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*SOME ASPECTS OF PRIVATE
DIRECT INVESTMENT IN
DEVELOPING COUNTRIES*

Grant L. Reuber

SOUTHEAST ASIA DEVELOPMENT ADVISORY GROUP

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*SOME ASPECTS OF PRIVATE DIRECT
INVESTMENT IN DEVELOPING COUNTRIES*

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This paper was prepared by Dr. Reuber for the SEADAG Ad Hoc seminar on "Multinational Corporations in Southeast Asia" held at the Rasa Sayang Hotel, Penang, Malaysia, from June 24 through June 26, 1974.

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INTRODUCTION

This paper is based on a larger study the author recently completed on this subject under the auspices of the Development Center of the Organization for Economic Cooperation and Development (OECD).¹ The paper begins with a brief general description of that study and then focuses on three particular aspects of the subject: tax payments, the effect of different types of investment, and the effects of foreign ownership.

The subject of private foreign investment in developing countries is a vast, complicated, and controversial one. Although evoking much speculation over the years, it has received less sustained and systematic attention in terms of data collection and analysis than many other aspects of economic development. This study is concerned principally with describing and evaluating some of the main characteristics and economic effects of private direct investment in manufacturing industries. So that these central features may be seen in perspective, considerable attention is also given to the supply characteristics of direct investment, to alternative sources of capital, and to the auxiliary factors and market access associated with direct investment.

The empirical information on which this study is based has been obtained from four general sources: evidence scattered through a variety of earlier studies; data collected by national governments and international agencies; figures assembled by the OECD, including statistics on the stock of private foreign direct investment found in various countries; and data on approximately eighty private investment projects located in the LDCs, collected from the head offices of investors in North America, Europe, and Japan by means of a direct survey conducted by personal interviews.

Little will be said here about this survey evidence. In brief, the attempt was made to collect firm data on a series of manufacturing projects undertaken during the decade of the 1960s. Projects were defined as investments which represented a separate and discrete step-up in the firms' activities rather than a routine and marginal extension of activities already underway. Each firm was visited twice, once to indicate the information being requested and to select the project on which data would be provided, and the second time to collect and review the data provided. Information of this kind is obviously open to many qualifications and needs to be interpreted with caution. On the other hand, this approach provided one way of obtaining evidence on some of the questions at issue.

1. Grant L. Reuber, *Private Foreign Investment in Development* (Oxford: Clarendon Press, 1973).

The study, after a general review of the subject, considers the determinants of investment and the relationship and relative cost of various forms of portfolio and direct investment. It then considers the determinants of direct investment. Finally, consideration is given to the effects of such investment on host countries in terms of production and trade, employment and income, productivity and costs, transfer of knowledge, structure of the economy, and distribution of income. In addition, an appendix (by M. Emmerson) based on OECD figures on the outstanding stock of private direct investment describes the structure and distribution of direct investment in the LDCs as it existed at the end of the 1960s.

TAX BENEFITS TO THE HOST COUNTRY

It is generally accepted that one of the distinguishing features of direct investment under existing tax treaty legislation is the opportunity it affords the host country to tax foreign capital and the rents arising from the auxiliary factors associated with such capital. Thus, if the home and the host country have a common income tax rate of 50 percent and the firm in the host country makes a profit of \$1,000, half the profit accrues to the host country as taxes and half to the firm as its return on investment. Moreover, since the tax rate in both home and host countries is the same, the tax is neutral as far as the allocation of investment between the two countries is concerned.

At the end of 1970, the total stock of direct investment outstanding in the LDCs was approximately \$40 billion of which some \$12 billion was in the manufacturing sector. On the basis of reported after-tax earnings and current income and withholding taxes, one may reasonably assume a tax of some 8 to 10 percent on foreign equity which accrues to the LDCs. This implies a gain to host countries via taxes of between \$3.2 and \$4.0 billion per year -- an amount equal to 40 to 50 percent of all official flows to the LDCs in 1970 and approximating 1 percent of the combined GNP of these countries.

Such an estimate, and the whole notion that host countries effectively tax foreign equity, is subject to many qualifications based on differences between nominal and effective tax rates. Some of these qualifications arise because of differences in the tax rates and the existence of tax havens, others because of intricacies in the details of tax laws and tax administration, and still others because of intra-company pricing policies whereby profits are transferred from country to country for purposes of minimizing total tax payments. These complications are widely recognized though their empirical importance remains very much in doubt. However, attention must be drawn to another kind of complication which, so far as the author is aware, has been largely ignored in the literature and which

may be much more important, especially for the LDCs. This complication arises because of price distortions in the LDCs and the wide variety of subsidies in one form or another which enhance the profits of foreign subsidiaries. The empirical importance of such distortions is evident from two general sets of evidence. First, cost-benefit studies of particular projects, such as those conducted by I. Little, T. Scitovsky, and M. Scott, indicate that price distortions give rise to wide and unsystematic disparities between private and social rates of return. Secondly, the estimates of effective protection made by B. Balassa and others suggest very high and widely different subsidies on value added in many areas of manufacturing.

How price distortions and subsidies affect the real return to host countries from taxing foreign equity depends to an important degree upon what one assumes about alternatives as well as other considerations. Assume first that the investment will either be undertaken by the foreign investor or not at all. Assume also that the project is uneconomic by international standards and will be undertaken only if the host country provides sufficient protection and subsidies to bring the after-tax rate of return up to the point where it conforms with the international supply price of capital. Under these circumstances the investment can be attracted from abroad and the gain to the community (B) will be equal to the tax paid by the investor (T) minus the difference in the unit real resource cost if the product is produced locally rather than imported (c) times the number of units (q) produced by the project: $B = T - cq$. In this situation it is quite possible that the real resource cost of having the project exceeds the tax paid, and the benefit, in any event, will be less than the tax if there is a real resource cost of local production exceeding that of imports.

Suppose, however, that the alternative is an identical project financed by local capital. Assume also that the difference in relative efficiency between the next best alternative locally and this locally-financed project is measured by c, the difference in the subsidy required to make both projects competitive at international levels. Then the social loss of undertaking this locally-financed project locally will be cq. And the difference in the social loss between undertaking the project with foreign or local financing will be $(T - cq + cq) = T$. In other words, there is a common loss (cq) no matter how the project is undertaken; if undertaken by foreign investors, the host country gains the full amount of the tax on foreign equity.

Extending this example, one may make the further assumption that the supplies of foreign capital, as well as other critical inputs, are considerably more elastic than the supply of these inputs domestically, if only because the LDCs absorb a small share of world capital flows and associated auxiliary factors. In this situation providing a subsidy to an industry may result in a larger expansion in the industry under foreign financing than under domestic financing with the result that there will be a greater misallocation of domestic resources. Suppose that with

foreign financing $q + q'$ units are produced. Then the gain to the host country of relying on foreign rather than domestic financing will be $T - c(q + q') + cq = T - cq'$. In this case the real resource cost of the misallocation of resources due to the additional output resulting from foreign financing may conceivably be greater than the real resource gain of being able to tax foreign capital; and the net gain to the host country will necessarily be less than the tax paid.

A third possibility is that all production activity is subsidized in one form or another. If the degree of subsidy is everywhere the same, presumably the subsidies simply cancel each other out and no allocative effects result. More realistically, however, one may assume that the degree of subsidy differs among various industries and that the incentives thus provided lead to economic inefficiency. Assume also that all of these industries have access to both domestic and foreign capital resources. The opportunity cost of using foreign capital in one industry rather than another will reflect the difference in the tax collectable on the foreign capital in the two projects (T') plus the difference in the real resource cost of the two projects (c') times the difference in amount of uneconomic output (q'). In these terms the benefit of foreign financing is $T' - c'q'$. For domestic financing, the cost is $c'q'$ assuming the same amount of uneconomic production in each industry irrespective of the source of finance; thus, the difference between foreign and domestic financing, $T' - c'q' + c'q' = T'$, which may be either positive or negative.

So far the same level of efficiency has been assumed among the alternatives considered. Assume that foreign financed projects are x percent more efficient than the alternatives defined in the foregoing examples. If the unit cost of foreign financed projects is c , then the unit cost of production for the alternative is $(1 + x)c$. In the second example this means that the social gain derived from the project is $T - cq + (1 + x)cq = T + xcq$, i.e., the gain is greater than the tax payment by the saving in domestic resources due to the greater efficiency of the foreign firm. In the third example the gain becomes $T - c(q' + xq)$ which is greater than before making the assumption of difference in efficiency. In other words, for the foreign financed project the positive effect of higher production efficiency tends to offset to some extent the negative scale effects on resource allocation. In the third example the gain remains T' if one assumes a constant differential in relative efficiency between foreign and domestic projects in both sets of projects.

This analysis can obviously be made enormously more complicated by introducing additional assumptions such as differences in the input and in the output mix depending on whether the project is financed by foreign or domestic capital. Enough has been said however to emphasize several points. First, the ability to tax foreign capital evidently plays an important role in the analysis, as has long been recognized. Second, once a system of subsidies and regulations which influences resource allocations is taken into account, it is difficult to conclude on *a priori* grounds or on

the basis of macro-analysis whether foreign investment is beneficial or not. Reaching such a conclusion requires detailed project analysis in which the many assumptions realistically relating to particular projects can be spelled out and taken into account explicitly. It is particularly important to specify the alternative assumed in the absence of foreign investment -- a specification that, to the author's knowledge, is missing in most of the work on this subject. In the absence of such detailed specification, it is doubtful whether anything can be said about tax benefits from macro-calculations. Third, the complications arising from price distortions are likely to be especially great as far as foreign investment in manufacturing is concerned since in most LDCs protectionist policies, discriminatory tax and subsidy measures, and direct controls of various kinds have been especially prominent in the manufacturing sector.

TYPES OF INVESTMENT

The second aspect of private direct investment to be discussed here concerns the relationship between the characteristics and effects of direct investment, on the one hand, and the type of investment, on the other. A most revealing discussion of this question is a paper by Richard E. Caves which emphasizes the distinction between horizontal and vertical foreign investment.² Vertical investment is associated with oligopoly and the incentives to reduce uncertainty and competition. Horizontal investment requires that the investing firm have some special advantage in the form of knowledge, production and marketing skills, access to market or access to inputs which (1) can be drawn upon in the new location and offer sufficient advantage to overcome the extra cost of producing in a foreign location and (2) is tied to the actual process of production and distribution, thereby implying a higher return via direct investment than through licensing or some other form of exploiting the asset.

In this paper a distinction is drawn between export-oriented projects and those oriented toward local sales. Although the categories are not completely parallel, export-oriented projects consist principally of vertical investments and locally-oriented projects of horizontal investments. About a third of the projects in our sample were classified as export-oriented projects on the criterion that over 10 percent of the output was exported. A relatively low ratio was deliberately chosen to identify these projects because of the bimodal distribution of the sample when classified on this basis: export-oriented projects, on average sold 87 percent of their output abroad; the remainder sold an average of 3 percent of their output abroad.

2. "International Corporations: The Industrial Economics of Foreign Investment," *Economica*, XXXVIII (February, 1971) pp. 1-27.

The evidence suggests some important differences between these two types of investment. These differences are reflected not only in qualitative evidence collected during the interviews but also in a statistical analysis of the data collected. The latter consists of a series of simple regressions in which some characteristic or effect of investment, C_i , is regressed on the percentage of total sales made up by export sales, S_i . This equation was expanded to include as well a series of dummy variables to pick up any systematic differences between host country areas and the home country of the investor.

$$C_i = a_0 + a_1 S_i + a_2 \left[\begin{array}{c} \text{host country dummies} \\ \text{or} \\ \text{home country dummies} \end{array} \right]$$

For present purposes the dummy variables have been ignored and concentration focused upon some of the relationships between C and S . It is convenient to consider these under three general categories: how firms invest, why they invest, and the effects of their investment on the host country.

As for the first category, the evidence sheds some light on three characteristics which will be considered in turn. The first concerns ownership structure. The degree of foreign control was highest in export-oriented investment. Presumably this reflects in part the power of the investor *vis-a-vis* the host country because of the investor's unique access to international markets. Moreover, in a closely integrated operation direct control is more important from the standpoint of avoiding risk and uncertainty. In the case of locally oriented projects, the host country's control over the market and the investor's monopolistic market positions encourage firms to impose local participation. Further, such projects probably have more to gain from local partners in the form of political acceptability and access to knowledge about local circumstances and to additional local resources. When a simple regression was run, a highly significant and positive coefficient for S_i was indicated. At the same time, the value of R_2 was very low, suggesting that many other factors also entered into the picture.

A second characteristic of how firms invest concerns the initial financial structure of the project. The share of total capital invested from abroad is positively and very significantly related to the export share of sales. The evidence also seems to suggest that the share of total financing provided by foreign equity is approximately one-third irrespective of the orientation of the project. The difference in financing arises mainly in the relative amount of initial financing from abroad in the form of debt: debt raised abroad is positively and very significantly related to export shares. This probably reflects differences in the relative ease in making external payments in the form of interest rather than in the form of dividends, given existing currency restrictions. The figures also indicate a strong negative association between the share of exports and the share of total initial financing

through equity sales. This is consistent with the positive association between local ownership participation and the share of local sales.

The third characteristic to be considered concerns rates of return. The evidence collected for this study on this question is weak. Moreover, it emerges sometimes in the form of profit rates and sometimes in the form of payback period. Nevertheless, the evidence suggests fairly clearly that realized profits are positively related to the export share of sales. Moreover, for export-oriented projects profits are high -- averaging some 30 percent on equity compared to locally-oriented projects where profits averaged some 20 percent -- and write-off periods are very rapid. Turning from the level of earnings to the disposal of earnings, one finds that a substantially larger share of earnings are reinvested for locally-oriented projects. The biggest differences arise in two other categories, however. Earnings in the form of royalties and fees are of only minor importance for export-oriented projects. By contrast, a substantial part of the earnings to the firm of export-oriented projects is derived in the form of lower cost components which are absorbed in production outside the country.

Some of the evidence collected on profits is summarized in Tables 1 and 2. (In the larger study, locally-oriented projects were subdivided into those which were actively initiated by the host country government and the rest, designated as "market-development" projects.)

Why firms invest abroad is a complicated question about which there are many hypotheses which the available evidence to date has failed to narrow down very clearly.³ One set of hypotheses is found in the literature on the determinants of domestic investment and emphasizes liquidity, rates of return, and output-capacity relationships, all of which may be seen as factors influencing short-term variations in investment. A second set of hypotheses emanates from the literature on industrial organization and emphasizes longer-term strategic factors such as the economics of new product development and of product-differentiated oligopoly, as well as competition for market shares. A third set of questions arises from the influence of government policies on foreign investment flows. Although an attempt is made to examine these influences on an aggregative basis in the author's larger study, in this paper only the relationship between the type of investment and investment determinants is considered.

3. An excellent review of this issue is provided by Guy V. G. Stevens, "The Multinational Firm and the Determinants of Investment," *International Finance Discussion Paper*, 29, May 23, 1973, Board of Governors of the Federal Reserve System.

TABLE 1. PROFITABILITY OF SAMPLE PROJECTS
BY HOME COUNTRY OF INVESTOR, TYPE OF INVESTMENT, AND HOST COUNTRY

	Average % return ^a on equity (after tax)	Internal pay-back ^b period (years)		Repatriation period ^c (years)	
		Current	Originally	Current	Originally
		Estimate	Expected	Estimate	Expected
<u>Home Country of Investor</u>					
Europe	15.1 (17)	9.0 (23)	8.4 (23)	8.0 (18)	10.1 (17)
North America	23.0 (6)	4.5 (13)	4.0 (13)	7.3 (8)	8.5 (10)
Japan	33.1 (14)	6.5 (10)	6.1 (10)	5.3 (12)	8.3 (16)
<u>Type of Investment</u>					
Export-oriented	32.0 (10)	6.3 (16)	5.9 (16)	5.9 (14)	8.2 (17)
Market-development	14.7 (16)	7.9 (20)	6.6 (22)	9.6 (13)	9.9 (12)
Government-initiated	27.4 (11)	7.3 (10)	8.1 (8)	5.4 (11)	9.3 (14)
<u>Host-Country Area</u>					
Latin America	15.3 (12)	8.8 (13)	7.3 (13)	6.8 (10)	7.7 (11)
India	15.7 (6)	8.1 (9)	6.3 (9)	9.0 (8)	9.4 (9)
Far East ^d	30.8 (10)	5.2 (12)	5.4 (13)	5.5 (11)	7.6 (14)
Other	30.2 (9)	6.8 (12)	7.6 (11)	7.3 (9)	12.4 (9)
<u>Total</u>	<u>23.2 (37)</u>	<u>7.2 (46)</u>	<u>6.7 (46)</u>	<u>7.0 (38)</u>	<u>9.1 (43)</u>

- a. The mean average of the rates of return (total accounting profits after tax relative to total equity) calculated project by project.
- b. The number of years required to earn back the total equity invested (accounting profits, after tax, plus depreciation).
- c. The number of years required to repatriate the total foreign capital: share of dividends plus interest, royalties, fees, and related profits. Estimates of "related profits" are based on estimates by firms of (1) the marginal profit on inputs supplied to the project and (2) the differential between the cost of production at home and the price at which output is purchased from the project in the host country.
- d. Based on projects in the following countries: Hong Kong, Indonesia, Korea, Malaysia, Singapore, Taiwan, and Thailand.

TABLE 2. APPLICATION OF SAMPLE PROJECT EARNINGS
BY HOME COUNTRY OF INVESTOR, TYPE OF INVESTMENT, AND HOST COUNTRY

	<u>% Reinvested</u>	<u>% Dividends</u>	<u>% Royalties and fees</u>	<u>% Other^b</u>
<u>Home Country of Investor^a</u>				
Europe (20)	47.7	28.2	19.1	5.0
North America (16)	34.7	24.6	8.3	32.4
Japan (14)	57.8	21.6	3.4	17.2
<u>Type of Investment^a</u>				
Export-oriented (14)	34.0	25.4	1.4	39.2
Market-development (19)	45.7	30.1	12.8	11.4
Government-initiated (17)	57.3	19.6	17.6	5.5
<u>Host Country Area^a</u>				
Latin America (15)	56.7	17.4	7.8	18.1
India (9)	43.2	30.9	22.0	3.9
Far East (13) ^c	37.3	21.3	7.1	34.3
Other (13)	<u>45.6</u>	<u>34.1</u>	<u>11.9</u>	<u>8.0</u>
<u>Total (50)</u>	<u>46.4</u>	<u>25.2</u>	<u>11.2</u>	<u>17.2</u>

a. Figures in parentheses indicate number of projects in sample.

b. Includes savings on production costs and profits on input sales.

c. See note d, Table 1.

For export-oriented projects, local market considerations are of little or no consequence. Investment of this type is mainly propelled by competitive pressure to seek out low-cost sources of inputs. And firms make it a practice to shop among various LDCs for the lowest cost source of such inputs. In addition to the level of wages, consideration is given to the availability of labor, land and basic infrastructure, the terms on which countries permit imports, the absence of host government control and interference, and the extent of tax allowances and other financial incentives provided by host country governments.

For locally-oriented projects the size and future prospects of the local market are of central importance. A key factor is usually the degree of protection against foreign imports that is provided. In many cases the firms are not so much searching out profitable opportunities but rather are responding to specific threats to their existing activities; financial incentives are of less importance. Longer-term strategic considerations associated with horizontal investment in industries characterized by product-differentiation and oligopoly play an important role.

Turning to the effects of the type of investment on host country economies, one finds that the dichotomy between export-oriented and locally-oriented projects is generally evident in a variety of ways such as in the degree of integration of the project into the local economy, its effect on foreign trade flows, and several aspects of the transfer of knowledge in the form of technology, skills, and training. One particularly important manifestation is the relative level of production costs by international standards in export-oriented as opposed to locally-oriented projects. For the projects in our sample the mean cost of producing in the home country the same product as in the host country was a third more for export-oriented projects and roughly a third less for locally-oriented projects.

Before examining these relationships in greater detail, let us digress briefly to report on some simple attempts made to examine what statistical association, if any, exists between the stock or flow of direct investment, on the one hand, and the level of GNP per head or the growth in GNP or in GNP per head, on the other. This relationship has, of course, been examined before by S. Robinson, H. Chenery, and others, including a recent paper by G. F. Papanek.⁴ The only novelty the author of the present study can claim is that he had access to a new set of figures on the stock of private direct investment.

4. "Aid, Foreign Private Investment, Savings and Growth in Less Developed Countries," *Journal of Political Economy*, 81 (January/February, 1973) pp. 120-130.

TABLE 3. STATISTICAL ASSOCIATION BETWEEN THE STOCK OF
DIRECT PRIVATE FOREIGN INVESTMENT AND GNP

	<u>r(GNP/N, K/N)</u>	<u>n</u>
All areas	.68	109
Latin America	.87	27
Africa, south of Sahara	.68	37
Middle East and North Africa	.90	18
Asia ^a	.76	21
Extractive countries	.86	31
Non-extractive countries	.68	78

SOURCE: Reuber, *op. cit.*, Appendix A.

NOTATION: r = coefficient of correlation; GNP/N = gross national product per capita in 1968; K/N = stock of direct private foreign investment per capita at the end of 1967; n = number of countries in the sample. All estimates are significant at the 1 percent level.

- a. Includes Afghanistan, Bhutan, Burma, Ceylon, India, Nepal, Pakistan, Brunei, Cambodia, Taiwan, Hong Kong, Indonesia, Korea, Laos, Malaysia, Philippines, Ryukyu, Singapore, Thailand, Vietnam, French Polynesia, and Papua.

As shown in Table 3 a highly significant statistical association exists between the stock of private investment per capita and GNP per capita for the entire sample of LDCs as well as for each sub-sample. However, there are two major difficulties in interpreting evidence of this kind. The first arises because foreign investment may simply be displacing local savings. Although the evidence available from a number of other studies (e.g., by Griffin, Weisskopf) suggests that this happens to some degree, it also suggests that foreign capital inflows nevertheless add to the total stock of capital. A more serious difficulty is that the association between the stock or flow of private investment and GNP per head reflects a two-way relationship which makes it difficult to sort out cause and effect relationships. Among the important determinants of investment flows identified by the present study, as well as by other studies, is the size and growth of the host country market. On the other hand, a large or growing stock of capital might be expected to be associated with a larger or growing GNP per head. This two-way relationship makes it difficult to interpret not only the simple correlations given in Table 3, but also the results of more elaborate estimates made by others in which this two-way relationship is not taken into account.

In order to gain further insight into this relationship two additional steps were taken, both of them quite unsophisticated. The first was to consider the association between the stock of private direct investment, on the one hand, and exports, imports, and the trade balance, on the other. The results are shown in Table 4. Both exports and imports per head are positively and significantly associated with the per capita stock of investment for the total sample and the various sub-groups. But the trade balance picture appears mixed. No association is evident in the aggregate. A strong negative association is evident, however, for Latin America and for countries where non-extractive industries are dominant. For Africa and countries where extractive industries are dominant a strong positive association is apparent. A weak association is indicated for Asia.

The second step was to examine time series evidence for a much more limited set of countries to see whether the lead-lag relationships between investment and GNP and trade flows might indicate something about causal relationships. The estimates are presented in Table 5. Generally speaking, they are not very conclusive. There is some suggestion that capital flows lag behind GNP and lead exports; the picture for imports is highly ambiguous.

Although these and similar estimates are of some interest, they would appear to be little more than descriptive, demonstrating very little about the effects of direct investment on host countries. To sort out these relationships requires a very complicated model which is well beyond the data resources now available. In a companion study Professor H. C. Bos and some colleagues at the Netherlands Economic Institute, have attempted to develop such a model. Not only did they run

TABLE 4. STATISTICAL ASSOCIATION BETWEEN THE STOCK OF DIRECT
PRIVATE FOREIGN INVESTMENT AND FOREIGN TRADE

	<u>n</u>	<u>r(X/N, K/N)</u>	<u>r(M/N, K/N)</u>	<u>r(X/N - M/N, K/N)</u>
All areas	95	0.62	0.65	-0.10 ^a
Latin America	26	0.57	0.70	-0.91
Africa, south of Sahara	31	0.89	0.81	0.83
Middle East and North Africa	13	0.99	0.95	0.98
Asia ^c	19	0.82	0.60	-0.28 ^a
Extractive countries	26	0.85	0.56	0.41 ^b
Non-extractive countries	69	0.57	0.70	-0.69

SOURCE: Reuber, *op. cit.*, Appendices A, E.

NOTATION: X/N = exports per capita in 1968; M/N = imports per capita in 1968; otherwise the same as in Table 3. All estimates are significant at the 1 percent level unless otherwise indicated.

a. not significant at the 5 percent level.

b. not significant at the 1 percent level but significant at the 5 percent level.

c. See Table 3, note a.

TABLE 5. LEAD - LAG RELATIONSHIPS
(simple correlation coefficients)

<u>n</u>	<u>Capital Flows Leading</u>		<u>Capital Flows Lagging</u>	
	<u>Variables</u>	<u>r</u>	<u>Variables</u>	<u>r</u>
11	(GDP/N ₆₅₉ , US _m K/N ₆₁₅)	.71	(GDP/N ₆₁₅ , US _m K/N ₆₅₉)	<u>.79</u>
27	(GDP/N ₆₅₉ , PFI/N ₆₁₅)	.38	(GDP/N ₆₁₅ , PFI/N ₆₅₉)	<u>.61</u>
22	(GDP/N ₆₁₅ , PFI/N ₅₇₁)	.50	(insufficient observations)	
11	(X/N ₆₈₉ , US _m K/N ₆₅₈)	<u>.63</u>	(X/N ₆₅₈ , US _m K/N ₆₈₉)	.53
11	(X/N ₆₅₉ , US _m K/N ₆₁₅)	<u>.70</u>	(X/N ₆₁₅ , US _m K/N ₆₅₉)	.59
27	(X/N ₆₈₉ , PFI/N ₆₅₈)	<u>.60</u>	(X/N ₆₅₈ , PFI/N ₆₈₉)	.33
29	(X/N ₆₅₉ , PFI/N ₆₁₅)	-.02	(X/N ₆₁₅ , PFI/N ₆₅₉)	<u>.40</u>
28	(M/N ₆₈₉ , PFI/N ₆₅₈)	<u>.80</u>	(M/N ₆₅₉ , PFI/N ₆₈₉)	.48
29	(M/N ₆₅₉ , PFI/N ₆₁₅)	.60	(M/N ₆₁₅ , PFI/N ₆₅₉)	<u>.70</u>
21	(M/N ₆₁₅ , PFI/N ₅₇₁)	<u>.45</u>	(M/N ₅₇₁ , PFI/N ₆₁₅)	.33
11	(M/N ₆₈₉ , US _m K/N ₆₅₈)	.65	(M/N ₆₅₈ , US _m K/N ₆₈₉)	<u>.77</u>
11	(M/N ₆₅₉ , US _m K/N ₆₁₅)	.48	(M/N ₆₁₅ , US _m K/N ₆₅₉)	<u>.77</u>

NOTATION: GDP/N = gross domestic product per capita; PFI/N = total private foreign investment inflows per capita; US_mK/N = value of the stock of US direct investment in manufacturing per capita; X/N = value of host-country exports per capita; M/N = value of host-country imports per capita; subscripts identify years over which the value of the variable is averaged (e.g., 629 = average from 1962 to 1969); n = number of countries in the cross-section sample. The higher of the leading or lagging coefficients is underlined.

into enormous data problems, but they were also confronted with the major difficulty of taking into account a variety of micro-effects of foreign investment in a macro-model.

EFFECTS OF FOREIGN OWNERSHIP

Returning to the question of the effects of the type of foreign investment on host countries, the figures shown in Table 6 attempt to identify the effect of the degree of foreign ownership and the export share of output in our sample projects on selected indicators of business practice. Consider first the effect of the type of investment. In general the higher the share of exports: (1) the lower the percentage of the current workforce made up by local personnel, (2) the larger the increase in imports of all kinds from the parent firm, (3) the more of the initial financing, particularly in the form of debt, brought from abroad, (4) the greater the share of sales to countries other than the home country, (5) the smaller the share of inputs purchased locally and the larger the share purchased from the home country, and (6) the lower the relative cost of production.

Some additional evidence, which does not lend itself very readily to regression analysis, was also obtained on the effect of the type of investment on the transfer and adaptation of technology and skills. This is a very complex issue theoretically as well as empirically. In any event, our figures suggest that technology was adapted more frequently in projects geared to local markets as were product design and production techniques. The main reason appears to have been the need to scale down plant and equipment in the case of locally-oriented projects to the low volume of demand. There were relatively few cases of adaptation in response to low labor costs. To the extent that such cases occurred, they were more prevalent for export-oriented projects. Other important factors conditioning adaptations for locally-oriented projects were government regulations and the standards or quality of raw materials and components purchased locally under mandatory requirements.

Apart from indicating some of the differences in the characteristics of different types of investment, the evidence suggests a number of policy implications that may be worth noting. First, it suggests that general policies which treat all investment in more or less the same fashion may have important differential effects. For example, policies that insist on majority ownership seem likely to discriminate against vertical-type export-oriented investment in favor of horizontal-type locally-oriented investment. Secondly, given the role of the size of the market, it is evident that for a large majority of LDCs, horizontal-type investment in many industries is not very practical. In this connection it is noteworthy that in 1969 the GNP of only four LDCs -- India,

TABLE 6. ESTIMATES OF THE EFFECT OF THE DEGREE OF FOREIGN OWNERSHIP AND
THE EXPORT SHARE OF OUTPUT IN SAMPLE PROJECTS ON SELECTED INDICATORS OF BUSINESS PRACTICE

$y_i = a + bO_i + cS_i$						
Equation number	<u>n</u>	<u>y_i = indicator of business practice</u>	<u>O_i = current % ownership held by investing firm</u>	<u>S_i = export % of output</u>	<u>a</u>	<u>R²</u>
			<u>b</u>	<u>c</u>		
1. % of current workforce made up of local employees:						
a	64	production workers	0.02 † (0.96)	-5.29 ‡ (3.32)	98.69	.15
b	65	foremen & supervisors	0.03 (0.44)	-9.51 †† (1.91)	94.39	.06
c	64	clerical & accounting	0.05 † (1.01)	-10.22 ‡ (2.72)	95.38	.11
d	53	sales & marketing	-0.11 † (0.83)	-68.14 ‡ (5.65)	102.18	.40
e	60	management	-0.08 (0.58)	-16.62 † (1.57)	79.22	.06
f	60	management	-0.13 (0.91)	n.i.	78.79	.01
g	58	total workforce	0.0002 (0.006)	-6.35 ‡ (2.70)	98.74	.12
h	58	total workforce	-0.02 (0.65)	n.i.	98.70	.007

TABLE 6.
(contd.)

Equation number	<u>n</u>	<u>y_i = indicator of business practice</u>	<u>O_i = current % ownership held by investing firm</u>	<u>S_i = export % of output</u>	<u>a</u>	<u>R²</u>
2. Change in exports of the investing firm to the ^b host country (\$ million): ^c						
a	64	same product line	-0.01 †† (1.79)	0.91 † (1.65)	0.24	.07
b	63	raw materials & supplies	0.03 † (1.54)	n.i.	0.02	.04
c	62	complementary finished goods	-0.60 † (0.93)	-15.33 (0.35)	61.88	.02
3. Change in imports of the investing firm from the host country (\$ million):						
a	59	same product line	0.003 (0.67)	1.21 ‡ (3.52)	-0.16	.22
b	59	same product line	0.009 †† (1.73)	n.i.	-0.25	.05
c	59	raw materials & supplies	0.01 † (1.05)	1.61 ‡ (2.52)	-0.71	.15
d	59	raw materials & supplies	0.02 †† (1.88)	n.i.	-0.83	.06

TABLE 6.
(contd.)

Equation number	<u>n</u>	y_i = indicator of business practice	O_i = current % ownership held by investing firm	S_i = export % of output	<u>a</u>	<u>R²</u>
			<u>b</u>	<u>c</u>		
4. Form of earnings (% of total earnings):						
a	57	dividends	-0.08 (0.53)	-1.33 (0.12)	29.32	.006
b	54	royalties	-0.07 † (1.09)	-4.81 † (0.98)	12.06	.05
c	51	fees	-0.07 † (1.18)	-3.60 † (0.86)	8.67	.06
d	51	fees	-0.08 † (1.44)	n.i.	8.78	.04
e	52	profit on sale of related materials	0.04 (0.43)	2.84 (0.43)	4.12	.01
f	54	reinvested earnings	0.10 (0.54)	-17.86 † (1.34)	39.84	.03
5. Source of initial capital invested (% of total capital)						
a	64	equity from abroad	0.50 ‡ (4.03)	-1.44 (0.15)	3.27	.22
b	61	debt from abroad	-0.11 † (0.96)	30.34 ‡ (3.46)	23.65	.17

TABLE 6.
(contd.)

Equation number	<u>n</u>	<u>y_i = indicator of business practice</u>	<u>O_i = current % ownership held by investing firm</u>	<u>S_i = export % of output</u>	<u>a</u>	<u>R²</u>
			<u>b</u>	<u>c</u>		
c	61	debt & equity from abroad	0.41 ‡ (3.40)	28.21 ‡ (3.21)	26.55	.33
d	61	debt & equity from abroad	0.49 ‡‡ (3.96)	n.i.	26.56	.21
e	64	equity from LDC	-0.26 ‡ (2.45)	-15.25 †† (1.92)	42.54	.17
f	61	debt from LDC	-0.16 † (1.46)	-13.06 † (1.65)	32.01	.10
6. Distribution of project sales (% of total):						
a	75	other LDCs	-0.09 † (1.61)	6.47 † (1.63)	9.80	.05
b	73	developed countries other than home country of investor	-0.04 † (1.03)	6.10 ‡‡ (2.03)	3.08	.06
7. Distribution of purchases of goods and services (% of total):						
a	70	indigenous local firms	-0.30 ‡‡ (2.03)	-28.58 ‡ (2.76)	66.87	.18

TABLE 6.
(contd.)

Equation number	<u>n</u>	<u>y_i</u> = indicator of business practice	<u>O_i</u> = current % ownership held by investing firm	<u>S_i</u> = export % of output	<u>a</u>	<u>R²</u>
			<u>b</u>	<u>c</u>		
b	64	locally based foreign subsidiaries	0.04 (0.42)	-6.21 † (0.98)	6.81	.02
c	68	parent company	0.20 † (1.14)	30.64 ‡ (2.45)	18.01	.12
d	66	parent company suppliers	-0.09 † (1.04)	-1.17 (0.19)	12.72	.02
e	68	other	0.09 † (1.41)	-9.91 †† (1.98)	2.08	.07
8. Number of local businesses brought into being because of project:						
a	17	distributors & sales agents	0.13 † (0.82)	-11.92 † (1.39)	3.33	.17
b	13	suppliers	-0.16 (0.26)	-15.33 (0.39)	44.11	.03
9. a	37	training cost incurred to install corporate systems (\$1000s)	1.98 (0.49)	481.10 †† (1.83)	-27.54	.12
b	37	training cost incurred to install corporate systems (\$1000s)	4.60 (1.17)	n.i.	-76.16	.04

TABLE 6.
(contd.)

<u>Equation number</u>	<u>n</u>	<u>y_i = indicator of business practice</u>	<u>O_i = current % ownership held by investing firm</u>	<u>S_i = export % of output</u>	<u>a</u>	<u>R²</u>
			<u>b</u>	<u>c</u>		
10. a	42	cost of production in home country/cost of production in LDC (index)	0.28 † (1.09)	81.80 †† (5.21)	45.44	.51
b	42	cost of production in home country/cost of production in LDC (index)	0.87 (2.94)	n.i.	25.54	.18

‡, ††, ††, † indicate coefficients statistically significant at above 2, 5, 10, 50 percent levels respectively.

Brazil, Mexico, and Argentina -- was larger than that of Denmark; in only a dozen countries was it half as large. Most LDCs wishing to attract foreign investment in industries that are capital-intensive will have to think in terms of export-oriented vertical-type investments unless, of course, they are prepared to pay whatever subsidy may be necessary to meet the supply price of capital. This latter policy, as already emphasized, may well cost more than the benefits are worth. On the other hand, if such countries wish to attract vertical-type investments, it may be necessary to accept some of the characteristics typical of such investments -- e.g., relatively high levels of foreign control and a relatively weak bargaining position *vis-a-vis* the foreign investor. Moreover, this is the type of investment where problems such as profit transfers via pricing policies become especially important and may require substantially different policies than those pursued in the past. For example, instead of trying, usually ineffectively, to cope with this problem by better tax administration, it may be much more effective simply to negotiate a tax rate based on the capital invested.

Thirdly, in many of the cases of investment related to export markets the notion of alternatives to foreign direct investment is difficult to contemplate. It is sometimes suggested that the various components of the package of foreign investment might be unscrambled and that the LDCs might purchase only those portions they are lacking. But in the case of vertically-integrated export-oriented investment this does not seem to be a practical option for many LDCs in many types of industries. Indeed, even in horizontal-type investment it is questionable whether the various components can be obtained more cheaply and as effectively on a fragmented basis as on a packaged basis.

Finally, if it is correct that policies in many LDCs in recent years have been shifting somewhat away from self-sufficiency and toward a greater emphasis on international trade, there may also be a corresponding shift in the relative importance, potentially at least, of vertical versus horizontal types of investment -- and all that that implies.

Another question to be considered here is the effect of foreign ownership on business practice or policy in host countries. Foreign control lies at the heart of much of the concern about direct investment. If it could be demonstrated that business policies and practices are the same irrespective of whether control rests in the hands of local or foreign investors, much of the concern about foreign investment would be substantially different -- though other concerns, of course, would remain. The issue of foreign control is manifest in a variety of ways including demands for local equity participation, local representation on Boards of Directors, and so forth.

It is also apparent from a wide range of evidence that investing firms, whatever their nationality, generally have a fairly strong preference for wholly-owned or at least partially-owned subsidiaries.

This preference is based upon a desire to avoid conflicts with local partners because of differences in attitudes, objectives, and the circumstances confronting foreign and local investors. Given this manifest preference for control and the ample opportunities to exercise it (not only in other foreign countries but in the home economy as well), it seems very likely that attempts to restrict foreign control will have a considerable impact on the flow of foreign investment in the manufacturing sector or will induce a wide range of compensatory concessions for the investors which overcome his preference. Moreover, when forced to divest, foreign investors may be able to set a price which capitalizes much of the return they will forego as a result of local participation -- a point emphasized in a recent unpublished paper by T. Horst. Finally, the key question for local owners once they are installed is not whether the global profits of the firm should be maximized but rather what share of global profits should be ceded to the minority interests of the subsidiary -- that is, how much tribute can they collect.

The figures shown in Table 6 attempt to identify the effect of the degree of foreign ownership on selected indicators of business practice given the effect of the export share of output. What do the estimates show?

(1) The evidence provides little or no reason for believing that the percentage of the work force made up of local personnel is significantly influenced by the degree of foreign ownership. Those instances where there is some suggestion that it may be a factor can be largely discounted since there is very little variation in the variables which stand close to 100 for all investments.

(2) There is some evidence that the change in exports from the investing firm to the LDC as a result of these projects was significantly associated with the degree of foreign ownership -- negatively in the case of the same product line and complementary finished goods and positively in the case of raw materials. On the import side there is some suggestion of a positive association. But all of these associations are weak and highly uncertain.

(3) The form in which earnings are received by investing firms also seems to be unaffected by the degree of foreign ownership with the possible exception of fees and royalties. The figures suggest that the greater the degree of foreign ownership the lower the share of earnings taken in the form of fees and royalties. These relationships are marginally significant.

(4) The evidence indicates that the higher the degree of foreign ownership the greater the percentage of initial financing drawn from abroad.

(5) Although the relationships are very weak, there is some indi-

cation that the higher the degree of foreign ownership the lower the percentage of sales made in foreign countries other than the home country.

(6) The percentage of foreign ownership is negatively and significantly related to the percentage of purchases made from indigenous local firms and perhaps also to the greater share of purchases made from the parent firm.

(7) Little or no relationship is evident between the degree of foreign ownership and the number of new local businesses being brought into existence to training costs.

(8) There is some evidence that the greater the degree of foreign ownership the more competitive by international standards are production costs.

The procedure followed distinguishes export-oriented and locally-oriented projects on the basis of S_i . However, one may question whether this is the most appropriate procedure given the bimodal distribution of our sample projects between these two categories. As a check on the estimates, the relationships were rerun replacing S_i by T_i , a dummy variable with the value 0 when the export share was 10 percent or less and 1 when it exceeded 10 percent. In most cases the degree of statistical significance coincides closely with those shown in Table 6 though it is generally marginally higher. The main exception relates to equation 10(a) pertaining to the relative production costs. The alternative estimate shows a stronger relationship between production costs and foreign ownership.

$$RC_i = 31.6 + 0.53 O_i + 56.39 T_i$$

(2.48)

(4.44)

$$R^2 = .43$$

$$n = 45$$

In summary, one may say that differences in the degree of foreign ownership do not seem to be very significantly associated with the performance characteristics of affiliates in host countries. There is some evidence that a larger degree of ownership is associated with (1) an inflow of more capital from abroad, (2) a smaller share of purchases from indigenous firms, and (3) lower production costs. Even these relationships are not very robust. Moreover, these and the other marginal effects, to the extent that they exist, seem on balance about as likely to be to the advantage as to the disadvantage of host countries.

In conclusion, the evidence suggests that policies that give primary attention to questions of ownership and control and alternative ways of doing the same thing may be largely misplaced, at least for many LDCs.

A more rewarding strategy may be to allow foreign investment to proceed largely unfettered into those areas where it is viable by international standards and to make sure that the LDCs obtain their share of the earnings. However, this poses a serious policy question, in that competition for such investment by the LDCs may erode the benefits they obtain.

APPENDIX

*DISTRIBUTION OF SAMPLE PROJECTS BY TYPE OF INVESTMENT,
HOME COUNTRY OF INVESTOR, HOST-COUNTRY AREAS, AND ENTRY STATUS*

<u>Home Country of Investor</u>	<u>Export-^a oriented</u>	<u>Market-^b development</u>	<u>Government-^c initiated</u>	<u>Total</u>
Europe	5	18	11	34
North America	13	9	5	27
Japan	8	5	6	19
<u>Host Country Areas</u>				
Latin America ^d	6	14	8	28
India	2	6	5	13
Far East ^e	12	6	2	20
Other ^f	6	6	7	19
<u>Entry Status</u>				
Green field investments	24	20	20	64
Expansion investments	<u>2</u>	<u>12</u>	<u>2</u>	<u>16</u>
<u>Total</u>	<u>26</u>	<u>32</u>	<u>22</u>	<u>80</u>

- a. Over 10 percent of the project's output is exported.
- b. Project undertaken at the investor's initiative with the primary motivation of achieving greater penetration of host country markets.
- c. Project initiated by LDC government directly.
- d. Argentina, Colombia, Brazil, Chile, Costa Rica, El Salvador, Mexico, and Venezuela
- e. Hong Kong, Indonesia, Korea, Taiwan, Malaysia, Thailand, and Singapore
- f. Cameroon, Ethiopia, Iran, Jamaica, Ghana, Greece, Kenya, Madagascar, Mauritania, Nigeria, Sierra Leone, Tanzania, Turkey, and Uganda