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FOREIGN INVESTORS FROM SMALL COUNTRIES: A PHILIPPINE CASE STUDY

by

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Abstract

Much of the literature on direct foreign investment is implicitly or explicitly with reference to 'large investors', both in terms of the investor's home country or of the investing company itself. It is sometimes argued, however, that foreign investors from 'small' countries differ in several significant aspects - especially regarding product and technology adaptation, and the extent of control exerted by the parent company - with potentially important policy implications. This paper examines these issues with reference to a case study of Australian investment in Philippine manufacturing. Our findings suggest that these differences may be exaggerated, although there is reason to believe that these investors have less difficulty in 'scaling down' to a small, diversified market. A fruitful topic for future research may be in the expanding area of developing country investors.

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a low wage environment. Finally, in Section 6 our major conclusions are summarized.

2. The Survey: General Characteristics of the Firms[3]

There are approximately 80 firms in the Philippines with either an Australian equity or a licensing agreement with an Australian firm. Since our primary focus was direct investment in the manufacturing sector, firms with licensing agreements and investments in other sectors were excluded, leaving a total of approximately 30 firms. It was further decided to exclude, first, firms with less than 30 per cent Australian equity, because interviews with several such firms revealed that the Australian investor did not play an active role in their operation and, secondly, a number of small firms employing less than 10 workers. This left a total of 70 firms, 19 of which responded to our request for inclusion in the survey. A final point regarding the selection of firms: there are several multinational corporations organized on a regional basis and for which Australia is the headquarters of the regional (Asian/Pacific) operations.[4] In these cases the Australian office often plays a significant role in the management and production decisions of the company. However, they were not included in the survey unless the investment came from the Australian affiliate of the multinational. This is perhaps a fine distinction, but these firms are more akin to licensing arrangements, which were excluded from the survey.

Unlike American and some European investments, Australian investment in Philippine manufacturing is a recent phenomenon. All the firms

surveyed were established after 1970, and all but one after the declaration of Martial Law. There is a considerable diversity in terms of size. In 1981 sales averaged ₱67 million, ranging from ₱1 million to over ₱300 million; employment averaged 295 workers, ranging from 11 to over 1,000 employees.[5]

In more than half of the firms the Australian partner held a majority shareholding (Table 1, second column). In fact, nine of the firms were 100 per cent Australian-owned or virtually wholly-owned,[6] the granting of pioneer or export-oriented status enabling the usual 40 per cent maximum foreign ownership requirement to be waived. Among the remaining firms, the attitude towards the local partner varied considerably. Some saw local partners as desirable for the benefits they conferred: knowledge of local business requirements and market prospects, contacts in the government bureaucracy and elsewhere, management of labor relations problems, and the ability to own land and distribution networks (both of which are not permitted where firms are wholly foreign-owned). Other executives, however, expressed reservations about the usefulness of local partners, who in several cases played no active role in the firm's management. Overall, it is difficult to generalize regarding attitudes towards local partners and joint venture arrangements. There is certainly not the strong preference for joint ventures which Japanese investors reveal.

A profile of the Australian investors indicates that foreign investment is of significant but not major proportions (Table 1, first column). Only two of the firms are 100 per cent foreign-owned, and just five have

a majority foreign equity. This would suggest that the notion of multinational firms using Australia as a 'springboard' for regional investment operations is of limited importance. It may be noted that the Australian investors generally possess other regional investments ('regional' here meaning Asia/Pacific). Only five firms did not have investments elsewhere, four of which were unincorporated locally enterprises. As is generally the case, the foreign investors appear to be drawn from a fairly concentrated group of firms.

What have been the principal areas of investment and what are the main characteristics of these investments? The 19 firms are located in a wide range of activities - at the three-digit level of industrial classification a total of 12 industries. These range from relatively labor-intensive industries such as rubber footwear, garments and furniture-making (codes 356, 322 and 332 respectively) to iron and steel - based industries and industrial gases. Nevertheless, there is a substantial concentration in iron and steel and related industries (codes 369, 371, 372, 381, 382 and 385), which account for 11 of the investments. This concentration will be discussed further below. It may be noted here that the reference is corroborated by the fact that 'fabricated metal products' and 'other machine manufacturing' are among the major areas of Australian investment in Asia (Brewer et al., 1981), and that 'basic metal products' have traditionally accounted a disproportionately large share of Philippine imports from Australia (Bureau of Industry Economics, 1978).

Much of the foreign investment literature postulates that foreign investors tend to locate in oligopolistic industries characterized by

'high technology' and capital-intensive production technologies, in order to overcome their comparative disadvantages arising out of a lack of local knowledge and additional costs of production. At a general level our findings support such a postulate, although it is not easy to provide solid empirical verification for it.

First, Table 2 presents a rough estimate of the market share (local production plus imports) of the firms. In all but two cases, firms producing for the local market command a significant proportion of total sales: one-third of the firms control more than 60 per cent of the market, and more than one-half between 40 and 60 per cent of the market. Thus the great majority of firms possess a substantial degree of market power.[7] Estimates of this sort, of course, are necessarily approximate. They are based on information supplied by the firms, and for narrowly-defined products for which close substitutes may exist. But there is no reason to presume that firms would overstate their market shares; if anything the reverse may apply.

It is more difficult to reach any conclusion regarding the nature of the industries. Except for the obvious labor-intensive activities (garments, etc.), most respondents argued that their industries were 'moderately high' to 'high' technology fields. The problem is to devise an objective measure for ranking industries. Generally, 'high' technology, capital-intensive industries will be those in which (i) the capital-labor ratio will be high, (ii) labor productivity (value added per unit of labor) is high, and (iii) labor costs as a percentage of total costs will be low. There are obvious shortcoming in all three measures: (i) because

the Census of Establishments measures capital at book value, (ii) for industries with a high labor input which are nevertheless highly skill-intensive, and (iii) in cases with a high labor input but in which materials are used intensively. Moreover, the Census data provide information at the highly aggregated three-digit level, thus concealing intra-industry variations. Thus it is impossible to obtain independent verification of the respondents' assessment of the nature of their respective industries. For what it is worth, however, the 30 industry classifications in the 1978 Census were ranked according to their degree of technological sophistication and capital intensity, using a composite index consisting of the three measures just cited. The ranking of the industries in which Australian investments are present is given in Table 3. There is a fairly high correlation in ranking between the three measures suggesting that, taken together, they provide a reasonably accurate estimate of ranking at the three-digit level. Table 3 suggests that Australian firms mostly locate in relatively labor-intensive industries. But, as noted, the data are too aggregated to permit any firm generalization.

A final general characteristic of firms concerns their destination of output (Table 4). This will be discussed in more detail in the analysis of motives for investment (Section 3). Broadly speaking, the firms may be grouped into three main categories: first, seven firms primarily import substituting in nature, whose exports are either nil or negligible; secondly, four firms exporting virtually their entire output (for a further three firms exports constituted between 70 and 95 per cent of their output); and the remaining seven firms servicing both markets. On an

unweighted average basis, the domestic market constitutes by far the largest proportion of sales, followed by other developed countries. Sales to other developing countries are relatively unimportant, with only two firms selling more than half their output to this market. However, a number of firms voiced optimism about the prospect of increased sales to other ASEAN markets when and if complementation programs and the ASEAN Preferential Trade Agreement are firmly established. Similarly, the Australian market is relatively unimportant, suggesting that fears in Australia about firms going 'off-shore' to low cost countries may be exaggerated. Several firms cited Australia's protectionist policies as a major impediment to the market (Section 4).

As might be expected, there exists a strong correlation between the degree of labor intensity and the percentage of exports in total sales. All four primarily export-oriented firms were among the least capital-intensive according to the ranking in Table 3. The other three firms 'partially exported-oriented' had a similar ranking.

3. Motives for Investment

The purpose of this section of the survey was to investigate the main motives for Australian companies investing in the Philippines. Executives were asked to rank a range of motivating factors according to their degree of importance (results are summarized in Table 5). Several preliminary points may be made regarding the data. First, attitudinal surveys of this type necessarily have a subjective element. Executives within a given firm may disagree on the numerical importance to be

assigned to a certain factor. In overall terms, however, we are confident that the ranking of motives is reasonably accurate. Secondly, our main concern is with the firm's original motivation. In some cases, the nature of the firm's operations was considerably different from that initially envisaged, even though the motive remains substantially unaltered. Thirdly, although in many cases performance indicated little systematic planning and forethought, only two of the investors had no prior contact with the Philippines: 12 were exporting prior to their investment, two were importing, three had licensing agreements with Philippine firms, and in two cases individuals had been living in the country. This confirms the findings of other studies (for example, Lindsey, 1981, P. 9) that foreign investors seldom enter a country without some knowledge of market potential and operating conditions. Finally, in discussing motives it is useful to distinguish between three categories of investors. These are: (i) Export-oriented, labor-intensive, essentially 'footloose' investors, whose primary aim is to locate in the cheapest or most advantageous (for example, from the point of view of quotas) country. Here, the relevant comparison is between the Philippines and other countries in the region. (ii) Import-substituting projects, for which domestic market access is the main consideration. In this case, the choice is between exports, a licensing agreement with a local firm, or direct investment. (iii) Individuals and unincorporated firms, which may come under either (i) or (ii), but for whom the decision to invest (and therefore the motives) is less systematically planned, and for which strictly 'economic' motives may be less important.

Respondents were asked to assess the importance of the first eight factors listed in Table 5. The last two were not enumerated in the questionnaire, but they were cited so frequently in the 'other factors' section that they are included here. The significance of each factor will be discussed briefly, followed by a summary analysis.

1. Access to market: This was a factor of some significance for all except the export-oriented firms. Philippine tariffs are second only to Indonesia in ASEAN and a range of non-tariff barriers is also present. Several firms cited this as an important factor, although it is likely to become less important as the current industrial restructuring program continues. Four firms stated that a more important factor requiring a local presence is the government's local content programs in the automotive industry. All firms assigning a '3' or higher were previously exporting to the Philippines. A combination of market prospects (factor 9), high tariffs, localization programs and long delays in exporting was an important factor influencing the decision to invest.

5. Philippine government incentives: By contrast, government incentives were a relatively unimportant factor. Those mentioned included the facilities of the Export Processing Zones and bonded warehouses, the possibility of 100 per cent foreign ownership in certain circumstances, and protection they expected to receive from the BOI's 'overcrowded' and 'measured capacity' provisions. Although they provided an initial inducement to invest, in their subsequent operations all firms were critical of a range of government regulations and procedures. Almost

invariably, surveys have found that incentives are not a major factor in the investment decision (Lindsey (1981, P. 12) reports a similar finding). There is little doubt that most foreign investors in the Philippines are more concerned about the underdeveloped state of infrastructure, possible political instability and the maze of government regulations. A strong case for a re-evaluation of incentives policy would seem warranted, on this ground alone.

2. Locally available raw materials or intermediate inputs: All but two firms were, to use Caves' (1971) distinction, examples of 'horizontal investments' (producing the same good in different markets), rather than 'vertical investments' (producing inputs for the home market). The two exceptions were a furniture maker and a producer of aluminium products.[8]

4. High international transport costs: This was a factor for certain products not easily transported, or expensive if transported in their assembled form. It was also cited by some firms aiming to penetrate the regional market, but this is less relevant because other locations would better serve such a purpose.

5. Nature of product renders exports not feasible: This was an important consideration only for firms whose business involved producing a product to the purchaser's unique specifications, or where production and service facilities were inextricably intertwined.

7. Reluctant to share technology through a licensing agreement: This, also, was unimportant in most cases. The issue of licensing v/s investment was not explored at length. But it was apparent from

discussions that in most cases there were no 'secret' techniques or formulations which precluded licensing. Rather, direct investment was seen as a means of securing closer control over the firm's operations.

3. Low cost of labor: This emerged as the most important overall factor in the decision to invest, with almost half the firms viewing it as of 'extreme importance'. The attraction is obvious for labor-intensive, exporting firms. But is also acted as an inducement to primarily import-substituting firms who entertained prospects of later developing exports. There is, of course, a difference between low wage rates and low labor costs. Moreover, there is evidence to suggest that real wages in the Philippines rose after the mid 1970s (when several of the labor-intensive firms were established), after declining in the early 1970s. For these two reasons, several executives maintained that, in hindsight, the decision to locate in the Philippines because of cheap labor may have been mistaken.

8. Using the Philippines as a base for exports: This factor was usually linked to the labor motive. In addition, a number of firms mentioned access to developed country markets (particularly the 'special relationship' thought to exist between the Philippines and the USA) and, potentially, to the ASEAN market.

Other: Factors 9 and 10, while not initially listed, were mentioned so frequently that they are recorded in Table 5. 'Growth of market potential' is a general, all-embracing factor encompassing several other factors. But in a surprising number of cases, the motive for

investment was similarly general in nature: an awareness of the region's rapid growth in comparison to Australia (although in the 1970s the Philippines' growth was the slowest in ASEAN - but respectable by international standards), belief in the market potential of '50 million consumers', and a vague notion that a physical presence in the region was necessary to participate in this growth. Having made the decision to invest in the region, the last set of factors (number 10) was apparently of considerable importance to more than half the firms. Apart from language, these considerations included a belief that legal and commercial procedures, derived in theory from the USA, would be familiar in general terms, and that the American military presence provided a safeguard for foreign business interests. Here also, several executives believed that these original expectations may have been misplaced. The advice of the influential consulting firm SGV, may also be mentioned, both in the decision on whether to locate in the region and, if so, in choosing the Philippines over other countries.

Summing up, two sets of factors appear to have been most important, and each set usually attracted different types of firms. The first set relates to domestic market considerations. Here factors 1 and 9 were the most important, at a general level, with factors 4 and 6 also relevant for specific firms. The second set applies to export-oriented firms, and for these, factors 3 and 8 were of the greatest importance. It is not easy to integrate these rather disparate group of factors into a single theory on the

determinants of foreign investment. But they are incorporated in Dunning's (1979) 'eclectic approach' to the theory of foreign investment which, in our view, provides the most comprehensive summary description of motives.

It might be noted that the questionnaire did not list as a possible motive a higher rate of return in the Philippines. Although the industrial economics literature emphasizes this as a key factor, and Tanchoco-Subido's (1975) econometric work on the determinants of foreign investment in the Philippines supports this view, for several well-known reasons it is difficult to empirically verify this motive in survey work.[9] In fact, a later question specifically asked respondents to compare rates of return in the Philippines with (a) their Australian and (b) their regional operations. In the majority of cases Philippine rates were the lowest. But putting aside measurement problems and the fact the survey was undertaken during a severe recession in the Philippines, this gives no indication of the expected return, which is the relevant factor as far as the motive to invest is concerned.

Is it possible to reach any conclusion on the general characteristics of Australian foreign investments on the basis of our study? Much has been written on the 'typical characteristics' of Japanese and American investments in the context of the investors' motives. Japanese firms, it is argued, see foreign investment as a means of achieving resource supply security, as a means of relocating

labor-intensive industries to low-cost production areas and, more recently and in some instances, as a means of pollution abatement. By contrast, it is maintained that the primary motivation for American investment has been to secure rents through investing in high technology, oligopolistic industries.[10]

These motives for investment would appear to be less relevant for Australian firms. As a resource rich country it does not have the 'supply security' motive for investment, as our survey illustrates. The 'high technology' motive is also less applicable because, at least until recently, Australia has been an importer of foreign technology. In labor-intensive industries for which high international transportation costs are not an inhibiting factor, Australia's high wages might be thought to provide an inducement for firms to invest in low-wage regional countries. But Australia's high tariffs, its restrictive import quota policies, and the generally divisive debate on protection has inhibited extensive off-shore movement of firms in these industries.[11] In discussing whether a typical pattern of Australian foreign investment is emerging, it may be more fruitful to adopt a sectoral approach. There are several sectors in which significant Australian foreign investment is unlikely. First, the traditional labor-intensive industries, especially textiles, garments and footwear, for reasons already noted. Secondly, the automotive and appliance industries, which are increasingly a Japanese preserve. Thirdly, food industries where, at least in the Philippines (because

of the nature of consumer preferences for 'modern sector' food products), American firms are likely to be predominant. Fourthly, in chemical and related industries, where Japanese and American companies are the technological leaders. One of the few sectors remaining is iron and steel and related industries. Owing to Australia's resource base and the development of ancillary industries to service its agriculture and minerals sectors, this is one of the few areas in which Australian companies have developed a strong technological base and, therefore, in which its foreign investments are likely to be concentrated. This conclusion is necessarily tentative but, as already noted, much of its regional investments are in these areas.

4. Trade-Investment Interrelationships

There are potentially significant trade - investment interrelationships, both in the sense that they represent a sequential entry into a foreign market by a firm and, statistically, in the impact of foreign investment on bilateral trade between the home and host country. The interrelationship also raises important policy issues. Helleiner (1973) and others have argued that foreign investment may enhance developing country access to developed country markets. Others express reservations about this view, and also point to the high import-intensity of foreign investors' production (Lindsey (1981) provides some evidence on this for the Philippines).

There are also frequent allegations concerning export restrictions and import tie-ups imposed by the foreign investor's parent company. It is not possible to properly test these assertions on the basis of our limited survey, but a number of general observations may be made.

It was noted above that all but two of the firms represent examples of 'horizontal foreign investment', and so the magnitude of trade flows generated through vertically integrated international operations is minimal. It should also be noted that the impact of these investments on the overall volume of bilateral trade is rather limited because much of the trade is in products unrelated to their production activities. Finally, we are concerned with the direct impact on trade; there are a number of indirect influences (demonstration and other effects) which are very difficult to estimate.

Consider, first, the impact on Philippine exports to Australia. Exports under the auspices of the Australian investing firms were negligible in all cases prior to their investing in the Philippines. It was noted earlier that over half the firms are primarily import-substituting in nature, and that the Australian market constitutes only about 14 per cent of total sales (on an unweighted average basis). Sales averaged $67 million in 1981, suggesting that total exports to Australia as a result of the investments would be approximately

$$\frac{(.14)\ (67)\ (19)}{6} = \text{US } 22.3 \text{ million.}^{12}$$

To determine the net increase in exports to the Philippines, purchases prior to the investment have to be subtracted. However, these were generally insignificant, so the net increase is likely to be at least $15 million annually. Trade statistics for 1981 have not yet been released, but Philippine exports are likely to total about $100 million, so that the investment-related flows constitute about 15 per cent of the total.

The effect on Australian exports to the Philippines is more difficult to determine but, overall, it is likely to be negligible. More than half the investors were previously exporting to the Philippines, albeit in small volumes. The effect of the investment is to substitute export of intermediate inputs and raw materials for finished products. In several cases, small export volumes have been replaced by substantial exports of intermediate inputs (thus a net increase in exports), but the more general pattern has been for the Philippine company to source in third countries (particularly steel from Japan). Precise estimates are not available, but it is likely that these two trends may approximately counter-balance each other, in which case the overall effect on Australian exports is minimal. From the Philippine Government's point of view, given the persistent trade imbalance (in Australia's favour), this might be regarded as a desirable side effect of the investments, although of course the effect on the total trade flows is small. These trade estimates, approximate as they are, are certainly consistent with the

reduced relative trade imbalance between the two countries since the mid 1970s, when most of the investments occurred.

What of parent company restrictions on exports and sourcing of inputs? These are difficult to document - for example, does different product specialization as between the parent and the subsidiary, or giving the parent company first option to supply inputs at competitive prices constitute restrictive practices? Putting aside these definitional problems, our survey suggests that most companies had considerable freedom of decision-making.[13] For export-oriented companies neither type of restriction would appear to be plausible. For two of the largest import-substituting firms, the nature of the products (industrial gases and fiberglass) dictated predominantly local sourcing. Finally, for the iron and steel and related industries, where input sourcing restrictions might be expected to be important, our survey results indicate the contrary. In almost all cases the firms were free to source from the cheapest supplier, which was generally Japan. In several cases the parent firm arranged purchase orders, so as to achieve pecuniary economies of scale, but cost-minimization for the Philippine operation was the prime consideration. Our survey results do reveal a generally high level of import intensity for raw materials and intermediate inputs, but in many cases this is simply a reflection of the nature of the products. If it is a source of local criticism of the firms, in most cases such

criticism should properly be directed at the industries rather than the firms.

Foreign investment in developing countries is frequently regarded with suspicion in developed countries as a precursor of rapid import penetration, with important employment ramifications. (An alternative view, of course, would be to regard such investments more positively, in that they hasten the exit of industries in which the home country has a developing comparative disadvantage.) Evidence to support this argument is limited, as the trade estimates confirm. But to investigate this possibility further, our survey sought comparative cost data for the Philippine and Australian plants, comparing landed cost in Australia, excluding the tariffs. In some cases the comparison is not relevant because the Philippine firm specialized in more intricate products, requiring a greater labor input, and in the labor-intensive industries the Philippine cost advantage is obvious. But in a surprising number of cases, where the comparison was valid, the Philippine firm emerged as being no cheaper and in some cases more expensive. Several explanations were adduced for this finding: some costs in the Philippines are higher, notably energy and expenses related to inferior infrastructure and more complex government regulations; the generally smaller scale of operations in the Philippines (on which see Table 6) results in higher unit costs; international transportation costs are a

factor for certain products; and for some actitivities lower labor costs do not confer a decisive advantage because they represent a small proportion of total costs. This suggests that Australia's protectionist policies may be doubly harmful, both with regard to labor-intensive industries and in protecting other industries unnecessarily.

A final point may be made regarding aid-investment inter-relationships. It is sometimes alleged that foreign aid programs are developed in order to further the interests of investors from the donor country.[14] This raises important questions at the general level of bilateral economic and political relations. However, at the specific level of firm operations, no such tie-ups were evident in any case in our survey.

5. Choice of Technique and Technological Adaptation

How did the firms surveyed adapt their production operations in the transition from a high-wage economy to a low-wage, small market environment? Neo-classical economic theory suggests that, a priori, a lowering of the wage-interest ratio is likely to lead to the adoption of more labor-intensive techniques. However, several studies have concluded that foreign investors' choice of technique is largely unaffected by such a change.

Consider, first, the extent of the difference between the two economies. In 1981, hourly wage rates for semi-skilled production workers were at least 25 per cent greater than daily wages in the Philippines, suggesting a wage differential of about 10:1. However, allowance must be made for the lower labor productivity in the Philippines, and for the fact that the differential for skilled labor is certainly less. Taking these factors into account, there is nevertheless an enormous difference in relative labor costs. The second important difference concerns the scale of operations. Most of the firms in the Philippines operated at a considerably smaller volume of output as compared to a typical plant in Australia (Table 6). For 11 of the 18 firms for which the comparison is relevant, production volumes were less than one-third, and for five they were less than one-tenth.[15] There are other significant differences between the Australian and Philippine economies but, as we shall see, these two are by far the most important in influencing the selection of production techniques.

Firms were asked to compare the production technology in use in their Australian and Philippine plants. One possible means of comparison is by obtaining capital-labor ratios for each pair of plants (i.e., the Australian and Philippine plant). However, this approach is fraught with difficulties in making intra-country, let alone inter-country, comparisons. A more satisfactory

method is to adopt the 'process approach' which, even though it is not quantifiable, provides a basic description of the production techniques in use.[15] Additional supporting information was obtained through estimates of physical labor productivities in the respective plants.

The major conclusion to emerge from our study is that, subject to some qualifications, there is surprisingly little difference in production techniques between the two countries in most cases. This is revealed, first, in estimates of relative labor use (Table 7). Despite the very large wage differentials, in only four of the 18 firms is the labor input in the Philippine firm more than double that of Australia. For one-third of the firms, the difference is relatively insignificant.[17] However, even these figures overstate the difference in the labor input, for at least two reasons. First, the difference in part reflects the lower physical labor productivity in the Philippine plants, rather than differences in technology. Secondly, even though the products produced were similar in all but one case, there was greater emphasis in the Philippines on more intricate designs and patterns, which is reflected in a higher labor content.

To the extent that there are technology differences, what form do they generally take? There is no one single explanation, but it is useful to distinguish between what Ranis (1973) has

termed 'core' and 'periphery' production stages. The former refers to the central production process, while the latter refers to ancillary activities such as packaging, sorting and materials handling. Most firms reported some differences in the periphery areas, in activities for which manual labor is used in the Philippines but which are mechanized in Australia. These include the sorting of materials, polishing and painting jobs, internal transportation of materials (by hand or cart, rather than conveyor belt), cutting and stitching, and the manufacture of tooling requirements. These differences were generally substantial. They are not reflected in larger labor input differentials (Table 7) mainly because in most firms the core production process employs the majority of the labor force.

The second main area of difference relates to the use of older equipment in the Philippines, which is slower and less mechanized. In the case of several firms, investment in the Philippines coincided with a modernization of their Australian operations, and the old equipment was shipped to the Philippines. All the Australian investments are relatively recent, and over time the technology differences are likely to become greater because the pace of technological change will be faster in the Australian plants. In order to remain internationally competitive with other high wage countries, machinery in the Australian plants is being updated continually. But most firms in the Philippines

indicated that, unless real wages begin to increase rapidly (and there is not evidence to suggest that this will be the case), they do not envisage rapid modernization of their technology. Thus, part of the reason why the differences are minimal is because the Australian investments occurred only in the last few years. Over time the differences will become more substantial both because of the slower pace of technological change, and because greater familiarity with the production environment in the Philippines is likely to induce some capital-saving technological modifications.

Two further issues need to be examined in this section. First, to the extent that there are some differences in technique, what are the main causes? Secondly, why were the differences rather minimal at the time of the initial investment? Respondents were asked to rank several factors influencing their selection of technology according to their relative importance (Table 8). The question was not relevant to three firms: two firms maintained there were no technological differences in any phase of production, and in the case of one firm the product was not being produced in Australia. Lower wages and smaller market size are by far the most important reasons for any differences which are present. More than half the firms cited the latter as being of extreme importance, and fully 14 out of the 16 firms gave lower wage costs as a major factor. Lindsey (1981, p. 20) concluded from his survey that "scale rather than factor prices was of prime consideration

in the selection of equipment". Our survey certainly supports the first contention. The nature of the firms surveyed may partly explain the differences on the importance of factor prices. It needs to be emphasized again that for most firms the major differences occurred in peripheral operations.

The first factor (nature of product) was relevant in cases where firms were producing more intricately-designed products. Since the reason for such a product selection was cheaper labor, this factor is partly subsumed into the third factor (wage costs). The fourth and seventh factors (government regulations and political uncertainty) were not major influences. The former was generally only of significance in cases where firms could not obtain exemptions from duty on imported machinery. The latter was not listed in our questionnaire, but a few firms mentioned it as a factor inhibiting a larger capital investment. Similarly, the fifth and sixth factors, while significant for some firms, were not of major importance. Some respondents believed these factors encouraged greater labor intensity because of the greater manual dexterity of Filipino workers and because of the operators' and technicians' lack of experience with sophisticated equipment. No firms mentioned added difficulties of supervising a larger labor force - a factor which some studies have argued encourages the adoption of more capital-intensive techniques - as an important

consideration.

In response to the question asking why there were not more substantial differences in production techniques, most firms argued that alternative techniques were not available, or that considerations of quality and international competitiveness dictated such a choice. It is not possible to evaluate this response without a fuller knowledge of the industries concerned, but it does appear surprising in view of the accumulated evidence suggesting that for most industries a range of efficient techniques does exist (see White (1978) for a summary of the evidence). Most firms indicated that, prior to locating in the Philippines, a feasibility study was prepared, but this was generally restricted to commercial and marketing aspects, and the role of government policies. The Australian partner was usually responsible for the election of equipment. Despite most companies' general familiarity with the region, there were very few instances of firms considering the possibility of substantial technological adaptation to the new environment. The developing literature on the 'search costs' involved in the choice of technique [on which see for example Lecraw (1979)] may be a relevant explaining factor.

6. Summary and Conclusion

A number of conclusions emerge from our study, conclusions which are necessarily limited by the scope of our survey but which are generally consistent with other research in this field. There are good reasons why host countries might prefer a diversified group of investing countries, but it appears that the differences between 'small' and 'large' investors may have been overstated, at least in respect of developed country investors. Our survey suggests that the local companies were given greater freedom of decision-making power than might have been expected. One explanation for this may be that small foreign investors, who do not possess the globally - diversified operations of the larger firms, are less concerned with international intra-firm transactions.

The hypothesis that small investors operate as a kind of 'technological intermediary' between the large developed countries and small developing country markets is not supported by our research (Hughes (1967, 1977) reaches a broadly similar conclusion). In order to properly test this hypothesis it would be necessary to compare techniques and products of firms in Australia with those in other developed countries. Although the Australian market is small in comparison to these countries, the difference is less than that between Australia and the Philippines. Moreover, it is the larger Australian companies which are the major foreign investors, and these are sizeable operations by international

standards. Finally, the technological intermediary hypothesis assumes that 'large' investors are incapable of or reluctant to modify their operations when they invest in developing countries. But several Philippine case studies suggest that this is not necessarily correct.[18]

Footnotes

1. A useful compilation of summary statistics on foreign investment in ASEAN in the 1970s, by host country, home country and sector, is provided in Pangestu (1980).

2. The only systematic study of 'small country investors', to our knowledge, is the volume edited by Agmon and Kindleberger (1977). A prolific writer on developing country investors is Wells. See inter alia Wells (1977) and Wells and Warren (1979).

3. The survey was conducted in October - November 1981 and March - April 1982. In most cases there were two meetings for each firm, one to explain the nature of the survey and to distribute the questionnaire, and a second one to collect the completed questionnaire and to conduct a supplementary interview on the basis of it. The assistance of executives of the firms surveyed and of officials in the Australian Trade Commission, Manila, is gratefully acknowledged.

4. Ford Motor Corporation is the largest of these.

5. In both cases, the smaller firm was one which was just established at the beginning of 1981, and which was in the process of expansion. Data on the book value of investments were also obtained, but in an inflationary context such data are a poor indicator of relative size.

6. In three cases local partners held a nominal equity. These local partners possessed limited manufacturing capacity prior to the Australian firms' establishment, and the Australian investor co-opted the partner in order to forestall potential local criticism in being granted special status by the BOI.

7. Short (1977) in her study of Australian investment in Indonesian manufacturing found a similar tendency to locate in oligopolistic industries.

8. The latter, however, was a reverse case in that the motive was to secure an export market for the investor.

9. On this point, see Agarwal (1980, pp. 741-743). Lindsey and Valencia (1981) raise several questions regarding Tanchoco-Subido's formulation and testing procedures.

10. Sekiguchi and Krause (1980) provide an analysis and overview of the importance of these factors in ASEAN. Alburo (1981) discusses Japanese investment in the Philippines at a general level.

11. This is in marked contrast to the success with which Japanese companies have transplanted their operations to the region. On this, see the special issue of The Developing Economies 11(4), 1980, entitled "Changing Industrial Structure in International Perspective."

12. The calculations assume $US 1 = P8, approximately the exchange rate prevailing during 1981. Note again that the averages are unweighted. Weighted averages, not yet calculated, may result in a lower figure because several of the larger firms are mainly import-substituting.

13. This is contrary to the finding of Short's (1977) survey of Australian investors in Indonesia. There is no obvious explanation for the different results. Possible reasons may be the different industry mix, plus the fact that Australian steel prices may have been more competitive internationally at the time of Short's survey (in 1975).

14. This point has been raised with respect to Australia's involvement in the large integrated rural development project in Northern Samar. See Far Eastern Economic Review, 27 March 1981, p. 32.

15. The four firms of similar size were either unincorporated family enterprises or export-oriented firms.

16. Mason (1973), in a similar study to ours on US investment in the Philippines, provides a good summary discussion of the measurement and methodological issues involved.

17. These figures refer to production labor only. The difference would be much greater if the total labor forces were compared, because all firms reported requiring a larger relative number of employees in office and administrative sections and in ancillary areas such as security.

18. See, for example, the experience of Toyota in manufacturing cars in the Philippines, as reported in APO (1978).

Table 1. Percentage Equity in Surveyed Firms

Equity	Number of Firms	
	Foreign Equity in Australian Investing Companies	Australian Equity in Philippine Companies
< 30%	11[a]	[b]
30-60%	4	8
> 60%	4	11
Total	19	19

Notes: a includes 4 unincorporated firms.
b excluded from survey.

Table 2. Approximate Share of Philippine Market of Survey Firms

Market Share	Number of firms
> 60%	5
40-60%	8
< 40%	2
Not applicable (export only)	4
Total	19

Table 3. Ranking of Industries in which Australian Firms are Located

Code	Industry Group	Ranking[a]	Number of Australian Firms
3 1	Manufacture of Industrial Chemicals	3	1
3 1	Iron & Steel Basic Industries	8	1
3 4	Manufacture of Transport Equipment	8	2
3 2	Non-ferrous Metal Basic Industries	12	1
3 3	Manufacture of Electrical Machinery & Appliances	15	1
3 3	Leather and Hides and Products	18	1
3 3	Manufacture of Other Non-Metallic Minerals	18	1
3 1	Manufacture of Fabricated Metal Products, excluding Machinery and Equipment, and Furniture	20	5
3 5	Manufacture of Rubber Products	24	2
3 9	Other Manufactures	25	1
3 2	Manufacture of Furniture, excluding Metals	29	1
3 2	Wearing Apparel, excluding Footwear	30	2
	Total		19

Source: Computed from Philippines. NEDA (1980).

Note: a Industries are ranking from 'high' technology and capital intensity to 'low' technology and capital intensity (1→ 30). The lower the number, (i) the higher the capital-labor ratio, (ii) the higher the labor productivity, and (iii) the lower the percentage of labor costs in total costs.

Table 4. Destination of Output

Market	Percentage of Sales (by value)					
	<5	5-49	50-95	>95	Total	Average (unweighted percentage)
Philippines	4	3	5	7	19	54
Australia	11	6	2	0	19	14
Other Developed Country	11	4	3	1	19	21
Other Developing Country	14	3	2	0	19	11
T o t a l						100

Table 5. Factors Affecting Australian Investors' Decision to Invest in the Philippines.

Factors	Number of Firms					
	No Importance 0	1	2	3	4	Extreme Importance 5
1. Access to market (tariff, or other restriction or regulation).	5	1	3	3	4	3
2. Locally available raw materials or intermediate inputs.	14	3	1	0	1	0
3. Low cost of labor	1	0	4	2	3	9
4. High international transport costs.	6	3	3	5	1	1
5. Philippine Government incentives.	3	4	6	4	2	0
6. Nature of product renders exports not feasible (factors other than 1 and 4)	9	3	1	3	0	3
7. Reluctant to share technology through licensing agreement.	9	2	3	2	2	1
8. Using Philippines as base for export.	3	1	2	3	5	5
9. Growth of market potential.	5	1	0	4	4	5
10. English-speaking, 'familiar' economic and commercial environment.	3	2	3	6	4	1

Table 6. Philippine Output as a Percentage of Australian Plant (value of scale)

	Number of Firms
Similar	4
30 - 70%	3
10 - 30%	6
< 10%	5
Not applicable (none in Australia)	1
T o t a l	19

Table 7. Labor Use in Philippine and Australian Plants Compared (production labor only, for given volume of output)

Percentage additional labor in Philippine plant	Number of Firms
20 - <50	6
50 - <100	8
100 - <200	1
≥ 200	3
Not applicable (none in Australia)	1
T o t a l	19

Table 8. Factors Affecting Differences in Technology

	Number of Firms					
	No Importance 0	1	2	3	4	Extreme Importance 5
1. Product quality or nature of product.	0	1	2	2	3	0
2. Market size.	4	1	1	0	1	9
3. Wage costs.	0	0	1	1	5	8
4. Philippine government incentives and regulations.	10	1	3	2	0	0
5. Ability of Filipino production workers.	7	2	1	4	2	0
6. Ability of Filipino technicians and supervisors.	7	2	3	3	1	0
7. Perceived political uncertainty.	10	1	1	4	0	0

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