly increasing. However, a large part of the increasing foreign trade was intrafirm trade between Japanese parent firms and their Asian affiliates.

Foreign direct investment as a firm's decision is a choice over the alterna-

Yoo Jung-ho is a senior fellow at the Korea Development Institute.

tive of, for example, exporting capital equipment and intermediate goods and purchasing the finished products under some arrangement. There must be reasons why the investing Japanese firms did not choose this alternative but decided that it is more profitable or advantageous to internalize the transactions that could take place through the market. This question is not explicitly addressed in this paper.

Some insights into the question may be gained by observing the corporate behavior of the affiliates of Japanese firms regarding sales and procurement and the effects on international trade, which are described in detail in the paper.

Some notable characteristics of their behavior are as follows. (1) For Asian affiliates, Japan was by far the largest among five procurement sources of the intermediate inputs outside the local market. The procurement from Japan was nearly four times as large as that from the other four sources combined, namely, Asia, North America, Europe, and "others." Only a negligible amount came from North American or European sources. (2) Among the same five regions besides the local market, Japan was again the most important as a destination of sales. However, sales were more evenly distributed among destinations than procurement was among sources. The combined sales to regions other than Japan were two times as large as sales to Japan. (3) Asian affiliates' exports to and imports from Japan were mostly intrafirm transactions, more than three-quarters for exports and two-thirds for imports on average for affiliates in the manufacturing sector.

The same pattern of procurement was observed for Australian affiliates of Japanese firms by Kreinin (1988), who also found that the counterparts of other countries' multinationals bought much greater proportions of procurement from other sources than the parent companies or the home countries. This pattern of procurement and sales of foreign affiliates of Japanese firms indicates a very close working relationship between the two. It seems more appropriate to call the affiliates plants or branch offices of the parent companies.

Thus, the close working relationship seems to be the key reason why Japanese firms make FDI, that is, why they choose to internalize the transactions that could take place through the market. The close working relationship may be needed to take full advantage of an invisible asset, which is often hypothesized to be the reason for FDI. That asset could be the Japanese management style, which demands exact specifications on parts, low defect rates, highly reliable delivery, and so on. If that were the case, the close working relationship between parent and affiliates may be necessary to achieve the high efficiency for which Japanese firms are renowned.

However, the current benefits from the Japanese investments may be likened to a good delivered now for which an unknown price has to be paid sometime in the future. The more closely affiliates are controlled by the parent firms, the more vulnerable would a host country find itself to foreign pressure.

The Effects of Japanese FDI

Regarding the effects on the home and host economies and the effects on the trade pattern of Japanese FDI, the paper notes that FDI tends to upgrade the export structure of the host countries. As supporting evidence, the paper points out that Asian affiliates' exports consist more of high-tech products than the total exports of the host countries. This cuts both ways. It can also be evidence that FDI did not upgrade the exports of the rest of the economy. The high proportion of high-tech products in affiliates' exports is really a consequence of Japanese parent firms buying the products of their affiliates, a reflection of the close working relationship between parent and affiliates. It is also a consequence of the nature of Japanese trade barriers that foreign firms find it much harder to overcome than Japanese firms and their affiliates.

Upgrading the export structure may have no beneficial effects if no technology transfer takes place or if the affiliates' interactions with indigenous firms are kept at a minimum in favor of interaction with parent firms. It simply represents a rise in the average high-tech content of the host country's exports as affiliates' exports are added to those of other firms in the host country. To be symmetric in evaluating the effect of Japanese FDI, the upgrading effect may be said to be accompanied by the "downgrading" effect on the host country's import structure since affiliates' imports consist more of the high-tech products than the total imports of the host country, thus raising the high-tech content of imports.

The paper observes that Japanese FDI in Asia had a positive effect on the regionalization of Asia's trade. It also claims that intrafirm, interprocess, intraindustry trade has evolved in Asia mainly through the activities of Japanese firms and that the expansion of such trade would promote the economic development of Asia. However, it is not clear why regionalization of trade is desirable. It should also be pointed out that expansion of trade need not take the form of intrafirm transactions and that not all trade expansion would have been lost had there been no Japanese FDI.

The Vulnerability of the Host Country

The beneficial effects derived from Japanese FDI in Asia are inseparable from the close working relationship that we have seen above. The paper observes that, against the favorable effect of Japanese FDI, the closedness of transactions involving Asian affiliates of Japanese firms becomes an important area in need of improvement. Urata goes on to say that the diversification of trading partners should be sought by Japanese firms for reasons of efficiency and fairness.

While the paper has identified the right issues, the problem is not just efficiency but the host country's vulnerability. The big question is whether the benefits of Japanese FDI last only as long as the FDI lasts. This will be the case if Asian affiliates' interactions with the host country's economy are kept

at a minimum and cause no transformation of the economy. The employment created, exports, and flows of foreign exchange earnings will be gone when the Japanese parent firm decides to pull out in response to changed circumstances.

This vulnerability of the host country is not an inevitable price to be paid for the benefits of FDI since the alternative to Japanese FDI is not no FDI but FDI from other countries, foreign borrowing, or some combination of the two. Even though the loss in efficiency resulting from the lack of competition for affiliates' procurement may be more than compensated for by, say, the high efficiency of the Japanese management style, there still remains the question of the economy's vulnerability. This is the question that will be raised and examined over and over as the region is drawn closer together by Japanese FDI.

References

Aliber, Robert Z. 1983. Money, multinationals, and sovereigns. In *The multinational corporation in the 1980s,* ed. C. P. Kindleberger and D. B. Audretsch. Cambridge, Mass.: MIT Press.

Kreinin, Mordechai E. 1988. How closed is the Japanese market? Additional evidence. *World Economy* 11 (4): 529–42.