

The Distribution of Private Foreign Capital
in Barbados

by

Harold Codrington

CENTRAL BANK OF BARBADOS
RESEARCH DEPARTMENT

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Introduction

It is well known that many developing countries depend heavily on foreign capital to supplement domestic savings. But if economic development is to be facilitated by foreign investment these inflows must provide the greatest possible benefits to the host country. It is therefore important which local economic activities are the main recipients of that investment. Poor countries prefer foreign capital to flow into activities which boost their productive capacity rather than into those that reinforce their external dependence.

It is because of the above considerations that a sectoral analysis of foreign investment is the main task of this paper. In the following section we examine the sectoral distribution of private long term foreign capital in Barbados between 1977 and 1982.¹ In section two we show why some economic activities are more likely conduits of foreign investment than others and present the statistical tests which support the main findings. The paper ends with some comments on the implications for policy.

Section 1

According to the classification of the International Monetary Fund, private long-term foreign investment has direct

and portfolio components.² Direct investment takes place when an investor or group of investors sets out to achieve substantial control or an effective voice in the decision-making process in an enterprise in a foreign country. The association is assumed to be of a lasting nature and therefore direct investment takes the form of equity capital, reinvested earnings and loans from the parent company. Portfolio investment, on the other hand, assumes no control on the part of the investor. Portfolio investors are primarily concerned with the safety of their capital and the return that it earns. This type of inflow includes long-term market loans, as well as purchases of corporate bonds and equities.

Since 1970 when records were first kept, 72% of all foreign investment in Barbados have been of the portfolio type; however, this dominance is a recent occurrence. During the earlier part of the period when many transnational firms were setting up operations, direct investment accounted for most of the capital inflows, but between 1977 and 1982 only 28% of total investment was direct investment. Rising capital requirements and tight domestic money market conditions forced many firms to resort to foreign borrowing thereby rapidly increasing the share of portfolio investment in total inflows.

Most theories of foreign investment such as the recent studies by Ragazzi [1973], Root and Ahmed [1979] and Lim [1982] are concerned almost exclusively with direct

investment. But during the 1970s, the decline in the importance of direct investment, which Barbados experienced appears typical for developing countries (LDCs). United Nations data show that the share of direct investment in total non-concessional flows to LDCs fell from 33% in 1970/72 to 21% in 1979/81;³ over the same period the share going to bank loans and bond purchases rose by three percentage points to 39%. Apart from the failure to deal with portfolio flows these studies employ global analyses which can hide important inter-sectoral differences.

Our study is a cross-sectional one of inflows to twenty sub-sectors during the period 1977 to 1982.⁴ Twelve of these represent largely serviced-oriented activities, public utilities, insurance, etc., while the others are manufacturing activities. We examined not only each sub-sector's share in the total, direct and portfolio investment, but also its share in the smaller components of investment.

During the review period foreign investment was highly concentrated in a few sectors (See Table 1). Several activities got no foreign capital or only small amounts. These included hotels,⁵ several sub-sectors of the wholesale/retail group along with some manufacturing activities. In most of these cases, there was little need for foreign funds as local banks, government loan schemes or regional lending agencies provided substantial financing.

Four economic activities concerned with the sale of petroleum products, the manufacture of chemicals and metal products together with insurance, accounted for 84% of direct investment. Investment in branches and subsidiaries accounted for a large portion of inflows to the oil companies and manufacturers and there were substantial re-invested earnings in oil and insurance. Insurance companies also generated over one-half of parent company loans and other investments.

Virtually all portfolio investment was generated by a group of four sub-sectors. These activities included the distribution of petroleum products, insurance, public utilities and the mining and refining of crude oil. The pattern here was much more straight-forward with the enterprises in question relying almost exclusively on long-term loans.

Overall, five economic activities accounted for ninety-four percent of total investment - public utilities, the distribution of oil, the mining of oil, the manufacture of metal products, machinery and equipment together with insurance. Only two groups generated more than ten percent of both direct and portfolio capital. An indication that some of the determinants of direct capital may not be important for portfolio inflows.

We also looked at the ratio of investment going into traded and non-traded activities. Traded activities - tourism

and manufacturing - accounted for only 15% of total inflows, just over half of direct investment and eight percent of portfolio flows; they also absorbed two-thirds of investment in branches. The non-traded goods sectors were responsible for the overwhelming majority of total investment and portfolio capital, especially in the form of reinvested earnings and long-term loans.

Since no foreign capital went into the sugar industry it means that the leading export sectors together attracted less than one-sixth of the foreign investment. Over the same period, however, they contributed about one-third of gross domestic product (GDP) and three quarters of all foreign exchange earnings (See Table 2). This analysis does not take into account possible technology transfers and multiplier effects in the non-traded goods sectors; but it does appear that the pattern of distribution of foreign investment is not optimal. In spite of the increasing amounts of foreign capital flowing into the country, leading sectors were largely underwritten by domestic resources. This raises concern about both the productivity of foreign capital in the non-traded goods sector and the debt burden (outflows of dividends, interest, principal and profits) which is largely a result of capital inflows to these sectors.

Section 2

The tendency for foreign investment in developing countries to be concentrated in relatively few activities -

natural resources, manufacturing, light & power - has been noted in a number of studies (See for example Maddison [1970] p. 218-220). Our task is to determine whether the concentration in Barbados is occasioned by common features which make the sectors in question more likely candidates for foreign capital than others.

Among the dominant groups which we identified one common characteristic is a high degree of external orientation. Apart from a high level of foreign ownership, most of these activities rely heavily on foreign technology, management skills and imports. This is especially true for the manufacturing sub-sector where many of the firms are multinational in character. The activities in question, energy, sophisticated technology, communications and insurance, all grew steadily through the period which was marked by the increasing contribution of non-traded goods to GDP (See Worrell (ed) [1982] p. 14).

Production techniques are mostly capital-intensive, especially in the oil and public utility activities, and as a result, technological changes, combined with large scale production, can lead to internal economies. But the financing of equipment and machinery is usually beyond the means of domestic credit facilities and some of the firms do not qualify for local soft loans. Finally, the manufacturing sub-sector benefits substantially from industrial incentives provided by government.

These characteristics are in summary:

- (1) a high level of external orientation;
- (2) a capital-intensive production function;
- (3) the use of industrial incentives;
- (4) difficulty in getting adequate local financing; and
- (5) steady growth over the period.

We tested the importance of the above characteristics for total investment (TI), direct investment (DI) and portfolio investment (PI) by regression techniques. The separate tests on (DI) and (PI) were to determine whether the decomposition of the flows made any difference to the results of the regression.

Acceptable ways of quantifying the characteristics had to be found. The degree of external orientation was assumed to be approximated by the percentage of foreign ownership since the use of foreign technology, skills and management is more likely where there is substantial foreign ownership (FO). Most of the capital intensity ratios (CAP) were estimated from national income accounts; those for the manufacturing sector were estimated by Cox (See Worrell, op. cit. Table 8 p. 59). In order to measure the effects of industrial incentives (IND) we employed a dummy variable which took a value of one for those sub-sectors which

benefitted from industrial incentives and zero in all other cases. We assumed that difficulty in obtaining adequate local financing was approximated by the six-year average of the sector's share in local commercial bank credit (SBC); a low share indicates low accessibility to domestic credit. The growth rate for each sector is the average of the sectoral growth rates for 1976-1981 (GRO₋₁). This one-period lag is based on the assumption that foreign capital inflows in any particular year are influenced by sectoral growth rates in the previous year.

We expected capital inflows of all types to be positively related to (FO), (CAP) and (GRO₋₁). (IND) should be positively related to direct investment at least. The sign of (SBC) may be either positive or negative depending on the characteristics of the industry. There are four possible outcomes with the first two yielding a positive relationship and the last two a negative one as follows:

- (1) a low share in domestic bank credit occurs together with low foreign capital needs;
- (2) in spite of substantial local borrowing, foreign financing is still large;
- (3) limited access to domestic capital leads to high levels of foreign borrowing;

- (4) local funding is adequate and therefore precludes the need for foreign loans.

The regression results using logs are given below; t-statistics are in parentheses:

$$LTI = 12.58 + 1.67 \text{ IND} + 2.01 \text{ LFO} - 0.13 \text{ LSBC} - 1.16 \text{ LCAP} + 3.60 \text{ LGRO}_{-1}$$

$$(-2.18) (0.89) (2.99) (-0.15) (0.66) (2.61)$$

$$R^2 = 0.58 \quad D.W. = 1.77 \quad F(5,13) = 3.57 \quad n = 19$$

$$LTI = -9.30 + 1.87 \text{ LFO} - 0.53 \text{ LSBC} + 3.09 \text{ LGRO}_{-1}$$

$$(-2.12) (3.25) (-0.74) (2.57)$$

$$R^2 = 0.55 \quad D.W. = 1.84 \quad F(3,15) = 6.20 \quad n = 19$$

$$LDI = -12.07 + 5.99 \text{ IND} + 1.48 \text{ LFO} + 2.89 \text{ LSBC} - 4.17 \text{ LCAP} + 2.11 \text{ LGRO}_{-1}$$

$$(-2.85) (4.25) (3.12) (4.30) (-3.18) (2.17)$$

$$R^2 = 0.76 \quad D.W. = 2.02 \quad F(5,12) = 7.77 \quad n = 18$$

$$LPI = -7.43 - 0.39 \text{ IND} + 1.59 \text{ LFO} - 0.37 \text{ LSBC} - 0.39 \text{ LCAP} + 2.62 \text{ LGRO}_{-1}$$

$$(-1.24) (-0.20) (2.35) (-0.41) (-0.22) (1.89)$$

$$R^2 = 0.47 \quad D.W. = 1.78 \quad F(5,13) = 2.30 \quad n = 19$$

In all the equations the co-efficients of (FO) and (GRO₋₁) are significantly positive; this is not surprising. A high degree of foreign linkage is expected to increase a sector's chances of absorbing large amounts of foreign investment. Strong external links promote exposure to and demand for the latest technological advances and enhance a firm's awareness of the sources of foreign finance. Steady growth in a sector will attract potential direct investors and makes it easier for a firm to satisfy the requirements of foreign debtors.

As expected, industrial incentives (IND) yielded a positive and significant coefficient for direct investment alone; portfolio investment as defined above is not attracted by industrial incentives. The variable SBC was positively related to direct investment and significantly so. This appears to indicate that a lot of direct investment capital went into sectors characterised by outcomes (1) and (2) above; they included several distributive sub-sectors and the public utilities. At the same time SBC was negatively related to portfolio investment. The metal products and tourism sectors both had the characteristics which facilitated this negative relationship.

The capital-intensity variable had all negative coefficients but it was only significant for the direct investment equation. This result was unexpected since we had assumed that the higher the capital requirements of an industry the more likely it is to borrow abroad. But it must be realised that the needs of such industries may also be met locally and this could have been especially true of several manufacturing sub-sectors during our review period.

The regression explained 76% of the direct investment flows and shows that the presence of industrial incentives together with steady growth, strong foreign links and access to domestic credit all stimulate inflows. The first three factors are all well-established determinants of direct

foreign investment; however, the significance of domestic credit is somewhat controversial. Direct investors who can reinvest their earnings or extend parent company loans in hard times should not be unduly concerned with access to domestic credit. But perhaps some investors view a degree of financial commitment by local agents as a final guarantee that the venture is safe.

The results were less encouraging for portfolio inflows and the explained variance was only 47% clearly indicating that one or more important variables were omitted from the specification; some measurement of profitability may be one of these. Still it is clear that portfolio investment is more likely where foreign links are pronounced and there is above average growth. Steady growth makes the possibility of high returns more likely and this by definition is one of the prime concerns of portfolio investors.

Conclusion

This study has shown that foreign investment in Barbados is concentrated in a few economic sectors and has tried to explain this pattern of distribution. Sizeable amounts of GDP were generated without direct access to foreign investment, calling into question the benefits which the country has derived from foreign capital. This pattern of distribution seems to indicate that the profit objectives

of foreign investors do not coincide with the priorities of the country. The host economy should aim to derive the greatest possible returns from inflows of foreign investment since they give rise to future outflows to the investor in the form of dividends, interest and profits.

Despite the limitations of the statistical tests we were still able to advance some explanations as to the present pattern of distribution. One unquestionable result is that both direct and portfolio investors are impressed by a proven record of growth which enhances the chances of profits. Given the tendency for non-traded activities to grow faster, this might mean that in the foreseeable future, they will continue to attract more foreign investment. Policy makers will therefore have to decide whether a distribution, which penalises the leading export sectors is optimal; that is, whether the accompanying growth, technology transfers, employment generation and foreign exchange accumulation are at the greatest possible levels, if non-traded activities continue to account for the overwhelming proportion of the foreign capital inflows. This may entail a rationalisation of foreign investment policy by adopting a cost/benefit approach to the issue and attempting to direct funds towards those activities where the economic returns are greatest.

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Footnotes

1. The data on foreign inflows by sector are available only for this period.
2. For a detailed treatment see International Monetary Fund, Balance of Payments Manual 4th Edition, 1977 pages 385-386, 408-409 and 412.
3. See United Nations Centre on Transnational Corporations, Transnational Corporations and World Development (Third Survey), United Nations, New York, 1983 p. 25, Table II4.
4. These comprise firms which regularly respond to the Central Bank's annual balance of payments survey on foreign capital movements.
5. The hotel sub-sector experienced net disinvestment - there were large outflows, a result of previous borrowing.

Table 1

The Sectoral Distribution of Private, Foreign Capital, 1977-82

(Percentages)

Economic Sub-sector	Total Investment	Direct Investment	Portfolio Investment
Public Utilities	14	2	18
Oil-Distribution	21	24	19
Oil-Mining/Refining	19	-	25
Metal Products etc.	12	35	5
Insurance	29	17	32
Chemicals	3	9	--
All Other	5	13	1

Source: Central Bank of Barbados, Annual Balance of Payments Survey, 1977-1982

- nil
-- negligible amounts

Table 2
Percentage Share of Selected
Sectors in:

	Foreign Capital Inflows	Real Gross Domestic Product	Foreign Exchange Earnings
<u>Traded Goods</u>	15	33	74
of which Sugar	-	6	9
Manufacturing	15	13	25
Tourism	—	14	40
<u>Non-Traded Goods</u>	85	66	26
of which Wholesale/			
Retail	43	19	n.a.
Insurance	29	1	3

Source: Central Bank of Barbados, Annual Statistical Digest 1982;
Balance of Payments, 1982

n.a. not available
- nil
-- negligible amounts