MULTI NATIONAL ENTERPRISE IN JAMAICA:

THE BAUXITE INDUSTRY

ABSTRACT

Since 1952, the economy of Jamaica has been dramatically restructured by the exploitation of bauxite by four multinational companies, for which Jamaica has become in the space of a few years the world's largest producer of the ore.

Due to the very structure of the Bauxite-Alumina Industry, as well as the fact of ownership, the enterprise in Jamaica has in a very small way integrated with the secondary sectors of the economy. And because of the capital intensity of operations, the amount of employment offered by the industry is minimal. The purpose of this study is to examine the salient contributions of the Bauxite-Alumina Industry to the Jamaican economy. In particular, the study hopes to show that the sole major benefit to the economy has been the extent of taxes paid to the Government. Given the latter, the study focuses on the historical and institutional background that ascertained the "bargaining power" of the Government versus the "bargaining power" of the companies in determining the tax agreements of 1952 and 1957.

MULTI NATIONAL ENTERPRISE IN JAMAICA:

THE BAUXITE-ALUMINA INDUSTRY.

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To Fafar

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I.

INTRODUCTION

Since 1952, Jamaica has been gradually transformed from a predominantly "sugar" export economy to a highly "industrial" mining one. The transformation has been the handiwork of a handful of foreign-based Multi National Corporations, exploiting the bauxite resources of this Caribbean island. Of the four companies operating in Jamaica three essentially confine their operations to simple extraction, while the remaining one processes the ore one stage further into alumina.[1]

Due to the very structure of the industry, as well as the fact of foreign ownership the enterprise in Jamaica has in a very small way integrated with the secondary sectors of the economy. Furthermore, due to the inherent capital-intensive nature of operations,

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[1] The three companies which engage in extraction only are Alcoa, Kaiser, and Reynolds - all of which are American. The fourth, which has processing facilities, is Alcan which is Canadian. In the late Sixties an agreement between Alcoa and the Government of Jamaica realized the operation of new alumina plants in Jamaica by early 1970's.

Aluminum Limited was set up originally by Alcoa as a subsidiary of the U.S. Company early in the 1920's. Alcan was created as a result of a court action shortly after World War II which required Alcoa to divest itself of the ownership and control of its Canadian subsidiary, Aluminum Limited. As of September 30, 1969, almost all of the 1.5 million convertable preferred shares and 34.7 per cent of 32.9 million outstanding common shares of Alcan were held in Canada.

the employment offered has been minimal. The purpose of this study, therefore, is to examine the relative economic contribution of the bauxite-alumina enterprise to the development of the Jamaican economy. Specifically, the study 1) surveys the contributions as observed from economic indicators, 2) pinpoints the area of tax payments and royalties as the critical contribution to the economy, 3) examines the nature of the negotiations between the companies and the Government and 4) sets forth the institutional and historical background that determined the "bargaining power" of the Government vis-à-vis the companies.

To set the background, a discussion of the theoretical costs and benefits of foreign private investment is offered followed by a discussion of the Multi National Corporation, with some specific remarks on the nature of Multi National Corporations involved in extractive industries. Following the discussion on the Multi National Corporations an introduction is given to the International Aluminum Industry after which proceeds a brief inquiry into the cost structure of bauxite and alumina. The section on locating decisions probes into the determinants of locating alumina plants in Jamaica.

Appendix I deals with the determination of bauxite wages by trade unions.

The time horizon for this study stretches into the next decade (1980), while the historical time period considered spans the period from 1942 to 1967.

II.

COST AND BENEFIT OF PRIVATE FOREIGN INVESTMENT[2]

From the standpoint of national economic benefit, the case for encouraging an inflow of capital lies in the fact that an increase in real income of the community may result from the act of investment. If the value added to output by the foreign capital exceeds the amount appropriated by the investor, the returns to the local economy are greater than the returns to the investor. As long as foreign investment raises productivity - all of which is not wholly realized by the investor, the greater product must be shared with others. This means some direct benefit to other income groups. These benefits may accrue to a) domestic labour in form of higher wages and increased employment, b) domestic consumers by way of lower prices, c) the government through higher tax revenues and increased availability of foreign exchange, and d) indirect gains through external economies.

An increase in real wages may be one of the major direct contributions of foreign capital. This can be demonstrated by way of a diagram, (Refer to Fig. 1)

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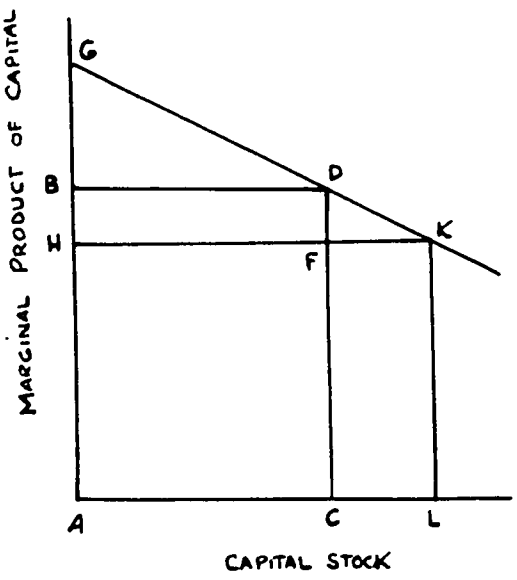
[2] Much of the following analysis is based on G.M. Meier, International Trade and Development, and Sir Donald McDougall, "The Benefits and Costs of Private Investment from Abroad", Economic Record, March 1960, pp.13-36.

first used by Sir Donald McDougall. Although this analysis rests on the assumption of perfect competition, it is useful nonetheless for purposes of illustration. Line GK represents the Marginal Productivity of capital in the capital-recipient country. (We assume the amount of labour fixed). The ordinate measures marginal product of capital and the abscissa measures the capital stock. If at the outset the domestically owned capital is AC, total output is AGDC. Assuming as in Perfect Competition, that profits per unit of capital equals the marginal product of capital then ABDC is a total profit on domestic capital. Total real wages will then be BGD.



(fig. 1)

Let there now be an inflow of foreign capital CL. Assuming the sectors of the economy are integrated total output increases by CDKL of which CFKL is the share of profits from foreign capital. Due to increased

investment, profit rate on total capital has fallen such that profits from domestic capital is reduced to AHFC . The amount accruing to real wages of labour now constitutes HGK, with the increase in real wages amounting to HBDK. Although one would agree that the increase in real wages is simply a redistribution of income from capitalists to wage earners, the fact remains that the real income of domestic factors has increased by the amount of real wages FDK, given assumptions of the model.

A shortage of capital in heavily populated, less developed countries limits the employment of labour migrating from the rural sector into the metropolitan sector where wages are higher. Therefore, the inflow of foreign capital may allow the employment of a larger labour force as well as the above mentioned rise in productivity of a given amount of labour.

Foreign capital inflow may also be the cause of real national gain, where the social benefits from employment in the advanced sector exceeds the profits on the investment: the wages received by the newly employed in the advanced sector exceeds the real wages in the rural sector.

Domestic consumers may also benefit from direct foreign investment in various ways. When the investment is cost-reducing in a particular industry, consumers are better off by lower product prices. If the investment is product-improving or product-innovating, consumers gain from better quality products or new products.

In order that the residents of a capital recipient country benefit from higher productivity, the overseas withdrawal of the investors must be less than the increase in output. Yet even in the extreme case when almost the entire increase in productivity flows into foreign profits, this requirement is satisfied when the government taxes foreign profits and royalties, and concession agreements constitute a large portion of the total government revenue.

Due to the particular motives of direct foreign investment, the contribution accruing to the recipient country is not only capital and foreign exchange. Managerial ability, technical personnel, technological knowledge and administrative organization, and innovation which cannot be assigned a market

value, accompany foreign investment. For example, projects involving private foreign investment - as opposed to economic aid - have a way of being adequately formulated and implemented. This means that by the example they set, foreign firms may promote the diffusion of technological advancement in the economy through new techniques and processes. Domestic enterprises may then emulate the advanced techniques that are being demonstrated. In addition, foreign investment may lead to the training of labour in new skills, which it may not have otherwise learned. Labour will then be of great benefit to the local firms in case of a "brain drain" to domestic enterprise. In short, all these contributions are in the nature of external economies.

Private foreign investment may also act as a stimulus to additional domestic investment in the recipient country. This is likely through the creation of external pecuniary economies. If the foreign capital is used to develop the country's infrastructure, it may directly facilitate more investment. Even if the foreign investment is in one industry, it may still encourage domestic investments

by reducing costs or creating demand in other industries. This in turn may lead to a rise in profits and a general expansion in these industries. Due to under-developed productive capacity, investments in Less Developed Countries (LDC), frequently are of a cost-reducing character in breaking bottlenecks in production, which stimulates expansion. Similarly, foreign investment has considerable scope for demand creation in other industries. The foreign investment in one industry can give rise to profits in industries that supply inputs to the first industry or industries that produce complementary goods. Investments that are product improving or innovating have similar outcomes. A whole series of domestic investments may thus be linked to the foreign investment.

Against these benefits an assessment should be made of the costs of private foreign investment to the recipient country. These costs include (a) special concessions offered by the host country, (b) adverse effects on domestic savings, (c) deterioration in the terms of trade and (d) problems of balance of payments.

As a form of encouragement to foreign enterprise, the government of the capital receiving

country may have to provide special facilities, undertake public services, extend financial assistance or subsidize inputs. Tax concessions may also be offered, but in order not to discriminate against domestic enterprises these concessions may have to be extended to the latter as well. All these efforts bear a cost, in as much as absorption of government resources precludes alternative expenditure. These costs may be even higher if the host government "bends backward" by offering extra concessions in order to secure the capital investment.

An indirect cost of foreign investment may be a reduction in domestic savings. Should the foreign investment be highly competitive with the domestic investment, there may be a reduction in the profits of domestic industries and thus a redistribution of income away from capital.

Foreign investment might also cause the recipient country's commodity term of trade to suffer. This can come about from the very nature of the development process associated with capital inflow. If the inflow of capital leads to an increase in the country's rate of development without any change in the terms of trade, the recipient country's rate of growth of real income

will equal the recipient country's rate of growth of output. If the rate of growth of output is greater than the rate of growth of income, there will be a deterioration of the terms of trade associated with the capital inflow. It is not too likely, however, that foreign capital would cause a marked deterioration in the terms of trade. If an adverse effect resulted from a rising demand for imports, restriction could be set on imports. On the other hand, if adverse effects resulted from a rising supply of exports due to private direct investment in the export sector, the fall in export prices might restrain the inflow of capital.

Perhaps the most serious cost of capital inflow are those attributed to balance of payments adjustments. Pressures on balance of payments may become serious when foreign debt has to be serviced. If the amount of foreign exchange required to service debt exceeds the amount of foreign exchange being supplied by the new foreign investment, there will be a reduction in the capacity to import. And if this situation persists a disequilibrium will result in the balance of payments of lending and borrowing countries: payments of interest, dividends, profits and amortization on foreign borrowings will exceed the foreign exchange flowing from the new investment. This constitutes

another cost of foreign investment.

The host country becomes a "mature" debtor when the return flow of income and amortization exceeds the inflow of new loans or foreign exchange contribution of new investments. In order to cope with this situation the host country will have to generate an export surplus equivalent to the net outflow of funds. This requires a reallocation of resources to expand exports or to replace imports. To achieve this end, the host country may have to impose internal and external controls or face currency devaluation. The adverse effects of such measures of external or internal control constitute other costs of foreign investment.

III

MULTI NATIONAL CORPORATIONS

Multi national corporations (MNC) may be defined in simple terms as companies with operations in several countries, although some would prefer using the term to denote companies that are truly global in ownership and management. The Task Force report on Foreign Ownership and the Structure of Canadian Industry distinguishes between three kinds of International Corporations.[3] The first is a national corporation, operating extranationally, "insisting on the primacy of the methods it uses at home, and even of the laws of the home country."[4] The second is, "a multinational corporation in a genuine sense, sensitive to local traditions and respecting local jurisdictions and policies."[5] The third is "global, with such pervasive operations that it is beyond the effective reach of the national policies of any country, free to some extent to

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[3] M. Watkins, et al., Foreign Ownership and the Structure of Canadian Industry, Task Force Report on the Structure of Canadian Industry, (Ottawa, Queen's Printer, 1968), quoted in C.P. Kindleberger, American Business Abroad, (New Haven: Yale University Press, 1969), p. 179, n.1.

[4] Ibid.

[5] Ibid.

make decisions in the interest of the corporate efficiency alone."[6]

Whatever the nomenclature, the growing importance of multinational companies within the past decade is indisputable. According to 1968 O.E.C.D. estimates total direct foreign investment by corporations outside their national base amounted to $85 billions.[7] Although an overwhelming share of that was American, Japan and Europe accounted for $31 billions.

Perhaps more significant than the quantitative development of these firms is their qualitative consequences. One popular view is the fear of some nations that their economies will be overpowered by these corporations.[8] Their sizable cash balances in conjunction with progressive elimination of restrictions on capital movements, make these companies formidable decision

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[6] A different classification regards corporations with more than 50 percent of sales abroad as multinational, those between 25 and 50 percent of sales as internationally oriented and those with 10 to 24 percent of sales abroad as having significant foreign operations. Ibid.

[7] S. Rose, "The Rewarding Strategies of Multi Nationalism", Fortune, Sept. 15, 1969, p. 100.

[8] J.J. Servan Schreiber, in The American Challenge expresses this theme in connection with the U.S. enterprise in Europe. He calls the U.S. enterprise in Europe the Third World Power (after U.S.A. and Russia). Le Défi Américain, (Paris: Denoël, 1967).

makers in the economic affairs of an independent country.[9]

The mere size of these companies has affected profound changes in the "operating style and strategy of the corporations."[10] Increasingly, the word "foreign" is replaced by "international", a move that has made the "world rather than the nation state as their natural and logical operating area."[11]

As Kindleberger sees it:

> "The international corporation has no country to which it owes loyalty more than any other, nor any country where it feels completely at home. It equalizes the return on its invested capital in every country, after adjustment for risk which is free of myopia that says home investment is automatically risk-free and all foreign investments are risky."[12]

Another area of concern is profit maximization. It has been argued that all firms desire to maximize

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[9] According to the Economist, Oct. 17, 1964, p. 271, one investment decision by Royal Dutch/Shell early in 1964 seems to have caused a substantial increase in Britain's balance of payments deficit. A decision in 1961 by Ford Motor Co., on the other hand, affected favourably Britain's balance of payments position.

[10] S. Rose , op. cit., p. 101.

[11] Ibid.

[12] Kindleberger, op. cit., p. 182. In a recent survey of 90 U.S. companies "with substantial direct investments, 39 of them said that, in making up their capital budgets they made no distinction between foreign and domestic investments alternatives." S. Rose, op. cit., p. 190.

profits, and that the capital importing country should be indifferent between a firm as a national enterprise or an affiliate of a multinational enterprise. The latter is not necessarily the case, maintains the Watkins Report: "A parent firm may expect its subsidiary to behave in such a way as to maximize the global profits of the multinational enterprise rather than the profits of the subsidiary itself."[13] While the interest of the host country is in maximizing the efficient growth of the subsidiary, the parent company may find it in its interest to limit the subsidiary in its desire to export, to impose market sharing arrangements on the subsidiary, or to impose restrictions to buy from affiliates or to import rather than buy locally. Thus MNC's are not simple profit maximizers. "They have multiple concerns and live with multiple constraints, reflecting diverse interests within the corporate family and differing pressures in government in various countries."[14]

Within this background "manipulation" becomes a necessary tool of the game, in order to maximize global profits and minimize global tax liability. An example is the "purchase" of raw materials by a parent

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[13] M. Watkins et al. op. cit., p. 41.

[14] Kindleberger, op. cit., p. 42.

from its subsidiary.[15] Because of its size, in absolute terms, and relative to the market in which it operates the MNC can substitute transactions within the corporation for transactions on the open market. In short, it can be a "price maker" and not a "price taker."[16]

Just as in the theory of private foreign investment, it is clear that both economic benefits and economic costs are inherent in the operation of the subsidiaries of MNC's. The major economic benefit is the contribution to economic growth, while the major economic cost is the possible impediments to the creation of a more independent national economy.[17] Thus the very inflow of inputs that come with foreign private investment and create benefits tend to generate costs and problems. As an example, while the influx of senior personnel from the parent company provides valuable assets and important skills for the operation of the subsidiaries it also may reduce incentives for the local personnel to develop such skills.

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[15] As another example in order to keep money costs down, the MNC will take advantage of low interest rates in one country in order to supply the capital necessary in high interest countries.

[16] Kindleberger, op. cit., p. 30
Subsidiaries can be instructed to set high prices on intra-company transfers to high tax countries, and set low prices on the transfers to low tax countries.

[17] Ibid., p. 40.

Multi National Corporations are known to employ local people in the lower levels of management in their subsidiaries - often due to laws requiring local employment. But the evidence shows that when it comes to higher levels of management local personnel are bypassed for imported managers.

Another indirect cost seems to arise from the fact that ownership and control of a subsidiary is under the domain of the parent company.[18] Thus, often the parent company is the sole stockholder of the subsidiary, exercising effective control over the decisions of the subsidiary. Obviously MNC's are reluctant to dilute ownership by issuing shares locally, a move that would make control over the subsidiaries diffused, as well as extend some of the "rent" to the residents of the host country. The host country's interests, however, are in joint ventures or licensing agreements. The latter may serve to keep domestic firms in existence while creating new initiative for domestic entrepreneurs.[19]

The fact that the subsidiary is not a distinct

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[18] Unlike some corporations where ownership and control are divorced, the former being the domain of stockholders while the latter the responsibility of management.

[19] Some maintain that if the corporation did encourage local ownership of the parent company by selling its shares on the national exchanges, "it would stand to be accused of fostering perverse movements of capital.", S. Rose, op. cit., p. 162.

entity separate from its parent can create problems in the area of tax and custom affairs of the host country. Since transactions between the parent and its subsidiary are intra-company transfers, considerable scope for arbitrary valuation is available, hence posing special problems on the tax officials. The matter is further complicated when the parent does not consider the subsidiary as a separate entity for public accounting purposes and therefore will be reluctant to issue separate financial statements for the subsidiary. This is a serious obstacle to the host country government both from the standpoint of availability of public information and, more crucial than that, the dire need for a knowledgeable basis for government to carry out matters of public policy.

This leads us to another area of dispute, one that may well be in some countries the most serious namely, the degree of power and affluence of the MNC vis-à-vis the host country. Often the government of the host country has less expertise at its disposal than the MNC's with which it has to deal. With size and economic power these firms are no longer subject to the discipline of the market. Instead they transcend the market forces and act as autonomous decision makers. In particular, the large corporation can have significant influence in shaping law and policy, and therefore exercise

political impact, as well as economic impact. When foreign ownership becomes so pervasive the economy of the host country may take on a dependent character, to the extent that its national sovereignty and independence are endangered.[19a]

The same is true when legal jurisdiction of the home country and the country of origin conflict. In such a case the home country may have to concede its rights, if it is operating from a weak bargaining position. In the above situation, there will be a new item in the cost of foreign capital.

In brief, we note that the operations of the Multi National Corporation raise a number of questions and issues that economic theory does not adequately answer. The MNC also brings into focus social, political and organizational problems -- such as those alluded to in the foregoing -- which cannot be analyzed in purely "economic" terms. Any simple cost-benefit analysis would therefore leave out such items as "domination", "dependence", and "alienation" for which there is no standardized market value.

This seems particularly to be the case when the MNC operates in an extractive industry. For some decades there has existed the popular notion that extractive

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[19a] See S. Hymer, "The Efficiency (Contradictions) of Multinational Corporations" The American Economic Review, Papers and Proceedings, Vol. LX, No. 2, (May 1970), pp. 447-8.

industries are an enclave unrelated to the remainder of the economy. As we shall see in this study, the case of the Jamaican Bauxite-Alumina Industry seems to support this notion in one sense. Due to the capital intensity of most extractive operations (i.e. bauxite, copper, oil) the ratio of labour to capital is quite small. For this reason the possibility of alleviating any great unemployment in the LDC's is rather limited. And so far as the operations of these industries in the LDC's is limited to mining and not refining, the linkage effects on manufacturing industries within the economy are virtually non-existant. Where refining does take place in the LDC, in so far as most intermediate inputs for the refining process are imported, (as is the case in the Bauxite-Alumina Industry of Jamaica), the MNC involved in the extractive and refining operations is largely independent from the productive structure of the rest of the economy.

In another sense however, the fact that the LDC depends on revenues derived from the extractive industries, and often desires to greatly increase its share of those revenues (especially when the industry is the principal export earner in the LDC - such as the Bauxite-Alumina Industry in Jamaica) can in fact make the policies affecting the extractive industry vital instruments in the

carrying out of government goals and expenditure programs.

What the government wishes in terms of tax revenues however, rarely coincides with what the MNC is willing to offer. Indeed, this is where bargaining strength of one versus the other is of paramount importance. Of the MNC's operating in extractive industries in recent times, those associated with aluminum perhaps more than either copper or oil have been invulnerable in their relations with the less developed countries. Raymond Vernon explains this phenomenon partly by differences in the starting conditions of the aluminum and copper industries: "From the first the main barrier to entry in the copper industry was at the mining stage, whereas the main barrier to entry for aluminum was at the refining stage. Alumina producers therefore, bargained with foreign governments from a position of greater strength."[20] Another reason for the invulnerability of alumina producers versus copper producers, though both are concentrated at the primary and crude fabricating level, claims Vernon, has been the higher concentration of the aluminum industry and the larger installations and more capital intensive facilities it requires.[21] To this general explanation must be added that the aluminum

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[20] R. Vernon, "Foreign Enterprises and Developing Nations in the Raw Materials Industry", The American Economic Review, Vol. LX, No. 2, May 1970, p. 124.

[21] Ibid.

industry being a young industry, relative to the copper industry has experienced and is experiencing a rapid rate of technological change, while the copper industry seems to have tread the path of rapid technological change decades ago and its technology now is more available to outsiders.

Another difference between MNC's operating in manufacturing and mining industries arises from the following basic fact. Unlike manufacturing industries in LDC's where the good that is produced either directly satisfies the local market demand or is supplied to the other surrounding markets, mining industries in LDC, by and large, satisfy an external "derived" demand: their products are not meant to satisfy the local market but to supply the home industrial market. Thus in the case of mining industries there exists a "dependence", a situation in which the economy of the home country is conditioned by the development and expansion of another economy or economies. T. Dos Santos explains this form of dependence as follows:

> "When some countries (the dominant ones) can expand and be self-sustaining while other countries (the dependent ones) can do this only as a reflection of that expansion, which can have either a positive or negative effect on their immediate development."[22]

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[22] T. Dos Santos, "The Structure of Dependence", American Economic Review, Vol. LX., No. 2, May 1970, p. 231.

In this context it is also seen that a high rate of depletion of raw materials by MNC's, dictated by the whims and demands of metropolitan centres poses serious threats to the very existence of the industry in the LDC. From the national point of view more local processing of the ore and less rapid direct mining and exporting would not only lengthen the life of the industry but may well yield greater income through the process of adding value to the ore.[23]

In the following chapter, we shall begin by familiarizing ourselves with the International Aluminum Enterprise, after which we shall focus our attention on the industry in Jamaica.

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[23] For example, in Jamaica since the local payments per ton of bauxite ore processed into alumina is three times the local payment per ton of ore exported, the same local payments could be yielded by producing and processing 1/3 the level of exports. See Chapter IV, "Gross Output".

IV

THE BAUXITE-ALUMINUM ENTERPRISE

As the product of an advanced technology long protected by patents and other measures the Bauxite-Aluminum Industry up to World War II, was tightly dominated by a handful of firms, who had access to the technology, and were often national monopolies. The latter fact, meant among other things the absence of competitive pressure to seek out lowest-cost production sights on an international level. Furthermore, the smaller scale of the industry and nearby markets, as well as protective tariffs made the home institutional environment not only satisfactory but quite beneficial.

A number of factors have altered this pattern. The industry since the Second World War, has been sensitive to its own process of growth responding in unprecedented ways. Changes in sources of bauxite supply have more than any other element dictated major shifts in location of production. As known reserves tend to be located in less industrialized countries the industry has become a global enterprise because of its infiltration within these areas, giving birth to the typical complications of the "metropolitan-

hinterland" phenomenon.[23a] In particular, the dominant complication, which often affects location, has been the desire on the part of developing countries for local processing of one sort or another.

Technological changes in the industry has been another factor. Improved technology affects the industry's inputs of capital, labor, and raw materials as well as the all important power requirements. Technological change also affects the industry's logistics. These developments thus may have had important implications for location.

The changing size and location of the market for aluminum have been other major influences on location. As markets have grown and expanded, the question of whether to continue to produce the metal domestically has become more and more obvious.

Aside from the foregoing forces on the market, the structure of the industry has undergone material change since the Second World War: national monopolies have tended to break into a spectrum of oligopolies. The North American firms, for example,

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[23a] The complications arising out of the divergent interests of the metropolitan governments who desire to establish foreign sources of cheap raw material supply and the hinterland economies who resent to be subjected to the exploitation of the metropolitan centres. For further detail see, K. Levitt and L. Best, Externally-Propelled Growth and Industrialization in the Caribbean, (Unpublished), Vol. I., 1968, pp. 14-22.

emerged from the War increased in number and size, with their attention and resources turned to the outside world. European firms also recognized the need for greater flexibility outside their base and they too have focused abroad. In short, there has been a significant change in the climate of the industry with the coming of greater awareness and sensitivity to the possibilities existing outside their home countries. So much so that, it is less and less appropriate to identify the major firms by national labels and more and more accepted to refer to them as Multi National Corporations.

Outside the Communist block a small handful of major North American and European firms own most of the known bauxite deposits, produce most of the world's alumina, smelt most of the metal and fabricate a major share of that which is produced.[24] These companies which have great financial power and operate on an increasingly international scale may be rightfully termed Multi National Corporations. They are fully integrated firms, holding strategic positions in the industry from raw materials to marketing, as well as

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[24] S. Brubaker, Trends in the World Aluminum Industry, (Baltimore: John Hopkins Press, 1967), p. 99.

maintaining extensive research, sales and advertising departments. Of these major corporations four are North American, while the other two are European by origin. The North Americans which are giants among the six Multi National Corporations comprise Alcan, Alcoa, Reynolds, and Kaiser. Péchiney, French-based and now active in the European Economic Community as well as the international arena, and often conceded to be among the technical leaders of the industry, is the fifth corporation.[25] Comparable to Péchiney in size, Alusuisse, the other major European firm, is the only one of the big six that does not have a predominantly national base for its operations. This Suisse firm with wide interests seems to be a "Multi National" firm par excellence.

These major corporations owned some 85 percent of non-Soviet smelting capacity in 1964, an impressive share of the world's industry.[26] Outside of the major six, there are in existence a number of smaller firms, whose operations are usually restricted to domestic sales and which are often divisions of large diversified firms. Of these some are more ambitious than others, often trying to imitate and sometimes resembling their

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[25] Ibid., p. 107.

[26] Ibid., p. 108.

large competitors in controlling their own bauxite and alumina supplies. Yet their degree of influence in global decision making is limited and their effect on the industry as a whole, minute. For this reason their importance as a force in the market may be ignored.

With this brief introduction to the international industry, in this chapter we wish to focus our attention on the operations of the industry in Jamaica. A brief discussion on location of alumina plants in Jamaica will be followed by an indepth look at the economic effects of the bauxite-alumina enterprise on the economy.[27] The underlying query throughout this section will be to examine the extent to which the enterprise has benefited the economy. The emerging proposition will be that the alumina bauxite enterprise, due to its very structure, has had limited development impact upon the Jamaican economy. In fact, the sole major benefit has been the taxes paid to the Jamaican Government. To substantiate the proposition, we shall briefly look at the structure of bauxite and alumina, and notice in particular that in alumina production, where there could be a considerable "local" share of

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[27] Information on which this section is based comes principally from N. Girvan, "The Jamaican Bauxite Industry" in K. Levitt and L. Best, Externally-Propelled Growth and Industrialization in the Caribbean, (Unpublished, Vol. IV, 1969) and H.D. Huggins, Aluminum in Changing Communities, (London: André Deutsch & Company, 1965).

intermediate inputs, the materials are mostly imported, thus not realizing the multi-faceted effects on the development of local industries. As for bauxite we shall note an absolute low percentage share of intermediate inputs in value added.

Jamaica is singled out and examined not only because of the large size of the industry, but also because it typifies and illustrates the role of the foreign based highly complex **Bauxite-Alumina** Industry in the Caribbean, and hopefully makes possible an appraisal of the net contribution in the economic development of this island by the industry. Throughout this chapter we shall treat as protagonists both the American and the Canadian companies operating in Jamaica. We shall however seek out in particular the role of the Canadian firm (Alcan) where possible. The time horizon for this chapter stretches to 1967, although references are made to events after that date to the present (1970). In fact, our outlook may be said to extend into the next decade, beyond which the future becomes too hazy to affect current trends and decisions.

The Industry in Jamaica

Since 1942, bauxite has become increasingly a major source of income-creation for the Caribbean economies. The Bauxite-Alumina Industry links up with a number of other important industries, chiefly transport and construction, chemicals, and electric power. The income created by the various stages of processing and manufacture is substantial and the growth rate of the industry is expected to be at least twice the growth rate of total output in North America and Western Europe.[28]

The Caribbean Bauxite Industry supplies 9/10 of the raw material needs of the aluminum industry of North America, which in turn produces 50 percent of the world aluminum output.[29] The output of the bauxite industry provides therefore important, if not strategic, inputs into the metropolitan industrial complex, mainly that of the North Atlantic.

The capital for the Bauxite industry in Jamaica came largely from three North American aluminum firms that established mining operations in Jamaica.

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[28] N. Girvan, The Caribbean Bauxite Industry, (Institute of Social and Economic Research, University of West Indies, 1967), p. 1.

[29] Ibid.

These were Kaiser Bauxite Company, a subsidiary of Kaiser Aluminum; Reynolds Bauxite Company, a subsidiary of Reynolds Metals Limited; and Alcan (Jamaica) Limited, a subsidiary of Aluminum Limited of Canada. In 1964 Aluminum Company of America became the fourth firm in the Jamaican industry.

Although Aluminum ore is the most abundant metal in the earth's crust, it contains combinations of Oxygen, Silicone, Iron, and Titanium. Since traditional smelting methods used for older metals (iron and copper) was not suitable for Aluminum, an economical method of extracting the metal from its ore was the obstacle to large scale commercial production of Aluminum until recently. Two processes which were developed almost simultaneously in 1886 and later perfected removed that obstacle: the "Bayer" method and the "Hall-Heroult" method.[30] Both methods are used throughout the industry.

The production of Aluminum is essentially carried out in three stages. The first stage involves the mining and drying of the ore. In the second stage, benefication, aluminum oxide (alumina) is chemically separated from the ore by washing it with hot caustic

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[30] D.H. Wallace, Market Control in the Aluminum Industry, (Harvard, 1937).

soda. In the third stage, smelting, the metal is recovered electrolitically. For this stage massive and cheap supplies of electric power are required. It is estimated 20,000 kilowatt hours of electric energy are required to produce one short ton of aluminum.[31] From this stage molten aluminum is cast into the form of ignots to be used commercially. The existence of these stages has meant that vertical integration of the firm in the industry has proved particularly valuable. Horizontal and backward integration, in acquiring or constructing facilities to supply the production of aluminum was to play the major role since the early days of the firm. Similarly, forward integration for the firms into fabrication had a considerable role to play in the securing of markets.

The operations of the American companies in Jamaica are primarily confined to the first stage,[32] while the Canadian Company, Alcan, undertakes the second stage as well, processing the mined ore almost entirely into alumina. The carrying out of the third stage in

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[31] R. Palmer, The Jamaican Economy, (New York: Praeger, 1968), p. 20.

[32] In the mid Nineteen Sixties, U.S. firms concluded a series of agreements with the Jamaican Government to build new plants by early 1970, in order to accommodate the high rate of growth of demand for aluminum.

Jamaica was ruled out due to the lack of economic amounts of cheap electric power required.

One important characteristic of the aluminum industry is the large increase in value added at the various stages of processing. Consider the following: the 1961 output of Bauxite in the Western World is valued at some £ 60 million and in this the Caribbean has a dominant role - 58 percent of value added. The value added for the manufacture of alumina from Bauxite is some £ 150 million or nearly three times the value of output of Bauxite. In the second stage, the Caribbean participates only to a modest extent: 12 percent of value added. The value added in the third stage - production of aluminum - is some £ 470 million in which the Caribbean does not participate at all.[33]

Indeed Katrin Norris has argued that,

> "...if all four companies were to produce alumina or better still, if they could be persuaded to form a consortium and jointly operate a smelter on the island, most of the income generated in the production of aluminum would be earned by Jamaicans and Bauxite could highly benefit the people whose land is its source."[34]

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[33] Huggins, op. cit., p. 11.

[34] Quoted in R. Palmer, op. cit., p. 20.

Cost Structure of Bauxite

Bauxite is quite inexpensive to mine. Open pit mining methods for the ore under favourable conditions permit production under $2 per ton, exclusive of transportation. Washing and drying are also inexpensive operations. It is estimated that the cost of mining and drying of bauxite ranges from $1.75 to $4.50 per ton.[35] The cost of drying in general depends on the delivered cost of fuel.

Considering that up to three tons of bauxite is required for the production of one ton of alumina, the shipping cost of bauxite is the most important single cost item in the total cost of the ore delivered to the alumina plant. Although the cost of shipping has decreased rapidly with the use of very large ships, the necessity of deep water docks for large ships and, in the absence of such docks,the need for loading to or unloading from barges increases the shipping bill attributed to bauxite. The shipping cost of bauxite to alumina plants varies with size of the ship and quantity as well as terms of shipping charter. Some of the reported shipping costs of bauxite are shown in Table I .

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[35] Brubaker, op. cit., p. 149.

It is obvious that transportation costs can be minimized by locating alumina plants nearer to the ore. The fixed investment for the development of a bauxite mine varies with the size of operation, drying and beneficiation facilities, stock piling, dock and ship loading facilities and housing requirement. This investment is estimated in the order of $15 to $20 per ton for a million-ton-per-year mining operation.[36]

Due to the fact that bauxite is mined and consumed almost exclusively by the alumina companies, it is difficult to know how accurately price reflects cost. It can only be estimated that the cost range of bauxite delivered to the alumina plants is between $2 and $15 per ton.[37] The cost of $2 per ton is for bauxite processed near the mine and the $15 is for bauxite shipped to remote areas. Brubaker assumes that if 4-6 long tons of bauxite are required to obtain one long ton of the metal then the total cost of the required bauxite is commonly under $50 or less than 10 percent of the cost of the metal.

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[36] A. Karim, "Economics and Directional Growth in the Aluminum Industry," in AIME, Proceedings Economic Council, (New York: 1968), p. 266.

[37] Ibid.

TABLE I

ESTIMATED COST OF DELIVERED BAUXITE PER TON TO DIFFERENT LOCATIONS, IN U.S. DOLLARS

FROM	TO	DOLLARS PER TON
Jamaica	Jamaica	1.65
Jamaica	Texas	2.25
Surinam	Texas	7.00
Surinam	Holland	6.50
British Guyana	Québec	9.00
Australia	Gulf Coast U.S.A.	4.25

Source: A. Karim, "Economics and Directional Growth in the Aluminum Industry", AIME, Proceedings, Economic Council, (New York: 1968), p. 270.

Cost Structure of Alumina

Alumina is produced almost entirely by the aluminum firms, who use the entire amount for the smelting process, though some small amount is sold on the open market for other purposes.

The principal elements of cost are capital charges and bauxite. Up to three tons of bauxite and three-quarters of one ton of other raw materials enter an alumina plant for the production of one ton of alumina. The shipping cost of the other materials is not significant enough to influence location, but the shipping cost of bauxite, being the most important single item of production cost, may be a major influence on location.

Brubaker estimates capital costs between $12-$17 per ton of alumina at 10 percent rate of return on a 20 year life of a plant. The figure would be higher for a plant in a less developed country.[38]

Aside from capital costs and cost of transport of bauxite, the other expenses of producing alumina

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[38] Brubaker, op. cit., p. 152.

do not principally affect location. Fuel, steam and utilities amount to $6 per metric ton while caustic soda runs up to $3 per metric ton.[39] Caustic soda can be made available locally at much lower cost provided cheap power is available. When there is a demand for the chlorine byproduct of the caustic production plant, local processing becomes even cheaper.[40]

Maintenance costs would probably be higher in less developed areas, while fuel costs should not differ appreciably. Labour inputs may cost less per unit in less developed countries, but it is likely that more such units may be required to compensate for the lower productivity, at least in the early stages of production.

In the study made by Peter Stern (See Table II) item (6) and (7) which includes fuel, administrative and miscellaneous costs (which are costs of caustic soda, ash, lime, starch and filter cloth) respectively, amounts to $13.62 for Jamaica location of plant. This amounts to roughly 1/3 of total cost of inputs, and

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[39] Estimates of U.S. Bureau of Mines, cited in Brubaker, Ibid., p. 152.

[40] A. Karim claims it may be cheaper by 50 percent in "Economics and Directional Growth in the Aluminum Industry", op. cit., p. 271.

roughly 2/5 of the total cost of inputs without the suspended $5 tariff. It is widely accepted that such inputs as those covered by item (6) and (7), except for some administrative inputs, can be purchased locally. As we shall see in the following section (under "Gross Output") in detail, almost all of the good inputs necessary for the alumina process are imported. As for bauxite mining, the bulk of the intermediate inputs consists of services which are not transferable and thus supplied from the local economy. But due to a low share of intermediate inputs in gross output the overall effect is not appreciable.

Thus we shall see the Bauxite Alumina Industry is marked by an extremely low degree of integration with the commodity producing sectors. The bulk of the local purchases is attributed to building construction and transport industries.

Locating Decisions

Huggins gives four possible reasons for the decision of the U.S. firms not to locate alumina plants in the Caribbean until very recently.' Costs: The extra capacity in alumina plants at home (U.S.) would appear at first to explain sufficiently why the U.S. firm would not contemplate location of alumina plants in the Caribbean, but on this question Reynolds of Reynolds Aluminum mentioned "because of its peculiar chemical and physical properties, Jamaican Bauxite cannot be processed economically in existing alumina plants."[41] (Jamaican Bauxite is of inferior quality to that of Guyana). The real fact seemed to be, however, due to the U.S. Government's wish which manifested itself in hidden forms of subsidies offered to the firms as well as in undercut fixed costs in the acquisition of new plants. Reynolds and Kaiser were to acquire aluminum plants from the government at extremely moderate prices. In reference to the government subsidies of the 40's and 50's, Huggins emphatically remarks that the point should be made:

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[41] Huggins, op. cit., p. 44.

> "....at the highest level...of the harm that had been done to the Jamaican economy by the action of the U.S. Government. This action (subsidizing) had made it highly improbable that the U.S. companies...would establish extraction in the Caribbean. The harm has been proved a lasting one because the more set the pattern became, the more resistant the change grew."[42]

In reference to variable costs, however, a carefully documented study by Dr. Peter Stern showed the following. In a comparison of costs for hypothetical plants, in Jamaica and at a port in U.S. at the Gulf of Mexico, he found (refer to Table II) an advantage of $4.58 per ton for aluminum processed in Jamaica relative to that processed at a Gulf Coast Port.

Tariffs: In 1956 when Stern carried out his calculations on the relative cost of manufacture of alumina in the U.S. and Jamaica, there was in force a tariff amounting to $5.00 per short ton of alumina imported in the U.S. This tariff has been suspended since, so that the differential would be increased by $5.00 to $10.58 - some 20 percent lower variable costs on alumina manufactured in Jamaica versus Gulf Coast Port.

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[42] Ibid., pp. 55-56.

TABLE II

ESTIMATED 1956 COMPARATIVE
VARIABLE COSTS OF PRODUCING
1 SHORT TON ALUMINA, IN U.S. DOLLARS

	Location of Plants	
	U.S. Gulf Coast	Jamaica
1. Cost of Jamaican Bauxite	14.21	14.21
2. Transport of Bauxite to Alumina Plant	10.88	———
3. U.S. Port Charges	2.90	———
4. U.S. Duty on Bauxite (Suspended)	———	———
5. Labor	5.40	2.70
6. Fuel	3.10	4.62
7. Administrative and Misc. Cost	9.00	9.00
8. Transport to Gulf Coast Reduct. Plant	———	3.38
9. U.S. Port Charges	———	1.00
10. U.S. Duty on Alumina	———	5.00
11. Variable Cost of Alumina Delivered at the Gulf Coast Plant	45.49	39.91

Source: H.D. Huggins, Aluminum in Changing Communities, (London: André Deutsch, 1965), p. 46.

The conclusion is that the lower variable costs did not receive the weight expected in the decision of the U.S. firms.

Taxation: Under the United States Tax Law miners of bauxite are allowed an annual deduction of 23 percent of the gross income derived from mining if the mineral is drawn from deposits in the United States. If the deposits are not in the U.S. the depletion allowances on gross income is 15 percent. A U.S. company mining bauxite is entitled to a depletion allowance whether the bauxite is mined within or without the U.S. If, however, the mineral is mined abroad by a foreign company which does not pay any U.S. tax, there is no depletion allowance. It would seem that depletion allowances restricted as they are to mining operations are unlikely to have a positive effect on the location of alumina plants.

Politics: United States investors have had many experiences abroad to illustrate the risk which their investment runs. Nationalist Movements are particularly regarded with hesitation; it is almost certain that nationalist movements abroad caused U.S.

investors to pause to assess the situation. Nonetheless, U.S. private investments in the Caribbean continued, indicating that politics were not regarded as the limiting factor preventing the location of alumina extraction in Jamaica.

External Economies: An aluminum plant located in the U.S. would be part of a complex of other industries in a way that such a plant in the Caribbean would not. Aluminum extraction is a chemical process and one of the main chemical inputs is caustic soda. The alumina plants located in the Gulf Coast area fill the complementary role in the heavy chemical industry complex based on salt deposits in the area. Electrolysis of the salt yields caustic soda. Thus, due to a close affiliation between some aluminum and chemical firms the excess caustic soda which chemical firms found themselves with could go to the aluminum process. Meanwhile the electrolytic process by which caustic soda is produced secures certain economies in the production of power from association with alumina process. It would seem therefore, that economies of scale had a major influence in the locating of the alumina plants in the U.S.

Unlike their American counterparts, according to Huggins, "the Canadian producer in the industry had come into being from the outset with more of an international outlook..."[43]

During the 1940's and 1950's Aluminum of Canada embarked on a policy that was different in two respects from the U.S. Since cost of power was the dominant element in the operation of the smelters, Aluminum of Canada put investment into localities which had potential for hydro-power (Arvida and Kitimat) and outright ownership meant that future operating costs and plant costs were controllable in a way that they would not have been under public ownership. A second policy was to establish extraction facilities, for alumina near its chief source of supply. At the end of 1952, its alumina plant in Jamaica came into operation.

It is probable that no single factor was responsible for the difference of policy that grew up between the Canadian and the U.S. producers but rather a combination of several. In the early years their policy was the same (alumina plants on the mainland)

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[43] Ibid., p. 51.

but when the expansion of 1940's and 1950's came about, in the Canadian case the plant at Arvida was already large - capacity of 1 million tons of alumina per year - and there was a need for a new plant. It was decided to locate this plant at the source of supply.

The evidence is that in the Canadian case, the influence of cost, operating free of other influences, encouraged the location of alumina production in the Caribbean. Two major items connected with costs are most often cited in the literature as the determinants of the Canadian Policy: distance and tariff.

The round trip distances from Jamaica to Kitimat and Arvida are 10,000 and 5,000 miles respectively, while the round trip distance from Jamaica to New Orleans is only 2,500 miles. The cost of sea transport, it should be mentioned, however, is dominated by loading and unloading charges, and not on distance travelled. In regards to tariffs, the Canadian government did not impose the restrictive tariff for alumina manufactured abroad which the U.S. industry had already put into law, ($5.00 per ton).

The question of external economies was a major factor opposing the placement of Canadian alumina plants in the Caribbean, as was the case with the U.S. industry. Yet externality seems to have had a less powerful influence in determining the policy of the Canadian Industrial Groups.

In regard to taxation, the location of alumina policy, did not appear to have been effected by government tax policies as their policies were quite similar.[44]

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[44] Ibid., p. 55.

Gross Output

As a way of laying the background we refer to Table III. Table III shows an estimate for the net and gross value added inside and outside the Caribbean on its own 1964 output of bauxite.[45] The Caribbean had a share of 13 percent out of U.S. $915 million Net Value created up to the aluminum stage.

Since the entire output of bauxite and alumina produced in Jamaica is exported, the value of the exports can be taken to be the value of Gross Output of the Bauxite-Alumina Industry. See Table IV. In 1966 value of exports had reached J £38 million compared to a mere J £420 thousand in 1952.[46] Of the J £38 million value of exports slightly under one-half was due to alumina which constituted in physical units (tons) only one-nineth of the volume of bauxite exports. The steady growth since 1952 of the value of bauxite exports can be attributed to both an increase in physical production as well as to the revaluing of the imputed price of the ore. On the other hand the rise in the value of alumina exports since 1954 was almost solely

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[45] Net Value Added is the G.D.P. created by the activity i.e. wages, rent, interest, depreciation and amortization, taxes and net profits. Gross Value Added is the sum of the increments to the Gross Value of output at each stage.

[46] At the time the Jamaican £ was equal to U.S. $2.80 and Canadian $3.00.

TABLE III

LOCATION OF VALUE ADDED ON CARIBBEAN METAL - GRADE BAUXITE, 1964, IN MILLION DOLLARS

	Value Added by									
	Mining		Beneficiation		Smelter		Total			
	Net	Gross	Net	Gross	Net	Gross	Net	%	Gross	%
In Caribbean	89	120	33	56	---	----	122	13	176	12
North America & Rest World	--	---	128	272	666	1,084	794	86	1,306	88
Total	89	120	161	328	666	1,084	915	100	1,483	100 P

Source: A. Lewis and T. Matnews, (ed), Caribbean Integration, (Puerto Rico, Institute of Caribbean Studies, 1967), p. 108.

TABLE IV

EXPORTS OF BAUXITE AND ALUMINA : 1952 - 1966

YEAR	BAUXITE		ALUMINA		TOTAL		% of Domestic Exports	Total Domestic Exports J000
	000 tons	J000	000 tons	J000	000 tons	J000		
1952	240	420	-	-	240	420	2.4	17,258
1953	1,253	2,765	-	-	1,253	2,765	11.3	24,535
1954	1,728	3,086	124	2,899	1,852	5,985	20.0	29,943
1955	2,172	3,884	184	4,784	2,356	8,668	26.7	32,427
1956	2,575	4,600	207	5,803	2,782	10,403	27.2	38,234
1957	3,641	9,563	436	11,911	4,077	21,474	43.4	49,535
1958	4,799	12,597	373	9,132	5,196	21,729	46.7	46,528
1959	4,197	11,016	399	9,406	4,596	20,442	45.8	45,268
1960	4,148	10,887	665	16,634	4,813	27,521	49.4	55,761
1961	4,975	13,059	703	16,885	5,678	29,944	49.4	60,632
1962	5,986	15,715	628	14,423	6,614	30,138	48.4	62,235
1963	5,162	13,550	726	15,951	5,888	29,501	42.0	70,184
1964	5,967	15,664	768	18,184	6,735	33,848	44.9	75,576
1965	6,784	17,809	721	17,493	7,505	35,302	47.1	74,936
1966	7,020	18,426	791	19,317	7,811	37,743	47.8	80,108

Source: Jamaica, Department of Statistics, Indices of External Trade, 1966, (Kingston, April 1968), p. 12.

due to the growth of physical production, as prices remained stable throughout the period.[47]

Table IV also shows that the share of bauxite and alumina in total domestic exports increased from 2.4 percent in 1952 to roughly 27 percent in 1956. In 1957 the share experienced a dramatic growth to 43 percent of total exports, partly due to the revaluation of the notional profit on bauxite (which we shall study in greater detail shortly). After 1957 the growth of other exports has kept pace with the growth in the industry's exports such that the industry's share has fluctuated moderately, being 48 percent in 1966.

In Table V, we observe the Bauxite-Alumina Industry's contribution to Gross Domestic Product and its share in total G.D.P. Between 1953 and 1964 the industry's G.D.P. grew approximately by ten times while the share of the industry in total G.D.P. grew by four times (2.3 to 8.8 percent). After 1957, the industry's share of G.D.P. experienced only a slight secular growth. However, neither the industry's G.D.P. nor its

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[47] Girvan found that the value of alumina exports per ton fluctuated between J.$ 20 per short ton to J.$ 25 per short ton from 1954 to 1965.
Levitt and Best, op. cit., p. 115.

export value, it is maintained, give adequate representation of the "local share" or of the effect of the industry on the national economy of Jamaica. The G.D.P. includes shares of value added which do not accrue to the national economy such as profits and depreciation, while it excludes purchases of intermediate goods from the national economy.

Girvan has disaggregated the activity of the industry into intermediates purchase and value added,and sets out to examine the "national" content of these versus the foreign content. (Refer to Table VI). "Multi-product" in the table refers to mining, drying, and benefication. The relative feature is the high share of value added in Gross Output and the correspondingly low shares of intermediates.This feature is more pronounced for dry bauxite operation (84 percent value added) than for the "multi-product" operation (69 percent value added). This is due to the relatively large amount of materials i.e. caustic soda, starch, fuel etc., per ton of ore in the latter compared with the slight amount in the former.

The overall result of low share of intermediates for dried bauxite is the low share of the

TABLE V

BAUXITE-ALUMINA BASE GROSS DOMESTIC PRODUCT, 1953-1964
IN J £ MILLION

Year	Industry Contribution to G.D.P. in J£ million (1)	Total G.D.P. in J£ million (2)	(1) as a percent of (2) (3)
1953	2.6	113.0	2.3
1954	4.7	123.7	3.8
1955	6.5	141.3	4.6
1956	8.1	158.8	5.1
1957	16.1	191.7	8.4
1958	16.5	198.8	8.3
1959	14.9	199.4	7.5
1960	19.6	215.4	9.1
1961	20.7	230.0	9.0
1962	21.7	238.5	9.1
1963	21.7	261.5	8.3
1964	24.1	273.9	8.8

Source: Extracted from K. Levitt and L. Best, Externally-Propelled Growth and Industrialization in the Caribbean, (Unpublished, Vol. IV, 1968), pp. 114-115.

TABLE VI

SHARE OF INTERMEDIATES AND VALUE ADDED BY THE JAMAICAN BAUXITE-ALUMINA INDUSTRY, AVERAGE ANNUAL (1959-1966), IN PERCENT.

	TOTAL		NATIONAL CONTENT		
	Intermediate	Value Added	Intermediate	Value Added	Total
Dried Bauxite	16	84	13	39	52
Multi-Product	31	69	13	30	43
Both Activities	24	76	13	34	47

Source: Extracted from K. Levitt and L. Best, Externally-Propelled Growth and Industrialization in the Caribbean, (Unpublished, Vol. IV, 1968), p. 143.

Note: The average for the seven years 1959-66 has been taken for the sake of brevity and in view of no great fluctuations.

Gross Output of the industry as a whole (24% for both activities).

Since the capital is owned by foreign Multi National Corporation, Girvan maintains, "other things being equal the higher the share of returns to capital in value added (Gross Profits) the higher the foreign content of value added; for while it is the case that a part of the return to capital accrues to national factors in the form of payments to the national government, this is only a part, whereas the whole accrual to labor is earned by national factors of production."[48]

He further maintains that the chief influence on the share of capital in value added is the capital/labour ratio employed in the production process. Other things being equal a high capital/labour ratio results in a high share of gross profit in value added. This is typically the case in bauxite mining and benefication.[49]

It is obvious from the description given of processes and techniques used by the industry that it is

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[48] Levitt and Best, op. cit., p. 246.

[49] Ibid.

highly capital intensive. An example illustrates well. In 1960 the value of fixed assets per man employed in the industry in Jamaica was J.£12,342 while for most manufacturing industries it ranged between J.£400 to J.£2,000 (the nearest capital/labour ratio was J.£2,600 for sugar industry).

This implies a low share of wages in the value added in the Jamaican Industry.

Table VII shows the average annual share of wages for the eight year period 1959-66.[50]

Wages for dried bauxite and multi product have been an average of 15 percent and 18 percent of value added,respectively. Gross profit is broken down into taxes, depreciation, and net profit. Taxes are fixed per ton of ore exported and vary only with the price of aluminum. As can be seen wages and taxes accruing to the local share amount to less than 50 percent. The multi product operation which includes alumina production is relatively more capital-intensive than mining and drying. Yet we note from Table VII,surprisingly, a higher share of wages in value added for this operation. The reason may be due to a relative under-valuation of

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[50] Please refer to the Note of Table VI.

TABLE VII

JAMAICA SHARE OF WAGES, TAXES, DEPRECIATION AND NET PROFIT IN VALUE ADDED, BY THE JAMAICAN BAUXITE ALUMINA INDUSTRY, AVERAGE ANNUAL (1959-1966), IN PERCENT

	Wages	Taxes	Depr.	Net Profit
Dried Bauxite	14.8	31.2	11.1	41.6
Multi Product	17.8	22.7	23.0	33.4

Source: Extracted from K. Levitt and L. Best, Externally-Propelled Growth and Industrialization in the Caribbean, (Unpublished, Vol. IV, 1969), p. 248.

Note: The average for the seven years 1959-66 has been taken for the sake of brevity and in view of no great fluctuations.

Jamaican bauxite compared to alumina. Although the reason may not now seem clear, we shall in fact see this to be the case under the section "Tax Revenue".

The fact that the multi product operation is capital intensive is further confused by the high share of depreciation in value added, which essentially causes the share of taxes to be lower. Thus the share of wages and taxes in value added is lower for the multi product operation than that of dried bauxite operation (40 percent versus 45 percent). It should be realized, however, that the absolute yield of wages and taxes per ton of bauxite produced is far higher in the multi product operation than in the dried bauxite operation.

The intermediate inputs now can be further analyzed into goods and services which originate domestically or from abroad. Table VIII shows the average annual (1956-66) source of domestic inputs in total intermediates.

For mining and drying of bauxite, the bulk of intermediates consists of services, and since these are difficult to import, they are supplied from the local economy, (i.e. Transport and Building Construction).

TABLE VIII

SOURCE OF DOMESTIC INPUTS IN TOTAL INTERMEDIATE PURCHASES BY THE JAMAICAN BAUXITE-ALUMINA INDUSTRY, AVERAGE ANNUAL (1959-1966), IN PERCENT.

	Manufacture	Distr.	Public Utility	Transport	Bldg. Const.	Other Services
Dried Bauxite	3.3	3.4	0.3	36.0	38.5	----
Multi Product	0.2	0.8	---	15.8	22.2	2.2

Source: Extracted from K. Levitt and L. Best, Externally-Propelled Growth and Industrialization in the Caribbean, (Unpublished, Vol. IV, 1969), p. 151.

Note: The average for the seven years 1959-66 has been taken for the sake of brevity and in view of no great fluctuations.

As for multi product operations the reverse is true. Almost all of the goods inputs necessary for the multi-product operation are imported. (See Table IX). The average annual portion of goods imported in total intermediates (for the eight year 1959-66) is 51.5 percent. (Also 6.3 percent services were imported services). Thus the national content in the intermediates in the multi product operation where the share of intermediates in gross output is higher, is only 42 percent.[100 - (51.5 +6.3)]. In dried bauxite, the national content is higher, but the share of intermediate in gross output is low.

Summing up these two effects, the effect of the absolute low national content of value added in both operations and the relative low national content in the intermediates of the multi product operation where the share of intermediates is higher, produces a low overall local share. Girvan attributes all this to the "fact of foreign ownership , and the way this conditions the source of supplies and the capital/labour ratio employed, in conjunction with the inherently capital intensive techniques of mining and processing of ore."[51]

The fact that the total local share in dried

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[51] Levitt and Best, op. cit., p. 153.

TABLE IX

SOURCE OF IMPORTED INPUTS IN TOTAL INTERMEDIATE PURCHASES BY THE JAMAICAN BAUXITE-ALUMINA INDUSTRY AVERAGE ANNUAL (1959-1966) IN PERCENT

	Goods	Services
Dried Bauxite	18.5	
Multi Product	51.5	6.3

Source: K. Levitt and L. Best, Externally-Propelled Growth and Industrialization in the Caribbean, (Unpublished, Vol. IV, 1969), p. 152.

Note: The average for the seven years 1959-66 has been taken for the sake of brevity and in view of no great fluctuations.

bauxite is higher than the multi product operation (52 percent versus 43 percent, last column Table VI) may mislead us to think that the Jamaican economy benefits more from the former. The reverse is true, since the gross output per ton is far higher after processing. Girvan has shown that in the processing of alumina the payments to the national economy per ton has been frequently 3 times as much as that of dried bauxite.[52] The increase in payment arise from increased purchases of intermediates, greatly increased wage payments, and higher taxes. We might conclude, somewhat superficially, that Alcan operations contribute three times as much payments per ton as those of the American firms.

Girvan estimates that the total amount of payments to the Jamaican economy which have been lost due to exporting dried bauxite without processing into aluminum,is considerable. The amounts since 1958 have formed five to six per cent of Jamaica's yearly G.N.P.

Foreign Exchange Contribution

Data show that up to 1958 the Bauxite Industry

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[52] Ibid., p. 153.

provided the bulk of incremental receipts of total foreign exchange.[53] After 1958, however, the receipts of foreign exchange from the Bauxite Industry did not increase as fast as the receipts from other sources. In 1958 of the total J.£51.4 million, the Bauxite Industry offered foreign exchange J.£11.9 million or some 23.2 percent. In 1964 of the total J.£97.1 million only J.£15.4 million originated from the Bauxite Industry, roughly 15.9 percent of the total.

Inter-Industry Linkages

Total capital expenditures in the 8 years 1950-57 were J.£46.2 million. By far the most significant effect of this investment was to appear in the Construction Industry. In real terms the G.D.P. of the Industry more than doubled between 1954-57.[54] The close correlation between the level of investments in the Bauxite Industry and the Construction Industry proved direct by the fact that ,by 1958 when Bauxite investment declined steeply ,the level of activity in the Construction Industry actually declined. The association between the Industries has again proved direct since 1958.

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53 Ibid., p. 157.

54 Ibid., p. 162.

Hence the stimulation of a large increase in output capacity in the Construction Industry must be credited to the Bauxite-Alumina Industry. Due to the substantial backward linkages with the rest of the economy, and in view of the labour intensive nature of the Construction Industry, the income and profits generated were significant to Jamaica's growth.

Another, but less significant contribution of the Bauxite Industry was exposed when in 1957 a Ministry Paper showed that the companies had "improved the productivity of the lands occupied by them, and were engaged in the expansion of beef, pork, and poultry reproduction."[55]

It was one of the stipulations of the agreements between the government and the mining companies that all lands not immediately subject to mining should be kept productive. All companies, notably Alcan and Reynolds, have developed beef herds, which has meant improvement of several thousand acres of pasture land.

As a large portion of the land must always be kept unproductive for mining proper, and as the goals of

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[55] Ibid., p. 162.

the MNC's is not the maximization of potential production of land, Girvan argues (unlike Huggins) that to conclude that production in all lands is being maximized is erroneous.[56]

The industry's effect on intermediate goods seems to have been very slight. Table VIII, shows an average of 3.3 percent of total intermediate purchase of dried bauxite is spent on manufacturing goods and 2/10 of one percent on the multi product operation. Even where some local processing takes place, the majority of commodity inputs required have been imported. For example, Girvan points out that caustic soda for the alumina process can be produced nationally, yet it is imported. As a result, "the Bauxite-Alumina Industry has provided virtually no stimulas for the development of manufacturing industry in Jamaica."[57]

Labour

Due to the high capital/labour ratio employed in the industry, the share of direct employment provided accounts for a very small amount of the labour force and

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[56] Ibid., p. 163.

[57] Ibid.

the amount of wages paid a small percentage of the total wages paid in the Jamaican economy. (See Table X). From 1954 to 1963 the total sum of wages paid by the industry ranged between 1.7 percent and 2.8 percent of the national total.[58]

Yet the absolute wage bill provided by the industry is considerable. Table X shows that the total wage bill has been above the J.£ 2 million and in the latter years of 1961 through 1963 it has been well over the J.£ 3 million mark.

Total level of employment by the industry between the years 1958 and 1963 is seen to have experienced no secular growth. In 1960, when the Classifiable Labour Force was estimated to be 606,823[59] persons, the industry employed some 3500 or .5 percent of the Classifiable Labour Force. This share is further confirmed in the Census. Under Employment by Industry Groups, the industry group of Mining and Quarrying is

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58 Ibid., p. 167.

59 Classifiable Labour Force according to the Census of 1960 refers to all individuals above the age of fourteen (1) who worked for most of the year, (2) who did some work during the year, and (3) who "did not work during the year but really wanted work." Census of Jamaica, 7th April, 1960, Vol. II., Part H., p. 3.

TABLE X

EMPLOYMENT AND WAGES AND SALARIES OFFERED BY THE BAUXITE-ALUMINA INDUSTRY, 1958-1963.

Year	Total Employment (1)	Wages & Salaries J Mn. (2)	Total National Wage, J million (3)	(2) as a percent of (3) (4)
1958	4,700	2.6	104.0	2.5
1959	3,800	2.2	100.0	2.2
1960	3,500	3.0	115.4	2.6
1961	4,200	3.3	117.9	2.8
1962	4,000	3.9	125.8	3.1
1963	4,500	3.8	135.7	2.8

Source: Extracted from Government of Jamaica, Employment and Earnings in Large Establishments, Department of Statistics, (Kingston: 1964), and K. Levitt and L. Best, Externally-Propelled Growth and Industrialization in the Caribbean, (Unpublished, Vol. IV, 1969), p. 107.

seen to have employed .7 percent of the Classifiable Labour Force,[60] of which close to .2 percent was due to quarrying.

To be sure, though the industry employed a small percentage of the Classifiable Labour Force in 1960, it is likely that the employment by the industry accounted to a higher share of the "active" labour force, since the definition of Classifiable Labour Force includes those "who did not work during the year but really wanted work."[61] If we exclude this latter category of unemployed for that year, which numbered 82,000 or roughly thirteen percent of the labour force, we arrive at our definition of "active" labour force. The employment offered by the industry now becomes roughly .7 percent of the "active" labour force.[62]

Regardless of what share of the labour force the industry employs ,the fact that a small percentage of the labour force is given two to three percent of the share of wages implies a maldistribution of income. From the social welfare point of view,it means the relative

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60 Ibid., p. 3.

61 See Foot Note No. 59.

62 It is estimated by the Government that in the 1960-70 decade net addition to the labour force to run at an average of 20,000 yearly or roughly five times the total employment offered by the industry.

affluence of a handful of people.[63] From the macro-economic point of view the effect of high wages on the national economy depends principally on the spending habits and tastes of such wage earners. Luxury consumption and conspicuous consumption as well as affinity for imported goods by such individuals will doubtless impart little impetus to the development and growth of the local economy. Thus the effect of high wages on the economy depends directly on the extent to which such wages are translated into consumption and investment within the "local" economy.

Though the employment by the industry is small, the prospects for additional employment by early 1970's is considered good. The exact amount of new jobs or the payment of wages to the Jamaican economy due to the operation of the new alumina plants cannot be assessed presently. The general evidence so far nonetheless is that the industry creates far more employment outside the Jamaican economy than within.

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[63] And assuming diminishing marginal utility of money and an egalitarian Social Welfare Function it means a less than optimal allocation of wealth. However, the industry is not the only source of maldistribution of income. The Tourist Industry is often accused of being a principal perpetrator of paying high wages.
In Appendix I it is seen that pressures from North American Union of Bauxite Workers was the reason for such high wages.

Tax Revenue

This item, in view of the relatively small amount of intermediate inputs purchased and small amount of employment provided by the industry, is probably the critical contributor to the local economy. Table XI shows average annual (1959-65) local payments to Jamaica by activity. The overall evidence is that for both activities, taxes paid per ton of bauxite is greater than either wages or purchases paid per ton. The dried bauxite taxes per ton are almost twice the payments per ton on purchases and wages. The multi product operation taxes per ton (1.55) accounts for 45 percent of total payments per ton by all three activities. The assessment of local tax revenues is however beset by a general problem: since dried bauxite is shipped from one branch of the vertically integrated companies in the Caribbean to another in the U.S., there is no market exchange at stake. The fact that bauxite is not a homogeneous ore has posed a further problem. It is maintained, for example, that Jamaican bauxite is inferior to that of Guyana and Surinam bauxite in that it is of lower alumina content. But it is also held that it is of lower silica content, which makes higher recoveries of alumina possible.[64] Another advantage of Jamaican bauxite is the close proximity

[64] Levitt and Best, op. cit., p. 173.

TABLE XI

JAMAICA LOCAL PAYMENTS BY ACTIVITIES, DRIED BAUXITE AND MULTIPRODUCT, PER TON OF BAUXITE AVERAGE ANNUAL (1959-1966), IN J £.

	Purchases	Wages	Taxes	Total
Dried Bauxite	0.339	0.323	0.688	1.358
Multi Product	1.245	1.178	1.550	4.078

Source: Extracted from K. Levitt and L. Best, Externally-Propelled Growth and Industrialization in the Caribbean, (Unpublished, Vol. IV, 1969), p. 155.

Note: The average for the seven years 1959-66 has been taken for the sake of brevity and in view of no great fluctuations.

of the layer to the surface, while the Guyanan counterpart is to be found as much as 150 feet below surface. Needless to say, this has a smaller contribution to make to costs of operation for the Jamaican bauxite company.

In short, the Government and the Companies have been obliged to agree on a system of imputing a national value to the ore. In the 1950 agreement reached by the two sides, tax payments were divided into royalties and income tax. Royalties on bauxite was a shilling per dry ton. Income tax on bauxite exported was figured on the notional profit of U.S. $0.60 per long dry ton of which 40 percent - Jamaica rate of company income tax - or U.S. $0.24 (one shilling and eight pence) per ton was paid to the Government. Total tax intake, therefore, for dried bauxite was two shillings and eight pence per ton. As for bauxite processed into alumina in Jamaica, royalties amounted to 10 pence per long dry ton, while the income tax was based - alumina being a homogeneous product - on the usual production "costs" minus value of "sale".

Up to 1956, while the tax law was in effect, prices of aluminum and bauxite in the North American Industry had a steady increase. Primary aluminum prices

grew by 47 percent, while bauxite prices were 26 percent higher in 1956 than in 1950. Yet these price increases did not mean increased revenues to the Jamaican Government.[65]

By 1957 the "Government and its advisors had grown in sophistication and were in a stronger position" to deal with the tax revision.[66]

According to the 1957 agreement, the rates were based on a sliding scale:

I. Royalty:

a) On bauxite exported four shillings per ton for annual production of less than 1 million tons; when production is over 1 million tons, three shillings per ton; and on additional production over 2 million tons, two shillings per ton.

b) On bauxite processed into alumina, two shillings and six pence on the first million ton, two shillings on the second million and 1 shilling and six pence on the third.

II. Income Tax:

a) The notional profit was raised to U.S.

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[65] Huggins, op. cit., p. 106.

[66] Ibid.

$3.85 per ton, yielding $1.54 in income tax (40 percent tax rate) or 11 shillings per ton.

b) No change in alumina - as before the normal procedure of value minus costs.

III. Variable Clause:

One half of the royalties on income tax paid on exported bauxite would vary directly with the price of aluminum pig as quoted in the American Metal Market, the base price being 25¢ per pound.

The latter clause was seen by the Government as an appropriate measure to increase the tax intake, in view of the then-recent rise in the price of the metal. As it turned out, the price has weakened since 1957 "fluctuating between 22¢ and 25¢."[67]

The 1957 agreement raised the tax take from exported bauxite more than five times. In addition to the latter fact, the increasing secular rise in exports of bauxite and alumina made the industry a major taxpayer to the Jamaican economy. Table XII shows the revenues received by the Government from the Bauxite-Alumina Industry. In 1957 Bauxite-Alumina revenues increased by J.£2 million over the previous year. Furthermore, there was an upward trend from 1957 to 1963.

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[67] Levitt and Best, op. cit., p. 179.

TABLE XII

JAMAICAN GOVERNMENT TAX REVENUES
FROM BAUXITE-ALUMINA INDUSTRY,
1953-1963 IN J£ MILLION

Year	Revenue from Bauxite-Alumina (1)	Total Revenue (2)	(1) as a percent of (2) (3)
1953	0.04	----	----
1954	0.10	----	----
1955	0.30	----	----
1956	0.30	18.2	1.6
1957	2.30	24.0	9.6
1958	2.60	25.0	10.4
1959	3.90	28.1	13.9
1960	5.60	30.4	18.4
1961	6.80	33.4	20.4
1962	6.50	36.4	17.8
1963	5.90	37.6	15.7

Source: Extracted from K. Levitt and L. Best, Externally-Propelled Growth and Industrialization in the Caribbean, (Unpublished, Vol. IV, 1969), p. 186, and Government of Jamaica, National Accounts and Products, (Kingston: 1964).

While in 1956 Bauxite-Alumina revenues accounted for almost 2 percent of total government revenues (see Table XII), in 1957 they accounted for roughly 10 percent. The share of revenues from the industry increased to 20 percent in 1961, after which due to a combination of a fall in Bauxite-Alumina revenues, and a rise in revenue from other sources, the share decreased a few percentage points.

The essential point that needs to be emphasized in this section - aside from the simple fact that tax payments since 1957 form a higher share of total local payments than either labour wages paid or intermediates purchased[68] - vis-à-vis the preceeding discussion on labour, is that taxes are vital to financing of government expenditures in a way that wages paid to labour can not be. The following fact alone underscores the importance of taxes. After 1957 the Bauxite-Alumina Industry's tax payments financed between 12 to 18 percent of government expenditure (compared to a mere 1 percent of government expenditure before 1957).[69]

Government expenditure after 1957 has meanwhile

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[68] Girvan reports that before 1957 tax payments accounted for 5 percent of total local payments while after 1957 they accounted for 42 percent. Ibid., p. 185.

[69] Ibid.

ranged between 11 and 16 percent of Gross National Expenditure, which is a significant part of total demand. Thus the industry has contributed indirectly from 1 to 3 percent to Gross National Expenditure.

Conclusions

In an economy like Jamaica a "leading" sector such as bauxite can play a significant role in the development and growth of the economy. Through direct and induced demand for agriculture and manufacturing commodities, it can create growing markets for such commodities which in turn can create an induced demand in other sectors. The results will not only be income effects but external economies accruing to industries at large.

But, as we have seen, the Bauxite-Alumina Industry, has, in a very small way integrated with the commodity producing sectors. The bulk of the local purchases are from the building construction and transport industries, inputs which cannot be feasibly imported. We have seen that the structure of the industry along with the capital intensive nature of operations and the fact of foreign ownership is such that any "development effect" bestowed on the economy

will only be an accidental by-product of the operations of the MNC's. The area of tax and royalties is the only vital area where the Government can benefit from much needed direct resources, and thus it is the logical area for financing economic development. In this context the extent of potential development depends directly on the extent of taxes paid, making the tax payments the critical contributor to the economy. As already noted the tax intake was increased many fold after 1957 and became the major contributor to the Jamaican economy, albeit the scope for the expansion of this vital area needs to be further studied and analyzed by Government officials in an attempt to arrive at negotiations to increase tax payments. Hence, as a policy matter,the area of tax increase should be of utmost importance and interest to the Government.

In the following chapter we shall take a brief look at the Jamaican income tax rate on profits, in order to better comprehend the constraints that face the tax rate determination of business profits. Subsequently, in Chapter VI we shall delve into the institutional and historical background to the all important area of tax intake in order to place in proper perspective the bargaining position of the Government versus the giant MNC's.

In retrospect we can then appreciate why the Government reached such feeble agreements with the MNC's, looked at from the Jamaican point of view.

V.

SOME TAX CONSIDERATIONS

In an extractive industry such as bauxite, where profits are notionally imputed,there exist two essential ways of increasing total tax intake. One way would be to increase the profits tax rate. The second method would be to maintain the tax rate but raise the amount of notional profit per ton. As we have seen already and shall re-examine in the next section, Jamaica chose the latter method in 1957. Without a doubt, the former method faces far more constraints than the latter,[70] so much so that tampering with the tax rate may cause untold repercussions on the balance of payments of the economy in question as well as balance of payments of countries with which Jamaica has a business intercourse, not to mention the possible changes it may cause in the optimal allocation of production and distribution.

A small country such as Jamaica,face to face with such imposing giants such as the North Atlantic powers,is in a hopelessly weak position to determine and set into law the optimal tax rate. Rather, Jamaica's

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[70] It may be argued, that the fact that only a few countries have bauxite deposits, does in fact impose less restraint on Jamaica in setting high tax rates. This however, would depend on the extent to which Jamaica would regard other bauxite countries as potential competitors for the foreign investment.

welfare being very much dependent on such super powers, it may have to make the best of the alternatives, given the constraints.

In this chapter, we would like to focus on the constraints that face the Jamaican tax rate determination. As Britain, U.S.A. and Canada have been the principal capital importers of Jamaica, the former up to the Second World War, and the latter two increasingly since World War Two, we are interested primarily in their interaction with Jamaica.[71]

Due to the nature of double taxation arrangements, Jamaica is constrained in its desire to attract overseas capital. According to the Tax Laws of the countries with which Jamaica has the greatest business intercourse - the U.S., Canada, and the United Kingdom - any profits transferred from Jamaica to the latter countries will be subject to taxation in the respective country, to the extent that they have not borne Jamaican tax. Thus while Jamaica can discourage the inflow of overseas capital by imposition of a "critically" high level of taxes, she cannot encourage capital inflow by a "critically"

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[71] In his 1956 report on Jamaica, J.R. Hicks deals extensively with the question of finance and taxation. This chapter deals basically with the 'Taxation of Business' of that report. J.R. Hicks, Report on Finance and Taxation in Jamaica, (Kingston: Government Printers, 1955), pp. 73-96.

low level.

A British company, if it invests in a subsidiary that does business in England,will pay tax on the dividends which it receives from its subsidiary at a rate of 52 percent (income and profits tax combined) an American .and Canadian company pay at approximately the same rate. If the company investment is in a Jamaican subsidiary, they all pay a total tax on the dividends they receive from the subsidiary at about the same 52 percent.[72] All three Governments allow Jamaican tax as a credit against their own taxes, so that with the Jamaican tax rate at 40 percent, the remaining 12 percent goes to the United Kingdom or United States or Canada, as the case may be.

It would seem beneficial,under such circumstances, for Jamaica to raise her tax above 40 percent. It has to be realized however, that the foregoing applies solely to dividends. The undistributed profits of the subsidiary, which would pay at a rate of 52 percent if the subsidiary were operating in the home country, only pays 40 percent if the subsidiary is in Jamaica. Thus the 40 percent Jamaican rate of tax would seem effective inducement

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[72] As we shall see shortly,after 1957 there were some changes made in the British Tax Law.

in so far as the undistributed profits are concerned.

Up to 1957, a British company directly investing in Jamaica (without forming a subsidiary) paid British tax at 52 percent on the whole of profits: dividends and undistributed profit. With Jamaican tax rate (40 percent), 12 percent went to the United Kingdom. Under this circumstance, it would definitely be an advantage for Jamaica to raise its tax rate. But to give preferential treatment in one case and not another would be a difficult proposition. The U.S. Government faced with the inequality in the tax treatment of overseas branches and overseas subsidiaries adopted an alternative solution. An American concern investing in Jamaica other than through a Jamaican subsidiary may be entitled to qualify as a "Western Hemisphere Trade Corporation", in which case its American tax on its Jamaican profits amounts to only 38 percent. Against this, the Jamaican deduction of 40 percent leaves no American taxes to be paid. At any rate below 38 percent, Jamaica would be giving the United States a gift. Any rate too much in excess of the Jamaican rate of 40 percent might detour United States capital to other parts of the Western Hemisphere but not necessarily make investment in the U.S. more attractive, U.S. rate being about 52 percent. We can conclude that the Jamaican authorities would have had to decide, with great caution,

the effects of an increase in the Jamaican rate. If such an increase would not mean that the U.S. concerns would alter their decision to invest in the bauxite enterprise, or to move to some other part of the Western Hemisphere, this would indicate, ceteris paribus, a logical move above the 40 percent tax intake.

Broadly speaking, the United Kingdom 52 percent set a maximum, while the U.S. 38 percent set a minimum, between which the company rate of tax could be set. As it is, at 40 percent, the rate is toward the lower end of the spectrum. "It does accordingly give away a certain amount of revenue to the U.K. but it avoids imposing any appreciable deterrent on the U.S. capital."[73]

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[73] J.R. Hicks, op. cit., p. 77.

The foregoing tax discussion seems to indicate why British capital, the chief factor in Jamaican economic development up to the Second World War, did not figure prominantly in the under-takings of the late forties and early 1950's. A New York Times article confirms this view: "...a main handicap to new investments in Jamaica has been the anachronistic British tax laws". "It seems strange," said O.A. Boyer, Chairman of Jamaican Industrial Development Corporation in that same article, "that the U.S. law should harmonize so well with the Jamaican program while the British law does not." B.M. Jones, "Jamaica Awaits British Capital as London Plans Tax Overhaul", New York Times, Business Section, June 20, 1957, p. 32.

VI.

THE HISTORICAL AND INSTITUTIONAL BACKGROUND

Although the commercial possibilities of Jamaica's bauxite deposits were recognized in the early nineteen forties, the first official geological survey of Jamaica in 1869 noted widespread existence of aluminum ore.[74] It was not, however, until the late 1930's when the increased demand for military buildup and war time activities was pressing that the attention of aluminum interests focused on Jamaica.

Jamaica had the strategic advantage over other suppliers of the ore, Surinam and British Guyana, in being less than half the distance from the source of supply to the North American aluminum plants. During the 1939-45 war, the above fact manifested its merits on grounds of military security as well as economic efficiency, in view of heavy losses of ships hauling bauxite from Surinam and British Guyana to North America.[75]

In November 1942, the Governor of Jamaica, under

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[74] H.R. Hose, "The Geology and Mineral Resources of Jamaica", Colonial Geology and Mineral Resources, 1950, Vol. 1, No. 1, p. 23.

[75] M. Huggins, Aluminum in Changing Communities, (London: André Deutsch, 1965), p. 103.

Jamaican Emergency (Defence) Acts 1939-40, declared all bauxite in Jamaica the property of the Crown.[76] Aluminum Laboratories Limited, a subsidiary of Aluminum Limited, Montréal, was appointed as the agent of the Government to "conduct investigations, and to develop and mine the bauxite should it prove to supplement production of bauxite in the Guyanas and elsewhere as a war emergency."[77]

About the middle of 1943 enemy sinkings of Guyanan bauxite cargoes had gradually decreased and thus the idea of using Jamaican ore as a war emergency was abandoned, though the extraction work proceeded without interruption.

Meanwhile the Jamaican government passed the Mining Laws (of 1947) which in addition to vesting the ownership of minerals to the Crown (such that only under a government lease could mining take place), fixed the royalty to be paid on bauxite mined and set the conditions under which it could be mined.

The Bauxite companies had been buying land and acquiring options since 1944,and,by 1946, according

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[76] H.R. Hose, op. cit., p. 23.

[77] Ibid.

to the Report of the Economic Policy Committee of the Government of Jamaica, the Price of bauxite land had risen by two or three times its former value.[78]

In 1950 the three companies, expecting to mine in Jamaica came face to face with the Jamaican officials in a period of hard bargaining. The outcome was the Bauxite and Alumina Industries Encouragement Law (of 1950) and its accompanying regulations. The arrangements made with the Bauxite companies provided: (1) for a royalty of 1 shilling per ton on bauxite exported and of 10 pence per ton on bauxite converted into alumina locally. The royalty was fixed for five years. (2) For income tax on the notional profit of 60 cents per ton of bauxite at the existing tax rate of 40 percent. The income tax for bauxite processed into alumina followed the general pattern of production "costs" minus value of "sales". (3) Assurance to the companies that, provided they maintained their agricultural obligations with respect to lands owned by them, mining leases would be honored and issued to no one else.

Let it be said that in addition to a royalty payment and a tax payment the companies offered payments

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[78] M. Huggins, op. cit., p. 104.

in the form of land tax. In a study made by J.R. Hicks on Finance and Taxation in Jamaica[79], the land tax was found a real source of grievance by the bauxite companies. Bauxite extraction being such extensive form of production, immense amounts of land had to be secured for the present and future use of the companies. This, in conjunction with the sudden increase in land taxes in the mid 1940's meant,according to the Hicks Report, an unexpected and unjustifiable burden to the companies.[80] Since the mid 1940's the land tax had been transformed from a flat rate into a highly progressive one such that higher rates were imposed on larger properties. Bauxite companies,unlike manufacturing industries, occupied a large amount of land space in relation to the value of their product and therefore found the land tax a major source of discrimination. The Hicks Report was to exert a great deal of influence on both public and private opinion, so much so that, as we shall see, most of the recommendations of the Report,including the above mentioned land tax,were revised in the 1957 agreements taking place between the companies and the government.

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[79] J.R. Hicks and U.K. Hicks, Report on Finance and Taxation in Jamaica, (Kingston: Government Printer, 1955), p. 97.

[80] Ibid., p. 147.

The Hicks Report also found, as did most experts, the agreements of 1950 to be as bad bargains from the Jamaican point of view. In the words of Chief Minister Norman Manley, "...it is obvious that the Government negotiators at that time had neither the information nor the advice to enable them to negotiate on equal terms with the companies engaged in the business."[81]

A general problem besetting negotiations (on equal terms) had to do with imputing a price on Jamaican bauxite. Unlike alumina, bauxite is not a homogeneous product; in fact Jamaican bauxite is distinctly different in its composition from say Guyanese bauxite. For example, it is maintained that Jamaican bauxite is inferior to that of Guyana and Surinam bauxite in that it is of lower alumina content. The companies based their principle justification for low income tax rates on this claim. But, as already noted, it is also held that Jamaican bauxite is of lower silica content, which makes high recoveries of alumina possible.[82] Another compensatory factor, vis-à-vis the Guyanese ore, was the low cost of mining in Jamaica,due to the close proximity of the ore to the

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[81] Norman Manley, "Jamaica's New Bauxite Agreement", The Caribbean, (Trinidad, July 1957, Vol. 10, No. 12), p. 284.

[82] Levitt and Best, Externally-Propelled Growth and Industrialization in the Caribbean, (unpublished), 1969, Vol. IV, p. 173.

surface.

In brief, the Jamaican Government was at a distinct disadvantage, lacking both a high level of information and practical experience. In a community which had no continuous mining tradition and "whose previous major experience with extractive industries was limited to stone quarrying", Huggins did not find it surprising "that the potential value of the bauxite industry to the economy was not generally realized."[83]

The harm done, or, in economic terminology, the cost incurred in not having concluded a more favourable agreement to the Government, can not easily be quantified. The crux of the issue remains,however, that the main advantage bauxite can confer on Jamaica is to be a source of revenue; for due to technical necessities already mentioned, the capital/labour ratios are extremely high and the industry's prospect for considerably alleviating unemployment is very little. Also, as noted earlier, the amounts of intermediates locally purchased by the companies with respect to the size of total intermediate is small. These two factors would probably leave tax revenues as the critical contributor to the well being of the local

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[83] H.D. Huggins, op. cit., p. 104.

Jamaican economy. Yet the profits upon which the government would base its tax intake depended upon the price at which bauxite (or alumina) was transferred from one branch to another of a MNC, which in turn was to be calculated such as to be in the interest of the MNC. Hicks suggested in his Report alternative means of evaluating the profits the companies made in Jamaica.[84] One way would be to start from the alumina content of the bauxite the companies export, and work back by some indirect estimate at the cost of transport to the alumina plants in the U.S. and conversion into alumina. This approach is qualified by Hicks when he admits "these are things about which the companies would be bound to be better informed than the Jamaican government could be."[85] Another approach would be to consider the capital invested by the companies in Jamaica and apply a conventional rate of profit to the capital. This alternative would again subscribe to the same qualification as the earlier one. At best, these approaches could have served as strong bases for arguments in challenging and hopefully surpassing proposed figures by the companies which the government authorities believed to be too low.

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[84] Ibid.,pp. 101-2.

[85] Ibid.

Not only does it seem that the Jamaican agreement was a bad bargain from the point of view of the government, but also a poor one compared to the bargains made between the bauxite companies and Surinam and British Guyana. Both Hicks and Huggins support the above claim.[86] Yet there are indications that though Jamaica had a worse deal than either Surinam or British Guyana in the first few years of the agreements, after the second round of negotiations in 1957, the tide was reversed. It is very difficult,if not impossible, to ascertain the above claims. Government figures and statistics are often too scarce or too vague to offer any categoric verification. In particular, there is very little to be found surrounding the industry in Guyana and Surinam. The original agreement made with these economies dates back to 1917, when they were both under colonial rule.

By 1957, after the first five year period prescribed by the mining regulation had come to an end, the government,grown in sophistication ,was prepared to revise the royalties due by the Bauxite Companies. In order to bargain from a position of strength and to be

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[86] Hicks, op. cit., p. 101; Huggins, op. cit., p. 105. N. Girvan maintains somewhat the reverse. He claims the average 1954/65 valuation of Guyanese export of dried bauxite has been only 65 percent that of Jamaican export, a difference which can not wholly be explained by the shipping costs to North American alumina plants. A. Lewis and T. Mathews, (ed.), Caribbean Integration, (University of Puerto Rico, 1967), p. 105.

able to negotiate rationally, the government began a study of the situation early in 1956. According to the report made in the House of Representatives of Jamaica by Chief Minister Manley, the services of an expert consultant were sought.[87] Though it was extremely scarce to find individuals unconnected with the companies who had detailed knowledge of the industry, the Government was able to secure the services of one such person who proved an "invaluable assistance" to the Government.[88] Information was gathered from all sources, checked, classified and analyzed such that in due time "very little of interest" remained unknown "about the intricate and vast ramifications of the industry."[89]

The negotiations made both with Reynolds and Kaiser in relation to income tax were for a period of twenty five years, but it became clear from the Government survey that it was desirable to deal with both royalty and income tax in renegotiating. Should the necessity have arisen, there seems to have been some serious considerations to amend to the Bauxite and

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[87] N. Manley, op. cit., p. 285.

[88] Ibid.

[89] Ibid.

Alumina Industries Law some measure to bring into line the income tax provision. The Government was aware nonetheless, that the best interests of Jamaica would be served by "finding a basis for negotiation rather than by resorting to its (the Government's) powers under law."[90]

In renegotiating with the companies, the companies made it quite clear that they would not make necessary commitments for important capital expansion, unless the Government would make a long term "package deal" to last for no less than 25 years. On this basis only, were the companies willing to negotiate. With some reluctance the Government conceded, but as a measure to protect herself, an escalator clause was introduced, whereby one half of total income tax and royalty was to vary with the price of aluminum pig on the New York market.

Between 1947 and 1957 the price of aluminum increased on the average of 1 cent per pound annually. It was estimated for every one cent increase in price of the pig, there would be additional government revenue of 3.36 pence per ton of bauxite; thus the escalator

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[90] Ibid., p. 286.

clause was seen as a compensation measure for the twenty five year period contract and the source of substantial gains in revenue. As it turned out, the trend in the price increase of aluminum did not continue after 1957 Instead the price weakened,fluctuating between 22 cents and 25 cents per pound.[91] The Government had optimistically hypothesized in 1957: "If the price of aluminum continues to increase at the same rate as in the previous period, the amount payable by the companies in 20 years' time would be approximately £1 per ton."[92]

As another long-term protection measure,the Government transferred the computation of profit and payment of tax to dollars from its former sterling stronghold.

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[91] Levitt and Best, op. cit., p. 179.

[92] Manley, op. cit., p. 286.
For the North American producers of aluminum,the year 1956 was a good one. In the U.S. the consumption of aluminum had doubled between 1950 and 1956, and the major problem facing the aluminum firms was the struggle to keep up with their domestic demands. Canada,aside from supplying her own market in Europe - most important of which was England - was barely able to send to her U.S. neighbour .2 million tons (of the 1.8 million) which their consumers required. The United Kingdom meanwhile, the second largest consumer of aluminum (after the United States),was the biggest importer of the metal. (The increase in demand in West Germany was greatest of all European countries: from a consumption of 55 thousand tons in 1950 to 229 thousand in 1956). Both United States and the United Kingdom depended on imports which were dominated by Alcan. Alcan supplied 89 percent of her total exports to the latter countries. Alcan in fact increased the price of aluminum on the United Kingdom market from £171 to £189 a ton. This action brought a perceptable effect in demand. During 1956, the Soviet

In the event of any further devaluation of sterling, the yield to the Government would increase in terms of the latter currency.

According to the 1957 agreements, the assumed rate of profit per ton of bauxite was set at $3.850. At 40 percent income tax this would yield $1.54. The royalty rate would be on a sliding scale: 4 shillings per ton where production is less than 1 million tons; 3 shillings per ton where production exceeds 1 million tons; above two million tons, the excess above two million tons would pay at the rate of 2 shillings per ton.

As regards the land tax, the Government agreed to amend the Land Valuation Law to ensure that the value of minerals which vest in the Crown are different from the value of the land for purposes of land taxation.

Union continued exporting aluminum abroad, and to the United Kingdom in particular. Although this received little notice at first, gradually reaction set in to increasing Soviet production. By 1957 the United States' recession had begun, which was associated with "supplies of aluminum rising so far ahead of demand that the industry reduced output to well below capacity." Alcan dropped its prices in all countries other than the United States, the United Kingdom and Canada. Alcoa followed Alcan's lead in an effort to get rid of excess supply. Some felt the Soviet entry was the cause of shifting aluminum prices. Others felt the falling off of demand was due to the high price of the metal - Huggins, op. cit., pp. 57-60.

The above action put a stop to the competition for bauxite lands which had created an artificial market. This action,furthermore, disregarded the increased value of the lands, and instead, for purposes of taxation, limited the tax base to the sum paid initially by the companies for the right to mine minerals.

Another feature of the new negotiations which appeared in the agreements of 1957, promised the companies mining leases upon purchasing extensive areas of land. These leases were to be honored and nothing was to be done to deprive them of land needed for mining. In return, the companies had to accept two responsibilities: (1) Not to lay idle lands acquired and (2) to maintain the agricultural productivity of lands acquired by them, else at Government's discretion they would be fined £50 per acre for land not restored.

The 1957 agreements did not affect the income tax rate on bauxite converted into alumina, since the alumina producer was paying income-tax at ordinary company rate. So far as royalty payable by Alumina Jamaica Limited was concerned, it was intended to preserve approximately the same differential rate as existed previously between this company and the American companies.

The payments were according to the following schedule: 2/6d. per ton on the first million tons, 2/- on the second and 1/6 d. per ton on all bauxite mined in excess of two million tons.

As for the "debated" initial allowances which were offered to Alumina Jamaica Limited by the Government, under the Income Tax Law of 1951, Chief Minister Manley explained it "as the result of an oversight by the last government."[93]

The renegotiations of 1957, conducted by the Government were "claimed to constitute the most significant single advance that has ever been made in the economic position of Government."[94] It was claimed, in addition, under the new arrangements, "Jamaica would derive income tax per ton of bauxite larger than that obtained by any other country in the world..."[95]

Much of the Government's optimism at the 1957 negotiations lay on both the ever increasing demand for aluminum and the upward trend in the price of aluminum pig. As noted earlier, after that very year, prices

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[93] Manley, op. cit., p. 288.

[94] Ibid., p. 289.

[95] Ibid.

actually declined as did the overall demand for the metal.

In retrospect, the 1957 agreement was not as good a bargain as the Government wished to believe. Jamaica's agreement fixed an assumed profit per ton of exported bauxite subject only to the price of aluminum, and not in rises in the economic value of the ore. As a result the rises in the value of the ore are not translated into higher taxable profits. Neither does a fall in production costs have any direct bearing on taxable profits. There is evidence that the unit costs of mining falls significantly with higher levels of operation. In particular, the labour cost component in the industry fell from 1957 and 1962.[96]

Even more important in upsetting taxable profits has been the very nature of intra company transfer prices in computing the 'market' value of sales. For U.S. tax purposes, for example, the value of Jamaican bauxite used by the U.S. companies since the beginning of production, has been above the price negotiated between the companies and the Government, and has been steadily rising.[97] The accummulative 1953-1964 total value of Jamaican exports to the U.S. revalued at the companies'

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[96] E. Girvan, Caribbean Integration, op. cit., p. 106.

[97] Ibid.

own transfer prices amounts to U.S. $500 million instead of $324 million. If we regard the $176 million differential as escaped taxable profit, the foregone tax revenue amounts to $70 million. This is equivalent to almost 60 percent of the Government's total revenue from the industry since production began.[98]

Girvan asserts that even the most comprehensive of agreements between the companies and the Government (i.e. the 1958 Surinam agreement) do not account for rises in taxable capacity due to fall in cost of transport to aluminum plants (in the U.S.), or due to fall in the cost of recovering aluminum from the ore. There are evidences that both have been on the downward trend, the latter as the result of technical improvements and economies of scale.[99]

In short, without either a free market in bauxite or Government agreement on pricing and taxation, "pricing and therefore taxation will continue to be largely a hit-or-miss affair, with relative large amounts of revenue lost through relatively small oversights or defects."[100]

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[98] Ibid.

[99] Ibid., p. 106.

[100] Ibid.

VII.

CONCLUSIONS

Since World War II the economy of Jamaica has been dramatically restructured by the exploitation of bauxite by a handful of firms operating in that country. These firms are subsidiaries of typically large corporations known as Multi National Corporations with extensions in several countries and operating in imperfect markets.

According to the theory of private foreign investment, an assessment of costs and benefits to the host country would in essence indicate the net economic benefits extended to the economy by the act of investment. Indeed, a close study of all costs and benefits of foreign capital is the basis for an appropriate selection of foreign capital - assuming there exists a range of choices. Yet in practice, the appraisal of costs and benefits from private capital (especially that arising from the MNC) extends beyond economics into areas of politics and a range of social institutions, expanses where a simple, or even a thorough, cost-benefit analysis would be hopelessly marred by an inability to appraise the cost of such side effects as "alienation", "dualism", or "domination".

An assumption that would systematically ignore

these latter items as not being the domain of an "economic" analysis is heroic and, in the final analysis self-defeating.

This study therefore has not attempted to make any neroic statements, nor to minutely quantify the costs and benefits flowing from the operations of the four bauxite-alumina companies in Jamaica, but rather to expose the nature of the operations of the enterprise.

The firms operating in Jamaica were seen to be giants in the international aluminum industry occupying strategic positions in the market from extraction to fabrication. The nature of operations were seen to be highly capital intensive. The inputs into the dried bauxite operations were seen to consist mainly of services. For example, the major element affecting the cost of delivered bauxite to alumina production plant is transportation. For alumina production, as much as one-half the value of the product is due to raw materials such as fuel, starch, caustic soda, as well as managerial and labour inputs.

The decision of American companies not to locate alumina plants (until recently) in Jamaica - a move that would have greatly affected the economy and the logistics of the industry - was due more than any other fact to the attraction of the home institutional environment made plausible by U.S. Government offers and influential industrial

groups. Thus the decision not to locate alumina plants on the Island is seen as an irretrievable loss from the Jamaican point of view.

Under "Gross Output", a high share of value added in gross output was noted for both dried bauxite (84 percent) and multi product operation (69 percent). Of this amount (see Table VI), 39 percent and 30 percent are the respective 'national' contents of value added. Concerning the elements of value added, only wages and taxes accrue to the local economy (40 percent and 45 percent of the national content of value added, respectively). while depreciation and net profit would accrue to the companies.

As for intermediates, the bulk of inputs consists, in the case of bauxite, of services which are not transferrable such as transport and building construction and thus are supplied from the local economy. For the multi product operation, the reverse is true. Although the good inputs could be provided for the most part locally, almost all are imported, thus not encouraging the development of secondary industries.

The Bauxite-Alumina Industry provided the bulk of incremental receipts of total foreign exchange,

though after 1958 the receipts from other sources outpaced the receipts from the industry.

The linkages of bauxite with other sectors of the economy has been felt strongest in the construction industry, and to a much lesser extent in the agricultural sector. As for the linkage effects on the manufacturing industry, it has been virtually non-existent.

Employment has fared no better: aside from the induced employment in the construction industry, employment offered directly by the companies makes jobs available for a mere one half of one percent of the labour force.

The area of taxes is left as a critical contributor to the economy. Indeed, when the tax intake per ton was low as up to 1957, tax payments averaged a mere 5 percent of total local payments while after that period they averaged almost one half of total local payments. Being such a vital source of government expenditures, the tax intake becomes the logical area for educated scrutiny. And to indulge

into the possibilities for tax increase means to focus on the great disparity between the bargaining power of the corporations and the bargaining power of the government.[101]

To better appreciate the latter fact, a short review of the historical and the institutional background indicates (a) the increasing strength of the bargaining position of the government (b) the great stride made in the renegotiations of 1957 and (c) the need for an even better "deal" from the point of view of Jamaica. The latter would seem difficult to realize, in view of the terms of the negotiations and the foreboding size and degree of influence of the MNC's. Yet any effort towards that direction, even if it should bear no fruits, will only serve to increase the bargaining level of the government, and through time, in the dim ranges of the future that lie ahead, may hold forth a promising ray of hope.

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[101] S. Hymer, has an interesting model of the unequal bargaining power of the corporation and governments, too detailed to reproduce here. For a short version see Hymer, "The Efficiency Contradictions of Multinational Corporations", The American Economic Review, Vol. LX, No. 2, May 1970.

APPENDIX I.

TRADE UNIONS AND BAUXITE WAGES

Since 1952 the economy of Jamaica has been revolutionalized by the exploitation of bauxite, for which Jamaica has become,in the space of a few years, the world's largest source of the ore. The impact of the highly mechanized bauxite companies on a somewhat archaic economy has been dramatic. Traditionally, Jamaica had coped with unemployment through the spreading of work over a larger number of persons than necessary, often resulting in "zero" or even "negative" marginal product of labour. But, with the arrival of the companies, a highly paid elite group of workers emerged which may have been a "mixed" blessing for the island.

Being accustomed to American labour rates and trade union practices, the bauxite companies established wage rates which were often beyond the capacity of other employers to match. American Unions were influential in the establishment of these rates as William Knowles has pointed out:

> "To protect labor standards in the bauxite and alumina industries in North America the United Steel workers of America, AFL-CLO, has given financial and technical assistance in the organizing and bargaining activities of unions of the bauxite industry in Jamaica...The Steelworkers Union placed Kenneth Serling, formerly an organizer of

the Peoples' National Party, on its payroll for organizing Jamaican bauxite workers...."[102]

The influence of the Steelworkers Union is illustrated in a statement made by one of its representatives to Jamaican bauxite miners, that they need not be so pleased with their prosperity that bought bicycles, for North American bauxite workers received wages that bought automobiles. "A bicycle is child's toy", he said.

The above remark, in addition to the whole attitude of labour officials, led the Jamaican Government to protest to the United States State Department over the American Union influence in the Jamaican labour affairs. Since then, the steelworkers have sent Canadian Steelworker representatives to Jamaica.[103]

It is reported, a government official alarmed by the general inflammatory talk insisted that "it was only a few years ago that workers could not afford to buy shoes, much less bicycles and that putting the idea of owning automobiles into the minds of workers was dangerous."[104]

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[102] W.H. Knowles, Trade Union Development and Industrial Relations in the British West Indies, (Berkeley & Los Angeles, University of California Press, 1959), pp. 136-7.

[103] Ibid.

[104] Ibid.

Union leaders in the West Indies, as already noted, place great emphasis on industrialization, in spite of the World Bank reports which stress the improvement of agriculture. They identify a high standard of living with industrialization. In fact, "West Indian workers have an intense distate for estate agriculture and a liking for industrial jobs."[105]

It is not difficult to see then, considering how **power**ful the Unions are and how intimately Unions are associated with political parties, that wages in the bauxite industry are set so high. Let it be said that the political parties, being committed to a platform of attracting foreign capital and pioneer industries, realize the attraction of Jamaica is in its cheap labour. They assert furthermore, that unions should develop a colony-wide wage rate for comparable labour grades, and foreign companies investing in Jamaica should not be expected to pay more than the going rate. The bauxite companies, in their wage arbitration case of 1953 cited the latter in their pursuit of a low wage rate. They also asserted that wage differential would create labour unrest and disrupt the labour market, and that higher wages would be inflationary in an economy where consumer goods were

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[105] Ibid., pp. 180-1.

lacking. The bauxite workers' Union responded strongly that they were employees of North American Companies and allied to North American Unions and that the productivity of Jamaican workers was equal to that of North American aluminum workers.

The bauxite workers' union won its 1955 wage assertation case and "strengthened its position on wage differentials with the argument that wage differentials between industries, and especially between agriculture and manufacturing industries, exist in the more advanced industrial countries."[106]

As for the argument that wage differential would disrupt labour markets, the union pointed to traditional wage differentials within agriculture that do not cause unrest. They did not deny the inflationary consequences of wage differentials but rather rested their case on the inevitable fruits of economic development. The unions added, inflation rather than being undesirable placed new purchasing power in the hands of workers and thus would create a greater demand for consumer goods, which in turn encouraged the growth of local secondary industries.[107]

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[106] Ibid., p. 166.

[107] Ibid.

The bauxite companies' response to the unions clamour was relatively calmer. After all, with wages making up a relatively small part of the cost of production, their economic position was not seriously being jeopordized. They did make an effort to point out, for example, in 1956, that as subsidiaries of the parent aluminum company, the bauxite subsidiaries did compete with other subsidiaries in other islands, and that higher wages would induce the parent company to buy their bauxite elsewhere. The formation of the Caribbean Federation of Bauxite Workers shortly thereafter assured the companies the elimination of such shadow competition and ensured them of a standardized wage rate.

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