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# State-Owned Enterprises in Latin-American Exports

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Over the past decade, the governments in most Latin-American countries have substantially expanded the number of firms they own and control. Today such firms are found not only in traditional public utility activities but also in raw materials extraction and processing and in a wide range of manufacturing activities. Now that the promotion of exports is high on the national agenda of many Latin-American countries, the strengths and weaknesses of state-owned enterprises as exporters have become an issue of considerable importance.

## **STATE-OWNED ENTERPRISES IN OIL AND MINING**

State-owned enterprises in Latin America that are engaged in the extraction of nonrenewable raw materials tend to occupy a special place in their economies. The political history of the area has set these industries apart as special cases. In any case, even if no such distinction existed, the nonrenewable raw materials encompass some of the most prominent enterprises in the area.

The importance of state-owned enterprises in nonrenewable raw materials is suggested by the figures in the table.<sup>1</sup> To discern how the public nature of these enterprises may affect their export performance, it may help to take a closer look at some of the industries concerned. For that purpose, two industries have been singled out: oil and iron ore.

### **The Case of Oil**

All the state-owned enterprises in Latin-America's petroleum industry were brought into being with one common motivation, namely, to end foreign control. There were many reasons for governments to desire such control. In the context of this paper, the important question is how control is likely to affect the foreign trade of Latin-American countries. To shed light on that question,

PRINCIPAL STATE-OWNED ENTERPRISES IN LATIN AMERICA ENGAGED IN OIL AND  
SELECTED MINERALS, MID-1970s

Commodity	Country	Enterprise	Year of founding	Annual sales, 1977 (\$ US millions)
Oil	Venezuela	Corporación Venezolana de Petróleo S.A. (PETROVEN)	1975	9,633.7
	Brazil	Petrobras	1953	5,941.9
	Mexico	Petróleos Mexicanos (PEMEX)	1938	3,393.1
	Argentina	Yacimientos Petrolíferos Fiscales de Argentina (YPF)	1922	1,899.0
Copper	Chile	Corporación Nacional del Cobre de Chile (CODELCO)	1971	1,231.2
		Empresa Nacional de Minería <sup>1</sup> (ENAMI)	1930s	147.9
	Mexico	Compañía Minera de Cananea, S.A. <sup>1</sup>	1972	66.8
	Peru	Mexicana de Cobre <sup>1</sup>	1969	---
Empresa Minera del Centro del Peru (CENTROMIN) <sup>1</sup>		1973	319.6	
Tin	Bolivia	Empresa Minera del Peru <sup>1</sup>	1970	106.3
		Corporación Minera de Bolivia (COMIBOL)	1952	235.1
Iron ore	Brazil	Companhia Vale do Rio Doce (CVRD)	1942	688.7
	Venezuela	C.V.G. Ferrominera del Orinoco S.A.	1974	243.1
	Chile	Compania de Acero del Pacifico S.A. (CAP)	1971	222.1
	Peru	Empresa Minera del Peru	1970	106.3 <sup>2</sup>
Bauxite	Jamaica	Kaiser Jamaica Bauxite Company <sup>1</sup>	1977	120.8 <sup>2</sup>
		Jamaica Reynolds Bauxite Partners <sup>1</sup>	1977	72.5 <sup>2</sup>
	Guyana	Guyana Bauxite Company	1971	29.0 <sup>2</sup>
		Bauxite Industry Development Company	1974	96.0
	Brazil	Berbice Mines	1974	72.5 <sup>2</sup>
		Mineracao Rio do Norte <sup>1</sup>	1979	---

Sources: Various, including [4; 19; and 34, pp. 34-43].

<sup>1</sup>Includes substantial private interests.

<sup>2</sup>Actual sales figures are not available; these estimates are calculated by multiplying mine capacity with a US Bureau of Mines estimate of the average f.o.b. per ton value of bauxite imported into the US in 1976, \$24.16; see [25, p. 202].

I begin with another: When the big multinational oil companies were in charge, what pricing and output policies were they pursuing, and why?

Before the various nationalizations of oil companies in Latin America had occurred, their enterprises were securely linked to a worldwide oligopoly that was managed by a handful of US and European firms, the so-called international majors. Until the early 1970s, most of the world's oil flow took place through the vertically integrated structures which such firms had created. Vertical integration gave the companies considerable discretion in fixing the transfer prices at each stage in the vertical chain. The majors chose to exercise that discretion by capturing most of their profits in the transfer of oil between the wellhead and the refinery; by contrast, the refineries and distribution

systems were typically obliged to operate close to the break-even point, even at an apparent loss [1, pp. 89–191; and 32, pp. 46–50 and 173–97]. One authority notes:

... during the second half of the fifties the international majors were realizing little or no profit on the transportation, refining, and marketing of Middle East Oil. Virtually the entire profit... was in production. [21, p. 70]

The oil companies chose this strategy out of a recognition of the fundamental strengths and weaknesses of their own positions.<sup>3</sup> The highest barrier to entry in the vertical chain existed at the stage of crude oil production; the lowest, at the distribution level. If competitors were to be discouraged at all levels, it made sense for the oil companies to try to capture the available profits at the stage at which newcomers could have the greatest difficulty of entry.<sup>3</sup>

Because the oil companies were charging what they thought the traffic would bear for their crude oil, most economists were surprised by the magnitude and persistence of the rise in crude oil prices that occurred after the oil companies lost control in 1974. With the help of hindsight, some of the reasons for the increase now seem much clearer [33, pp. 39–57; and 42, pp. 159–78].

By the end of the 1960s, the oligopoly in world oil markets was weakening rapidly. Independent oil companies, such as Occidental Oil and Continental Oil, were entering the international oil market on a large scale. Competition from these new sources in international markets tended to weaken the prices of crude oil and its products during much of the 1960s, thereby masking the fact that basic changes were taking place in the underlying supply-demand balance.

In the early 1970s, the tightness of supplies began to dominate the market. Nonetheless, at that stage, the multinational oil companies had a much less roseate view of long-term demand prospects than did some of the oil-exporting countries. Accordingly, the multinationals began to resist the pressures for even more price increases. From their viewpoint, the new price levels seemed to pose a threat to sales. With high economies of scale present in the refining operation, a drop-off in sales would represent an even greater threat to profits. Moreover, the high prices would have placed new stresses on the balance of payment positions of some importing countries; and the added demands almost certainly would have invited the wrath of governments and consumers in those countries.<sup>4</sup>

The Arab oil embargo of 1973–74 generated prices in the spot market far higher than anything previously encountered. At this stage, the private international oil companies slipped into the background, leaving the price-fixing function for crude oil to the oil-exporting countries. Thereafter, the price-making function of the private companies consisted mainly of maintaining some consistency between the prices of different grades of oil, different oil products, and different markets.

So far, the oil-exporting governments have been responsible for three rounds of sharp price increases—one round associated with the 1973–74 embargo, another with the Iran revolution of 1979, and a third with the Iran-Iraq war. In the first two instances, the increases represented ratifications of prices already registered in the spot market. In both instances, the increases proved too high to be sustainable in real terms; after the initial increases, world inflation and widespread price-rebating substantially reduced the real size of the increase.

So far, therefore, the record suggests that the governments of oil-exporting countries have exercised their oligopoly power boldly; but the exercise of that power has occurred through the unplanned initiatives of individual countries, not through the agreements among the countries.<sup>5</sup> A priori, such a conclusion would hardly be surprising; whereas the private firms share a common interest in high and stable profits, the oil-exporting countries have enormously diverse interests [31, pp. 63–84]. Some are embarrassed by their increased riches; others are needful of all they can earn. Some have close political ties with importing countries; others see the importers as political adversaries. Finding a common pattern of behavior for the group, especially in cases in which the pattern may require substantial compromises by some, entails considerable difficulties.

Based on this performance, I conclude that OPEC's capacity to impose a coordinated strategy upon its members has yet to be tested. The system that exists is patently unstable on the upside; it could also be unstable on the downside. That possibility will be relevant in the 1980s, of course, if adjustments in supply and demand bring about a surplus in productive capacity; and even then, only if the countries that have a surfeit of foreign exchange reserves will not or cannot play the role of balance wheel as suppliers. Estimates of whether such a condition will develop in the 1980s are sure to vary.

The stability of the oil market on the downside is also rendered uncertain by various other changes in the structure of the market. One such change is in the number of participants. In the 1980s, the number of firms engaged in the international distribution of oil and its products will be quite large, too large to generate a pattern of behavior that would characterize a tight oligopoly. In addition to 8 to 10 majors, one must count on a dozen or more state-owned enterprises, plus 15 or 20 private independent companies.

The capacity of state-owned oil companies to act in concert as part of a highly integrated international oligopoly is particularly in question. At times, to be sure, such companies often seem free to do anything that private companies would do. In the case of Petrobras, there have been evident ambitions to create a vertically integrated multinational structure; in 1978, for instance, prospecting was being conducted in seven different countries with other state-owned enterprises, under contracts similar to those of the international oil companies [3]. Pemex has acquired an affiliate in Spain and, according to inter-

views conducted with officials in Mexico, has a hankering to acquire a distribution system in the southern part of the US. Meanwhile Petroven contrives to maintain close links with the distribution systems of the multinational companies which were once concessionaires in Venezuela.

At the same time, however, state-owned oil enterprises in Latin America remain linked to the political process of their respective countries. [9, pp. 43–65; and 22, p. 58].<sup>6</sup> Their ultimate obedience to the chief executive is never seriously in question. To the extent that state-owned enterprises are responsive to the distinctive internal priorities of the countries that own them, the probability of effective concerted action is reduced.

### **The Case of Iron Ore**

As the table indicates, the iron ore industry of Latin America, like the petroleum industry of that area, includes some major state-owned enterprises.

But the iron ore industry had differed from that of oil in a number of critical ways. First, the world's iron ore markets have not been as closely controlled and as tightly integrated as in the case of oil. Second, the demand for iron ore, in contrast to that of oil, has been rather soft in the 1970s and has presented more uncertain prospects for exporters of the product. Nevertheless, there are certain underlying similarities between the behavior of state-owned enterprises in iron ore and oil.

Like firms in the petroleum industry, those that mine iron ore and make steel have always been faced with the uncertainties created by their high fixed costs and low variable costs. In Europe, for several decades before World War II, firms in these activities sought to reduce their risk by allocating the markets for finished steel through cartels [14, pp. 203–16].

In the US, where cartels were officially frowned upon, the steel companies sought stability by developing vertically integrated chains, stretching from the iron ore mines to the steel-using fabricating plants. To a remarkable degree, the American steel industry developed captive sources of iron ore, partly through mining operations conducted in branches or subsidiaries, and partly through closely linked firms that maintained a nominal independence from the steel firms [39, p. 33; and 41, ch. 2].

Since World War II, however, the tightly integrated structure of the world steel industry has been very much weakened. One of the key questions in assessing the future of the state-owned ore exporters in Latin America is whether the pressures that weakened the structure will persist.

The weakening of vertical integration in the world steel industry was due first of all to a decline in the relative position of the established steelmakers, particularly of the US producers. After World War II, the locational advantages of the American steel industry in world markets were being rapidly eroded. Originally, the industry was located in midcontinent, partly because of its proximity to the rich Mesabi ores. After World War II, however, the richest

Mesabi ores were depleted. Moreover, the size of ships carrying iron ore rose rapidly, reducing the costs of seaborne transportation by nearly two-thirds and thereby adding to the disadvantages of the US industry [23, p. 60; and 12, pp. 90-123].

In addition, during the 1960s, Australia became a major new ore source, while Japan appeared as a new user. Fortuitously their relative locations generated complementary strengths. And these new participants in the world ore market were slow to develop on vertically integrated lines.

The disposition of Japanese firms to avoid vertical integration in the 1960s appears to have been based on certain transitory factors [24, p. 57]. To begin with, Japan looked upon herself as short of foreign exchange, and therefore not in a position to permit overseas investments. Moreover, Japanese firms were engaged mainly in supplying their home market needs; and in that market, they were free of some of the uncertainties that had stimulated the steel firms of other countries to engage in vertical integration. MITI's practice of pooling the purchases of all Japanese steel firms through a single negotiating agent relieved individual Japanese firms of the risk that domestic competitors might have a cheaper or more reliable ore supply. As for foreign competitors, these were effectively excluded by Japan's restrictive import policies. Japanese firms, therefore, were quite prepared at first to allow others to own their ore sources.

Meanwhile, in the 1950s and 1960s, some US steel firms moved abroad in their search to replace the waning Mesabi ores. These firms sought to own their foreign sources, and for a while they seemed to be succeeding. But their success was blunted in the first place by the fact that by 1960 Brazil and India had placed their international ore trade in the hands of state-owned enterprises. And it was given a further setback by the fact that in the 1970s, as the table indicates, a wave of nationalizations of mining properties reduced the degree of vertical integration even further.

So far, Brazil's sales policies appear to have been quite successful. Brazil's production costs have been low, and its ores have been rich and plentiful, thereby offering considerable room for price cutting when that has been necessary. Although the demand for ore in world markets has slumped from time to time during the past two decades, the trend in demand has been broadly upward [16, p. 1, and *passim*]. On balance, the operation has been highly profitable.

By the later 1970s, however, there were signs that the position of the Brazilian ore industry might be changing. For one thing, the Brazilian steel industry, principally owned by the state, was demanding larger amounts of ore. In addition, CVRD was rapidly increasing the number of its partnership arrangements with European and Japanese iron ore users. Already by 1970, CVRD had completed agreements that committed mines and pelletizing plants in Brazil to

German, Belgian, and Luxemburger users on a long-term basis. During the 1970s, joint ventures in ore processing plants were undertaken with Italian, Japanese, and Spanish steel companies. And in the late 1970s, a large-scale mining project was developed in partnership with a group of Japanese steel companies.<sup>7</sup> Evidently, the long-term propensity of steelmakers and iron ore producers for vertical links was beginning to reassert itself.

Meanwhile, in Venezuela, the iron ore industry also seemed headed for more vertical integration, albeit by a different route.

In 1974, at the time of nationalization, Venezuelan iron ore was a comparatively minor factor in world supply, little more than one-fourth of Brazil's output. In contrast to Brazil and most other developing countries, oil-rich Venezuela had no great concern with balance of payment problems. Moreover, because Venezuela perceived itself the international leader in the developing countries' drive for higher raw material prices, Venezuela felt much more constrained than Brazil in reducing its prices. Accordingly, Venezuela expected to achieve stability by the time-tested recipe of the industry, namely, by vertical integration within its national borders. In addition, plans for a huge expansion in national steel production in the early 1980s — a fourfold or fivefold increase — meant that at existing levels of production, at least half of Venezuela's iron ore would soon have a ready domestic market.

Meanwhile, Venezuela's experiences in the sale of iron ore have underlined one key point — that so-called long-term contracts in practice cannot provide much assurance of stability for sellers. Unintegrated sellers of iron ore, both state-owned and private, have typically tried to secure the stability they desired by entering into long-term arrangements. The reduction in market uncertainties, in transaction costs, and in the exposure to moral hazard have all argued strongly for such commitments. But so-called long-term contracts have proved perishable in practice.

The first evidence of that fact was provided by Venezuela itself, when in 1975 it abruptly abrogated some long-term contracts with German and British buyers, on the grounds that the prices were too low. That experience was followed a few years later by the quiet refusal of US Steel to buy all the ore to which it was committed in its long-term contracts with Venezuela. The moral to be drawn from these experiences plus numerous others like them all over the world was painfully evident.<sup>8</sup>

The future of iron ore exports from Latin America, like the future of exports of petroleum, depends heavily on the general level of world demand for the product. I cannot pretend to be able to choose knowledgeably from among the wide range of forecasts that now are being circulated.<sup>9</sup> But apart from such forecasts, there are some possible institutional developments that bear on Latin America's export prospects.

One such development may be the creation of an isolated high-cost steel market in North America. It is unlikely that the US steel industry will be able



to overcome the locational disadvantages that handicap it in international competition. At the same time, Europe's steel industry is also suffering from the pains of locational adjustment and surplus capacity. The situation in the two areas is ripe for action that would push the burden of adjustment onto the shoulders of future steel exporters such as Japan, South Korea, and Brazil. Some of the restrictive structure, indeed, is already in place [38, pp. 25-31 and 38-39]. If the trend continues, the pressure on US industry to find the lowest-priced ores will be even weaker than it is today, and the industry will probably be found relying for its ores on Mesabi and Canada, with reduced need for other supplies [6, p. 106].

Another possible development is the resumption of the vertical pattern of organization among leading steel producers. As long as Japanese steel firms refrained from developing a vertical structure, the compulsion on the part of other steel exporters to control their ore sources was not very strong. With Japanese steel prices setting the pace and with Japanese producers paying the open market price for their ore, a competitor could afford to expose itself to the vagaries of that market. However, the willingness of some Japanese mills to acquire equity interests in iron ore mines in Latin America and Australia — a willingness more evident in the 1970s than in the 1960s — opens up the possibility that the drive toward vertical integration in the steel industry could gather steam again. In that case, Brazil may be presented with a real problem, given the fact that the country's ore production in the 1980s promises to exceed its domestic needs. Venezuela may escape a part of the problem, provided that its plans for the expansion of steel production are realized. But the realization of these plans depends on two difficult conditions: the mobilization of technical talent sufficient to operate a vastly expanded steel capacity; and the availability of international markets sufficient to absorb the output. The probability that both conditions will be satisfied in the 1980s is not very high.

If the mining enterprises of Brazil or Venezuela should find themselves in difficulties, they could perhaps reduce their difficulties a little by playing one trump card. This is the expansion of their bilateral barter deals, to include an exchange of goods with other countries that may be having difficulties in the marketing of their exports. Brazil's CVRD has already concluded bilateral deals with Bulgaria, China, and Poland [8, p. 86; 10, p. 3; and 11, p. 2]. CVRD's experience with such deals could particularly dispose Brazil to the somewhat increased use of barter or similar swap arrangements, especially in trade with other developing nations and with communist countries.

#### **Some Generalizations**

Despite the seemingly distinctive details that are associated with the oil and iron ore cases, both seem to point to a few key generalizations.

One of these is obvious, even trite. More important than the institutional structure of the markets for oil and iron ore in determining the prospects for

Latin-American exports is the underlying supply-demand situation. Cartels may modify the effects of such a situation; but their impact is likely to be only secondary.

Nevertheless, it is not unimportant to note that the possibility of forming effective export cartels in the future is being undermined. In many industries there has been steady increase in the number of firms in the international market and a steady decline in the industry's concentration [40, p. 8]. The fact that some of the new entrants are state-owned enterprises reduces the possibility of creating effective cartels even further. Instead of being able to concentrate on the common objective of high and stable profits, as a group of private oligopolists from different countries are often in a position to do, the state-owned enterprises are likely to find their ability to cooperate affected by the differing situations of their respective governments.

State-owned enterprises may also find it difficult to improve their prospects for stability by the other available route, that is, by integrating vertically with users of the raw materials located in foreign countries. Such integration usually means a lessening of national control and may even require an export of capital to set up downstream facilities on foreign soil. The prospect of state-owned enterprises engaging on a large scale in activities of this sort is bound to evoke some political opposition at home and to generate a political veto from time to time. Accordingly, I expect that the growth of state-owned enterprises in Latin-American countries will add a little to the instability and uncertainty that is so often associated with the export of raw materials.

#### **STATE-OWNED ENTERPRISES IN MANUFACTURING**

Until a decade or two ago, Latin-America's exports of manufactured goods were trivial in amount. By the 1970s, exports of manufactured goods from Latin-American countries had begun to reach substantial proportions. So far, however, state-owned enterprises have not played a very significant role in such exports.

Inasmuch as data on exports goods are not ordinarily available by individual state-owned enterprises, this conclusion can only be reached by inference. A study of 265 large state-owned enterprises engaged in manufacturing in Latin America shows that in the mid-1970s 228 were specialized in branches of industry that did little or no exporting from their respective countries. Of the 47 remaining, 38 were in raw-material-processing industries, such as sugar, petroleum products, and cement. Accordingly, the number of state-owned enterprises engaged in exporting manufactured goods in substantial quantities appears to be very low.

This is not a surprising result. Governments typically create state-owned enterprises in order to assert control over some key industry or to foreclose foreign-owned subsidiaries from dominating the field. But governments tend

to avoid the nationalization of enterprises that they believe would present formidable problems of management [18]. What this means, in effect, is that foreign-owned manufacturing enterprises which are involved heavily in the exportation of their output are likely to be protected against nationalization.

The state-owned enterprises that have been started from scratch by governments in the manufacturing field are also unlikely exporters, at least in the early stages of their existence. Commonly, these enterprises are large-scale capital-intensive affairs that require the mobilization of large quantities of capital and the assumption of considerable financial risk. As a rule, projects of this sort, epitomized by Venezuela's state-owned steel mills, face a long run-in period before they have mastered the complex problems of quality control and production reliability; during that period, they aim for the relatively easy domestic market reserved for them by governmentally imposed import barriers. Factors such as these explain why, so far, there have been only a limited number of state-owned enterprises that have successfully exported large quantities of manufactured goods.

#### **Strengths and Weaknesses**

But what of the future?

State-owned enterprises have certain putative strengths, suggested in this paper. Backed by the resources of the state, state-owned enterprises are typically in a position to marshal capital in larger quantities and at lesser cost than would be available to their domestic businessmen (though not necessarily to foreign-owned enterprises). The capacity of state-owned enterprises to assume the financial risks that go with large, lumpy investments also is relatively strong. It also seems reasonable to build on the assumption that state-owned enterprises are in a superior position to persuade their governments to impose restrictions on imports or exports in ways that would be helpful to firm strategies.

However, I have also suggested that state-owned enterprises may be saddled with certain drawbacks as prospective exporters. One of these is the likelihood that such enterprises will be inhibited at times from setting up elaborate facilities in foreign countries. Moreover, it is hard to picture state-owned enterprises attaining quite the same flexibility of strategy as private exporters—flexibility in the modification of products, in pricing policies, in the choice of markets, in the choice of distribution channels, and so on.

How do these strengths and weaknesses square with the requirements for successful exporting? Industrial products make one set of demands; consumer products another. Products that must be sold in a continuous stream over a long period of years, such as automobiles or pharmaceuticals, require one approach; products that entail a single vast sale, such as a steel plant, require another. In order to explore the implications of the special strengths and weaknesses of

state-owned enterprises as they apply to the various categories of exports, I have distinguished crudely between two groups: standardized manufactures, that is, those whose characteristics change very little over extended periods of time and whose characteristics are similar even when offered by different sellers; and nonstandardized manufactures, that is, products with more mercurial or more diverse characteristics.

#### **The Export of Standardized Manufactures**

From time to time, state-owned enterprises have demonstrated that their capacity to mobilize financial resources and to accept business risks can contribute substantially to the export of standardized products. The familiar cases are those in which the national producers and exporters of the product are too small for any of them to maintain adequate inventories, adhere to expected quality, or promote the product as a class; processed coffee, edible oils, and refined sugar are cases in point. State-owned enterprises, armed in some cases with the coercive power to compel producers and exporters to pool their resources, may be the only available response [43]. More important in the future growth of Latin-American exports of standardized products, however, will be the manufactured products that are based on nonrenewable resources. Once again, products based on crude oil and iron ore provide leading examples.

Petrochemicals represent a case in which state-owned enterprises are being used by the government to enter a large-scale, technologically difficult industry requiring substantial capital commitments and presenting difficult challenges of organization. State-owned enterprises are likely to represent a major force in Latin-America's petrochemical industry in the 1980s. Brazil anticipates raising state participation in its national petrochemicals production to 65 percent by 1983, squeezing back foreign ownership in the process; and Mexico plans to raise the state's share to 94 percent by that year [35]. Besides, official Mexican plans contemplate that petrochemical exports will grow throughout the decade of the 1980s by 14 percent annually, starting from a base of about \$150 million [26, p. 134]. Similar plans are found in practically every other oil-exporting country [37; and 5, various issues].

There is a considerable risk that the aggregate capacity of the world's petrochemical plants in the 1980s will substantially exceed demand. If that occurs, the ability of Latin-American countries to market their petrochemicals will turn mainly on two key questions: whether they themselves are net exporters of crude oil, and whether crude oil will be in short supply. By tying crude oil sales to petrochemical sales, the oil-exporting countries such as Venezuela and Mexico will be in a position to compel the rest of the world to accept their petrochemical products, even if the petrochemical facilities in the importing countries are thereby forced to cut back.<sup>10</sup> Oil importers such as

Brazil, meanwhile, many find themselves paying very high prices to oil exporters and being pressured by the exporters to accept petrochemicals on a tied basis.

If oil is not in short supply, however, the difficulties of Latin-American countries may prove even more widespread. It goes without saying that Mexico, Venezuela, and the other exporters will be deprived of a critical source of support; but paradoxically it may make the problems of Brazil's petrochemical plants even more acute.

The reason for expecting increased difficulties for petrochemical plants such as those in Brazil has to do with the pricing policies of the oil-exporting countries. Many branches of the petrochemicals industry have already begun to experience periodic episodes of price-cutting in recent years as the number of sellers has increased. Most sellers from the oil-exporting countries will start with a major cost advantage, namely, on-site gas produced as a byproduct of crude oil production. In addition, producers in the oil-exporting countries will almost certainly be subsidized through a preferential price for liquid feedstocks and energy, and through preferential terms for their capital. Such preferential pricing is not confined to state-owned enterprises or to less developed countries; but it promises to be especially prominent in the sales of state-owned enterprises from less developed countries in the 1980s. Some of the state-owned sellers will have made alliances with established distributors in the importing countries, including some leading multinational oil or chemical companies; others may even acquire existing firms with established positions in the importing markets; but others perforce will have to break their way into such markets through new distribution channels, thus adding to the stress.

In iron ore, the analysis runs on similar lines. Again, the general supply-demand situation dominates. If iron ore and steel are in easy supply, the fabricated products will be hard to sell. Pelletized ores that are linked through vertical integration to foreign buyers may find a market;<sup>11</sup> but pelletized ores that must be sold in the open market may encounter greater difficulties. As for finished steel, the chances that it can be satisfactorily marketed abroad in periods of glut are especially slim for all the reasons cited earlier. The fact that such steel production will have been subsidized in various ways can be expected to add to the difficulties that exporting countries are likely to encounter.

If state-owned enterprises do encounter difficulties of this sort, however, there is a strong possibility that they will try to expand the use of bilateral barter deals of the sort mentioned earlier, enlisting the help of their respective governments to mount such deals. One can only conjecture whether deals of this kind can account for a considerable volume of exports in the 1980s. In any case, problems such as these promise during the 1980s to lend a special degree of volatility and uncertainty to the exports of processed raw materials by the state-owned enterprises of Latin America.

### **The Export of Nonstandardized Manufactures**

There are numerous signs that various Latin-American countries are mastering the problems involved in the economic production of relatively nonstandardized products. As the comparative advantage of Latin America continues to shift, more Latin-American enterprises, public and private, will produce for the export market.

Successful marketing of such products is helped by a substantial measure of vertical integration. In the US, for instance, 37 percent of the manufactured goods imported from developing countries in 1977 consisted of transfers between affiliates, rather than of arm's-length transactions between independent parties [13, pp. 159-84], a fact reflecting the existence of a vertical structure in the firms responsible for the transfers. That percentage is likely to grow as imports from developing countries become more sophisticated; for instance, the comparable figure for US imports from OECD countries — countries that already export highly sophisticated products — comes to 61 percent.

The reasons for the internalization of the import transactions in sophisticated goods have been explored at length, and found to rest on solid considerations [20, pp. 209-22]. If the goods being imported are not standardized or if there are important economies of scale in distribution, internalization has advantages. The buyer must see the seller as capable of producing the desired product at the desired time; and the seller must see the buyer as capable of analyzing the market's needs, making the sale, and providing any required after-sale service. That degree of confidence is more readily available between affiliates than between arm's-length parties.

As I observed earlier, my assumption is that state-owned enterprises from Latin-American countries will feel somewhat inhibited about setting up elaborate assembly or after-sale servicing facilities in the markets of foreign countries. Nevertheless, there has been an extraordinary case or two in Latin America in which state-owned enterprises appear to have been able to create the necessary distributional links in foreign markets, enough to market highly differentiated products successfully. One such case is that of Interbras, a subsidiary of Brazil's Petrobras. Using the credit and organizational facilities underwritten by its formidable parent, Interbras has undertaken to promote the export of a wide spectrum of Brazilian goods, including goods from private sources. Although its exports have been concentrated overwhelmingly in a small number of raw materials and their immediate derivatives, some tens of millions of dollars of sales have also been effected in highly differentiated products, including tractors and household appliances [15, pp. 9-14].

State-owned enterprises also may have special strengths in the handling of one particular kind of export, that is, large-scale one-shot package deals such as the building of railroads and ports and the construction of large housing complexes. These deals have characteristically included the following ingredients:

a large dose of public financing on preferential terms; a large group of engineering, construction, and manufacturing firms, private as well as public, in an effective consortium; and a commitment to accept large quantities of goods in payment for such exports.<sup>12</sup> To be sure, deals of this sort can be put together by some private firms; the Japanese trading companies, for instance, have demonstrated a highly developed capacity for arranging undertakings of a similar nature with the help of their governments [44, pp. 210–19]. But the public character of Interbras probably has enhanced its ability to arrange such deals.

The success of Interbras in these export activities, however, may be due to another factor. Interbras, it should be noted, is the offspring of a state-owned enterprise that is outstanding both in the scope of its internal resources and the degree of its operating independence. Unlike most state-owned enterprises, Petrobras has readily set up affiliates in foreign countries. If state-owned enterprises could be expected to develop a degree of freedom to operate in overseas markets equivalent to that of Petrobras, the projection of their likely participation in exports might well be more positive.

Such developments, however, tend to increase the autonomy of managers of state-owned enterprises and to reduce the capacity of governments to control them. Governments then may have to face a difficult choice: whether to relinquish some measure of control over the state-owned enterprises, or to reduce the probability of successful exports. My assumption here — a critical assumption in any projection — is that Latin-American governments will periodically feel the need to rein in their state-owned enterprises, especially after those enterprises seem to be increasing their autonomy. On that assumption, state-owned enterprises will operate under a handicap as exporters of nonstandardized goods and services.

#### THE CRITICAL THEMES

These speculations point to only a few key conclusions regarding the role of state-owned enterprises in future Latin-American exports.

First, the increasing role of state-owned enterprises in many raw materials industries suggests that market prices will be more volatile, moving more vigorously both in sellers' and in buyers' markets. The increased number of firms in the market, coupled with the increased diversity of their interests arising out of the fact that they are state-owned enterprises, tend to reduce the probability that managed markets will prevail.

Second, the efforts of state-owned enterprises to increase the value of their exports through further fabrication of their raw materials is likely to create a period of indigestion in some products in the 1980s; the fact that such exports will have been heavily subsidized in many cases will add to the tensions of importing countries and increase the probability of import restrictions.

Finally, the efforts of governments to promote the exports of differentiated manufactures through state-owned enterprises could well succeed, especially if such enterprises are left free to develop vertical structures or other arrangements that link them firmly to the markets of the importing countries. But governments probably would be chary about allowing such arrangements to develop freely, lest the arrangements reduce the governments' capacity to maintain effective control over the operations of the state-owned enterprises involved.

## NOTES

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1. In nonfuel minerals, according to data prepared by S. Malcolm Gillis from figures reported in [28], for the period 1979-85, government enterprises were scheduled to invest in major projects valued at \$12 billion, three times as much as the projects of purely private enterprises.

2. These principles, when applied to other raw materials such as copper and tin ore concentrates, yield different pricing policies for the raw materials. Much depends on where the largest barriers to entry are found in the vertical chain, and on the relative importance of the raw material in the finished product.

3. The tendency to place a high price on crude oil was fortified until 1975 by certain important provisions of US tax law. See [17, pp. 1-11].

4. The balance of payment implications of higher crude oil prices vary according to the situation of the importing country. For the US, for instance, the adverse balance of payments impact of oil imports is reduced by the profits retained and repatriated by the oil companies as well as by the investments of some of the proceeds by the oil-exporting countries.

5. It may be, as some have suggested, that the oil-exporting countries, acting as rational monopolists, placed a higher discount rate on future earnings than did the oil companies. But in view of the process by which prices have been determined in world oil markets since 1973, I am doubtful that such so-called "rational" calculations lay behind the price increases.

6. The motivation for such actions, rather than being responsiveness to the state's demands, may be a desire of the enterprise manager to buy domestic political support [2].

7. Various annual reports of CVRD.

8. Information on Venezuela's abrogation of contracts in Europe was provided in interviews with European buyers. According to them Peru also broke its long-term contracts when it nationalized its iron ore mines in 1975. For other such cases, see [19, p. 31a; and 36, pp. 309-11].

9. Confidential studies circulating within industry predict a supply shortage; but other sources foresee surplus. For a wide range of published estimates, see [27, p. 78].

10. Saudi Arabia's Petromin, for instance, is already engaged in a series of deals with various multinational oil and chemical countries which point in that direction. These entail guaranteed deliveries of feedstocks for joint ventures in petrochemicals facilities located in Saudi Arabia. See [29, p. D-3; and 30, p. D-1].



11. Even in such instances, however, the partner that controls the market outlet could turn for its raw materials to alternative sources with which it has similar linkages. For details outside of iron ore, see [7].

12. I am indebted to Francisco Sercovich for his unpublished research on this point.

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