

# United States and Japanese Direct Investment in Korea: A Comparative Study

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## I. Introduction

The purpose of this paper is to compare some of the salient features of United States and Japanese direct foreign investment (DFI) in Korea during the 1962-75 period. This comparison should be especially instructive in the light of a recent hypothesis presented by Kiyoshi Kojima in his *Japan and a New World Economic Order* (1977). Kojima argues that whereas Japanese DFI complements her comparative advantage position and is thus "trade-oriented," U.S. DFI displaces her comparative advantage position and is thus "anti-trade-oriented."<sup>1</sup> According to Kojima, a major portion of Japanese DFI has been directed towards the development of natural resources with which Japan is poorly endowed. Even her DFI in manufacturing industries has been mostly confined to such traditional industries as textiles and clothing and

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1 Kojima uses Purvis' definition (1972) of trade-oriented and anti-trade-oriented investment. Accordingly, foreign investment is trade-oriented if it generates an excess demand for imports and an excess supply of exportables at constant terms of trade, and it is anti-trade-oriented if the converse holds.

to such unskilled labor-intensive processing industries as assembly of motor vehicles and the production of parts and components for electronic machinery. These are in fact the industries in which Japan has been losing her comparative advantage, and through DFI Japan has substituted the export of machinery and technological know-how for the export of final products. Kojima further observes that U.S. DFI has been carried out by large "oligopolistic" firms that rank at the top of the U.S. comparative advantage scale. By investing abroad, these firms have replaced the export of their manufactured products with those produced locally by their subsidiaries. Kojima thus reaches the conclusion that Japanese DFI complements and "creates harmonious trade with the host country" whereas U.S. DFI "results in the destruction of commodity trade."<sup>2</sup>

Table 1 presents DFI in Korea during the 1962-74 period. As the bottom row of the table shows, U.S. and Japanese DFI together constituted 92% of the total DFI and the remaining 8% was shared by six other countries. Even during the sub-period of 1962-69, when DFI by the other countries was the largest, it comprised only 22% of the total DFI for that period. Clearly, the United States and Japan are the two major investors in Korea with no strong contender for the top two positions among the other investors. It seems reasonable, therefore, to regard Korea as a good "laboratory" case for comparing U.S. and Japanese DFI.

Before an empirical evaluation of Kojima's hypothesis is undertaken, it may be useful to restate the hypothesis. As originally proffered, Kojima's hypothesis deals only with what may be called the impact effect on trade of DFI -- the effect on the comparative advantages of the countries involved -- and thus on their static patterns of trade. However, one would also expect DFI to change the growth rate of the host country's economy and thus to have a long-run dynamic effect on its pattern of trade. If U.S. DFI with an anti-trade-oriented impact effect is more growth-promoting than Japanese DFI with a trade-oriented impact effect and if trade is positively associated with growth, it is conceivable that the net effect of U.S. DFI is more trade-oriented than that of Japanese DFI. Without specifying the long-run dynamic effect, one cannot, therefore, designate any given DFI as either trade-oriented or anti-trade-oriented. In order to avoid possible confusion due to ambiguity of terminology, *export-oriented* and *domestic-market-oriented* are used in this paper in place of "trade-oriented" and

2 Kojima (1977), p. 115.

"domestic-market-oriented," respectively. The former have the advantage of referring to a more immediate effect of DFI with no inference about its long-run dynamic effect. Until this can be fully specified, it seems more judicious to confine one's analysis to the impact effect of DFI. An additional advantage of using the proposed terminology is that it is compatible with the procedure adopted by the Korean government for gathering data on DFI. Since it requests foreign investors to state the share of their outputs destined for an export market, government statistics report only the relative shares of outputs for an export and a domestic market and thus the impact effect of DFI.

Section II compares the market-orientation -- export-oriented or domestic-market-oriented -- of U.S. and Japanese DFI in Korea. The results are consistent with Kojima's hypothesis that U.S. DFI is domestic-market-oriented and Japanese DFI is export-oriented. Section III analyzes the differences in the factors that motivated U.S. and Japanese DFI in Korea. It is shown that the accepted theory of DFI does not explain Japanese DFI in Korea, and an alternative explanation is provided. In section IV, following a review of the literature on the effect of DFI in Korea, it is suggested that DFI has had a favorable effect on the economic growth of Korea. Section V contains some concluding remarks.

## II. Market-Orientation

As one might expect, the output from a given instrument project is seldom solely for an export or a domestic market. Since most cases the output is produced for both markets, most investment projects are neither entirely export-oriented nor entirely domestic-market oriented. In order to compare the overall market-orientation of U.S. and Japanese DFI in Korea, the following simplifying assumption is, however, made: An investment project is export-oriented if at least 50% of its output is to be exported and it is domestic-market-oriented if less than 50% of its output is to be exported.

In Tables 2 and 3, U.S. and Japanese DFI is broken down by industry and by market-orientation. As shown in the bottom row of the tables, 90% of U.S. DFI in Korea is domestic-market-oriented and only 10% export-oriented, whereas 39% of Japanese DFI in Korea is domestic-market-oriented and 61% export-oriented. Thus, U.S. DFI in Korea may be labeled domestic-market-oriented both absolutely and relatively with respect to Japanese DFI in

Korea. Exceptions to this general pattern are found in certain industries. As seen in Table 2, U.S. DFI in the manufacturing of metal and non-metal minerals, food and live animals, and electric and electronic equipment is heavily export-oriented. The total amount of investment in these industries is, however, only 10% of the total U.S. DFI in Korea, having only a slight effect on the overall market-orientation.

Table 3 shows ten industries in which Japanese DFI was made. A major-portion of the investment in eight of the ten industries is export-oriented. The exceptions are in chemicals and services; the amount invested in these two industries, however, accounts for only 19% of the total Japanese DFI in Korea. Japanese DFI in the service industry is mostly for building tourist hotels and obviously there is no visible output produced for an export market. The service produced by these hotels should be regarded, however, as export-oriented, since they cater primarily to foreign tourists. The figures in the bottom row of Table 3, therefore, understate the degree of export-orientation for Japanese DFI in Korea.

As mentioned above, Kojima argues that U.S. DFI is carried out by large "oligopolistic" firms. As a way of checking the validity of his argument, the list of U.S. firms that had invested in Korea was checked against the list of the top 500 corporations published in *Fortune* (May 1977). The names of twenty-nine corporations were found on both lists and the combined investment by these firms was found to account for 73% of the total U.S. DFI in Korea. As seen in Table 4, which presents their investment by industry and market-orientation, the investment in Korea by these large corporations is overwhelmingly domestic-market-oriented with only 2% being export-oriented.

Table 5 presents DFI in Korea by U.S. firms not on the list of *Fortune's* 500. Their investment is not as domestic-market-oriented as that of those firms on the list; 69% for domestic markets and 31% for export markets as compared with 98% and 2% for the respective markets. Nonetheless, it is more domestic-market-oriented than Japanese DFI in Korea.

Besides the difference in market-orientation, an additional characteristic of DFI by the large "oligopolistic" firms is the relatively large amount that they invest per project. The average amount invested by these firms was \$3.8 million whereas the average amount invested by the smaller U.S. firms was \$0.6 million. The latter is slightly larger than the average for Japanese DFI in Korea, \$0.5 million.

### III. Motivating Factors

In the preceding section it was demonstrated that U.S. DFI in Korea, especially that by large "oligopolistic" firms, is domestic-market-oriented both absolutely and relatively with respect to Japanese DFI in Korea. This finding is consistent with Kojima's observation mentioned earlier in the paper. But what accounts for the difference in their market-orientation? According to Riedel (1975), who carried out research on DFI in Taiwan, the most important factor for export-oriented DFI is the availability of relatively inexpensive labor in the host country. For domestic-market-oriented DFI, the most important factor is, according to Brash (1966), the demand condition in the host country represented by such variables as the size of a domestic market and its growth rate.

Two studies have examined the motives for investment in Korea. The first is a survey by Chi (1975), who asked a sample of U.S. and Japanese firms operating in Korea to rank various motives for investing in Korea. For both the U.S. and Japanese firms the most important factor was the availability of relatively inexpensive labor. The high growth rate of the Korean economy was, however, more important for the Japanese firms than for the U.S. firms, but their view regarding the importance of a large domestic market was reversed. The second study of DFI in Korea is a survey carried out by Chung (1976). He found the availability of relatively inexpensive labor to be of secondary importance for investing in Korea, and the incentives offered by the Korean government to be of primary importance.

These two studies indicate that in terms of the motives for investing in Korea there is almost no consistent difference between U.S. and Japanese DFI. This result may possibly be due to sampling biases. It should be pointed out, however, that whatever the results of such surveys may be they cannot answer the question why U.S. DFI in Korea is domestic-market-oriented and Japanese DFI in Korea export-oriented. Why did U.S. and Japanese firms choose different market-orientation when they faced the same investment environment prevailing in Korea? The answer to this question is to be found not in the conditions that prevailed in Korea and thus attracted these firms to invest there, but in the factors that are specific to the firms making investment decisions.

It is by now widely accepted that a firm making DFI is motivated by its desire to exploit an advantage that it has acquired

in its own home market.<sup>3</sup> The firm possesses an advantage in production technology, management and marketing, and to the firm the advantage takes on the characteristic of a public good. The firm will, therefore, have an incentive to extend the use of the advantage as long as the net marginal return from the use is positive and it can thus increase the rent from the advantage. But with no organized market for the sale of such an advantage the extension of the use will have to be made internally and DFI is a medium through which economic gains from the further use of the advantage are realized. Thus, the essential characteristics of such an advantage are its nonmarketability and firm-specificity.

What is the market-orientation of a firm possessing such an advantage? It will depend on the state of the "product cycle" that the firm finds itself in.<sup>4</sup> If its product is relatively new, the firm maximizing the rent from its advantage will make domestic-market-oriented DFI, thereby increasing the total sum of rent from its operation at home and abroad. Such a firm will search for countries where its advantage can be fully exploited, and these will be countries with demand conditions appropriate for its product. Later when the product has become a prosaic, conventional one through its long existence, the firm will have lost its advantage in production technology, management and non-location-specific marketing technique. It may, however, still retain its advantage in *marketing in its own home market*. If this firm happens to be located in a country with relatively expensive labor, it may be able to maximize the rent from this advantage by having the product made either by its foreign subsidiary or by a foreign firm under its own brand-name. Thus, if the firm makes DFI at this stage of the "product cycle", it will be export-oriented. But, to repeat, this firm will no longer possess an advantage in production technology, management and non-location-specific marketing technique.<sup>5</sup>

One of the corollaries of the hypothesis that a firm makes DFI in order to exploit its non-marketable, firm-specific advantage in production technology, management and marketing is, as pointed out by Kindleberger (1969), that the firm will be reluctant to share the control of its foreign operation with its foreign partners and will thus prefer 100% ownership to joint-ventures or minority holdings. The reason for this predilection for control is the firm's desire to retain the entire rent from the advantage, since the loss of

<sup>3</sup> See, for example, Caves (1971), Johnson (1970), and Kindleberger (1969).

<sup>4</sup> For a fuller statement of the "product-cycle" theory, see Vernon (1966).

<sup>5</sup> The possession of an advantage in location-specific marketing technique as a possible cause for DFI is discussed below in dealing with Japanese DFI.

control will entail sharing of the rent with local partners in the short run and probably appropriation of the advantage in the long run. As no direct observation on the firm's possession of the advantage yet exists, a test of the hypothesis may be made indirectly by carrying out an empirical verification of the corollary.

Table 6 presents the ownership patterns of U.S. and Japanese DFI in Korea. Each country's investment projects are divided into two groups: one group consisting of the projects with at least 50% foreign ownership, and the other consisting of the projects with less than 50% foreign ownership. In establishing the locus of control over joint-ventures in Korea, 50% of equity ownership appears highly appropriate as a critical value. When foreign investment is for a joint-venture, in more cases ownership is shared by one Korean and one foreign firm. Even when more than one foreign investor is involved, very rarely are there more than two investors. Consequently, minority control is a very unlikely possibility for joint-ventures in Korea.

As shown in Table 6, 73% of U.S. investment projects in Korea have U.S. ownership of 50% or more and only 27% have U.S. ownership of less than 50%. In other words, three-quarters of the U.S. investment projects in Korea can be said to be controlled by U.S. investors and only a quarter controlled by Korean partners. Table 7 shows the ownership patterns of two groups of U.S. investors: those on the list of *Fortune's* 500 and those not on the list. Of the investment projects by the first group, 86% is controlled by U.S. investors and 14% by Korean partners. Of the investment projects by the second group, 68% is controlled by U.S. investors and 32% by Korean partners. This evidence is certainly consistent with the corollary and thus is also consistent with the hypothesis that DFI in Korea by U.S. firms, especially that by the large "oligopolistic" firms, is made mostly in order to exploit their non-marketable, firm-specific advantages.

Table 6 also presents the ownership pattern of Japanese DFI in Korea. In contrast with U.S. DFI in Korea, a majority of Japanese investment projects in Korea, 52%, is controlled by local partners and the remainder, 48%, by Japanese investors. This evidence is not consistent with the widely accepted hypothesis on DFI. Furthermore, as noted in the preceding section, the market-orientation of Japanese DFI in Korea is not consistent with the hypothesis either. What are then the motivating factors for Japanese DFI in Korea? It seems that one of the Factors is the desire of Japanese investors to exploit their advantage in marketing

which is location-specific as well as non-marketable and firm-specific. They have acquired this advantage in their domestic and export markets by establishing goodwill among their customers. For the Japanese investors DFI is an instrument for increasing the rent from this advantage by obtaining their products at lower costs. Because the advantage is location-specific, it cannot be transferred to their Korean partners engaged in production and there is, therefore, no strong incentive to exercise control over their operations in Korea. Also, because the advantage lies in location-specific marketing skill, it follows that the investment tends to be highly export-oriented. Japanese investors are taking advantage of the abundant supply of relatively inexpensive labor in Korea and they are thus reaping larger rent from their marketing advantage in Japan and their export markets.<sup>6</sup>

An obvious question that should be raised at this point of the argument is why the Japanese firms do not simply purchase the goods produced by Korean firms for sale in Japan or in export markets. If they do not possess any advantage in production technology and management, their cost of production in Korea cannot be lower than the cost of production for a wholly-owned Korean firm. Consequently, there is no reason for establishing joint-ventures in Korea. It follows then that an advantage in location-specific marketing skill is not a sufficient condition for DFI in an otherwise perfectly competitive world.

According to Ozawa (1972) there are several factors that prompted Japanese DFI in a country such as Korea. Firstly, starting in the second half of the 1960's, Japan experienced an acute shortage of labor in her blue-collar sectors. This problem was worse for relatively more labor intensive conventional work in small and medium-sized firms. Ozawa argues that many of these firms were thus pushed to invest abroad where inexpensive labor was abundant in supply. Second, some Japanese exporters adopted a "circular export strategy" to circumvent restrictive measures im-

6 An additional factor that may have contributed to the different patterns of ownership is the size of investment for each project. The average sum of Japanese DFI in Korea is about a half million dollars, whereas the average sum of U.S. DFI is approximately \$1.6 million and the average for the firms listed in *Fortune's* 500 is \$3.8 million. The fact that U.S. DFI is controlled by U.S. investors may reflect in part the difficulty faced by their Korean partners in raising capital sufficiently large to allow them a majority ownership. Given the relatively small sum involved in Japanese investment, however, it would not have been difficult for Korean partners to acquire a majority ownership. Since the amount of investment seems correspond to the economics of scale of an investment project, it should needs to be explained why the economics of scale are larger for U.S. DFI than for Japanese DFI.



posed on their exports by the United States and European countries, that is, these firms transferred part of their production from Japan to countries like Korea and thus changed the country of origin of their exports to the United States and European countries. Thirdly, beginning in the early 1970's, Japan started to restructure her economy away from pollution-prone industries towards environmentally less costly industries and towards "brain-intensive" industries. To accomplish this objective, firms in heavy and chemical industries as well as labor-intensive conventional industries were encouraged to invest abroad.

The first and the third reasons mentioned by Ozawa are, however, the factors that would only alter a country's pattern of trade in the traditional model of international trade. That is, as unskilled labor becomes relatively more scarce the country will expand the imports of the commodities that use unskilled labor relatively more intensively and shift the resources to the industries that employ other factors of production relatively more intensively. Likewise, as the country imposes abatement measures on pollution-prone industries, it will expand its imports of the products of these industries and shift the resources to relatively pollution-free industries. So, then, why did the Japanese firms make DFI and not simply reallocate the resources internally? Also, it should be pointed out that the "circular export strategy" does not necessarily require DFI. As Sears and Roebuck Company, for example, sells the products made under its own brand-name and produced to its own specification by foreign firms, so is there no reason why Hitachi, for example, cannot have television sets made by a Korean firm under Hitachi or some other brand-name and to its specification.

The question is, therefore, why the Japanese firms made DFI in Korea when they could have sold the machinery that had become inappropriate in terms of factor proportions and environmental objectives<sup>7</sup> and imported the products manufactured by foreign firms to their own specifications. Or, to use the terminology adopted by Buckley and Casson (1976), why did the Japanese firms "internalize the markets"? According to these authors, a firm would internalize a market if the benefit from internalization outweighs its cost. The benefit arises, they argue, from the creation of internal futures market, the imposition of a discriminatory pricing system, the avoidance of the costs of

7 See Sen (1962) for various conditions under which the use of second-hand machinery would be profitable for entrepreneurs in countries like Korea.

bilateral bargaining, the elimination of buyer uncertainty, and the exploitation of transfer pricing. The cost arises from the fragmentation of the market and the additional communication cost attributable to internalization.

In the case of Japanese DFI in Korea, the benefit from internalization to Japanese investors arose primarily from the shortage of capital and foreign exchanges prevailing in Korea. Because of this shortage, which made it difficult to purchase second-hand machinery from abroad, the Korean partners were willing to accept a higher transfer price for the machinery than the price that they would have agreed upon for an outright purchase. Furthermore, for the Korean partners a joint-venture with a Japanese firm meant that they did not have to face marketing problems. Lacking adequate marketing skills in export markets, they would have been willing to pay a premium for not having to handle these problems. For Japanese investors in Korea the cost of internalization was possibly the lowest that could ever be expected for DFI in any country. There were tax incentives offered by the Korean government. But far more important than the tax incentives was the minimal additional cost of communication attributable to internalization. Given the cultural and linguistic as well as geographical proximity of Korea and Japan, the internalization of a market through DFI could not have imposed much of an additional cost of communication to the Japanese investors. It seems, consequently, that internalization through DFI in Korea brought them a great benefit at a very small cost.

The importance of second-hand machinery as a factor in Japanese DFI in Korea can be seen in Table 8. Of the total sum of Japanese DFI in Korea, 55% is in the form of machinery and 45% in the form of liquid capital. This pattern contrasts with that of U.S. DFI in Korea: 40% in machinery and 60% in liquid capital.<sup>8</sup> For Japanese investors DFI was a wealth-maximizing way of disposing of the machinery that had become uneconomical to operate while retaining the rent from their marketing advantage. Consequently, their investment was carried out heavily in the form of machinery. Also, because of their advantage in location-specific marketing skill, it was highly export-oriented and the joint-

<sup>8</sup> This contrast becomes more informative when U.S. DFI is broken down into two groups: 39% in machinery and 61% in liquid capital for the investment by the firms on the *Fortune's* list and 42% in machinery and 58% in liquid capital for the investment by the firms not on the list. This pattern of investment by the latter group plus its market-orientation seem to support the conjecture that the motivating partners for its DFI in Korea are similar to those for Japanese DFI.

ventures were left in the control of their Korea partners.

#### IV. The Effect of DFI in Korea

In a recent study of the Korean economy, Frank, Kim, and Westphal (1975) made some rough calculations of the contribution of foreign savings to Korea's economic growth. They found that about 4% of the 10% annual growth rate during the 1960's could be attributed to foreign savings. No separate calculation was made, however, to estimate the contribution of DFI to economic growth, probably because DFI constituted only a minuscule portion of foreign savings and because the authors did not consider it qualitatively different from other components of foreign savings. The World Bank report on the Korean economy (1976) also points out the quantitative insignificance of DFI in the total resources available for capital formation in Korea and its consequently insignificant contribution to economic growth.

This quantitative insignificance of DFI in Korea can be clearly seen in Table 9. During the 1962-74 period, the gross domestic capital formation was \$22 billion, but the combined total of U.S. and Japanese DFI was only \$4.22 million, 1.9% of the gross domestic capital formation. Of this 1.9%, 0.7% was the share attributable to U.S. DFI and 1.2% to Japan. Further more, the share of U.S. and Japanese DFI in capital formation in all industries other than manufacturing was less than 0.1%. In manufacturing, however, the share was 8.1%, 2.8% from the United States and 5.3% from Japan. It should be pointed out, however, that the contribution of DFI to economic growth should not be judged solely on the basis of its direct effect on capital formation in the host country. As put by Johnson (1970), "the essence of direct foreign investment is a mechanism of the transmission to the 'host' country a 'package' of capital, managerial skill, and technical knowledge." The effect of DFI is, therefore, far more complex than what can be measured as its contribution to capital formation.

In contrast with the two studies mentioned above, Cohen (1975) deals specifically with DFI and its effects on the Korean economy. He carried out a survey of ten foreign (four U.S. and six Japanese) firms and ten Korean firms. The results of the survey is that, as compared with the Korean firms, the foreign firms tended to be somewhat some export-oriented, use more imported inputs, and have a lower value added as a percentage of sales. His findings

also show that there was no clear difference in pay scales, the levels of mechanization, and the size of the firms. It was also found that very few workers moved from foreign to Korean firms. In addition, Cohen found no cases of foreign firms reinvesting their profits in other local industries.<sup>9</sup> He thus concludes that there was very little net gain from DFI and that Korea would have been better off with foreign commercial loans financing the expansion of its indigenous firms. Cohen even hazards a guess that the principal reason of the Korean government for encouraging DFI may have been political and not economic.<sup>10</sup>

One of the reasons why Cohen found no clear difference between the operational characteristics of the foreign firms and those of the Korean firms may be possibly due to an inherent weakness of his survey approach. For the survey, Cohen chose the firms whose products were manufactured by both foreign and Korean firms. These products, therefore, might not have been those that could be produced by foreign firms possessing superior managerial skill and technical knowledge but rather prosaic, conventional products. These are precisely the products that the Korean firms could have easily learned to produce and be highly competitive with the foreign firms.<sup>11</sup> If, by the time the survey was taken, the Korean firms had learned the superior managerial and technical knowledge possessed by the foreign firms, no difference in their operational characteristics would have been observed.<sup>12</sup> However, the fact that such a survey shows no difference should not be taken as *prima facie* evidence that there had not been any difference before the survey was taken. If DFI is in fact a medium through which superior managerial and technical knowledge is transmitted to domestic firms, obviously, there will be no difference in their operational characteristics when the transmission is fully ac-

9 Cohen (1975), p. 78. To quote in full, "I have found no examples of foreign firms reinvesting their profits in other local industries. A reader who is surprised at this pattern should speculate on what U.S. economic history would have been like if such families as the DuPonts, Rockefellers, and Mellons had lived in Europe."

10 Cohen (1977), p. 135.

11 In an article published in *Fortune* Sanford Rose (1977) argues that multinational firms producing conventional goods now face intense competition from purely local firms, having lost managerial and technological superiority over local firms. He believes that only vertically integrated extractive firms such as oil companies and highly innovative enterprises such as computer companies will be able to survive as multinational firms.

12 Cohen notes that very few workers moved from foreign to Korean firms. But as mentioned by Caves (1971), there are other ways through which productivity gains can be realized by local firms. For instance, foreign subsidiaries may take the lead in improving the productivity of their local suppliers or their distributors. Furthermore, increased competition brought about by foreign subsidiaries may force domestic firms to "modernize" their operation.

complished. A survey approach should be, therefore, careful to take into account this dynamic aspect of DFI.

Another reason for the lack of any clear difference in the operational characteristics of the foreign and the Korean firms may be found in the motives of DFI of the Japanese firms in the survey. It was pointed out in Section III that their investment had been made in order to exploit an advantage in non-marketable, firm- and location-specific marketing skills. This view is also consistent with the result of Cohen's survey that the foreign firms were more export-oriented and used more imported inputs than their Korean counterparts. In essence, the foreign firms were manufacturing products to the specification of the customers in their own domestic or export markets. Since their advantage was not in managerial and technical knowledge, a survey of their operations in Korea would not have shown differences between the Japanese and the Korean firms. Even though U.S. DFI in Korea was heavily domestic-market-oriented and its motivating factors were different from those for Japanese DFI, the survey results would have been biased towards the operational characteristics of the Japanese firms because the sample consisted of six Japanese and four U.S. firms.

As mentioned earlier, Cohen contends that Korea would have been better off with foreign commercial loans financing the expansion of its indigenous firms than with DFI. This contention is based on his implicit assumption that the outputs of the expanded indigenous firms could be sold locally or exported at no extra marketing costs to them. The falsity of this assumption hardly warrants a discussion, given the fact that huge amounts of resources are spent as marketing expenditures. Of course, it may be argued that the extra costs of DFI to Korea (in excess of the cost of foreign commercial loans) are greater than the marketing costs and therefore there is more than a socially optimal amount of DFI in Korea. This is certainly a legitimate line of argument, but for it to be more than an empty box it will have to be supported with evidence obtained from rigorous empirical studies.

So far the discussions in this section indicate that no definite conclusion can be reached about the effect of DFI on the economic growth of Korea. There is no doubt that further studies on this topic, both theoretical and empirical, are warranted before anything definite can be stated. It seems, however, that there is a plausible ground for hazarding a conjecture regarding the effect of DFI in Korea. During the 1962-76 period, Korean exports grew at an average annual rate of 41.9% and the GNP grew at an average

annual rate of 9.7%. As mentioned by both Watanabe (1972) and Kuznets (1977), the most rapid expansion was concentrated in the industrial sector, which in turn was dominated by manufacturing. Furthermore, the rapid expansion in manufacturing was led by output for export. To a certain extent the growth of manufacturing exports was due to various governmental measures undertaken to encourage exports and to a sharp expansion in the world market for these exports. As mentioned in the World Bank report, this expansion was brought about by the readjustment of the exchange rates of the major international currencies during 1971-73 and by shifts in Japanese trade policies. It cannot be said, however, that such a favorable setting alone would have been sufficient to bring about a rapid expansion of Korean exports. In Table 10 the exports by foreign firms (i.e., firms with DFI) and their share of the exports in three categories of commodities are shown. Their share of manufacturing exports in 1974 was 31.4%. In such industries as chemicals, clay and its products, metal and metal products, machinery and machine parts, and electric and electronic equipment foreign firms' share of exports was in excess of 50%. Furthermore, the exports of these commodities accounted for 70.8% of the total commodity exports from Korea in 1974. In view of this significant magnitude of the exports generated by DFI, it seems foolhardy not to attribute to DFI a significant role in the export-led growth of the Korean economy.

## V. Concluding Remarks

In this paper some of the salient features of United States and Japanese direct investment in Korea are compared. It is shown that U.S. DFI, especially that by large "oligopolistic" firms, is domestic-market-oriented both absolutely and relatively with respect to Japanese DFI. It is, however, argued that this empirical finding does not necessarily support Kojima's contention that U.S. DFI "results in the destruction of commodity trade" and Japanese DFI "creates harmonious trade with the host country." Further theoretical and empirical studies on the effect of DFI on economic growth are required such a contention can be accepted as valid.

U.S. direct investment in Korea may be explained in terms of the widely accepted theory of Caves, Johnson, Kindleberger, et al. But it fails to explain adequately Japanese direct investment in Korea. It is argued that for the latter an important motivating factor is the possession by Japanese firms of an advantage in non-marketable, firm- and location-specific marketing skills. The

possession of this advantage plus certain conditions prevailing in Japan and Korea seem to have led Japanese firms to make direct investment in Korea. This hypothesis can also explain the high degree of export-orientation of Japanese DFI and the tendency for Japanese joint-ventures to be controlled by Korean partners.

The effects of DFI on the economy of the host country are certainly one of the most controversial topics in the literature dealing with DFI. It is controversial because it is difficult, if not impossible, to obtain reliable empirical estimates of the effects. The questions such as whether export-oriented or domestic-market-oriented DFI is more beneficial to the host country are important issues for many LDCs and require immediate answers. In this paper, however, only a conjecture on the effect of DFI on the growth of the Korean economy is preferred. Certainly, more than a conjecture, however reasonable it may be, is needed for judicious policy-making. It is beyond question that rigorous studies on this issue are fully warranted.

**Table 1**  
**DIRECT FOREIGN INVESTMENT IN KOREA, 1962-74**  
 (on approval basis)

(in thousand US\$)

Year	(1) U.S.A.	(2) Japan	(3) = (1) + (2) Sub-total	(4) Others*	(5) Total
1962-69	\$43,995	\$31,302	\$75,297 (78%)	\$20,947 (22%)	\$96,224
1970	31,471	20,683	52,154 (89%)	6,706 (11%)	58,860
1971	8,079	23,393	31,472 (96%)	1,423 (4%)	32,895
1972	34,212	81,863	116,075 (93%)	8,947 (7%)	125,022
1973	7,235	255,002	262,237 (97%)	6,855 (3%)	269,092
1974	20,712	86,391	107,103 (89%)	13,582 (11%)	120,685
1962-74	\$145,704	\$498,634	\$644,338 (92%)	\$58,460 (8%)	\$702,798 (100%)

Source: Economic Planning Board, ROK, *Major Statistics of Korean Economy*, 1977.

\* Included in others are Panama, West Germany, Hong Kong, Netherlands, Italy and the United Kingdom.



**Table 2**  
**US DIRECT INVESTMENT IN KOREA, 1962-74**  
**(ON ARRIVAL BASIS)**

(in thousand US\$)

Industry	Number of Projects	Total Amount Invested	Average Amount Invested	Market-Orientation	
				Domestic	Export
Food and Live Animals	9	\$2,134.3 (1%)	\$237.1	\$941.9 (44%)	\$1,192.4 (56%)
Beverage and Tobacco	2	1,629 (1%)	814.5	1,629 (100%)	0
Petroleum and Petroleum Products	4	43,830 (29%)	10,957.5	43,830 (100%)	0
Chemicals	14	34,584 (23%)	2,470.3	34,149 (99%)	435 (1%)
Textile Yarn, Fabrics Made-up Articles and Related Products	9	3,995.2 (3%)	443.0	2,880 (72%)	1,115.2 (28%)
Manufactures of Metal and Non-Metal Minerals	4	1,330 (1%)	332.5	50 (4%)	1,280 (96%)
Machinery and Transport Equipment <sup>1</sup>	15	29,525.4 (19%)	1,968.4	28,459 (96%)	1,066.4 (4%)
Electric and Electronic Equipment	20	12,583 (8%)	629.2	3,277 (26%)	9,306 (74%)
Misc. Manufactured Articles	7	1,413 (1%)	201.9	1,017 (72%)	396 (28%)
Services	13	20,528.6 (14%)	1,579.1	20,408.6 (99%)	120 (1%)
<b>Total</b>	<b>97</b>	<b>\$151,552.5</b> <b>(100%)</b>	<b>\$1,562.4</b>	<b>\$136,641.5</b> <b>(90%)</b>	<b>\$14,911</b> <b>(10%)</b>

Source: Economic Planning Board, ROK, *The Current State of Foreign Investment*, 1975.

<sup>1</sup> Excluding electric and electronic equipment.

**Table 3**  
**JAPANESE DIRECT INVESTMENT IN KOREA, 1962-74**  
**(ON ARRIVAL BASIS)**

(in thousand US\$)

Industry	Number of Projects	Total Amount Invested	Average Amount Invested	Market-Orientation	
				Domestic	Export
Food and Live Animals	37	\$5,035.7 (2%)	\$136.1	\$1,207 (24%)	\$3,828.7 (76%)
Crude Fertilizer and Crude Minerals <sup>1</sup>	7	995.8 (0%)	142.7	0	995.8 (100%)
Chemicals	64	28,722.9 (11%)	449.6	19,157 (67%)	9,615.9 (33%)
Wood and Cork Manufactures <sup>2</sup>	3	579.5 (0%)	193.2	0	579.5 (100%)
Textile Yarn, Fabrics, Made-up Articles and Related Products	66	125,648.9 (47%)	1,903.8	45,019 (36%)	80,629.9 (64%)
Manufactures of Metal Non-Metal Minerals	62	26,317.6 (10%)	424.5	12,160 (46%)	14,157.6 (54%)
Machinery and Transport Equipment <sup>3</sup>	60	13,978.5 (5%)	233	5,548 (40%)	8,430.5 (60%)
Electric and Electronic Equipment	122	35,241 (13%)	288.9	1,204 (3%)	34,037 (97%)
Misc. Manufactured Articles	91	11,510.8 (4%)	126.5	848 (7%)	10,662.8 (93%)
Services	17	21,540.7 (8%)	1,267.1	20,634.7 (96%)	906 (4%)
Total	529	\$269,621.4 (100%)	\$509.7	\$105,777.7 (39%)	\$163,843.7 (61%)

Source: Economic Planning Board, ROK, *The Current State of Foreign Investment, 1975*.

<sup>1</sup> Excluding coal, petroleum and precious stones.

<sup>2</sup> Excluding furniture.

<sup>3</sup> Excluding and electronic equipment.

**Table 4**  
**DIRECT INVESTMENT IN KOREA BY MAJOR US CORPORATION\*,**  
**1962-74 (ON ARRIVAL BASIS)**

(in thousand US\$)

Industry	Number of Projects	Total Amount Invested	Average Amount Invested	Market-Orientation	
				Domestic	Export
Food and Live Animals	3	\$587 (0%)	\$195.7	\$587 (100%)	\$0
Beverages and Tobacco	2	1,629 (1%)	814.5	1,629 (100%)	0
Petroleum and Petroleum Products	4	43,830 (40%)	10,957.5	43,830 (100%)	0
Chemicals	7	20,000 (18%)	2,857.1	20,000 (100%)	0
Textile Yarn, Fabrics, Made-up Articles, and Related Products	1	214 (0%)	214	214 (100%)	0
Machinery and Transport Equipment <sup>1</sup>	3	24,349 (22%)	8,116.3	24,049 (99%)	300 (1%)
Electric and Electronic Equipment	3	5,115 (5%)	1,705	3,200 (63%)	1,915 (37%)
Misc. Manufactured Articles	2	713 (1%)	356.5	713 (100%)	0
Services	4	13,879.6 (13%)	3,469.9	13,879.6 (100%)	0
<b>Total</b>	<b>29</b>	<b>\$110,316.6</b> (100%)	<b>\$3,804.0</b>	<b>\$108,101.6</b> (98%)	<b>\$2,215</b> (2%)

Source: Economic Planning Board, ROK, *The Current State of Foreign Investment*, 1975.

\* US corporation on the Fortune's 500 list, 1975.

<sup>1</sup> Excluding electric and electronic equipment.

**Table 5**  
**DIRECT INVESTMENT IN KOREA BY NON-MAJOR**  
**US CORPORATION\*, 1962-74 (ON ARRIVAL BASIS)**

(in thousand US\$)

Industry	Number of Projects	Total Amount Invested	Average Amount Invested	Market-Orientation	
				Domestic	Export
Food and Live Animals	6	\$1,547.3 (4%)	\$257.9	\$354.9 (23%)	\$1,192.4 (77%)
Chemicals	7	14,584 (35%)	2,083.4	14,149 (97%)	435 (3%)
Textile Yarn, Fabrics, Made-up Articles, and Related products	8	3,781.2 (9%)	472.7	2,666 (71%)	1,115.2 (29%)
Manufactures of metal and Non-metal minerals	4	1,330 (3%)	332.5	50 (4%)	1,280 (96%)
Machinery and Transport Equipment <sup>1</sup>	12	5,176.4 (13%)	431.4	4,410 (85%)	766.4 (15%)
Electric and Electronic	17	7,468 (18%)	439.3	77 (1%)	7,391 (99%)
Misc. manufactured articles	5	700 (2%)	140	304 (43%)	396 (57%)
Services	9	6,649 (16%)	738.8	6,529 (98%)	120 (2%)
<b>Total</b>	<b>68</b>	<b>\$41,235</b> <b>(100%)</b>	<b>\$606.4</b>	<b>\$28,539.9</b> <b>(69%)</b>	<b>\$12,696</b> <b>(31%)</b>

Source: Economic Planning Board, ROK, *The Current State of Foreign Investment*, 1975.

\* US corporation not on the Fortune's 500 list, 1975.

<sup>1</sup> Excluding electric and electronic equipment.

Table 6

## OWNERSHIP PATTERN OF DIRECT FOREIGN INVESTMENT IN KOREA 1962-74 (ON ARRIVAL BASIS)

Share of foreign ownership	Number of investment projects	
	U.S.	Japanese
50% - 100%	71 (73%)	255 (48%)
0% - 49.9%	26 (27%)	274 (52%)
Total	97 (100%)	529 (100%)

Source: Economic Planning Board, *The Current State of Foreign Investment, ROK, 1975.*

Table 7

## OWNERSHIP PATTERN OF US DIRECT INVESTMENT IN KOREA, 1962-74 (ON ARRIVAL BASIS)

Type of investor	Share of U.S. ownership		Total number of projects
	50% - 100%	0% - 49.9%	
Major corporations	25 (86%)	4 (14%)	29 (100%)
Non-major corporations	46 (68%)	22 (32%)	68 (100%)

Source: Economic Planning Board, *The Current State of Foreign Investment, ROK, 1975.*

**Table 8**  
**FORM OF DIRECT FOREIGN INVESTMENT IN KOREA,**  
**1962-74 (ON ARRIVAL BASIS)**

in thousand US\$

Form of Investment	Amount invested	
	U.S.	Japanese
Liquid capital	\$ 91,180.2 (60%)	\$122,420.2 (45%)
Machinery	\$ 60,372.3 (40%)	\$147,201.2 (55%)
Total	\$151,552.5 (100%)	\$269,621.4 (100%)

Source: Economic Planning Board, *The Current State of Foreign Investment, ROK, 1975.*

**Table 9**  
**GROSS DOMESTIC CAPITAL FORMATION IN KOREA,**  
**1962-74**

(in current prices: in million US\$)

Industrial use	(1) U.S. direct investment	(2) Japanese direct investment	(3) = (1) + (2) Subtotal:	(4) Total amount invested
Agriculture, forestry and fishery	\$2	\$5	\$7 (0%)	\$1,812 (100%)
Mining and quarrying	0	1	1 (0%)	162 (100%)
Manufac- turing	127	242	369 (8%)	4,567 (92%)
The rest	23	22	45 (0%)	15,401 (100%)
Total	\$152	\$270	\$422 (2%)	\$21,942 (98%)

Source: The Bank of Korea, *Economic Statistics Yearbook, 1976*; Economic Planning Board, ROK, *The Current State of Foreign Investment, 1975.*

**Table 10**  
**FOREIGN FIRMS' SHARE OF COMMODITY EXPORTS**  
**FROM KOREA, 1974**

(in million US\$)

Industry	(1) Exports by foreign firms*	(2) Total exports from Korea	(3) = (1)/(2)
Agriculture, forestry and fishery	\$27.7 (2.2%)	\$299.7	9.2%
Mining	\$1.1 (0.0%)	\$296.4	0.3%
Manufacturing:	\$1,213.7 (97.8%)	\$3,866.3	31.4%
Food	4.2 (0.3%)	48.9	8.6%
Textiles and apparels	187.6 (15.1%)	1,536.9	12.2%
Lumber and wood products	6.0 (0.4%)	279.5	2.1%
Chemicals	222.9 (18.0%)	389.3	57.3%
Petroleum and its products	57.0 (4.6%)	101.4	56.2%
Clay and its products	62.3 (5.0%)	84.3	73.9%
Metals and their products	101.0 (8.1%)	120.0	84.2%
Machinery and machine parts	71.9 (5.8%)	77.0	93.4%
Electric and electronic equipment	420.2 (33.9%)	474.2	88.6%
Transport equipment	0.9 (0.0%)	121.1	0.7%
Others	79.6 (6.4%)	631.7	12.6%
Total	\$1,240.7 (100%)	\$4,460.4	27.8%

Source: The Bank of Korea, *Economic Statistic Yearbook*, 1975; Economic Planning Board, *Special Survey on Operations of Foreign Private Firms in Korea* (adopted in a modified form Table II-4 in "Direct Foreign Private Investment in south Korea: An Economic Survey" by Sung-Hwan Jo, April 1977.

\* Foreign firms are defined as those firms not wholly-owned by Koreans.

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