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JAPANESE DIRECT FOREIGN INVESTMENT:

STUDIES ON ITS GROWTH IN THE 1970'S

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I. INTRODUCTION

Substantial Japanese direct foreign investment did not begin until about ten years after the commencement of the postwar period of rapid growth. The first postwar case of foreign investment was approved by the government in 1951, but the annual flow of such investment did not exceed $500 million until the late 1960's. During the period 1970-72 the Japanese government liberalized the rules for such foreign investment, the flow of which increased rapidly to average $2 billion a year during 1970-75. By the second half of the 1970's direct foreign investment was around the level of $5 billion per year.

In the 1960's there were relatively few studies of Japanese overseas investment, undoubtably due to the small amounts taking place in comparison with the overall size of the economy. In the last decade however there have been many studies, analyzing Japanese direct foreign investment from a variety of viewpoints. These have included the inducements to such investment, the relationship between investment and structural changes in the Japanese economy, analyses of investment by industrial sector, and the impact of investment on the host country's economy. Indeed, very comprehensive studies of Japanese direct foreign investment exist in English; most of these however have made no reference to the discussions by economists in Japan of such investment.

The main objectives of this short survey are therefore the following:

1. To do a general survey and analysis of the studies of Japanese direct foreign investment;
2. To summarize the main points of the Japanese-language studies which have received the most critical attention in Japan; and
3. To give some thoughts on what course Japanese direct foreign investment may take in the near future.

In section II the general features of Japanese foreign investment in the postwar era will be examined, especially as they relate to the growth of the domestic economy. Section III will extend this by looking at investment in manufacturing in more detail. Part IV will provide a summary, and a look towards the future.

As much as possible the following pages will be confined to the economic aspects of direct foreign investment. Recently foreign investment has become a topic in international political discussions, typically looking at the interests of the investing country or investor in contrast to those of the host country; the Japanese case is no exception. There have also been studies of other non-economic aspects, such as business management problems and cultural problems. Studies of such investment from the standpoints of political science and business management will be ignored herein.

II. POSTWAR JAPANESE DIRECT FOREIGN INVESTMENT

The general features of postwar Japanese direct foreign investment are closely related to aspects of the domestic economy. During the past 30 years the economy grew tremendously, and as a result the structure of the economy -- the sectoral distribution of industrial production, sectoral employment patterns, the balance of payments structure, etc. -- also changed greatly. It is natural to ask what impact such changes may have had on Japanese foreign investment, especially as its composition has also changed markedly over time. One can in fact trace certain aspects of foreign investment which change in line with the domestic economy, and hence look at such investment within the same framework as domestic investment. The growth of direct foreign investment thus is seen as a natural consequence of the overall growth of the economy, as will be outlined below.

1. Postwar Economic Growth

Among the many features of Japan's postwar growth, four of them seem to be important in explaining Japanese direct foreign investment. The first is the sheer expansion in size of the economy, with the real GNP (1970 prices) 4.3 times larger in 1970 than in 1955.[1] Second, the industrial structure has been transformed from a labor intensive to a capital and high-technology intensive type. Related to this is a third factor, the change of the economy from one with a relative scarcity of capital and surplus of labor in the 1950's to one with labor scarcity and capital surplus by the end of the 1960's. Thus, although business

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[1] Data source: International Monetary Fund, International Financial Statistics Yearbook, 1981.

cycles have had a large short-run impact, there has been a long-run trend with labor and land costs rising relative to that of capital (that is, the real interest rate). Finally there has been a shift in the structure of the balance of payments. Raw materials such as crude oil, iron ore and coal now account for more than 60% of imports, while exports have shifted from labor intensive to capital intensive goods. In addition, under the fixed exchanged rate system, this led to a steady growth of exports of manufactured goods and hence to "structural" balance of payments surpluses from the late 1960's through 1973.

2. Changes in Direct Foreign Investment

The traditional classification of industry into a primary sector of agriculture and fishing, a secondary sector of manufacturing and a tertiary sector of service industries is a useful starting point for analyzing Japan's foreign investment. Table I gives such a breakdown of total Japanese foreign investment, based on the approved accumulated amount for such investment. At the end of FY1979,[2] it came to some US$31.8 billion. The total growth of such investment, detailed in Table II, was also quite high, coming to about 29% pa in the 1960's and 27.5% pa in the 1970's. Investment remained high in the late 1970's, in spite of the slow growth of the domestic economy, and all indications are that it will continue to increase during the next five years from the current level of $6 billion per year. Even after discounting for inflation, this is a rapid growth, compared to the Japanese domestic economic growth rate.

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[2] The Japanese fiscal year ends March 31, e.g. FY79 ended March 31, 1980.

Returning to the industrial breakdown of foreign investment, at the end of FY1979 about 34% was in the manufacturing sector, 23% in the resources-related primary sector and 47% in the tertiary sector. While these percentages are quite sensitive to the sectoral classification in which certain key industries are included,[3] it is still quite useful to examine them. First, one should note the changes in sectoral distribution of outstanding investment over time. As of FY1960, investment in manufacturing constituted the largest share, with tertiary the smallest; by FY1979 tertiary had come to be the largest. Looking at the data in more detail, early direct foreign investment was concentrated in the manufacturing and resource related sectors. In the domestic economy this time period saw the transition from a labor-intensive industrial structure to a capital and technology intensive one. In addition, the emphasis in the developing countries of Latin America and Asia on industrialization by primary import substitution had an important impact on Japanese overseas manufacturing investment. In contrast, tertiary sector investment was very high in the 1970's.

From this one can begin to view the early growth of foreign investment as dominated by the import substitution strategies of the developing countries, and by the need for natural resources of the rapidly growing domestic economy. During this early period, the marketing of output and service needs of Japanese firms overseas were

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[3] Lumber and pulp, for example, are included in the secondary sector, as are chemical and iron- & metal-related industries. One could reasonably argue that many of these belong more properly in the primary sector, especially as foreign investment in these industries in the 1970's was often motivated by natural resource considerations.

handled by local institutions or by banks and insurance companies which had been established through American and European tertiary direct foreign investment. From the second half of the 1960's, however, Japanese tertiary investment began to increase, with Japanese firms abroad coming to depend more and more on Japanese rather than local or other-country multinational firms for their service needs. Thus under this hypothesis Japanese tertiary investment depended on the prior existence of manufacturing investment. In fact two patterns of tertiary investment can be distinguished, with the above one applying to developing countries. In developed countries, on the other hand, from the early stages on investment was concentrated in the tertiary sector. The examination of the regional distribution of investment, detailed in Tables IV-a and IV-b, back up this approach. Many studies have discussed this, such as Sekiguchi (1978), Kojima (1977), Yoshino (1976) and Ozawa (1979). The main points which they noted were that (1) the investment in developed countries was concentrated in the tertiary sector and (2) in developing countries was largely in the primary and secondary sectors.

Looking at the distribution in greater detail, one can group the developing countries into three regions, Asia, Latin America and the Middle East. Not surprisingly in the Middle East almost all investment was directed to natural resources. In Asia, where the largest amount of Japanese investment took place, almost all was directed to manufacturing until the early 1970's; since then there has been a relative increase in the share of natural resources related investment. In Latin America investment has been even more concentrated in the manufacturing sector

than in Asia. The scale of an individual investment also varies from region to region, being relatively small in Asia and relatively large in Latin America, as discussed by Sekiguchi (1978) and Ozawa (1979). A different pattern is apparent for the developed countries. In regions such as the U.S. and Western Europe, investment was concentrated in the tertiary sector.[4] Two studies, those of Sekiguchi (1978) and the Economic Planning Agency (1980), have discussed the relationship of this to the "trade friction" which is currently a topic between these advanced countries and Japan, with a change being seen from the previous pattern of tertiary investment in sales and marketing related areas to one of investment in manufacturing. It should also be noted that while countries such as Canada, Australia and New Zealand must be considered developed countries, they are relatively resource-rich, and it is this that has dominated Japanese investment.

Compared with other areas of her economy, there have been relatively few econometric studies of Japanese direct foreign investment. One of the studies is Bank of Japan (1973); in it economists at the bank did a general analysis as well as econometric work. The study noted that, compared with the direct foreign investment of other developed countries, that of Japan was directed to services and natural resources from the mid-1950's to the early 1970's. Furthermore, the investment of the other developed countries was directed largely to other advanced nations, while a large share of Japan's was in developing countries. They also noted the tendency mentioned previously for the investment in developing countries to be in the resource and manufacturing sectors and

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[4] Under the impetus of trade friction manufacturing investment in these areas (e.g. TV's) has recently increased.

for that in the developed countries to be more in services. In its econometric work, the bank tried two approaches, one looking at the overall behavior of Japanese firms and the other at sector-by-sector behavior. Table VI outlines their results. As can be seen in the regressions on overall behavior, foreign investment was strongly correlated with the wage gap between Japan and other countries, both developed (the U.S.) and developing (Korea). Second, interest rate differentials between Japan and the outside (the Eurodollar rate) also had a large impact. Finally, the foreign investment restrictions of the Japanese government were important.

It should be noted here that until the early 1970's foreign exchange licenses were approved under a quota system, with the amount of dollars available for the purpose of direct foreign investment varying with the status of the balance of payments. The restrictions on approval of licenses for direct foreign investment purposes were gradually eased in the early 1970's, and have been granted automatic approval since that date. Licenses are still required, and are the source of the data discussed in this paper. During the 1950's and 1960's demand for licenses exceeded the quota allotment. The greatest priority was given to natural resource investment, with tertiary investment (for trading offices, etc.) also having a high priority; manufacturing investment obtained the residual amounts, if any. Another government policy that affected direct foreign investment was the provision of loans through the Export Import Bank of Japan and other institutions. The amounts were relatively small, and the overall impact of such loans on foreign investment decisions was undoubtably negligible, except for resources-related projects.

In the sectoral regressions, the main determinants of resources-related investment were the dummy variables for policy changes. For manufacturing investment, the wage gap between Japan and developing countries, along with policy variables, were the main factors. It should be noted that for the time period which the regression covered, most manufacturing investment was indeed in developing countries.

Recently though there has been an increase in investment in the developed countries, so that now a variable for the wage differential between Japan and other developed countries may be significant (although if trade friction is in fact the driving force in recent years this may not be the case). Another facet of the Bank of Japan study is that in all their regressions the dependent variables take the form of a stock ratio, that of Japanese direct foreign investment to Japanese domestic investment. The study is thus implicitly viewing foreign investment as a substitute for domestic investment. The study also uses Korean wages as a proxy for developing country wages. This choice appears to have been governed by data availability, as that available for most developing countries is very poor in quality. It is questionable though that Korean wages are representative of those in Southeast Asia or most other developing countries.

Foreign exchange licenses are the source of the data used in almost all studies of Japanese foreign investment. Theoretically all transactions are covered by such licenses, with the dollar (not yen) value of the license at time of issue being the number that is compiled.

The information from these licenses is published in three forms. First, they are the source for the direct foreign investment item in the Japanese balance of payments data. This balance of payments figure is compiled and published on a quarterly basis, as a single number without any disaggregation as to industry or direction. The figure reflects the actual foreign exchange flow during the quarter being reported. The second and more widely used form is that published by the Bank of Japan on an annual basis, giving the volume of licenses issued broken down by country in which the investment is to occur and the industry involved, and giving an industry-by-region decomposition. The third form in which the data are reported is as a breakdown by industry and country for each year, but generally this is available only with several years' delay.

Unlike the balance of payments figure, the Bank of Japan compilation represents licenses issued and not the actual flow of foreign exchange, and is published only for yearly and not quarterly periods. There is thus some discrepancy between the B/P figure and the aggregate BOJ figure, both because of delays between the issuing of licenses and the actual flow of funds, and because the full amount allowed for in the license may not ultimately be invested. A second source of difficulties is that in fact not all foreign exchange transactions are covered by licenses. One field study in the Philippines (Tsuda [1977], [1978]) showed there to be a large number of cash investments made through the black market by small firms. The total amount of such illegal or unreported investments was however relatively small, and so it may be safe to assume that the flow value figures are reasonably accurate even if smaller transactions (and hence the total number of transactions) may

be significantly underestimated. A more fundamental problem is that the data are for the flow and not stock of investment, while it is the stock of investment that is a crucial variable for estimating the impact of direct investment on the host economy and other purposes. Thus, while a "stock" figure may be reported (see Table I), it is merely a summation of the annual flow data and does not take into account increases in value due to retained earnings, decreases in value due to repatriation or bankruptcy, or changes in value arising from foreign exchange rate fluctuations. The data also make no distinction between investment representing a minority holding or a controlling share in the local firm, and more importantly, they do not distinguish between share capital and loan equity. The latter is a significant issue as loans can be used to facilitate profit repatriation (through principal and interest repayments) in the face of controls on the level of dividends that may be paid. While potentially some loans are converted to share equity if a venture proves successful, in general loans will lead to an overstating of the "stock" of direct foreign investment. In fact, loans have been particularly important in primary sector investment, where capital equity is a minor share (typically less than 5%). Manufacturing investment, on the other hand, has occurred principally in the form of share equity. Loan/capital proportions however vary widely from case-to-case and country-to-country. The Bank of Japan collects data on this breakdown on a confidential basis, and has published some summaries (see MOF [1977]).

Another source of data of which little use has so far been made are the figures compiled by various industry associations. These are

potentially much more accurate, both in flow and especially stock terms, but at most a few have been published. They may not be available for a sufficient number of industries to be of much use for a comprehensive study, but they could be valuable for work on an industry or a small sample of industries. Finally, many developing countries also try to collect data on foreign investment, but the quality tends to be poor and the level of disaggregation is low. The conclusions of studies based on such data are thus suspicious.

A more recent study which is similar to Bank of Japan (1973) in many respects is that of the Economic Planning Agency (1980). Unlike the BOJ study, that of the EPA did not do sectoral regressions, working only with aggregate data. A second difference is that the EPA study is based on flow rather than stock variables. As explanatory variables, like the BOJ study, the interest rate differential, two wage gap variables (Japan-Korea and Japan-U.S.) were used. In addition the EPA study included an index of Japanese economic activity, a world commodity price index, and the ratio of OECD imports from Japan to total OECD imports were used. The results they obtained are quite interesting. First, like the BOJ study the EPA study found the wage gap variables as a whole not to be highly significant; and the lag structure for developing countries was longer than that for the developed countries. The study suggests that this might be due to "country risk" being greater in developing countries, so that a causal factor such as lower wages induces investment after a longer lag than it would in the developed world. Japanese economic activity exhibited a consistently positive relationship to direct foreign investment, but the t-statistics on the

whole were relatively small and there seems to be no compelling reason for a positive correlation. Tsuji (1976) had proposed that the Japanese business cycle, by affecting the availability of finance to corporations, would thus also affect foreign investment timing. The data on direct investment though has such a strong time trend that this would be very hard to test statistically.

III. JAPANESE OVERSEAS INVESTMENT IN MANUFACTURING

In Section II, two studies which looked at overall Japanese foreign investment were discussed; these studies tended to focus on domestic factors which affected such investment. Certainly those influences were very important, but in addition foreign investment is strongly affected by the host country's economic situation as well as its policy towards foreign capital and various non-economic factors such as political and social stability. In addition to these two general studies, there have been also many studies which looked at a particular country or industry. All of them note that Japanese direct foreign investment in manufacturing was labor intensive as opposed to capital intensive; concentrated in developing countries, especially in East and Southeast Asia, and relatively small in the scale of the individual investment. These specific studies then focused on the factors peculiar to a particular area, both at a point in time and with the changes that came with economic and political development.

Three key theoretical studies are those of Uzawa and Hamada, published in Uzawa (1969); Hamada (1971) and Kojima (1972). The

Uzawa-Hamada study is not concerned with Japanese foreign investment, but rather with investment in Japan from abroad. From the end of the 1960's into the early 1970's an important topic of economic debate were the affects of the liberalization of capital flows into and out of Japan. The Uzawa-Hamada papers were written as part of the discussion of problems relating to this among economists and the government (primarily MITI). They tried to show theoretically that in the presence of import restrictions such as tariffs and quotas, capital liberalization could decrease the welfare of the domestic economy. Their result might equally well be applied to Japanese manufacturing investment abroad, which most often takes place in the face of just such trade restrictions. But in order to use their model one must make certain assumptions about the distribution of stockholders and regulations concerning profit remittances, so that for other countries the implications may be unclear. This is particularly true as many developing countries regulate the conditions under which foreign investment is permitted, typically limiting the maximum share that foreign concerns may hold in a firm, as well as setting a ceiling on the fraction of investment that may be remitted as profits in a given year.

The Kojima study is much less theoretically "clean" than that of Uzawa-Hamada, but it is more interesting for the light it shines on Japanese foreign investment behavior. Kojima's main contribution is the classification of direct investment into two patterns, a Japanese and an American one. According to his typology, Japanese-type investment was engaged in by firms with a comparative disadvantage in international trade, that is, by firms in a poor position export; hence it served to

augment trade. American-type investment, on the other hand, tended to be made by firms which were strong exporters, and thus was a substitute for trade. It should be noted that for the purposes of his discussion Kojima defined comparative advantage in terms of the profit rate, rather than using the normal textbook framework of comparative costs.

Kojima's analysis stimulated a flurry of papers, criticising him from various standpoints. Watanabe (1974) felt that Kojima was inconsistent in showing how his definition of comparative advantage would lead to his investment typologies. Ikemoto (1975) pointed out that this approach did not take note of the specific factors which case studies pointed out as leading to foreign investment, while Watanabe (1974) looked at the implications of this approach for the analysis of national welfare.

Kojima set forth a numerical example of his use of the comparative rate of profit. He posited two countries, A (the U.S.) and B (Japan); two industries, X and Y; and profit rates, foreign and domestic, for each countries industries: X_0 and Y_0 the U.S. domestic and X_1 and Y_1 the U.S. foreign profit rates, with x_0, y_0, x_1 and y_1 the corresponding Japanese firm profit rates. For his example he then set:

"A" Investment Pattern	Domestic Profit Rate	Foreign Profit Rate
X Industry	X_0 = 5%	X_1 = 13%
Y Industry	Y_0 = 10%	Y_1 = 33%

"J" Investment Pattern	Domestic Profit Rate	Foreign Profit Rate
x Industry	x_0 = 10%	x_1 = 13%
y Industry	y_0 = 10%	y_1 = 5%

Using these profit rates, he then calculates the comparative profit ratios:

$$\frac{x_1 / y_1}{x_0 / y_0} = \frac{13/5}{10/10} > 1 \qquad (1)$$

which is the profit ratio for Japanese industry, while

$$\frac{X_1 / Y_1}{X_0 / Y_0} = \frac{13/33}{5/10} < 1 \qquad (2)$$

for American industry. One source of confusion was that Kojima in his original article miscalculated (2), obtaining a ratio greater than 1; he corrected this error in Kojima (1977). He also chose numbers such that there was an absolute profit differential, so that his relative profit argument was superfluous. In general people have had difficulties with his theoretical framework in this ambitious attempt to explain Japanese overseas investment. Nevertheless his comparative profit approach is an interesting one.

Along with such theoretical discussions, many empirical and case studies appeared in the 1970's, of which the Bank of Japan and Economic Planning Agency studies cited earlier are examples. The most important of these other studies were case studies of a particular region or country, especially studies of East and Southeast Asia where Japanese direct foreign investment in manufacturing has a long history.

Representative studies include Yoshihara (1978) of Southeast Asia as a whole, Hirata (1973) of Taiwan, Tanaka (1971) of Southeast Asia, Takahashi (1973) of Southeast Asia, Inamura (1977) of the Philippines, and Sakurai (1975) of Thailand. The main focus of these studies was the analysis of the factors which affected the decision to invest, and the impact of direct investment on the host country's economy. There are also a few studies which focus primarily on the impact on the host country of Japanese direct investment, notably Sekiguchi (1978) which looks at investment in Thailand, Somsak (1978) which examines the impact of direct investment on Thailand, and Thee Kian-Wie (1978) which focuses on Indonesia.

The factors which these case studies highlight as being important in affecting Japanese direct investment decisions are somewhat at variance with those discussed in Tanaka (1971) and the Bank of Japan and Economic Planning Agency studies previously cited. In Southeast Asia (excluding Singapore) the main determinants of investment from the early 1960's through the early 1970's were import restrictions, such as tariffs and quotas. During this period the countries of the region were following an import substitution development strategy for which the increase of tariffs and other import barriers were primary policy tools. As a result the structure of their imports also shifted, with a reduction in imports of final consumer goods and an increase in the imports of raw materials which served as inputs for the production of consumer goods. In turn producer goods imports climbed sharply. As a result of this development policy, Japanese firms were unable to export final consumer goods to the region, which had been their principal exports to the

region up until then. At the same time, Southeast Asian countries provided insufficient domestic savings to finance their industrialization efforts, and thus undertook various policies to encourage foreign capital inflows. Potential manufacturing investors thus faced a protected market for their product alongside with other incentives, such as tax holidays. But with a very limited market, the long-term growth of such direct investment has been inhibited, although there initially were a relatively large number of investments. This author for example calculated import and Japanese direct investment functions for Thailand (Sakurai [1975]). Import tariffs were found to be a significant factor in both cases. The wage gap between Japan and Thailand was not significant; this could however be due to the poor data on wages in Thailand (see Table VIII).

In the East Asian "Newly Industrializing Countries" (defined to include Hong Kong, Singapore, Korea and Taiwan), Yoshihara (1976) found the wage gap together with foreign investment promotion policy to be the main explanatory factors for Japanese direct foreign investment. Certainly there is a large difference in the absolute wage levels of Japan and Southeast Asia, and a smaller but still sizable one between Japan and East Asia. But when viewed from the perspective of the marginal productivity of labor, the wage level of Southeast Asian workers was not necessarily low, while that of East Asia was relatively less high. In the East Asian countries one can of course find a period in which an import substitution strategy was followed in the 1950's and early 1960's, but during this period Japanese direct foreign investment was for other reasons negligible. During later periods a more export

oriented strategy was pursued, and active foreign investment promotion policies were followed. Examples of such policies would include the Kaohsiung export processing zone in Taiwan, the Masung export processing zone in Korea, and the nearly perfect liberalization of foreign capital in Hong Kong and Singapore. This constrast between Southeast and East Asia is thus also related to the regional distribution of sales by firms established through Japanese direct investment. The sales of firms in Southeast Asia, as the discussion of import substitution would imply, were largely in the host country. In the NIC's however the majority of sales were exports to Japan and third countries. This is detailed in Table V, which gives the results of a survey carried out by MITI in 1973 (see MITI [1973]), in which it is seen that even at that comparatively early date the sales of the Japanese enterprises in the NIC's were largely exports, while the sales of those in Southeast Asia were 85% domestic. Country by country data is not at present published, but the MITI survey noted that for Asia as a whole, 67% of the sales of firms with Japanese direct investment were in their home market, 10% in Japan, and 23% in other countries (see MITI [1978]).

As mentioned above, there are two studies of the impact of Japanese investment on the host country; these consider overall investment and not just direct investment in manufacturing. They undertake both theoretical and empirical study of this question. Here the practical problems and theoretical approach taken in studying this issue will be commented upon briefly. As outlined above, a major determinant of Japanese direct foreign investment in Southeast Asia and Latin America has been the various import restrictions that have accompanied import

substitution industrialization.[5] It thus becomes possible to attempt to apply the Uzawa-Hamada model. With the poor statistical data available on the residence of stockholders in firms in which there is Japanese direct investment, and on employment, income distribution, resource allocation and technology transfer aspects, it is of course not possible to give a clear answer. In addition data on transfer pricing would need to be collected (Sekiguchi [1978]). The two principle studies to date, mentioned above, found Japanese direct foreign investment on the whole to have had very little impact. In Thailand for example the 1975 ratio of value added in all such enterprises to total GDP was only 0.97%, while employment in such firms accounted for only 0.06% of total employment (Somsack [1978]). These figures depend on the response to a questionnaire, and so are best viewed as rough estimates, and do not take into account any indirect effects. Somsack did mention the possibility that Japanese enterprises tended to crowd out local firms from capital markets, as such enterprises depended on the local financial market to meet their working capital needs. He concluded that in this aspect too the share was relatively minor, but that in spite of their overall small share, U.S. and Japanese firms had an impact through their transmission of business management pratices, marketing methods, technology, and aggressiveness that was quite beneficial. The author of the study on Indonesia in contrast actually found an overall negative impact. Due to the sketchy data available, it is hard to place any weight on this conclusion. These studies represent a first step, but to make a careful evaluation much more data will need to be collected, as

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[5] U.S. manufacturing investment in Latin America showed a similar pattern to this in its initial period.

mentioned above.

Two final questions will be examined, direct foreign investment by Japanese small businesses, and the so-called boomerang effect[6] of Japanese manufacturing investment abroad. One very interesting feature of Japanese overseas investment is the very high share engaged in by small businesses, in comparison to other advanced countries. Such investment from Japan has been concentrated in labor intensive industries, and have for the most part been in Southeast and East Asia. The recent economic development of these countries is also having important implications for the firms engaged in such investment. It will become much more important for such firms to strengthen their managerial resources in this area, and to promote product differentiation and the modernization of their sales and distribution systems, if they are to be able to meet the growing competition from local and other foreign firms (Sakurai [1979]). Although there have been only a few studies so far which have tried to evaluate it, the "boomerang" effect may be an important problem in certain industries, and could become a political problem when the affected industries are concentrated regionally, especially in light of the possibility that the future industrial structure will be much more strongly influenced by international comparative advantage and specialization considerations (Kitamura [1979]). At present the effect is difficult to measure statistically, primarily because it is hard to distinguish between "normal" and "boomerang" imports.

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[6] The "boomerang" effect is a term used in Japan to describe the negative impact on the Japanese economy when manufacturing direct foreign investment leads to a increase in imports of goods which had previously been manufactured domestically, or perhaps even exported.

IV. CONCLUSION

Japanese direct foreign investment has many distinguishing features, such as the sectoral and regional pattern of investment; it is also closely linked to the post-WWII growth of the Japanese economy. There are also several factors in the host economies which affected Japanese direct investment. Not surprisingly, these differ among the developed and the developing economies.

Starting from the points outlined in this survey, an attempt will now be made to indicate some future problems with and directions which such direct investment may take. The most important determinant of resources-related investment, as in the past, is likely to be the growth (and thus the relative size to the rest of the world), of the Japanese economy. Nationalism and other trends in the resource-rich countries will of course also affect this. One possible direction would be for this to lead to resource-complementing manufacturing investment, which would permit indirect access to these resources by Japanese firms and would provide greater value-added to the host country. Tertiary investment, on the other hand, will be dependent on the growth of a Japanese manufacturing presence in the local (overseas) market. A recent trend though has been for Japanese "service" firms overseas to be more involved in the local market; this is likely to become more true in the future. It thus seems possible that the overall behavior of Japanese trading companies and banks abroad will change so as to be focused on the domestic markets of the developed countries, and thus become relatively independent of the rather limited market presented by

Japanese direct investment in resource or other sectors. Trading companies, for example, may take on more of an investment banker role, while financial firms will integrate themselves into the local markets, competing with host country firms for normal domestic or international business. Manufacturing investment presents a more complex picture. Until now such investment has been concentrated in developing countries, but with the wage gap between Japan and the developed countries having substantially narrowed, this bias will lessen; the continuation of trade friction with the developed countries will reinforce this change. As with earlier investment by manufacturers in the less developed world in the face of import substitution policies, Japanese direct investment in the developed world may also come to be a substitute for direct exports.

Finally, we must note that compared with other statistics relating to the Japanese economy, those on overseas investment have been and continue to be very poor. This complicates any attempt to evaluate what appears to be the growing importance of direct investment for the Japanese economy, as well as its impact on the host countries' economies. As concluded also by Sekiguchi (1979), with Japanese direct foreign investment likely to increase very substantially over the next several years, the failure to improve data collection will impose an increasingly wide gap between the knowledge and the actuality of such investment and its impact on Japan and the rest of the world. This may result in an important lacunae for policy makers in dealing with both domestic economic and foreign relations problems.

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TABLE I

JAPANESE DIRECT FOREIGN INVESTMENT -- TOTAL STOCK
(accumulated approved investment from base year 1951, US$ millions)

	FY1960		FY1970		FY1979	
	Number	Amount	Number	Amount	Number	Amount
Food	7	2.1	91	51	612	532
	(1.1)	(0.7)	(2.4)	(1.4)	(4.2)	(1.7)
Textiles	14	27.1	243	189	838	1,546
	(2.1)	(9.6)	(6.5)	(5.3)	(3.9)	(4.9)
Lumber & Pulp	4	50.2	42	213	328	680
	(0.6)	(17.7)	(1.1)	(6.0)	(1.5)	(2.1)
Chemicals	15	10.8	165	48	716	2,312
	(2.3)	(3.8)	(4.4)	(1.3)	(3.3)	(7.3)
Iron & Metal	6	10.3	95	137	765	2,127
	(0.9)	(3.7)	(2.6)	(3.8)	(3.6)	(6.7)
Machinery	15	10.8	135	68	754	792
	(2.3)	(3.8)	(3.6)	(1.9)	(3.5)	(2.5)
Electronics	12	1.3	206	74	1,056	1,270
	(1.8)	(0.5)	(5.5)	(2.1)	(4.9)	(4.0)
Transport Machinery	5	15.2	40	86	217	803
	(0.8)	(5.4)	(1.1)	(2.4)	(1.0)	(2.5)
Other Manufacturing	26	9.4	277	60	1,208	805
	(3.9)	(3.3)	(7.4)	(1.7)	(5.6)	(2.5)
Subtotal--Secondary	104	127.5	1,294	926	6,494	10,867
	(15.6)	(45.0)	(34.7)	(25.9)	(30.2)	(34.2)
Agriculture	8	2.9	84	54	618	570
	(1.2)	(1.0)	(2.3)	(1.5)	(2.9)	(1.8)
Fisheries	22	4.0	86	26	384	267
	(3.3)	(1.4)	(2.3)	(0.7)	(1.8)	(0.8)
Mining	42	86.3	189	804	594	6,506
	(6.3)	(30.5)	(5.1)	(22.5)	(2.8)	(20.5)
Subtotal--Primary	72	93.2	359	884	1,598	7,344
	(10.8)	(32.9)	(9.6)	(24.7)	(7.4)	(23.1)
Construction	0	0	25	35	421	359
	(0.0)	(0.0)	(0.7)	(1.0)	(2.0)	(1.1)
Commerce	363	39.7	1,443	413	6,698	5,435
	(54.6)	(14.0)	(38.7)	(11.5)	(31.1)	(17.1)
Banking/Insurance	21	10.6	104	320	475	2,046
	(3.2)	(3.7)	(2.8)	(8.9)	(2.2)	(6.4)
Other	105	12.1	507	998	5,822	5,754
	(15.8)	(4.3)	(13.6)	(27.9)	(27.1)	(18.1)
Subtotal--Tertiary	489	62.4	2,079	1,766	13,416	13,594
	(73.5)	(22.0)	(55.7)	(49.3)	(62.4)	(42.7)
Total	665	283.0	3,732	3,579	21,508	31,804
	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)

Sources: Ministry of Finance, Monthly Monetary and Financial Statistics, September, 1977 and Export Import Bank of Japan, Gyomu Binran, 1981.

TABLE II

JAPANESE DIRECT FOREIGN INVESTMENT -- GROWTH RATE

(average annual growth rate in per cent)

	FY 1960-1970		FY 1970-1979	
	Number	Amount	Number	Amount
Food	29.2	37.6	23.6	29.8
Textiles	33.0	21.4	14.7	26.3
Lumber & Pulp	26.5	15.5	25.7	13.8
Chemicals	27.1	16.1	17.7	53.8
Iron & Metals	31.8	29.5	26.1	35.6
Machinery	24.6	20.2	21.1	31.4
Electrical	32.9	49.8	19.9	37.1
Transport	23.1	18.9	20.7	28.2
Other	26.7	20.4	17.8	33.4
Subtotal I	28.7	21.9	19.6	31.5
Agriculture	26.5	34.0	24.8	29.9
Fisheries	14,6	20,6	18.1	29.5
Mining	16.2	25.0	13.6	30.5
Subtotal II	17.4	25.2	18.0	
Construction	--	--	36.9	29.5
Commerce	14,8	26.4	18.6	33.2
Banking/Insurance	17.3	40.6	18.4	22.9
Other	17.1	55.1	31.2	21.5
Subtotal III	15,6	39.7	23.0	25.5
Total	18.8	28.9	21.5	27.5

Sources: Ministry of Finance, Monthly Monetary and Financial Statistics, September, 1977 and Export Import Bank of Japan, Gyomu Binran, 1981.

TABLE III

JAPANESE DIRECT FOREIGN INVESTMENT -- ANNUAL FLOW
(average annual approved investment, US$ millions)

	FY 1960-1964	FY 1965-1969	FY 1970-1974	FY 1975-1979
Food	3.0	4.0	38.8	60.2
	(2.5)	(1.0)	(1.9)	(1.6)
Textiles	8.3	16.5	155.6	125.8
	(6.9)	(4.1)	(7.8)	(3.3)
Lumber/Pulp	4.0	12.7	57.6	52.0
	(3.4)	(3.2)	(2.9)	(1.4)
Chemicals	1.2	4.1	119.2	337.8
	(1.0)	(1.0)	(6.0)	(8.8)
Iron/Metals	9.7	14.4	101.2	298.6
	(8.1)	(3.6)	(5.1)	(7.8)
Machinery	3.0	5.5	50.0	98.2
	(2.5)	(1.4)	(2.5)	(2.6)
Electrical	1.4	8.7	75.2	168.8
	(1.2)	(2.2)	(3.8)	(4.4)
Transport	4.4	9.8	35.2	108.6
	(3.7)	(2.5)	(1.8)	(2.8)
Other	3.2	4.0	52.0	101.2
	(2.7)	(1.0)	(2.6)	(2.6)
Subtotal I	38.5	79.7	684.2	1,350.8
	(32.2)	(19.9)	(34.2)	(35.3)
Agriculture	1.1	7.9	26.6	78.2
	(0.9)	(2.0)	(1.3)	(2.0)
Fisheries	1.0	2.2	17.0	33.0
	(0.9)	(0.6)	(0.9)	(0.9)
Mining	45.9	125.6	511.8	669.8
	(38.3)	(31.4)	(25.6)	(17.5)
Subtotal II	47.4	135.7	555.4	781.0
	(39.6)	(33.9)	(27.8)	(20.4)
Construction	1.9	4.7	9.4	55.8
	(1.6)	(1.2)	(0.5)	(1.5)
Commerce	11.2	54.8	316.8	698.2
	(9.4)	(13.7)	(15.9)	(18.2)
Banking/Insurance	6.3	38.0	152.0	211.4
	(5.3)	(9.5)	(7.6)	(5.5)
Other	13.8	63.8	280.0	731.0
	(11.5)	(15.9)	(14.0)	(19.1)
Subtotal III	33.2	161.2	758.2	1,696.4
	(27.7)	(40.3)	(38.0)	(44.3)
TOTAL	119.7	400.3	1,997.8	3,828.2
	(100.0)	(100.0)	(100.0)	(100.0)

Sources: Ministry of Finance, Monthly Monetary and Financial Statistics, September, 1977 and Export Import Bank of Japan, Gyomu Binran, 1981.

TABLE IV-A

JAPANESE DIRECT FOREIGN INVESTMENT BY REGION & INDUSTRY

(cumulative approved investments,FY1951 - FY1978, US$ millions)

	North America		Latin America		Asia		Middle East	
	Number	Amount	Number	Amount	Number	Amount	Number	Amount
Food	161	104	74	116	214	122	1	0
Textiles	80	145	119	324	496	836	3	4
Lumber & Pulp	31	263	36	170	198	123	--	--
Chemicals	63	170	88	467	401	465	19	779
Iron & Metals	37	227	69	417	347	689	9	43
Machinery	126	137	91	221	365	178	5	6
Electrical	120	407	80	183	660	418	5	10
Transport	19	44	30	280	124	203	5	4
Other	134	87	84	66	766	376	16	39
Subtotal	771	1,583	671	2,244	3,517	3,409	63	885
Agriculture	87	118	106	118	252	190	3	2
Fisheries	38	24	52	46	102	46	5	1
Mining	125	455	101	639	147	2,670	9	39
Construction	105	100	56	83	168	50	21	6
Commerce	2,526	2,549	357	321	1,068	241	35	7
Banking/Insurance	73	695	74	290	140	224	13	25
Other	1,056	855	710	609	610	751	23	75
Real Estate	1,501	327	84	16	114	21	2	370
Business Offices	208	58	38	7	387	65	30	562
Total	6,490	6,765	2,249	4,373	6,559	7,668	204	1,971

Source: Economic Planning Agency (1980).

TABLE IV-B

JAPANESE DIRECT FOREIGN INVESTMENT BY REGION & INDUSTRY

(cumulative approved investments, FY1951 - FY1978, US$ millions)

	Europe		Africa		Oceania		Total	
	Number	Amount	Number	Amount	Number	Amount	Number	Amount
Food	22	38	28	8	34	43	534	429
Textiles	38	110	44	34	6	4	786	1,457
Lumber & Pulp	--	--	1	0	32	91	298	647
Chemicals	46	81	5	13	17	98	639	2,074
Iron & Metals	117	85	19	17	17	71	615	1,549
Machinery	50	80	--	--	12	11	649	632
Electrical	32	51	5	4	9	17	911	1,090
Transport	8	11	1	0	9	112	196	653
Other	60	66	8	4	15	5	1,083	644
Subtotal	373	521	111	80	151	452	5,711	9,174
Agriculture	2	0	9	6	98	54	557	487
Fisheries	4	2	57	38	74	37	332	195
Mining	9	859	82	442	79	547	552	5,647
Construction	11	11	7	18	9	6	377	274
Commerce	851	515	15	1	220	143	5,072	3,778
Banking/Insurance	112	568	10	2	24	44	446	1,848
Other	231	832	276	547	158	207	3,064	3,877
Real Estate	131	26	15	2	44	4	1,891	766
Business Offices	133	63	10	1	6	3	812	760
Total	1,857	3,398	592	1,138	863	1,496	18,814	26,809

Source: Economic Planning Agency (1980).

TABLE V

SALES BY MARKET, JAPANESE DIRECT FOREIGN INVESTMENT IN ASIA IN MANUFACTURING

(in %)	Host Country Markets	Japan	Markets of Other Countries	Not Available
Taiwan	45.2	42.7	9.4	2.7
Korea	52.4	34.4	13.3	--
Singapore	62.5	4.9	32.2	--
Indonesia	96.0	3.9	0.1	--
Hong Kong	29.0	0.4	69.9	--
Thailand	93.9	0.6	5.5	--
Malaysia	87.3	7.8	4.8	--
Total Asia	69.1	3.8	22.5	4.6

Source: MITI (1973). No country breakdowns on the direction of sales have been given since 1973, although MITI publishes yearly figures for "Total Asia".

TABLE VI

BANK OF JAPAN REGRESSION RESULTS

Dependent Variable: Kfdi/Kdom

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Wj/Wdev		4.31 (3.3)*		4.11 (2.9)**	9.12 (4.7)**		7.79 (3.8)**				
Wj/Wldc	0.044 (1.7)**		0.048 (1.9)#			0.045 (1.7)**		0.037 (1.4)*	0.065 (2.9)#	0.055 (2.3)**	0.072 (4.0)#
Ij/leuro			-0.24 (3.2)#	-0.37 (-4.2)**	-0.39 (-5.1)**				-0.16 (-2.3)#		-0.04 (-2.5)#
Ijd/leuro	-0.16 (-2.6)*	-0.30 (-4.4)*				-0.15 (-1.6)**	-0.25 (-3.3)**	-0.14 (-1.7)*		-0.11 (-2.0)**	
Mdev					-0.0025 (-3.3)		-0.0017 (-2.3)				
Mldc						-0.013 (-0.2)		0.0046 (0.08)			
IIP							1.02 (1.8)	1.67 (2.7)	1.90 (3.3)	1.86 (3.1)	0.26 (3.6)
Policy	24.1 (3.5)	19.0 (2.7)	23.6 (3.9)	14.4 (2.3)	20.7 (3.5)	24.4 (3.4)	20.9 (3.5)	23.9 (3.4)	23.0 (4.4)	22.4 (3.6)	0.01 (4.2)
Kfdi/Kdom 1 qtr lag	0.82 (14.4)	0.61 (7.6)	0.78 (13.6)	0.60 (6.9)	0.63 (8.2)	0.83 (9.8)	0.48 (4.4)	0.54 (4.2)	0.47 (4.6)	0.51 (4.7)	0.52 (5.2)
C	86.0 (2.8)	109.8 (4.0)	116.6 (3.4)	135.3 (4.3)	108.7 (3.8)	81.1 (2.1)	88.5 (3.3)	103.8 (2.9)	111.0 (3.7)	91.7 (3.3)	0.72 (4.6)
R^2	0.9919	0.9937	0.9927	0.9934	0.9950	0.9916	0.9948	0.9930	0.9945	0.9936	0.9953
d	1.50	2.05	1.60	1.64	1.84	1.52	1.50	1.64	1.76	1.60	1.85

t-values in ( ) * lagged 2 quarters ** lagged 3 quarters # lagged 4 quarters

Source: Bank of Japan (1974). The regression is from 1964/I - 1973/II, using quarterly data.

Notes:
Kfdi = foreign direct investmentcapital stock (yen million).
Kdom = domestic capital stock (yen billion).
Wj = Japanese wage index, seasonally adjusted.
Wdev = U.S. wage index, seasonally adjusted.
Wldc = Korean wage index, seasonally adjusted.
Ij = Japanese long-term interest rate, averaged over the quarter.
leuro = Eurodollar 3-month rate, averaged over the quarter.
Ijd = Ij less the 3-month yen-US$ forward margin (the swap differential), averaged over the quarter.
Mdev = Total OECD imports from Japan, lagged 1 quarter (US$ million).
Mldc = Total imports of Korea, Taiwan, Thailand, Indonesia and Brazil, weighted by the share therein of Japan's direct foreign investment stock, lagged 2 quarters (US$ million).
IIP = Japanese Index of Industrial Production (1970 = 100), lagged 1 quarter.
Policy = policy variable: 1964/I - 1968/III = 0.
1968/IV - 1970/II = 1 (Liberalization of investmentrules for trading companies).
1970/III - 1972/I = 2 (Partial liberalization of licenses by BOJ).
1972/II - 1973/II = 3 (Complete liberalization).

R^2 is adjusted R^2.
d is Durbin-Watson statistic

TABLE VII

Economic Planning Agency Regression Results

Dependent Variable: DI

	(1)	(2)	(3)	(4)	(5)	(6)
Bondj/Bondus	-0.47 (-0.9) -3	-0.39 (-0.7) -2	-0.51 (-0.9) -3	-0.45 (-0.7) -2	-0.37 (-0.5) -2	-0.43 (-0.5) -2
Wagej/Wagek	1.35 (4.3) -4	1.42 (4.1) -4	1.25 (3.4) -4	1.36 (3.6) -4	1.31 (4.0) -3	1.26 (3.5) -3
Wagej/Wageus	0.53 (1.1) -2	0.70 (1.4) -2	0.44 (0.9) -2	0.61 (1.1) -2	0.48 (0.7) -2	0.40 (0.5) -2
IIP	1.71 (3.9) -3	1.06 (2.0) -3	1.53 (2.9) -3	0.96 (1.6) -3	0.86 (1.4) -3	0.78 (1.2) -3
Reuters					0.36 (0.8) -3	0.36 (0.8) -3
Mj/Mnonj		0.32 (0.6) -6		0.79 (0.6) -6	0.50 (0.9) -6	0.49 (0.8) -6
DI			0.092 (0.6) -1	0.063 (0.4) -1		0.049 (0.3) -1
Constant	-8.27 (-2.2)	-7.16 (-1.9)	-6.93 (-1.6)	-6.12 (-1.4)	-7.63 (-1.6)	-6.70 (-1.2)
R^2	0.959	0.956	0.959	0.955	0.956	0.955
d	1.83	1.93	1.95	2.00	1.98	2.04

Source: Economic Planning Agency (1980). t-values in ( ), -1...-6 indicate quarters lagged. The regressions are on quarterly data from 1967/I - 1979/III.

Notes:
DI = Foreign direct investment licenses approved in the quarter.
Bondj = Japanese Corporate Bond Yield
Bondus = U.S. Corporate Bond Yield (Moody A, Baa rated bonds).
Wagej = Japanese Real Wage Rate Index (1975 = 100).
Wagek = Korean Real Wage Rate Index (1975 = 100).
Wageus = U.S. Real Wage Rate Index (1975 = 100).
IIP = Japanese Index of Industrial Production (1975 = 100).
Reuters = Reuter Index of Yen/Dollar Exchange Rate (in US$).
Mj = OECD imports from Japan.
Mnonj = OECD imports from rest of world excluding Japan.
R^2 = Adjusted R^2
d = Durbin-Watson Statistic

Table VIII

Sakurai Regression Results for Japanese

Direct Foreign Investment in Thailand

(1) $\log DI = \underset{(-1.1)}{-11.11} + \underset{(1.2)}{3.75} \log (Tariff)_{-1} + \underset{(2.2)}{0.59} \log DI_{-1}$

$+ \underset{(0.2)}{0.19} \log (Wj/Wthai)_{-1} + \underset{(0.5)}{1.14} \log Tax_{-1}$

$\bar{R}^2 = 0.875 \quad \bar{S} = 0.309 \quad d = 1.55$

(2) $DI/GDP = \underset{(-2.3)}{-0.407} + \underset{(2.4)}{0.029}\ Tariff - \underset{(-0.7)}{0.0042}\ (Wj/Wthai)_{-1}$

$- \underset{(-0.5)}{0.1576}\ (DI/GDP)_{-1}$

$\bar{R}^2 = 0.728 \quad \bar{S} = 0.503 \quad d = 2.92$

(3) $DI/GDP = \underset{(-1.7)}{-0.3296} + \underset{(2.5)}{0.0304}\ Tariff - \underset{(-0.8)}{0.0044}\ (Wj/Wthai)_{-1}$

$- \underset{(-0.7)}{0.0336}\ Tax_{-1}$

$\bar{R}^2 = 0.744 \quad \bar{S} = 0.049 \quad d = 2.82$

Source: Sakurai (1975). Regressions are for annual data for the period 1961 - 1970.

Notes: DI = Japanese Direct Investment in Thailand (Bhat million).
Wj = Japanese wage level (in Bhat).
Wthai = Thai wage level (in Bhat).
Tax = Corporate taxes divided by manufacturing value added (Thai GNP statistics, Bhat million).
GDP = Thai Gross Domestic Production (Bhat million).
Tariff = Average tariff rate on manufactured imports, excluding machinery and chemicals.

$\bar{R}^2$ = adjusted correlation coefficient.

$\bar{S}$ = Standard error. d = Durbin-Watson statistic.