

## COMMODITIES, TECHNOLOGY, AND TRADE: TRANSNATIONAL CORPORATIONS AND PHILIPPINE ECONOMIC DEVELOPMENT

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This paper assesses the impact of TNC investment on Philippine manufacturing in the areas of technology and skill, trade, and welfare. Based on the results of a questionnaire and interviews with managers of TNC-affiliated manufacturing firms, the following conclusions were reached: little technology is transferred; workers hired are among the more educated; skill development is limited; production is last-stage; local capital has difficulty competing with the TNCs; and products produced are generally accessible only to the affluent and upper middle class. Very little in the way of transition to export-manufacturing is occurring.

This paper is an assessment of the impact of TNC investment on Philippine economic development on a range of issues in the three broad areas of technology and skill, trade, and welfare. It is limited to the manufacturing sector. A questionnaire was implemented and interviews held with executives of TNC-affiliated firms.

Much of the information I sought involves judgment on the part of those executives who filled out questionnaires and spoke with me. In such an approach, problems of consistency of interpretation across industries arise. Given the complexity of the issues, however, such problems remain if one resorts to more quantitative, proxy variables. Both for this reason and because the study examined a range of industries, more narrowly focused investigation may be warranted. To the extent that this is the case, I hope that this study points in the correct direction.

The paper is organized as follows. After the description of the data, reasons for TNC investment in the Philippines are investigated. Successive sections take up the type of technology used in TNC-affiliated firms, technology transfer, skill transfer, managerial

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development, market biases, and trade. I will then conclude with discussion of the policy environment with respect to TNC investment in the Philippines.

### Description of Sample

The data are from a questionnaire and interview survey of large manufacturing firms in the Philippines with at least 30 percent equity participation by TNCs.<sup>1</sup> Both subsidiaries (firms in which TNC held at least 70 percent of the sample firm's equity) and joint ventures were included.<sup>2</sup> Firms from eight industries were selected: food, soap and detergents, pharmaceuticals, chemicals, motorcycle television (including radio and stereo), other electrical appliances (including incandescent light manufacturing), and paper. The industries were selected in order to obtain a range of manufacturing activities and to include firms associated with American, European, and Japanese-based TNCs.<sup>3</sup> Forty firms were approached; 28 agreed to participate: 17 were affiliated with American TNCs, 7 with Japanese, and 5 with Europeans.<sup>4</sup> One firm was a European/American joint venture; in the other joint ventures, Filipinos were major participants. To focus on foreign ownership and how it is affected by Filipino participation, the term "joint venture" will only be used in reference to the latter. The distribution of firms by nationality of TNC and percentage of foreign equity is presented in Table 1.

The surveyed firms were generally among the larger firms in the manufacturing sector of the Philippine economy. Seven were ranked

<sup>1</sup> At the time of the survey in 1980-81, there had been two recent attempts to establish the population of firms with foreign equity in the Philippines. One was undertaken by Tsuda, et al. (1978) for the University of the Philippines Center for Development Studies; the other, by McDougald (1980) for the American Chamber of Commerce in the Philippines. These two lists, supplemented by information from the annual *Business Day's Largest 1000 Corporations*, formed the basis for my list of firms with foreign equity.

<sup>2</sup> Large firms that were owned or controlled by Filipinos (or by foreigners) who were permanent residents in the Philippines) and that were multinational corporations whose operations were not included.

<sup>3</sup> The Japanese dominated the motorcycle and television industries, while the Americans loomed large in all the others. There were two European-affiliated firms in the pharmaceutical industry.

<sup>4</sup> In the interview with the manager of a pharmaceutical subsidiary of a U.S. TNC, it was determined that the firm contracted out all manufacturing of its products in the Philippines. Although data from the firm are not included in the formal analysis, reference is made to comments of the manager.

Table 1 — Distribution of Firms by Nationality and Percent of Transnational Firm Ownership

Percent of Equity, $X$ , held by TNCs	Number of Firms by Nationality of Affiliated TNC		
	American	European	Japanese
$98 \leq X \leq 100$	12 <sup>a</sup>	2 <sup>a</sup>	0
$70 \leq X < 98$	2	1	0
$50 \leq X < 70$	1	1	0
$40 \leq X < 50$	0	1	5
$30 \leq X < 40$	2	0	2

<sup>a</sup>European/American joint venture listed as both European and American.

among the largest 100 firms in the economy in total sales, according to one annual publication (*Business Day's Largest 1000 Corporations (1979) 1980*), and half were among the largest 250. From my comprehensive list of manufacturing firms with foreign equity with at least 30 percent, 24 of the 28 firms included in the study were among the largest 100.

On the other hand, the size of the work force varied considerably among the sample firms, in part because of capital intensity, but also because of the nature of the firm's non-manufacturing activities. The largest, engaged in the growing and canning of fruits and the production of other food products, was outsized compared with the rest, with a total employment greater than 5 times that of the second largest. Even when attention was limited to its manufacturing plant, it employed almost twice as many workers as the number-two firm in the study.

The median size of the work force for the other twenty-three firms on which I have employment information was 341, with a range from just under 100 to over 2500. Pharmaceutical and soap and detergent firms were generally among the larger; food, motorcycle, and chemical firms, among the smaller. Television and other electrical appliance firms tended to fall in the middle of the size rankings.

Large transnational-affiliated firms were chosen for investigation under the assumption that the activities of these firms are more likely to have a significant impact on the Philippine economy than smaller firms. The consequence of this approach is that the surveyed companies were generally among the older and more well established; overwhelmingly, their initial investment was import substituting rather than export oriented. Informants in only four firms indicated that either their initial target market was less than entirely domestic or that a significant part of their output was utilized as an input in production of export commodities. These four included firms accessing raw materials (fruit and coconut) and a glue manufacturer. Although most foreign investment in Philippine manufacturing has been in import substitution activity, in the 1970s and early 1980s there was a growing amount of foreign investment producing primarily for export. The latter is not the focus of this research. What I do investigate, however, is the extent to which the older, import-substitution investment has redirected its efforts to compete in the world market.

The pattern of TNC investment in the sample firms is correlated with time of investment and with nationality of investor. At the onset of its independence, the Philippines was forced to grant special privileges to American business, a condition that existed until 1974. In addition the two countries have maintained close economic and political ties. For these reasons, foreign investment in the Philippines until the 1970s has been overwhelmingly American.<sup>5</sup> Almost all the firms in the sample affiliated with American TNCs were incorporated by the early 1960s, and five of them were operating prior to the Pacific War. As can be seen in Table 1, American-affiliated firms also tend to be subsidiaries. This reflects the well-known preference of American TNCs to retain total control over foreign operations.

As mentioned above, legislation was enacted in 1967 to regulate foreign investment and limit the extent of foreign control of domestic firms, generally to no more than 40 percent. The majority of the joint ventures in the sample, including all the Japanese-affiliated firms, were initiated after this date.<sup>6</sup> The pattern of Japanese invest-

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<sup>5</sup>In 1970 it was estimated that almost 80 percent of foreign-owned equity among the largest 1000 firms in the Philippines was American (Philippines, Inter-Agency 1972: 16).

<sup>6</sup>David and Tsuda (1978) provide an interesting discussion of Japanese joint ventures in the Philippines and some of the problems of cultural interaction.

Table 2 — Factors Affecting the TNC's Decision to Invest  
In the Respondent Firm

Factor	Number of Firms					
	No Importance 0	Moderate Importance			Extreme Importance	
		1	2	3	4	5
1. Growth of market potential	1	0	0	6	6	14
2. Proximity to market.	2	1	1	5	6	12
3. Tariffs and other trade restrictions in the Philippines.	4	2	3	4	5	9
4. Foreign exchange controls	6	2	3	6	4	6
5. Low cost of labor	4	4	1	6	8	4
6. Availability of specific skilled labor	6	2	1	9	8	1
7. Competition from other producers in the Philippines	4	1	4	10	7	1

ment also reflects that nation's sensitivity to post-Pacific War attitudes towards the Japanese in Southeast Asia.

### Investment Decision

Only two of the affiliated TNCs did not have some form of economic contact with the Philippines prior to the decision to invest in the firm interviewed: the majority were exporting to the country; some had equity investments.<sup>7</sup> These transnationals were not strangers to the Philippine economy. Their investments were an extension of existing business relationships.

The respondents were requested to indicate the importance of several factors in the investment decision of the affiliated TNC; 27

<sup>7</sup>Of the 26 TNCs with some form of contact with the Philippines prior to investment with the surveyed firm, all but 6 had been exporting to the Philippines; they already had developed a market prior to their making an equity investment. Five of the remaining 6 had an equity interest in another firm incorporated in the Philippines, and/or they had licensing agreements with local firms. The sixth firm, as well as a few of those exporting to the Philippines, was importing from that country.

of the 28 firms answered.<sup>8</sup> The distribution of responses of some of the factors that were relatively important overall is shown in Table 2.

The two factors judged most important by the responding firms relate to the market, its size and growth potential. This reflects the import-substitution orientation of the investment. Next to the market, tariffs and trade restrictions and foreign exchange controls were judged the most important considerations. Firms tended to give these two factors equal weight, but there were variations. Attempts during interviews to determine the importance of the imposition of exchange controls or tariffs or other trade restrictions on the timing of the investment decision were not productive.

The consequence of this is that responses must be interpreted with some latitude. They do not allow us to adequately distinguish between why the possibility of investing in the Philippines was suggested itself, and what factors were important once the question was raised. For example, tariffs and exchange controls would reasonably seem to be among factors associated with the former, while market size and growth would be relevant to the latter.

Labor-related factors — its low cost and its skills — were of moderate importance. Although the transnationals surely take advantage of low-wage Filipino labor, as well as its skills (and English-speaking ability), the firms in this survey do not appear to have been primarily motivated by saving on labor costs. Their investment decisions generally came before and do not appear to be connected with the internationalization of production sites by large firms associated with export-oriented industrialization strategies of Third World countries. Given their import-substitution orientation, the actual level of wages was not generally considered crucial.<sup>9</sup> As one manager put it,

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<sup>8</sup>The decision-making process relevant to this question, and others in the survey, was taken at some point in the past in the home offices of the affiliated TNCs by managers other than the persons who were cooperating in my research project. In such instances the answers required a combination of reference to firm documents, reliance on common knowledge within the firm, and educated guessing. Although those being interviewed were surely informed, caution in interpreting the answers is warranted.

<sup>9</sup>Hill (1982a: 45), in his survey of Australian foreign investment in the Philippines, found labor costs to be the most important factor in the decision to invest. Whether this is because the surveyed investors were from a small country (and generally smaller firms than TNCs from larger, industrialized countries) or because the firms were oriented more toward export is unclear. For a comparison of the two surveys, see Hill and Lindsey (1987).

the range of wages in the Philippines is sufficiently low that the issue is not their level but having confidence that they will not change significantly during a given plan period. Several of the firms interviewed conducted wage surveys regularly and set wages of workers in their firms at some point (generally the bottom of the upper quarter of the range) that made them appear to pay well.

Lastly, firms ranked competition from either a domestic producer or a TNC subsidiary, but not both, as being moderately important.<sup>10</sup> Of the nine firms that ranked this factor low, one produces primarily for export and three others are subsidiaries of TNCs that were established prior to the Pacific War, in part to access raw materials. Two others are virtual monopolies in the Philippine market.

A few other factors were of importance to firms in specific industries, but not to the entire group of participating firms. Desire to geographically diversify production processes was marked high by most of the firms in the motorcycle, paper, and food industries. Adequacy of infrastructure needs was marked somewhat high by firms in the motorcycle, pharmaceutical, chemicals, and television industries. And, lastly, the soap and detergent and food industries ranked availability of inputs as being important.

On the other hand, there were several factors that were generally not considered to be very important: (1) breakdown of licensing or import agreements, (2) complementation with production of other subsidiaries of the TNC, (3) increasing costs in the home country, and (4) government incentives.

The last mentioned item is particularly important. Government incentives — reduced cost or subsidy as a reward for a voluntary action — need to be distinguished from regulation and taxation (including tariffs).<sup>11</sup> There is increasing agreement that incentives have relatively little effect on TNC behavior.<sup>12</sup>

<sup>10</sup>In the questionnaire, firms were asked to rank competition from Filipino firms and from TNC affiliates separately. For analysis purposes, the two rankings were combined by taking as each firm's indicator of the importance of competition, the higher of its ranking for the two factors.

<sup>11</sup>For a discussion of government policy options in eliciting desired behavior by TNCs, see Robinson (1987a).

<sup>12</sup>Incentives did not apparently have an impact on decision-making of investors from small countries either (Hill 1982). Almost 60 percent of foreign investment in the Philippines in the decade of the 1970s was not registered under any of the government's incentive programs (Lindsey, 1983: 489).

Some of the early, prewar TNC investors entered the Philippines initially to obtain raw materials and later moved into manufacturing. The investment decision of the rest, coming after the onset of foreign exchange controls (and, later, tariffs) in the late 1940s can be best explained by a behavioral or oligopolistic reaction hypothesis.<sup>13</sup> The potential of losing a market with good (potential) growth prospects brought some TNCs to the Philippines; once they invested, other transnationals, desiring to maintain their market participation, followed. The oligopolistic reaction hypothesis is consistent with the one which emphasizes monoploid advantages in explaining the success of the investing TNCs.<sup>14</sup> I will return to a discussion of the significance of the latter below.

### Choice of Equipment

Technology in its more general meaning can refer to equipment, to skills, and to the requisite knowledge to undertake production. This section focuses on equipment used in the production process: source of the original equipment in the TNC-affiliated firm; significant changes since the onset of production; important factors in the selection of equipment; and the locus of control over the selection of technology used and product produced. The subjects of technology transfer and skill development will subsequently be taken up.

The first point to be made is that the surveyed firms acquired their equipment primarily from abroad. (See Table 3.) Only eight firms used even some equipment that was made in the Philippines, and no firm relied entirely on locally manufactured equipment. Although the capital goods industry in the Philippines is not well developed, it is significant that not more firms obtained at least a portion of their equipment locally.

Half the TNC-affiliated firms, generally the ones with a longer affiliation, had substantially changed the technology in at least one of their production processes since manufacturing operations had begun under affiliated status. But there were exceptions. One of the

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<sup>13</sup> Agarwal (1980) discusses a range of hypotheses relevant to investment decisions of TNCs. He attributes the behavioral hypothesis — the need for some initial issue to force consideration of investment — to Aharoni (1966). The oligopolistic reaction theory was put forth by Knickerbocker (1973).

<sup>14</sup> The fundamental importance of a monopolistic advantage to the TNCs' success in their investment activity was first argued by Hymer (1976); it has been elaborated on by Caves (1971) and Dunning (1977). See Jenkins (1987: 20-22) for a critical discussion.



Table 3 — Source of Equipment at Beginning of Manufacturing or at Time Investment was Made by The Affiliated TNC (the Later Date)<sup>a</sup>

Source of Equipment	Number of Responses <sup>b</sup>	Number of Firms Responding <sup>c</sup>
a. New and imported to the Philippines	22	16
b. Made in the Philippines	14	8
c. Used equipment imported by participating firm	16	11
d. Equipment already in use by participating firm	10	10
e. Equipment already in use in the Philippines, but not by participating firm	3	3
TOTAL	66	49

<sup>a</sup>Twenty-eight firms responded to the question.

<sup>b</sup>Three firms supplied answers for more than one production process.

<sup>c</sup>Several firms acquired equipment from more than one source.

oldest subsidiaries in the sample had begun operations with used equipment and was still using it.

The importance of external sourcing of capital equipment can perhaps be explained by the fact that the machinery being brought into the Philippines by TNC-affiliated firms is not being adapted to local conditions, but is largely the same used in the firms' plants in industrialized countries. Here the replies on the questionnaire are not totally consistent. On the one hand, virtually all (78 per cent) of the firms surveyed indicated that the initial selection of technology was similar to that being used by their affiliated TNC in its home country plants at the time of investment or at some earlier point.

On the other hand, the respondents noted that market size and equipment costs were very important in their choice of equipment both initially and currently. (See Table 4.) Wage and energy costs were of more importance in current choices than in initial ones. To the extent that more dated equipment is both simpler and smaller scale (which has historically been the case), the answers are not at variance. Also, processes ancillary to the main technology (ware-

Table 4 --- Importance of Factors Affecting Choice of Equipment by Industry

Factors	Industry						Current									
	Food	Soap	Pharmaceuticals	Chemicals	Motorcycles	Television	Other Electrical	Paper	Food	Soap	Pharmaceuticals	Chemicals	Motorcycles	Television	Other Electrical	Paper
a. No other choice in existence.			V		M	V		V		V		M			M	
b. No other equipment easily available.			V		V	V		V		V						V
c. Same as affiliated TNC's home-country facilities		V	V		V					M						
d. Filipino skilled workers, supervisors, and professionals are familiar with this equipment.		V	V		V		M		M	M		M			M	
e. Foreign skilled workers, supervisors, and professionals are familiar with this equipment.	V	M	V							M	M					
f. Market size	M	V	V	M	V		M	M	V	V	M	V	V		V	M
g. Wage costs		M					M		V	M						
h. Energy costs		M		M				V	V	V	M				M	M
i. Equipment	V	V	M	V	M	V	M	M	V	V	V	V	V	V	V	M

NOTE: V = Very important, ranked 4 or 5 for at least 50 percent of the processes reported by the responding firms.  
M = Moderately important: ranked 3, 4, or 5 by more than 50 percent of the processes reported by the responding firms.

housing, transporting, packaging) are often different in subsidiary than in home-country plants.

Economists place emphasis on relative prices and "getting them right." Without ignoring the consideration the respondents gave to both wage and capital costs, and, hence, relative prices, there appears to be much greater emphasis placed on scale in the selection of equipment. This conclusion may also explain why government incentives do not appear to have much impact. The incentives largely impact on relative costs; to the extent relative costs are not the crucial issue, then neither will government incentives.

The last issue raised with the respondents about choice of equipment dealt with the locus of decision-making.<sup>15</sup> For comparative purposes, the questions were also asked with respect to choice of products. (See Tables 5 and 6.) The local affiliates had considerably more control over product choice than over selection of technology. Two thirds of the 25 responding firms indicated that at least in some lines, the decision of what to produce lay entirely within the firm, and only 11 percent answered that the regional or home office had entire control.

On the other hand, over 40 percent of the surveyed firms (and over 50 percent of the subsidiaries) indicated the local firm was not primarily responsible for technology choices. Those responding that decisions were made jointly varied widely in their sense of relative responsibility and control. Some noted that the home or regional office was not so much consulted as informed, and the latter simply ratified local decisions. Others explained that it depended on the size of expenditure involved: the greater the monetary amount involved, the more the regional or home office was consulted or brought into the decision-making process. A few replied that local decision-making, although initiatory, was entirely subordinate to the home office. As one Filipino executive put it, even day-to-day price adjustments had to be cleared through the TNC headquarters.

There was a substantial difference in decision-making between joint ventures and subsidiaries. While only half of the managers of the joint ventures responded that their affiliated TNC was involved in

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<sup>15</sup>The issue here is not legal right or responsibility, but the locus of managerial decision-making.

**Table 5 -- Locus of Decision-Making in Selection of Product Produced**

Locus	Number of Firms		Total
	Subsidiary	Joint Venture	
Local firm	8	10	18
Regional or home office	3		3
Jointly	6	2	8
Total	17 <sup>a</sup>	12	29 <sup>a</sup>

<sup>a</sup>Two subsidiaries (of 15 replying) answered either local or home office and jointly for different processes.

**Table 6 -- Locus of Decision-Making in Selection of Technology**

Locus	Number of Firms		Total
	Subsidiary	Joint Venture	
Local	1	6	7
Regional or home office	8	3	11
Jointly	8	3	11
Total	17 <sup>a</sup>	12	29 <sup>a</sup>

<sup>a</sup>Two subsidiaries (of 15 replying) answered either regional or home office and jointly for different processes.

decisions on choice of technology, all of the managers of subsidiaries answered that their home or regional office was consulted. Even allowing for some variations in managers' opinions of what constitutes participation, the difference is striking.

Above I raised the issue of dependency. Its structural nature is apparent here. With the exception of market size, technology choice

of the surveyed firms appears to have been determined largely by external factors. As Sunkel (1973) and Hymer (1979) have emphasized, TNCs are large organizations that attempt to structure the world economy to their needs. To the extent conformity can be imposed, diversity inhibits profits. Centralization of decision-making on fundamental issues, particularly the allocation of capital, facilitates this.

Having made the point, variations on the theme must be allowed for. As Evans (1979: 52-3) notes, there must be a rejection of "the notion that dependent development represents the capitulation of local capital to imperialism." Likewise, the dichotomy of the capitalist class into comprador and nationalist groups must be rejected. Rather, within their common interest in capital accumulation, transnational capital and local capital have their own separate interests. While not questioning its subordinate position, local capital can and does struggle. However, as can be seen in the pattern of responses to the survey, it is generally in a subordinate position.

The case in point is the joint venture, where the selection of technology is apparently a contested area. Some Filipino partners have been able to force their affiliated TNC to include them in decisions concerning technology choice. Others are not so successful, or they are simply willing to allow the TNC to make production decisions, satisfying themselves with rather easy profits. One European manager of a joint venture stated quite clearly that the TNC he represented would not have entered into the joint venture without an understanding that they controlled the production end of the business. On the other hand, a Filipino manager of another joint venture was quite clear that the Filipino side of the joint venture controlled the production process and went to the TNC when they felt assistance was needed. Given their success, the requests at times went the other way, with the local affiliate providing assistance to affiliates of the TNC in other countries.

### **Technology Transfer**

From one perspective, the bringing of modern technology to the Third World is a simple technocratic one of achieving the highest benefit-cost ratio; the issue is one of choice of technique (Cooper 1972: 1-2).<sup>16</sup> From this it is only a short step to the conclusion, as

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<sup>16</sup> For a discussion in the larger context of Southeast Asia of the material taken up in this and the following section, see Lindsey (1986).

expressed by an executive of a TNC subsidiary in the Philippines, that a transnational setting up manufacturing operations in a Third World country, *ipso facto*, transfers technology. Unfortunately, the process is much more complicated and intractable. The *transporting* of technology across national boundaries is not the same as *transferring* it. The latter connotes not only movement, but also control.<sup>17</sup>

The distribution of TNC-affiliated firm responses to questions on technology transfer is given in Table 7. There was general agreement that the primary hindrance to domestic firms entering into production was not lack of access to equipment. First, less than 20 percent of the respondents said that equipment similar to that being used in their plants was not being used elsewhere in the Philippines. Also, equipment was generally available on the open market, although some executives noted that their equipment was technologically more advanced or preferable than that which could be purchased. Second, the majority, 65 percent, indicated that their firms were not the first to use the equipment in the Philippines. And, third, many of those with "similar equipment" were affiliated with TNCs. There appears to be a considerable amount of follow-the-leader in the foreign investment process in the Philippines, a fact that provides supporting evidence for the appropriateness of Knickerbocker's oligopolistic reaction theory mentioned earlier.

Most respondents did not consider their firms to have been models for Filipino firms in selecting equipment. Several modified their equipment before using it, and those modifications were generally not available to Filipino producers. Combining those answering "equipment not available to others" with those "modified equipment not available to others," there are 11 firms concentrated in the motorcycle, soap and detergent, chemical, and food industries, the first three of which are industries controlled by transnationals.

Lack of access to know-how is also a problem for Filipino producers. It is somewhat surprising, however, that only 40 percent of the questionnaires noted this to be a major reason for a local firm to link up with a TNC. Timing may be an issue here. Some Filipino joint-venture partners considered access to new technology a major

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<sup>17</sup>Chew (1981: 200) raises a similar point by distinguishing between acquisition and transfer. Successful technology transfer is not a single-step process, but is a matter of degree. For a general discussion of this issue see Dahiman and Westphal (1981), Stewart (1981), and Lall (1985: Chap. 7).

Table 7 --- Technology Transfer by TNC-Affiliated Firms

Question	Number of Firms			Total <sup>a</sup>
	Yes	No	No Answer	
a. Is equipment similar to that currently in use by your firm being used elsewhere in the Philippines?	24	5	0	28
b. Was your firm the first to use this type of equipment in the Philippines?	10	19	0	28
c. Has the equipment that your firm is using (or has previously used) served as a model to be duplicated or purchased by domestically-owned firms?	7	22	0	28
d. Is the equipment that your firm is using commercially available on the open market?	25	4	0	28
e. If yes to "d", have important parts of the equipment been modified in significant ways for use by your firm?	13	11	2	25
f. If yes to "e", is the modified equipment available to domestic producers?	5	8	0	13
g. Are significant elements of your firm's equipment or manufacturing process patented in the Philippines				
(1) by you or your affiliated TNC?	7	21	0	28
(2) by other firms and available to your firm through licensing agreements?	9	21	0	28
h. If yes to either (1) or (2) of "g", is this equipment or process available to domestic firms?	4	7	2	13
i. Is there significant know-how in your firms' production process that would preclude domestic firms from producing the type of products manufactured by your firm?	11	16	1	28
j. Are imported inputs in your production process patented by your firm or your affiliated TNC or by some other firm and available to you through licensing arrangements?	13	13	2	28
k. If yes to "j", do domestic firms have access to these inputs?	6	6	2	13

<sup>a</sup>Some firms answer both yes and no for different processes.

advantage in having a partnership with a TNC over going it alone or limiting the arrangement to technical licensing. It was not that they could not produce the product; they already were. But with limited or delayed access to new developments, they felt themselves at a competitive disadvantage. In addition, comments during my interviews suggest that lack of knowledge of process technology and accumulated experience is a major problem. As one executive puts it: the basic equipment is the kettle — textbook technology. But then there is the art.

The above needs to be qualified. Most, but not all, of those interviewed emphasized that the technology in use in their firms in the Philippines is relatively simple — welding, painting, and assembly for motorcycles; formulation, mixing and packaging for pharmaceutical, chemicals, and food; assembly for television and other electrical appliances. One foreign executive at first insisted that his firm did not engage in manufacturing in the Philippines inasmuch as no chemical reactions were taking place in its plants. Rather, they were only formulating. In the Philippines this firm's production is considered manufacturing. Another executive suggested that packaging was the most sophisticated part of the production process in his firm.<sup>18</sup>

One avenue for disseminating technology is for more technologically advanced firms to assist smaller or less technologically advanced firms which supply the former through subcontracting arrangements. Advocates of this mechanism for technology transfer point to the successful experience of Japan in subcontracting and in the development of strong and supportive links between large firms and those with whom they have subcontracting arrangements.<sup>19</sup>

The cooperating firms in the study were asked whether they give assistance in one form or another to firms from whom they made purchases: production, manpower training, management, mar-

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<sup>18</sup>In contrast, Lim (1988) recently found the electronics industry in Southeast Asia to be very dynamic, bringing in more technologically sophisticated and high value-added equipment. It remains to be seen whether this activity will become characteristic of other export-oriented industries. Also, to a considerable extent Lim's results come from the experience of the small city-state of Singapore. I have argued that for a number of reasons, Singapore's successes might not be easily transferrable to other Third World countries (Lindsey 1986: 228).

<sup>19</sup>See Hill (1982b) and Lall (1985: Chap. 12). Both of these authors refer to Ono and Odaka (1979) for an extended discussion.



keting, and finance. Of the 20 responding firms, only 7 said they had assisted other firms. Most of the assistance was in actual production, no doubt for quality control purposes. However, there is some assistance with finance, manpower training, and management.

Others investigating the subcontracting relationship in the Philippines arrived at the same result. Hill (1982a) found that firms generally preferred in-house sourcing; subcontracting relationships were shallow and weak. The reasons given include: government policy emphasizing localization of production and not outside procurement; shortage of reliable and experienced suppliers; and absence of exclusivity in contractual relationships (because of small and fragmented markets).

Doner (n.d.) examined the automobile industry in the Philippines. In 1971 the Philippine Board of Investments initiated the Progressive Car Manufacturing Program which was specifically designed, among other things, to upgrade the technological and skill capabilities of small- and medium-sized manufacturing firms. The development of parts suppliers to the automobile assemblers, however, was quite limited. Doner examined the issue from a number of perspectives, including the behavior of the Filipino and Japanese partners in the assembly operations, technological and economic constraints, and government policy. The upshot with respect to parts manufacturers, however, was that the requisite financial and technical resources were not supplied, the assemblers preferred in-house sourcing, and the policy of the government did not effectively support the subcontracting link.

It should be pointed out that subcontracting arrangements in the automobile industry have been more successful elsewhere in other Third World countries. Doner (n.d.) examines Thailand; Lall (1985: Chap. 12), India. They both give weight to the enforcement of government regulation (as contrasted with incentives) in explaining the successes.

Two final issues relating to technology transfer need to be touched upon. First, about half the TNC-affiliates in the sample responded positively when asked whether they engaged in research and development (R&D) activities in the Philippines. The major area of activity was quality control. Marketing R&D was also important, but other efforts were product-oriented. In some cases it was to adjust consumer products to meet local standards of hearing, texture, color, taste, or smell; adaptations for climatic differences between

the Philippines and the home country of the TNC were also mentioned. In one case the respondent pointed out that a new product — detergent bars — had been developed and was now being used elsewhere, but this was the exception. There was no mention of efforts to improve on production processes or develop new ones, nor was there any indication of more fundamental R&D.<sup>20</sup>

Second, 70 percent of the firms indicated that government policy has had no impact on their choice of plant and equipment or on the nature of the production process. When government policy was considered significant, directives and requirements, rather than incentives were mentioned: local content requirements, pollution regulation, and import procedures for plant and equipment. Financial incentives appear not to have been significant, with the possible exception of one firm.

### **Skill Transfer**

There was little variation in minimum educational requirements required for employment in the sample firms. Unskilled and skilled workers were required to have at least two or three years of high school or vocational school education; the office staff and production supervisory personnel were required to have some education beyond the high school level; and the professional and managerial staff were expected to have a college degree. In a country in which only half the population has completed five years of primary education, the TNC-affiliated firms had available to them a relatively well-educated work force, prior to any efforts to impart or upgrade skills.

Information was solicited on training in both full-time and part-time programs and on-the-job. Some 4500 employees have been trained over a five-year period up to 1980 in the 21 firms which res-

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<sup>20</sup>These findings are similar to what has been found in other Third World countries. Caves (1982: 198-9) notes that not much more than 10 percent of U.S. TNC research is carried out abroad and that most of that is for the purposes of adapting products to local market conditions. Lall (1985: 119) notes that larger TNCs such as India and Brazil support more local R & D, but even here it is less deep and more applications-oriented than in the home countries of TNCs. Looking specifically at the electronics industry, Lim (1988: 11) notes that more design and development functions are being introduced into TNC plants in Southeast Asia, particularly Singapore and Malaysia. Whether this activity is specific to electronics or will be seen in other export-oriented industries is an open question. In any event, significant R & D does not appear to be widespread in import-substituting industries.

ponded with usable information. The data are broken down by job category and type of training program in Table 8. On the average, this group has trained during the past five years an equivalent of almost 40 percent of their 1979 work force.

To gain perspective on this figure, I inquired about the job stability of employees. Eighteen firms provided some information. There was some variation by both category and firm; nevertheless, the averages are useful in gaining perspective on the number of workers involved in training programs.

Average duration of employment — 6 years

Average annual turnover rate — 13 percent<sup>21</sup>

**Table 8 — Number of Employees Trained in the 1974-79 Period by Job Category and Type of Training Program<sup>a</sup>**

Type of Training Program	Job Category			Total
	Production Workers	Clerical Workers	Professional and Management Personnel	
Full-time training program	271	40	243	554
Part-time training program	631	322	681	1,634
On-the-job training	1,836	225	308	2,369
Total	3,271	587	1,232	4,557
Percentage of work force	70	21	9	100

<sup>a</sup>Training information for 19 firms; work force data for 23 firms.

<sup>21</sup>The average turnover rate is the number of resignations or terminations as a percentage of the average work force in a job category. The two approaches give approximately the same information. If the average duration of employment is 6 years, after that time period only half of an initial group would remain with the firm. On the other hand, if an average of 13 percent resign per year, a little over 43 percent of an initial group would still be on the job after 6 years.

To have trained 40 percent of a stable work force over five years has one meaning. As it was, with rather significant job movement, at least on the average, the training figure indicates a much smaller proportional impact.<sup>22</sup>

More information can be gained from Table 8 by looking at which groups of workers were trained under what kinds of programs. Production workers were involved in training programs in about the same proportion they were in the work force, but most of their training occurred on the job. Professional and managerial personnel, on the other hand, accounted for 27 percent of those involved in all training programs, and almost 45 percent of those given full-time training. Given their proportion in the TNC-affiliated firms work forces (9 percent), it is obvious that these employees received special attention, a point that I shall return to below.

The training programs varied widely in duration, ranging from 2 or 3 days to 6 months in the case of the full-time and part-time training programs, and a year and a half for on-the-job programs. The median time period reported was between 4 and 5 weeks for the full-time training program and about two weeks for the other two. Many of the shorter programs are no doubt little more than orientation sessions. Part-time training programs for the bulk of the firms reporting such a program lasted for three to four hours per day.

The TNC-affiliated firms provided training to production workers for a number of reasons. (See Table 9.) The most important were to increase proficiency of skill and to acquaint workers with new equipment. These two reasons imply that the employers had access to an existing skill pool. Factors related to an insufficient supply of workers with required skills were important, but only in the television and other electrical appliance industry were they considered significant.

Machine operators, mechanics, carpenters, and other repairmen were the major types of skills needed by the cooperating firms. In

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<sup>22</sup>The combination of the numbers being trained and the turnover rate is compatible with the argument that there is a diffusion of skills from TNCs to the larger economy. Against this are points. First, as noted above, the TNCs attract a relatively well-educated work force and, hence, draw trained workers away from domestically-owned firms. Second, as will be discussed below, the nature of the training for production workers is limited, and the higher skilled tend not to transfer into domestically-owned firms. Reviewing the literature, Jenkins (1987: 126) arrives at a similar conclusion.

**Table 9 — Reason for Undertaking Training of Production Workers<sup>a</sup>**

Reasons for Training Programs	Number of Firms					
	No	Moderate			Extreme	
	Importance	Importance	Importance	Importance	Importance	Importance
	0	1	2	3	4	5
1. Lack of persons with required skill in labor force.	3	1	5	6	6	3
2. Tight labor market in skill area.	5	1	7	3	5	3
3. To increase proficiency of existing skills of workers.	0	0	2	2	9	11
4. To acquaint workers with new or improved equipment.	0	1	0	7	6	10
5. To develop loyalty to the firm.	3	5	4	8	1	3

<sup>a</sup>Twenty-five firms responded.

most areas, the pool of skilled manpower was already available in the Philippines. There was relatively little transfer of new, shop-floor skills by the affiliated TNCs to the Philippines. The TNC executives saw their contribution to be the upgrading and refining of existing skills, and the installing of greater work-place discipline. Snow (1977), in his study of firms (almost all foreign-owned) in the Bataan Export Processing Zone, found that on-the-job orientation programs were the norm, with an emphasis on discipline and socialization to the standards of the work place. Where skills were potentially and easily transferrable to other firms (e.g., garment factories), he found efforts were sometimes taken to limit knowledge and, hence, mobility.

### **Managerial Development**

The Filipino business community values highly the training and experience its members have received from their days as employees in foreign-affiliated firms. Well informed individuals can point to numerous leaders in the business community and government service who early in their careers worked for a TNC, particularly those that are American owned. As can be seen in Table 8, the participating

firms in the survey directed relatively more of their training effort to management and professional personnel. One fourth of the reported number involved in all training programs of the sample firms, and half those involved in full-time programs, were from this group of employees.

The extent to which skills acquired or further developed in TNC-affiliated firms are diffused within the larger economy is not clear, however. On the one hand, the turnover rates described above suggest there is some movement in the work force. In addition, there are the visible cases of Filipino businessmen who received their start in TNC affiliates. On the other hand, those interviewed were consistent in suggesting that there was no significant movement of either skilled workers or managers, particularly those they thought were better, to Filipino-owned firms.<sup>23</sup> Higher wages and better working conditions were the reasons. Also there was a purported preference, particularly for managers, for not working in family-owned and -managed firms. Transfers that did occur were often to other TNC-affiliated firms. In addition, there was the possibility of going abroad either as an immigrant or a contract worker.

One of the benefits of being affiliated with a TNC is to be able to take advantage of its accumulated knowledge and experience, not only as it is brought to the Philippines, but within its larger organization. All but two of the surveyed firms reported that Filipino managers in their organizations had been sent abroad to attend conferences, to have discussions with personnel at the TNC headquarters, and to undergo training. For the previous five years, an average (median) of slightly more than two employees were sent each year by each of the firms, 60 percent of which went for a month or less. In addition, a few firms reported that senior staff had been seconded to other subsidiaries of their affiliated TNC.

One persistent criticism of TNCs in Philippines and elsewhere in

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<sup>23</sup>Information such as this argues against those theories which focus on enforced low wages — “super exploitation” — as the major explanatory variable in the movement toward a new international division of labor. While it is surely true that real wages fell during the regime of President Ferdinand E. Marcos in the Philippines, they fell not only for TNCs. To the extent that TNCs train Filipino in the ways of capitalist management or force more efficient behavior through competition (but see below), the information in this section of the paper is support for those who claim that TNC investment is a progressive factor in the development of a dynamic capitalism in third World countries. For a discussion of these issues, see Jenkins (1984).

the Third World is that nationals are not allowed to reach the highest management positions. Among the firms participating in my survey, one-fourth employed no foreigners, all but one of which was affiliated with an American TNC. Another quarter employed only one expatriate. Only three firms employed more than 4 foreigners on a long-term basis. There was some difference by nationality of TNC in the long-term assignments of non-Filipinos. Firms affiliated with American and European TNCs had expatriates in the position of President/General Manager and/or top management in general, even when the firm was a joint venture. On the other hand, firms affiliated with Japanese TNCs assigned Japanese nationals to other than the top position of responsibility (e.g., vice presidents of marketing, production, of finance).

One legacy of the American colonial period in the Philippines is a pervasive educational system, at least portions of which are quite good. Many graduates of that system have the qualifications to enter the management ranks of corporations anywhere. In addition, many Filipinos have been trained in business schools in the United States. They have provided the managerial staff for foreign investment that entered the Philippines or expanded its operations there after independence. Why is it that three-quarters of the firms interviewed still had expatriates in crucial executive positions?

The most stated answer was that there was a lack of qualified Filipinos for the positions. (See Table 10 for a listing of replies.) The reply, of course, begs the question of why qualified Filipinos are not available. In exploring the topic with firm executives, more information came to the fore. One mentioned specifically that the statement — the lack of qualified Filipinos — was made from the point of view of the home office of the TNC.

Several managers suggested that as a matter of company policy, foreigners were being phased out over time. A timetable had been laid down in one firm, which obviously implies that the company's management feels that qualified executives can be found locally. A Filipino executive of an American TNC subsidiary related that in one case, the salary that would have had to be paid to a Filipino his firm felt was qualified for an important managerial position was thought to be too high; a foreigner was hired instead. It wasn't that the Filipino would have had to be paid more than the foreigner (the opposite was in fact the case by at least one order of magnitude);

**Table 10 — Reasons for the Employment of Non-Filipino Personnel in TNC-Affiliated Firms<sup>a</sup>**

Reason	Number of Firms Mentioned
1. Qualified Filipinos not available	7
2. Communication with affiliated TNC	7
3. Training/Career development of foreign personnel	3
4. Multinationalization of management	1
5. Security of specific know-how owned by affiliated TNC	1
6. Consistency of policy	1
7. Firm a wholly-owned subsidiary of the TNC	1
8. Safeguard interest of the TNC	1
9. To teach all aspects of management to local personnel	1

<sup>a</sup>Seventeen firms responded.

rather, to pay the necessary salary to obtain the Filipino would have unbalanced the pay scale for Filipino employees.

One manager claimed that Filipinos were used for management positions when they are qualified and adequately trained. This particular TNC subsidiary was established in the Philippines before the Pacific War. In response to a query about the effectiveness of the company's training program, the executive acknowledged that managers prior to him may have had some biases. But he also thought this was changing.

These biases, particularly with regard to American TNCs, have been documented widely. There is obviously some movement toward reliance on local management talent, but problems remain. In spite of the rhetoric of multinationalism, I perceived no sense in my dis-



cussions that the affiliated TNCs were not associated with particular countries. Many I spoke with simply assumed that the top management slot was to be filled with a person from the TNC's home country (although the top position in two subsidiaries of American TNCs were filled at the time by an Australian and Briton, respectively).

From a few firms, I obtained a somewhat different impression. They emphasized the multinationalization of their management in two ways: foreigners are undergoing training as part of their assignment to the local firm and Filipino management from the local affiliate are being assigned abroad. The number so far, at least in the firms which I interviewed, is small but it may suggest a future pattern of more importance.

One Filipino executive made an interesting point when he suggested that the local assignment of a person (in this case a Japanese) from their joint-venture partner was useful as a "catalyst." Problems periodically arose in obtaining the necessary imports on time; adjustments in material inputs were occasionally necessary and production problems sometimes occurred. In these cases, having someone from the TNC affiliate on hand to observe the problem and communicate with the home office was quite useful.

Occasionally, TNC-affiliated firms brought in individuals from the TNC for short-term, specific assignments lasting for periods of from a few days to a few months. A manager of a firm which does not employ any expatriates on a long-term basis, described the activities of non-Filipinos temporarily assigned to his company as providing specific technical services like erection and starting up of new plants and equipment.

### **Market Biases**

The firms interviewed produce primarily consumer goods for the domestic market. On average, at least 70 percent of sales of the sample firms in all industries except motorcycles and chemicals can be classified as consumer durables or non-durables. In addition, and reflecting the import-substitution character of the sample firms, all but five exported (directly or indirectly) less than 15 percent of their output, and two thirds sold their entire product locally.

Two welfare-based criticisms have been put forth with regard to import substituting foreign investment: one is that products are urban-oriented; the other is that sales are directed toward higher

Table 11 — Target Market Relative to Population Size  
By Industry and Region<sup>a</sup>

Region	Industry								Total
	Food	Soap and Detergents	Pharmaceuticals	Chemicals	Motorcycles	Television	Other Electrical Appliances	Paper	
Metro Manila	4.77	4.34	3.58	2.14	2.11	4.62	4.64	6.20	3.94
Rest of Luzon	0.47	0.54	0.61	0.88	0.90	0.69	0.54	0.29	0.64
Visayas	0.55	0.58	0.60	0.52	0.69	0.35	0.50	0.32	0.51
Mindanao	0.50	0.55	0.80	1.15	0.94	0.37	0.48	0.32	0.65

<sup>a</sup>Ratio of average percentage of sales of responding firms in an industry by region to proportion of 1975 population in that region.

income groups. Both biases appear in the target markets of the firms that I interviewed.<sup>24</sup> Twenty-five of the sample firms target the Metro Manila area for almost half their sales. The exceptions were in the motorcycle and chemical industries. Motorcycles are used primarily for transportation (affixed with sidecars and referred to as tricycles), and the chemical industry provides intermediate goods to agriculture and wood products industries.

The juxtaposition of the geographical distribution of sales and population makes apparent the urban bias of the TNC-affiliated firms.<sup>25</sup> The ratios presented in Table 11 can be interpreted as sales

<sup>24</sup>There is a rough correlation between affluence and urbanization. Therefore, the presence of one bias would suggest that the other would exist also. For an early discussion of these issues, see Barnett and Muller (1974: Chap. 7).

<sup>25</sup>This bias may well exist for Filipino-owned firms, but I would suspect it would be somewhat less. The reason is the rough correlation between affluence and urbanization. Some products produced primarily for the affluent are produced exclusively by TNCs. Also, where there is competition from Filipino-owned firms, the market is often segmented, with TNCs producing for the up-scale portion.

per capita in a region relative to national sales per capita. On average the sample firms sold 6.5 times as much on a per capita basis in Metro Manila as they did in the economy outside the Manila area. The exceptions to this generalization of the low side — chemicals and motorcycles — were discussed above. At the other extreme was the paper industry, a portion of whose output, cigarette paper, was also an intermediate product sold to cigarette producers in the Metro Manila area. However, the paper industry's consumer products, fine paper products, were also biased towards the Metro Manila market.

The same bias exists in terms of the income groups targeted by the TNC-affiliates. (See Table 12.) On average, one third of the domestic consumer goods sales of 20 sample firms responding to the question was directed to families with incomes in 1980 of ₱5,000 per month and above. More than half their sales were targeted to those

Table 12 — Target Domestic Sales Market for Consumer Goods by Income Group by Percent of Sales<sup>a,b</sup>

Monthly Family Income	Distribution of Sales (%)								Total
	Food	Soap and Detergents	Pharmaceuticals	Chemicals	Motorcycles	Television	Other Electrical Appliances	Paper	
5,000 or more	60.9	8.0	17.1	50.1	21.7	7.5	39.3	25.0	32.5
3,000 to 4,999	18.8	7.2	34.2	18.8	12.7	25.0	12.3	52.5	22.6
2,000 to 3,999	15.3	33.6	25.4	15.6	10.3	45.0	20.0	15.0	20.7
1,000 to 1,999	4.7	28.6	17.7	8.7	11.6	20.0	8.3	5.6	11.4
Less than 1,000	0.3	22.6	5.6	6.8	43.7	2.5	20.0	2.5	12.8

<sup>a</sup> Twenty firms responded.

<sup>b</sup> In calculating industry and aggregate percentages, firms were weighted equally.

with incomes of ₱4,000 per month and above, while only about one-fourth of the consumer goods went to families with ₱2,000 per month or less.

Industry variation in percentage of sales by income class was much greater than by region. The soap industry's sales were directed more toward the lower income groups (that is, toward the majority of the population). In other industries in which goods were produced that have an element of necessity — pharmaceuticals, motorcycles, radios (and, perhaps, televisions) — a large proportion of the sales was made to families in the ₱2,000 — ₱4,000 per month range. Lastly, luxury goods — food, paper products, and other electrical products (air-conditioners, refrigerators, sewing machines) — were sold primarily to the more affluent.

The extent of concentration of sales to upper income groups can be seen by contrasting the distribution of sales with that of family income. The relevant surveys were taken in the mid-1970s.<sup>26</sup> The Population, Resources, Environment, and Philippine Future (PREPF) Survey was taken in 1975; the Philippine Social Science Council (PSSC) National Survey was taken in late 1973 and 1974. Both surveys (as do others) suffer from under-reporting, particularly of upper-class families. Nevertheless, they are the best estimates of the distribution of family income.

Crude adjustments can be made to give an indication of the 1980 distribution of income by assuming that the distribution of income did not change between the time of the surveys and 1980, by multiplying the survey groupings by the growth of nominal national income (2.50 for the PSSC survey and 2.75 for the PREPF survey), and by assuming that the no-response replies were entirely in the highest income group. (See Table 13.) The concentration of sales among the well-to-do in several of the industries surveyed becomes apparent. Simple interpolation of ranges in the two surveys indicates that between 60 and 70 percent of Filipino families earned less than ₱2,000 per month in 1980, and approximately 12 percent earned more than ₱5,000 per month.

The soap and detergent industry appears to have sold to the various income groups roughly in proportion to their size in the population; even so, the poorest group is under-represented, and the

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<sup>26</sup>Data and discussion below from Mangahas and Barros (1980).

Table 13 — Estimate of Distribution of Family Income, 1980

A. PREPF Income Distribution<sup>a</sup>

Income per Month <sup>b</sup>		Percent	Cumulative Percentage
Poor	Below 2,084	61	
Lower Class	2,084 — 4,166	21	82
Middle Class	4,167 — 10,416	14	96
Upper Class	10,417 and above	5	100
Rich	20,833 and above	1	100

B. PSSC National Survey<sup>a</sup>

Income per Month <sup>b</sup>		Percent	Cumulative Percentage
Below	230	10.67	
	230 — 1,145	41.23	51.90
	1,146 — 2,291	23.61	75.51
	2,292 — 4,583	11.44	86.95
	4,584 — 6,875	4.04	90.99
	6,875 and above (including 4.75% no response)	9.01	100.00

<sup>a</sup>See text for discussion of data and sources.

<sup>b</sup>The income ranges are a consequence of changing the annual income figures of the surveys to monthly income figures and correcting for inflation.

other groups, somewhat over-represented. The motorcycle industry is the only industry in which firms reported selling to the poorest group a percentage of their output larger than what that group represents in the total population.

At one level, the explanation for the distribution of sales among regions and income groups is obvious — needs are not backed up with purchasing power. But at another level, the answer is not so. Poor as the masses are, especially those in the rural areas, they are not completely outside the market economy. Apart from those in the detergent and motorcycle industries, however, the firms interviewed were producing for this market; rather the emphasis is on those groups

with sufficient resources to be integrated into an increasingly TNC dominated, worldwide consumer market.

The result of this international integration is an internal disarticulation between technology and social structure. Portions of the elite and middle classes and a small part of the urban working class are integrated into the productive apparatus of the TNC-affiliated firms. The elites enjoy and the middle classes aspire to a lifestyles in which TNC-produced goods are central. By contrast the larger mass of the population is, and will be for the foreseeable future, excluded from participation in this internationally integrated system on both the side of production (as I discussed above) and of consumption (Evans, 1979: 27-30; Sunkel, 1973).

### **Exports, Imports, and Local Production**

Nineteen firms gave sufficient financial information to break down costs into major categories. Six other firms gave information on the division between locally incurred costs and those due to imports. The information is presented in Table 14. The data should be interpreted with caution: it is only one year's information (1979); there are variations in firm figures; and domestically purchased inputs include electricity and other power costs, as well as material costs.

There has been considerable discussion of the import dependent character of import-substitution industrialization in the Philippines.<sup>27</sup> Although data presented are only for one year, the validity of the criticism is obvious. Roughly 50 percent of purchased inputs of the sample firms was imported. In addition, several executives noted that their domestically purchased material inputs were themselves heavily import-dependent. When asked what type of material inputs are purchased locally, packaging was listed among the most important. For some industries, it is the only significant material sourced domestically.

Firms were asked how much the local content of their firm had changed over the past 10 years. Twenty-one firms supplied usable information, 10 of which indicated that there had been no change, and one of which said that local content had decreased. The others

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<sup>27</sup> An early statement is in Power and Sicat (1971), Chapter 5.

Table 14 — Distribution of Firm Costs

A. Average of Nineteen Firms for Which Financial Information was Provided

	Cost as a Proportion of Total Revenue (%)	
	Average	Standard Deviation
Cost incurred within the firm	25.04	9.03
Domestically purchased inputs	29.42	16.39
Imports	35.07	18.09
Pre-tax profits	10.47	8.46

B. Average of Three Firms that Provided Percentage Estimates of Cost

	Average (%)
Cost incurred within the firm	18-23
Domestically purchased inputs	18-20
Imports	58-62

C. Average of Three Firms that Provided Percentage Estimates of Cost of Local Acquired and Imported Material Inputs

	Average (%)
Domestically incurred material costs	48-52
Imported material cost	48-52

indicated an increase in local content ranging from a few percentage points — a movement from near zero — to 30 percent of the value of inputs. In conversation, several executives mentioned that local content would increase in the future in response to government policies, particularly local content requirements. Although some change occurred, it did not alter the fundamental import character of TNC activity.

Table 15 — Primary Source of Imported Materials

1. Affiliated TNC	Number of Firms
a. 75—100 percent of imports	3
b. 50—74 percent of imports	7
2. Affiliated TNC and its other subsidiaries or affiliates	
a. 75—100 percent of imports	3
b. 50—74 percent of imports	1
3. Industrialized countries (other than from affiliated TNC or its subsidiaries)	
a. 75—100 percent of imports	6
b. 50—74 percent of imports (with the remainder from the affiliated TNC)	2
4. Others	1
Total	23

The inter-industry linkages between a firm and the rest of the economy can be forward as well as backward. Only 6 of 22 responding firms said that either the products that they produced or the waste materials from the production process were used as inputs by other firms in the Philippines.

An examination of the sources of imported intermediate products provides some useful information for understanding the persistence of the import-dependent situation. A sizable number of the sample firms purchased imported inputs primarily from the affiliated TNC or one of its subsidiaries. (See Table 15.) Of the 23 firms responding, about one fourth obtained at least 75 percent of their imports from their affiliated TNC or the latter's other subsidiaries and affiliates. Sixty percent obtained at least half of their materials from these sources. The rest also obtained their imports primarily from



industrialized countries. Only small proportions of raw materials and intermediate inputs were sourced from Third World countries.

In discussions with the surveyed firm managers, it became obvious that in many cases there was no question as to where the local firm was to purchase its inputs. However, a few executives stated that if the landed price of an input from their affiliated TNC was in excess of the cost from other sources by some predetermined figure, they were free to source elsewhere.

Why do the firms not purchase more inputs locally? The overwhelmingly most important reason given — product not available locally — unfortunately begs the question, or at least resolves into a circular proposition. From discussions with managers who were feeling the pressure from the government to increase local content, it seems that in many instances inputs become available domestically when sufficient pressure is applied.

Many inputs, however, are simply not produced currently in the Philippines. When asked why this is the case, “economies of scale” was the reason most often given: the local market is not large enough to support economically sized production units. The reason, although undoubtedly correct in many cases, is not complete. For example, costs may be higher with smaller sized units, but by how much? One pharmaceutical firm manager commented that some intermediate inputs could be produced locally with only a moderate increase in cost. To do so would necessitate some tariff protection and agreement among competing firms in the industry to pool their demands and buy locally.

If the local market does not exhaust the potential source of demand, exports are possible. Why are certain intermediate goods not manufactured locally and exported? Transportation and other costs are surely part of the reason, but the integrated and hierarchical nature of TNC operations is undoubtedly central to the issue (Hymer, 1979). To bring an alteration in this pattern will require not only government mandates within individual Third World countries, but considerable South-South cooperation.

Turning to exports, 13 of the 28 cooperating firms replied that they were engaged in exporting. Only two of this group, however, are major exporters; 9 of the 12 imported more in 1979 than they exported.

Those that indicated they would increase their exports in the future pointed to several reasons among which were government incentives and pressures and the development of new product lines. One manager pointed out that the products his firm manufactures were also produced in almost every country, thus there is little chance of export. However, he continued, in response to the government's policy of encouraging exports, they were looking for a new product line that is exportable.

Three factors appear to be relatively important in explaining the lack of exports: high cost of local production, possible encroachment on market of the affiliated TNC or its subsidiaries, and tariffs or other trade barriers in importing countries. Transportation cost was of moderate importance. On the other hand, license restrictions, limits of product design, and insufficient marketing network were not significant reasons.

Lastly, the impact of government policy was examined. Several managers noted that efforts were being made to reduce imports to meet government guidelines and because of tariffs and foreign exchange restrictions. One firm, however, mentioned that its imports went up because of reduction in the level of protection. Fewer firms mentioned changes on the export side. For those that did, the major considerations were an ability to obtain foreign currency and export incentives.

There is some movement away from the import-dependent nature of import-substitution foreign investment and away from targeting only the local market. But the movement is only incremental. It seems obvious that the market is not yet driving these firms to rely on local inputs nor to penetrate foreign markets. Government regulation has had some impact. Whether the lowering of the level of protection will speed the process remains to be seen.

### **Conclusions and Policy Environment**

The manager of a TNC-affiliated firm in the Philippines (whose firm is producing for the local market) probably does not think much about the impact of his or her firm on the economic development of that country. Making a profit is a much more immediate concern. On the other hand, if asked whether the firm was making a development contribution, that same manager would surely respond in the affirmative. A quality product is being produced; Filipinos are

being employed and generally paid at higher rates than elsewhere in the economy; the imported technology is impressive in its surroundings; the headquarters, at a minimum, is air conditioned; profits are being made and, perhaps, taxes paid. However, when specifics are discussed, the picture is much less rosy. In any meaningful sense, technology is being transferred only marginally. The workers hired are among the more educated, and once employed by a TNC-affiliated firm, they tend to remain the employees of TNCs. Skill development occurs, but only in limited ways and in specific areas (management training being a notable exception). The nature of production is last-stage and likely to remain so. Filipinos firms, unless linked with other TNCs through joint ventures or licensing agreements, are no match for the resources the affiliated TNC can provide. The products produced are likely, but not always, to be accessible only to the affluent and aspiring middle class. Very little in the way of transition to export manufacturing is occurring. These views are not imposed; they are the distillation of information provided on questionnaires and in conversation by managers of the largely import-substituting, TNC-affiliated firms who I interviewed. Elsewhere, I have also shown that, over the long period, TNCs have made little contribution to employment or savings in the Philippines (Lindsey, 1983).

Critical commentary on the purported benefits of TNCs is not new. Although I have added to the body of such information, the significant contribution of this paper is to have looked at the issue broadly with respect to one Third World country — the Philippines — and to solicit information about firm behavior from those in the best position to know — the executives of TNC-affiliated firms. The general attitude towards TNC investment within which my findings must be situated, however, is significantly less critical currently than it was in the late 1960s and early 1970s. The reasons are manifold, but can for my purposes be categorized as: theoretical, political, and economic.<sup>28</sup>

Theoretically, there is little agreement on how to view TNC investment. The version of dependency theory associated with Andre Gunder Frank posed the issue sharply. However, that approach has suffered from both theoretical and empirical criticisms.<sup>29</sup> Other ap-

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<sup>28</sup>The categories contain a considerable amount of overlap and are useful primarily for focusing on the subject from different perspectives. Lall (1985: Chap. 4) examines this issue in some detail.

<sup>29</sup>For a discussion, see Chilcote (1981).

proaches are less sweeping in their conclusions. For example, the historically-based dependency theory coming out of Latin America provides more a framework for analysis than specific policy recommendations.<sup>30</sup> And other theoretical efforts, particularly those coming out of the Marxist tradition, have been directed at examining TNC activity within the context of a larger, world economy.<sup>31</sup> In doing so, the nationalist orientation of the popularized dependency theory has given way to a more class-based analysis. Analysis of TNC activity is more complex and contingent.

In political debates over TNC activity in the Philippines, as well as in other Third World countries, intellectuals have made significant contributions, but the issue has been largely shaped and fought over by the different strata of the bourgeoisie. For reasons that varied with the country, those critical of TNC investment lost the debate. In the Philippines, this occurred when President Marcos declared martial law in 1972. In addition, much of the criticism by local capitalists diminished significantly with the movement of TNC investment away from subsidiaries and towards joint ventures. The growth of non-American TNC investment also has had an effect, loosening the link made in political discourse, particularly by students and intellectuals, between U.S. intervention and TNC investment. Today, for example, the continuing presence of U.S. military bases in the Philippines is much more of an issue in U.S.-Philippine relations and a focal point for resistance to U.S. involvement in that nation than are American-owned TNC investments in that nation.

Lastly, the economics of the issue. First, the economic dynamism of the NICs demonstrated conclusively that no general case can be sustained that TNC investment must be negatively correlated with economic development.<sup>32</sup> Second, the rapid growth of international borrowing and the subsequent debt crisis have simply become a much more pressing concern than the specifics of TNC activity. And, third, the turn-down in economic activity worldwide during the

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<sup>30</sup>Cardoso and Falletto (1979) provide one of the more comprehensive attempts.

<sup>31</sup>For a comparison of theories dealing with TNC activity in the Third World, see Jenkins (1987).

<sup>32</sup>Although the NICs have encouraged foreign investment, with the possible exception of Singapore, there has been considerable regulation and direction. Further, the extent to which the investment is consequent rather than causative in explaining the economic development of the NICs is unclear.

1980s has shifted the focus. The issues mentioned by the hypothetical TNC executive at the beginning of this section of this paper have perforce become overriding concerns.

The findings presented in this paper must be evaluated with the above considerations in mind. Since the latter 1960s governmental regulation of TNCs in the Philippines has increased. The impetus, however, has been more technocratic than nationalist.<sup>33</sup> A series of laws were passed by the Philippine Congress beginning in 1967 to provide incentives and direction for TNC investment. A Board of Investments was created to administer the incentives and regulations. The Central Bank also had considerable power in this area.<sup>34</sup> I have argued elsewhere (Lindsey and Valencia, 1982) that many of the government's measures were rather *ad hoc*, but Kirchbach (1983: 215-6) is no doubt correct in his argument that most of the efforts were directed at protecting the local business community by limiting ownership and at supporting the balance of payments. There was also a concern by the successive Filipino governments to maintain sufficiently cordial relations with Washington to ensure a continued resource flow from the U.S. to the Philippines, and this has necessitated a favorable attitude towards foreign investment (Lindsey, 1985). There has been some attention directed toward facilitating technology transfer and limiting restrictive business practices (Virata, 1972), but the efforts have been limited.<sup>35</sup>

A number of possible policy measures flow from the analysis presented in this paper, but they are all contingent. First, the implementation of appropriate policy will have to await the end of the current economic crisis in the Philippines. Useful TNC investment

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<sup>33</sup>In general, proponents of TNC investment in the Philippines have simply assumed the benefits. The critical studies have brought data to bear on the issue, but have tended to be most concerned with questions of monopoly, power, and influence within that society. For example, see Espiritu, et al. (1977) and Clemente, Bacungan, and Laxa (1979), and Lindsey and Valencia's (1982) survey of the literature on foreign investment in the Philippines.

<sup>34</sup>For a comprehensive review of regulation of foreign investment in the Philippines until the mid-1970s, see Cagampang-de Castro (1977) and Bacungan (1978). Robinson (1976) and, more recently, Kirchbach (1983) analyzed the Philippine regulatory environment in a comparative perspective.

<sup>35</sup>Conversations with individuals in the Philippine government's Technology Transfer Board in the early 1980s led me to believe that the main efforts in the area technology transfer were in monitoring royalty provisions of contracts and not in ensuring that useful technology was being transferred. They did not have the manpower to accomplish the latter task.

results from successful economic development, not the other way around. And it is within a dynamic, economic environment that market forces tend to work in the right direction. Second, there is a need for the provision of effective government services. The literature on foreign investment is rather clear that incentives do not help very much. In part they cannot sufficiently discriminate. The literature is also reasonably supportive of the proposition that the provision of infrastructure and efficient government services are important to (but not only to) foreign investors. The provision of such services has been a perennial problem in the Philippines. During the years of the Marcos regime, incentives verging on give-aways and repression of the labor force were substitutes, and not very effective ones.

To the extent that one and two above can be accomplished, then the government is in a position to create a regulatory and negotiating environment that can result in effective development contributions by TNCs to Philippine development. The specifics will depend upon the government's ability, working with industry, to identify needs and directions.

The entire process, however, will remain hostage to the behavior of Filipino capitalists. To the extent their behavior is rent-seeking, the requisite growth dynamic is unlikely to occur. Nor will government be prodded toward greater efficiency. Political favoritism and corruption will be the more likely outcome. The history of Philippine industrial development does not allow one to be sanguine on this issue. The section on decision making relating to technology and product selection above shows that, although there is some contesting for authority, to a considerable extent Filipino capitalists are willing to allow their TNC affiliates to make technology-related decisions. In the last analysis, however, successful capitalist development depends on the behavior of the capitalists. It may ultimately be this issue, rather than government policy, that is at the core of successful economic development in the Philippines.

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