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financiamiento del desarrollo

International finance and Caribbean development

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CEPAL
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Santiago, Chile, October 2001

This document was prepared by P. Desmond Brunton and S. Valerie Kelsick for the Latin American and Caribbean Regional Consultation on Financing for Development, held in Bogotá, Colombia, November 2000, and which was sponsored by ECLAC and the International Development Bank (IDB).

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United Nations Publication
LC/L.1609-P
ISBN: 92-1-121323-1
ISSN: 1564-4197

Sales No.: E.01.II.G.151
Printed in United Nations, Santiago, Chile

Contents

Tables

Figures

Boxes

Introduction

Globalization, defined as the international integration of markets in goods and services, is at the centre of the development process in the contemporary world and is an inescapable part of the external environment in which Caribbean[1] countries must exist. Global financial integration, the integration of the World's financial markets into a single global marketplace, is a subset of globalization. The developing countries of the Caribbean can ill afford to disregard the existence of this process. Indeed, advances in communications and recent developments in finance make the path toward financial integration unavoidable (World Bank, 1997). The real issue is not whether the Region should be part of this new age of global capital, but rather, how to proceed along the road to financial integration such that the considerable benefits could be realized and the significant pitfalls mitigated.

Creating the right macroeconomic environment is a prerequisite for effective financial integration. But the small countries of the Caribbean also face peculiar constraints in attracting global capital. Small size and the associated structural inefficiencies, a limited natural resource base and high transportation costs to export markets, all reduce the relative attractiveness of many of the economies to international capital. In effect, these features make the Caribbean market for global funds inefficient. Providers of international capital find it difficult to adequately measure and allocate the risks. The imminent cessation of preferential trading arrangements, under which

[1] For purposes of this paper Caribbean refers to the English-speaking countries of the Region. This focus is simply related to the fact that they are the borrowing members of the Caribbean Development Bank.

critical segments of the regional productive sector have operated, exacerbates the risk perceptions.

A relatively broad consensus has emerged concerning the necessary conditions for successful financial integration. These include an appropriate macroeconomic framework, a liberalized trading environment so as to preclude large domestic price distortions, a sound and well regulated banking system and appropriate capital market infrastructure. It is the thesis of this paper, that in the small and very vulnerable countries of the Caribbean, these conditions are not sufficient to ensure financial integration. It is argued that in spite of the low and declining volume of official flows to the Region, such flows are critical in assisting these countries address risk perceptions and help to induce increased private flows.

This paper examines the recent developments of international capital flows into the Caribbean. It first reviews the experience of the Region in the 1990s with respect to both official and private capital flows. The major determinants of the flows are then examined and the policy implications are identified. The impact of external flows on domestic savings is analyzed. Finally, the paper examines the accessibility of international capital markets to regional economies and the role the Caribbean Development Bank could play in facilitating such access.

I. External financial flows to Caribbean countries

During the 1970s and 1980s the flows of official development assistance[2] (ODA) to all developing countries increased steadily, moving from around $18 billion in 1975 to close to $63 billion in 1991. Official development finance (ODF) also increased more or less in line with ODA. Since 1991, however, there has been a significant decrease in ODA flows (Figure 1). A number of factors account for this decline, all of which relate to the changing political context of development assistance. Firstly, the requirements of the transition economies of Eastern Europe have resulted in a certain degree of aid diversion away from traditional recipients. Secondly, the "market failure" rationale for aid is less relevant in the context of the significant increases in private capital flows to developing countries. Thirdly, the end of the cold war means the "security" arguments for aid provision are also less relevant. And finally, fiscal difficulties in the OECD countries coupled with the apparent ineffectiveness of aid, has reduced public support for ODA (Brunton, 2000).

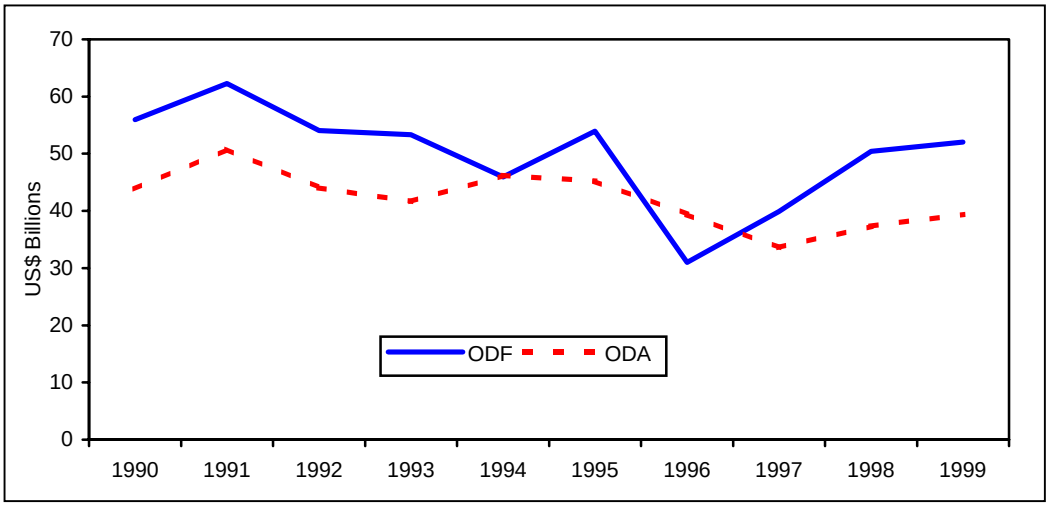
The Caribbean has not been immune to the declining pattern of aid flows. Aggregate data for 10 Caribbean countries[3] indicate ODA peaking in 1991 at around $688 million and declining to $226 million by 1996 (Figure 2). Increases in 1997 and 1998 were due mainly to

[2] Official Development Assistance (ODA) is commonly referred to as aid i.e. financial resources provided as grants or highly concessionaire interest rates. ODA is a subset of Official Development Finance (ODF) which refers to all official flows from the developed countries and multilateral agencies to the developing countries. Some ODF is at or near commercial interest rates,

[3] The 10 countries are Barbados, Belize, Dominica, Grenada, Guyana, Jamaica, St. Kitts & Nevis, St. Lucia, St. Vincent and the Grenadines and Trinidad & Tobago.

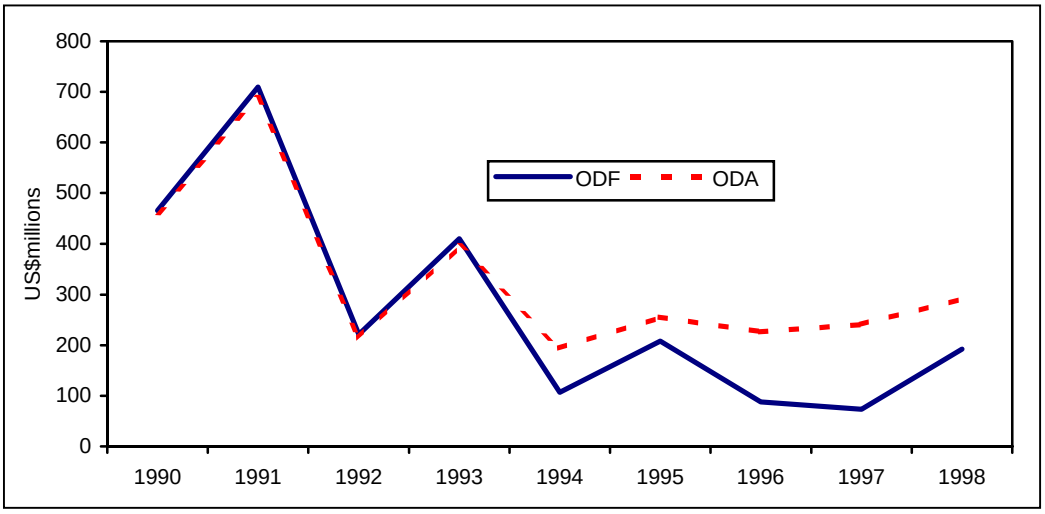
ODA flows to one country – Guyana. Indeed, over the entire period aid flows to Guyana alone accounted for, on average, 42% of the total aid flows to the 10 countries. This experience with ODA flows during the 1990s is significant, for whereas the global decline has tended to be concentrated in large countries, the rate of decline to the Caribbean has been higher than for the rest of the world. Significantly also, net ODF has exhibited an even more drastic decline moving from close to $710 million in 1991 to $73 million by 1997.

Figure 1
NET OFFICIAL FINANCIAL FLOWS TO DEVELOPING COUNTRIES



Source: Global Development Finance, 2000.

Figure 2
NET OFFICIAL FINANCIAL FLOWS TO CARIBBEAN COUNTRIES

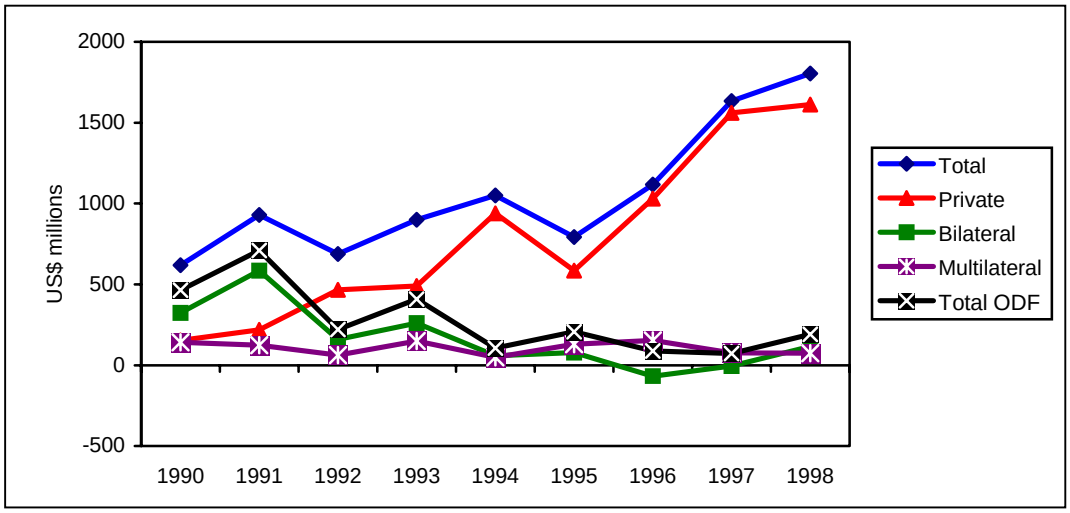


Source: Global Development Finance, 2000.

The decline in official flows to the Caribbean is more than compensated for by the significant increases in private flows. As shown in Figure 3 the decline in official flows is almost entirely the result of the fall-off in net bilateral flows, which moved from $324 million in 1990 to negative $4.8 million by 1997, with an increase to $116 million in 1998 again mainly to Guyana.

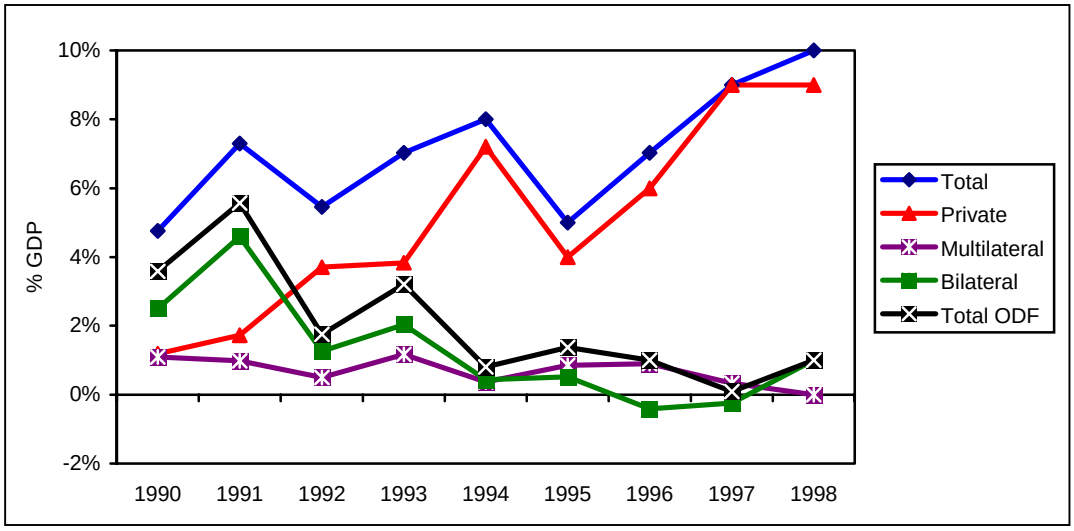
Multilateral flows were relatively constant over the same period. On the other hand, private flows increased dramatically, from $154 million in 1990, to in excess of $1.6 billion by 1998. Private capital flows are now more than eight times as large as official flows. This is quite a remarkable transformation since in 1991, official flows were in excess of $700 million while private flows were at around $220 million. The increase in private flows to the Caribbean mirrors the global experience, with net private capital flows to all developing countries exceeding $300 billion in 1998, nearly eight times greater than at the start of the decade (World Bank, 2000). Scaling financial flows by GDP (Figure 4) provides a similar picture. The decline in total ODF, 6% of GDP in 1991 to less than 1% by 1998, is in stark contrast to the increase in private flows from 2% of GDP in 1991 to 9% of GDP by 1998.

Figure 3
TOTAL NET FINANCIAL FLOWS TO CARIBBEAN
(US$ millions)



Source: Global Development Finance, 2000.

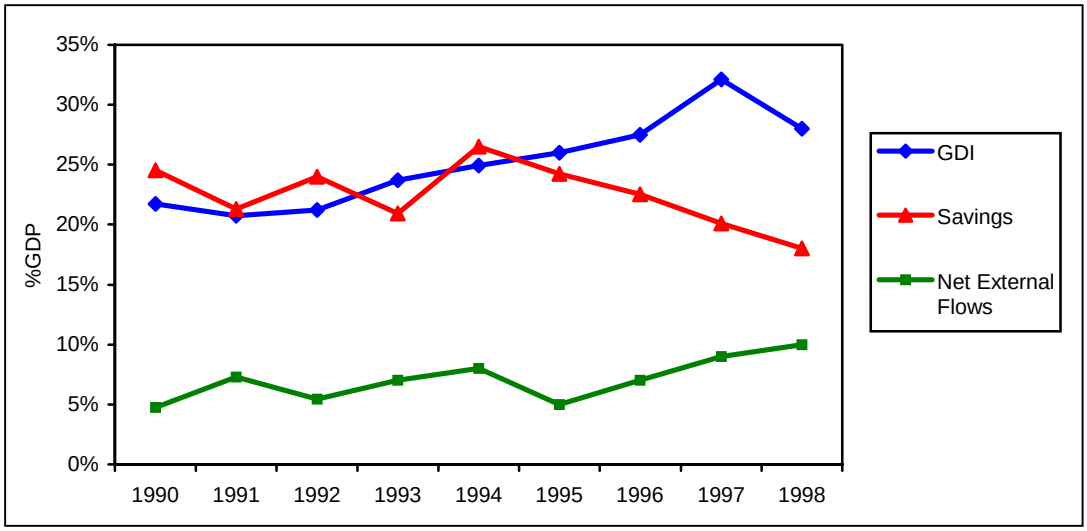
Figure 4
TOTAL NET FINANCIAL FLOWS TO CARIBBEAN
(As percent of GDP)



Source: Global Development Finance, 2000.

Figure 5 illustrates the relationship between domestic savings, investment and total net external capital flows. Savings, at around 24% of GDP, dwarfs external flows which averaged around 6% of GDP. However, savings were more volatile and declined steadily since 1994. At the same time, Gross Domestic Investment (GDI) increased from 1994 suggesting that external flows, at least the private flows, were becoming more important. Indeed, whereas in 1990 external private flows represented 5% of GDI, by 1998 private flows accounted for 10% of GDI.

Figure 5
RELATIONSHIP: GDI, SAVINGS, EXTERNAL FLOWS



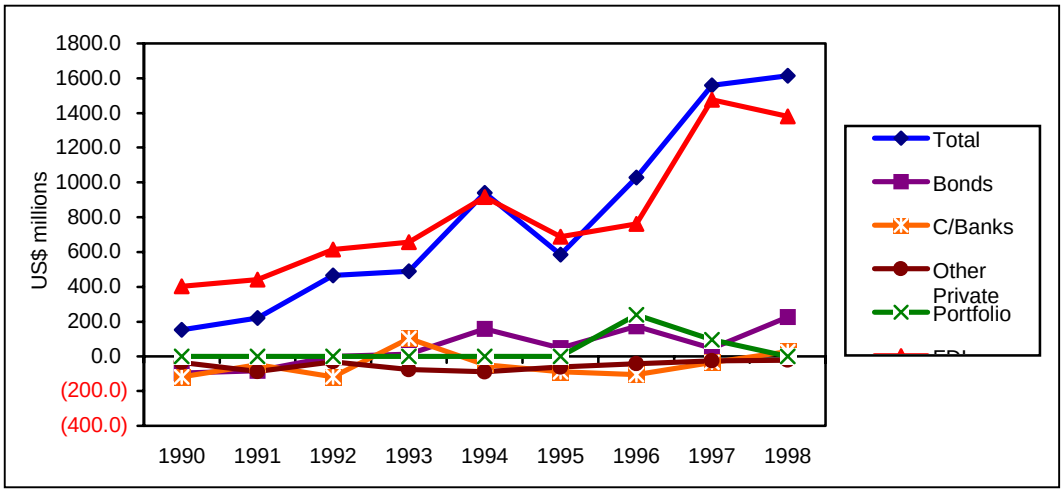
Source: Global Development Finance, 2000; CDB data.

The composition of private flows, in the form of foreign direct investment (FDI), bonds, commercial banks, portfolio flows and other private loans, is significant (Figures 6 and 7).

- **FDI** is by far the largest, exceeding net total flows over the majority of the period. But of the approximately $7.3 billion in FDI that flowed to the Caribbean between 1990 and 1998, 84% went to three countries – Trinidad & Tobago 53%; Jamaica 21%; Guyana 10%.
- **Net bond flows** are of relatively minor significance and one country, Jamaica, accounted for the majority of these flows. However, in recent years, with the Bahamas, Barbados and Trinidad & Tobago achieving investment grade credit ratings, bonds have become a more significant source of external capital and are likely to increase in importance.
- **Portfolio flows** were zero except for two years (1996 & 1997) and all were to one country – Barbados. There are indications that these portfolio flows to Barbados were related to how investments were categorized (i.e. put through the stock exchange) rather than reflecting any trend.[4]
- **Commercial bank** and other private loans were negative through most of the period reflecting the short maturity of most of these loans and a decline in the relative importance of commercial bank lending.

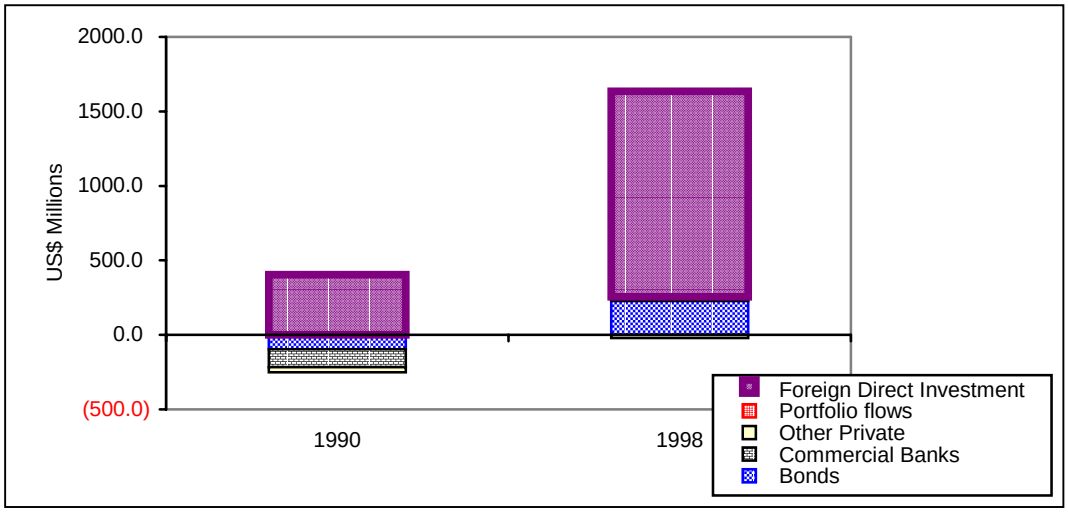
[4] During 1996, the portfolio flows to Barbados related to the transfer of shares consequent on the establishment of the head-office of a financial institution's holding company.

Figure 6
NET PRIVATE FINANCIAL FLOWS TO CARIBBEAN COUNTRIES



Source: Global Development Finance, 2000.

Figure 7
COMPOSITION OF PRIVATE FLOWS



Source: Global Development Finance, 1999.

The aggregated data of financial flows masks some significant differences between the countries. Table 1 provides some basic data on each country in order to give a perspective of relative size and Annex 2 gives financial flow data for each country. Figures 8 & 9 desegregate the data into two country groups on the basis of economic size:[5] ***Group A***- Barbados, Guyana, Jamaica and Trinidad & Tobago; ***Group B*** – Belize, Dominica, Grenada, St. Kitts & Nevis, St. Lucia and St. Vincent & the Grenadines. The characteristics of the flows to the two country groupings reflect significant differences:

[5] Earlier classifications of Caribbean countries would recognize ***Group A*** as the more developed countries (Macs) and ***Group B*** the less developed countries (LDDS). This classification while hardly appropriate now, still has some usefulness for comparison purposes.

- ***Group A*** countries are less dependent on external resources, which averaged around 6% of GDP, compared to ***Group B*** countries for which total external resources averaged almost 12% of GDP.
- One possible explanation for lower dependence on external resources is the higher savings rates of the ***Group A*** countries, with savings averaging close to 24% of GDP compared to 17% for the ***Group B*** countries.
- ODF is less important in the ***Group A*** countries – at less than 2% of GDP – than ***Group B*** countries for which ODF averaged over 4% of GDP. ODF flows are also less volatile in the ***Group B*** countries.
- Even though the ***Group A*** countries account for the largest share of private flows – the four ***Group A*** countries account for close to 80% of the FDI between 1990 and 1997 – private flows to the ***Group B*** countries are more significant than the ***Group A*** countries when scaled by GDP. In the ***Group A*** counties private flows averaged close to 4% of GDP whereas for ***Group B*** countries private flows exceeded 7% of GDP.
- FDI is the most important source of private flows for both groups of countries, but for most ***Group B*** countries FDI is the **only** source of private capital.

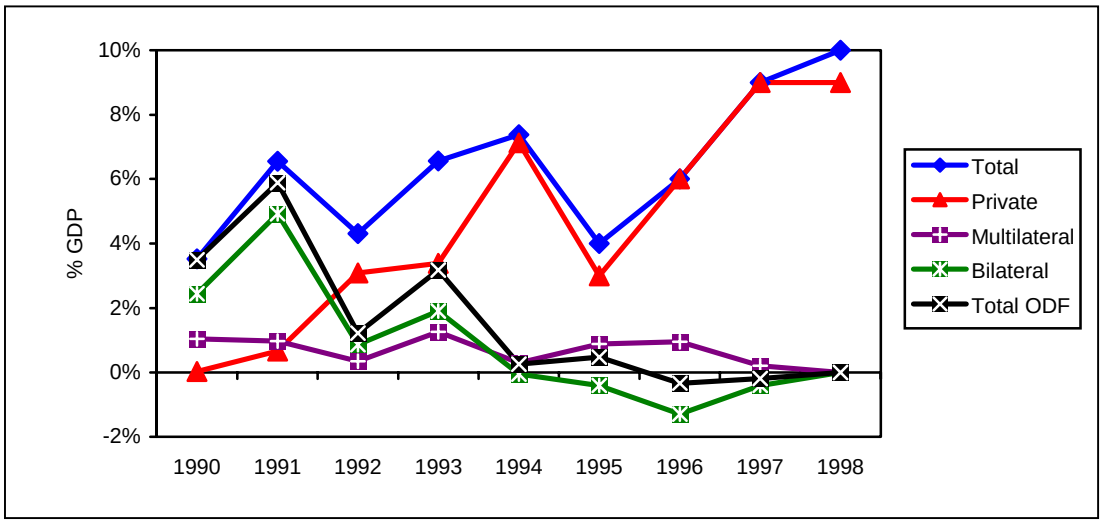
Table 1
SELECTION ECONOMIC DATA ON CARIBBEAN COUNTRIES
(Year: 1997)

	Mid-year Population ('000)	Land Area Km^2	GDP US$ mn	GDI US$ mn	GDS US$ mn
Group A					
Barbados	265	431	2,204	407	361
Guyana	779	214,970	749	331	265
Jamaica	2541	11,424	6,689	2,167	1,217
Trinidad & Tobago	1275	5,168	5,848	2,114	1,385
Group B					
Belize	230	22,960	614	141	110
Dominica	76	750	244	80	16
Grenada	100	348	315	115	35
St. Kitts & Nevis	41	269	268	121	72
St. Lucia	150	616	578	155	95
St. Vincent & the Grenadines	112	388	294	87	21

Source: Caribbean Development Bank.

Note: GDP- Gross Domestic Product; GDI – Gross Domestic Investment; GDS – Gross Domestic Savings.

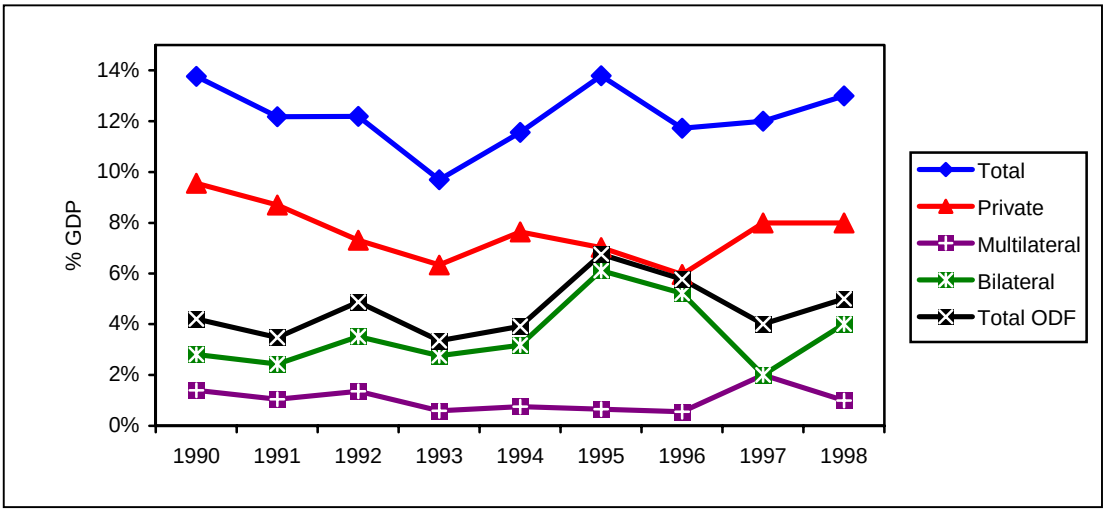
Figure 8
TOTAL FINANCIAL FLOWS: GROUP A
(Percent GDP)



Source: Global Development Finance, 2000.

Global financial integration is proceeding rapidly but developing countries are starting from different points and with different "bundles of resources" so that the ability to take advantage of this new age of global capital would vary between countries. The World Bank (1997) indicates that "[only] a dozen countries …accounted for about 80 percent of net private flows to developing nations during 1990-95, and less than a score accounted for 95 percent." How then does the pattern of external flows to the Caribbean compare with the global situation?

Figure 8
TOTAL FINANCIAL FLOWS: GROUP B
(Percent GDP)



Source: Global Development Finance, 2000.

The Caribbean experience with increasing private flows is similar to the international experience. Net private flows to all developing countries increased six-fold over the position at the start of the decade. Private capital flows are now more than eight times the size of official flows. But with private flows to the Caribbean countries averaging 5 percent of GDP (1990-1998), the Region could only be considered as average performers in terms of receipt of private capital. At least, when compared to countries in Latin America where some (e.g. Peru, Paraguay, Bolivia, Honduras, Mexico, Guatemala) exhibited private flows/GDP ratios in excess of 8 percent.

The relative significance of private flows in the economies of developing countries, as measured by contribution to GDI, has also increased – from 4.1 percent of GDI in to 20 percent of GDI by 1996. Comparative figures for the Caribbean are 5 percent in 1990 and 14 percent by 1997. However, for at least the smaller countries of the Region, ODF is still an important source of investment capital (see Figure 8).

Internationally, there has been a broadening in the composition of private flows with FDI emerging as the most important component at 40 percent and with portfolio flows (bond and equity) now accounting for more than a third of private capital flows (World Bank, 1997). Commercial bank lending which used to account for more than 65 percent of private flows now represent less than 20 percent. In the Caribbean, FDI is also the most important component accounting for over 80 percent of the total private flows. Portfolio equity flows accounted for around 10 percent in 1997, but as previously indicated there is some question as to the categorization of these flows. Bond flows accounted for 7 percent but these were mainly sovereign bonds not portfolio bonds. Commercial banks have not been an important source of long-term capital for the Caribbean. In essence the broadening in the composition of private flows has not occurred in the Caribbean, at least to the same degree.

II. The determinants of external financial flows

Two questions are relevant: (i) what are the causes and effects for the particular pattern of capital flows to the Caribbean countries in the 1990's? and (ii) what are the policy implications, if any, of the capital flows? A related question is whether the diffences between the countries reflect differences in economic fundamentals?

Economic theory indicates that capital flows to developing countries would be influenced by both external and internal factors. External factors include world interest rates; the saving-investment balance (i.e. the existence of current account surpluses or deficits) in the major capital supplying countries; terms-of-trade developments; and any regulatory changes that influence the perceptions of investors regarding risks and returns in the emerging markets (Calvo, Liederman & Reinhard, 1994). Empirical studies support the importance of external factors. Gavin, Hausmann and Liederman (1995) show that net capital flows to Latin America since 1970 are negatively correlated with the world interest rate and indicate that "[the] turning point of each major phase of the capital-flows cycles experienced [in Latin America] since the 1970s can be correlated with substantial movement in world interest rates." It is suggested that low interest rates affect the relative attractiveness of investments in the debtor countries either directly or by improving creditworthiness. Gavin et al (1995) also show, by comparing capital flows to Latin America and the current account situation of the major industrialized countries, that shifts in the industrial countries' saving-investment balance are reflected in the patterns of capital flows to developing countries. Changes in the

regulatory environment in the capital exporting countries and the investors' search for higher returns and risk diversification are the mechanisms whereby the capital flows are induced. Calvo, Lierderman & Reinhard (1993) suggest that external factors have a significant influence on capital flows as manifested in the fact that they (i.e. external factors) account for between 30% and 60% of the variance in real exchange rates and reserves, two measures that are directly related to capital flows.

The external factors can be considered as necessary but not sufficient conditions for inducing capital flows. The sufficient conditions relate to the suitability of the domestic environment and these are determined by internal factors. These internal factors include the "quality'' of macroeconomic policies and management, the adequacy of financial sector supervision and regulation and the level of development attained. As indicated by Stiglitz (1998) "[many] of the same factors that apply in domestic capital markets also apply in international capital markets." Low and stable inflation rates and a sustainable fiscal situation, by reducing macroeconomic risks, is important. So is an open trading and financial system (Gavin et al, 1995) which reduces information asymmetry and hence transaction costs. Also, any policy, such as tax concessions, that increases the rate of return on investment will help to encourage capital flows (Calvo et al, 1994).

Box 1
THE DEGREE OF FINANCIAL INTEGRATION IN THE CARIBBEAN

The level and composition of private flows reflect the degree of financial integration that a country exhibits.
The World Bank (1997) constructed an overall index of integration incorporating three measures:

- Access to international financial markets – as measured by the country risk ratings of *Institutional Investor*.
- Ratio of private capital flows to GDP – with the following weights: portfolio 5; Bank 3; FDI 1.
- Composition of private flows – with participation in all three sources implying balanced integration.

Two Caribbean countries – Jamaica and Trinidad & Tobago were indicated as having medium levels of integration. But based on the measures, apart from these two countries and The Bahamas, the other countries in the Region would appear to exhibit a low level of financial integration. Most of the countries do not have access to international capital markets and while the ratio of private capital flows to GDP is relatively high, the majority of the flows are in the form of FDI, which has a low weight in the World Bank index.

A. Macroeconomic effects of capital flows

The macroeconomic effects of capital flows is determined by the nature of the macroeconomic policies in the recipient country and by the composition of the flows. Net capital inflows would be reflected in reserve accumulation by the central bank and/or increases in the current account deficit. In a fixed exchange rate regime increases in capital flows would lead to reserve accumulation initially, followed by current account deficits as the flows continue (Gavin et al, 1995). In a flexible interest rate regime where the central bank is prepared to intervene to defend the exchange rate, the extent to which the capital flows are reflected in reserve accumulation or current account deficits is policy dependent and is influenced by the composition of the flows. If the flows are short-term and likely to be reversed quickly, then reserve accumulation would be a prudent policy response. If, on the other hand, the majority of the flows are in the form of FDI reserve accumulation may not be appropriate or indeed possible.

Eventually the capital flows would generate deficits in the current account (i.e. the gap between domestic savings and investment). This arises as the flows cause reduction in domestic interest rates and increase in asset prices. The real exchange rate will then tend to appreciate either by nominal changes in a flexible rate regime or by increased domestic inflation in a fixed rate regime. But the rate of these adjustments is also policy dependent. In particular, if the government attempts to sterilize the flows by substituting domestic paper for the reserve assets, the impact on domestic interest rates will be delayed. But because of the fiscal implications of sterilization it is usually not sustainable and can be a contributing factor to a financial crisis.

A review of the experiences of the Caribbean countries in the 1990s illustrates the operation of these macroeconomic adjustments. In the ***Group A*** countries, three of which (Guyana, Jamaica and Trinidad & Tobago) operate flexible exchange rate regimes, the early 1990s witnessed savings levels that exceeded GDI rates, implying that the capital flows were being used to finance reserve accumulation. This started to change from around 1995 and since then there has been a widening current account deficit. The Jamaica experience is particularly noteworthy. The macroeconomic policy objectives of controlling inflation by intervening in the foreign exchange market and by attempting to sterilize the external flows, many of which were short-term and speculative, led to significant increases in domestic interest rates thus inducing further flows. And coupled with inadequate financial sector supervision eventually precipitated a financial sector crisis from which the country is only now emerging (see Box 2).

Box 2
FINANCIAL CRISIS IN JAMAICA

The financial sector crisis in Jamaica had its genesis in the macroeconomic environment, the financial supervisory/regulatory environment and the quality of governance in financial institutions:

Macroeconomic Environment

During 1990/1991 Jamaica liberalized its foreign exchange regime and removed all capital controls. The resulting currency depreciation and strong money supply growth arising partly from capital inflows caused inflation to rise rapidly reaching close to 80% by 1992. By 1993 this prompted a tight monetary policy stance to stabilize the exchange rate and control inflation. The sterilization of capital flows was an important component of the policy as the Bank of Jamaica exchanged low yield reserve assets for high interest rate government paper. This environment resulted in high interest rates, which together with the policy of intervening to stabiles the exchange rate induced further short-term capital inflows. Furthermore, with inflation climbing, the real effective exchange rate appreciated steadily, so that real GDP growth became sluggish. The high interest rates were particularly severe on the fiscal through the increase in debt payments.

The Financial Environment

Jamaica's financial sector grew rapidly between 1987 and 1994. Differences in regulation and in prudential requirements encouraged the rapid growth of certain types of institutions by the exploitation of regulatory arbitrage. The proliferation of non-bank financial institutions within financial conglomerates was a noticeable feature of this period of financial sector growth. The number of merchant banks grew from 8 in 1985 to 21 by 1990. The high inflation rates and relatively low interest rates of late 1980s caused increases in asset prices and financial institutions broadened their asset base to include long-term, illiquid assets. However, as real interest rates increased with the government's anti-inflationary policies, asset prices fell. Financial institutions thus experienced significant erosion of their asset base. The situation was exacerbated by sluggish GDP growth, which increased the incidence of non-performing loans. Non-performing loans as a percent of total loans increased from 8.2% in 1990 to 28.9% in 1997. The capital/total assets (primary) ratio for the commercial banking system as a whole remained below 8% for most of the 1990s.

During this period of rapid financial sector growth, the regulatory and supervisory environment proved inadequate. The legislative basis for regulation and supervision was inappropriate and there was little integration of the oversight function in different institutional types.

Governance

Beyond these regulatory inadequacies, the crisis was exacerbated at the financial institutional level by mismanagement reflected in inadequate internal control systems, weak asset portfolio management, imprudent lending activities and in some instances outright fraud.

Source: Bullock (2000) & Bonnick (1998).

The ***Group B*** countries all operated fixed exchange rate regimes and, apart from Belize, share one central bank – the Eastern Caribbean Central Bank (ECCB). The nature of the arrangements in the ECCB area effectively removes monetary policy from the control of the individual governments. The countries exhibited current account deficits throughout the review period. GDI remained relative constant at around 29% of GDP and the savings/investment gap averaged around 10% of GDP. Domestic interest rates remainded relatively low and there was a noticeable increase in asset prices, particularly real estate. However, inflation rates did not appear to rise significantly, suggesting the ECCB helped to dampen the impact of real exchange rate appreciation by prudent monetary management. And in most of the countries the fiscal budget was kept under control.

B. Financial liberalization and capital flows

Conventional economic wisdom is that capital account liberalization is a prerequisite for attracting significant amounts of international capital flows. In this sense liberalization is seen as necessary for an economy to benefit from global financial integration. But it is also true that liberalization increases the risks of financial crises (Demirgüç-Kunt and Deteragiache, 1998). What does this mean in the small Caribbean economies? Is it necessary that they increase their already high vulnerability in order to benefit from financial integration? Or more fundamentally, is full capital account liberalization really necessary to attract the needed capital flows?

Rodrik (1998) suggests that there is no significant relationship between investment and capital account liberalization. While, as suggested by Stiglitz (1999) "that this one study is not definitive", it does seem to suggest that the conventional wisdom may not be that accurate after all. Clearly a certain degree of openness is necessary if foreign investors are to be willing to risk resources. However, whether this means that there must be a free movement of capital across borders is debatable.

The different experiences of Jamaica and Trinidad and Tobago sheds some light on the issue. Jamaica introduced full capital account liberalization in the early 1990s. One impact of this was substantial increases in short-term flows the effect of which was to increase the vulnerability of the economy (Stiglitz, 1999). The fiscal impact of sterilization exacerbated the situation and eventually precipitated the financial crisis. While it is not been suggested that liberalization caused the crisis, it certainly increased the risks and contributed to the financial institution failures that were an important component of the crisis.

Trinidad and Tobago introduced a flexible exchange rate regime and abolished foreign exchange controls in the early 1990s. However, capital account liberalization was only partial and the floating of the exchange rate has been described as a "dirty" float, meaning that it is quite closely managed. There was retention of some degree of capital control and these, together with the macroeconomic circumstances and the prudent management of the system by the commercial banks, meant that there was no major shock to the system by sudden increases in short-term flows. Indeed, the tax, regulatory and policy environment served to encourage FDI rather than short-term flows. This is not to deny the fact that the underdevelopment of the stock market in the country contributed to the limited amount of short-term flows but it is also true that Jamaica's stock market is similarly under-developed.

III. Capital flows and domestic savings

During the last decade, savings rates in the Caribbean averaged around 23 percent of GDP. Compared to the East Asian economies, which exhibited savings rates of between 30 and 40 percent, the Caribbean's savings performance is considered low though it probably reflects the norm for the Latin America region. Saving rates are important because endogenous growth theories and empirical evidence indicate that, over the long run, increases in capital accumulation resulting from higher savings can lead to a permanent increase in the rate of growth. The relatively low savings rates in the Caribbean partly explain the relatively low and volatile growth rates exhibited by most of the economies in the decade of the 1990s.

The relationship between savings, investment and growth is complex. Part of this complexity stems from the fact that, in an environment of internationally mobile capital, increases in domestic savings will not necessarily be translated into higher domestic investment, since savings in one country can be invested in another (Edwards, 1995). Gavin, Hausmann and Talvi (1997) while acknowledging the correlation between savings and growth in the long run, raise the issue of causation. Citing recent empirical work, particularly that of Carroll and Weil (1994), they indicate that past growth predicts future savings rates but savings rates do not predict future growth. In effect, high growth precedes increased savings rates. Gavin et al (1997) suggest that the difference in savings rates between Latin America and the East Asian economies is explained mainly by differences in their growth performance; and that this has important

policy implications since it implies that "…policy efforts should concentrate on removing the impediments to growth rather than trying to establish programs aimed directly at promoting savings that are likely to be of dubious effectiveness and may involve economic inefficiencies." The World Bank (1993), in explaining the experience of the East Asian economies and the positive influence of growth on savings, postulates a "virtuous circle" involving higher growth leading to higher savings which leads to still higher growth.

An important issue in the savings/growth debate is the effect of international capital inflows on domestic savings rates. Edwards (1995), using instrumental variables estimation methods, found that increases in international capital flows are associated with reduced domestic savings rates but the relationship was less than one-to-one. Summers (1996) suggests that the impact of capital flows on savings depends on the composition of the flows. If the flows are used for investment (for example if the flows are in the form of FDI) then the effect on savings is likely to be positive. On the other hand if the flows are used to finance consumption the crowding out effect on domestic savings will be pronounced. This may partly explain the finding by Edwards (1995) that the effect of capital flows on domestic savings rates is not proportional.

What is the experience of the Caribbean countries with respect to savings and capital flows? To investigate the relationship an analysis was done on a panel of annual data covering the period 1985-1998.for ten Caribbean countries[6] (*Appendix 3*). The overall objective of the analysis was to determine whether the availability of foreign capital results in domestic under-saving. The model used was taken from Gavin et al (1995). The model regressed (generalized least square) domestic savings (as a percent of GDP) assuming common coefficients for the following variables: growth of GDP per capita (GGCAP); GDP per capita (GCAP); inflation (INF); net private capital flows (CFLOWS); total net capital flows (TCFLOWS); and changes in the terms of trade (CTOT). Some of the variables were also lagged. Cross section specific coefficients were generated for the capital flows permitting variable effects to be observed. Weighted least squares (cross section weights) were also performed to correct for the presence of cross section heteroskedasticity. The limited time period and the fact that there was missing data affected the analysis[7] and no instrumentation was performed. But even with the limited data the correlation coefficients were relatively high and some interesting results were obtained. Some of these are outlined below:

- With respect to all ten countries: (a) domestic savings are positively related to the availability of private capital flows; (b) savings are also positively related to the availability of total capital flows (i.e. private and official flows) but this effect is only significant at the 20% level; (c) increases in per capita income results in a reduction in the savings rate initially but latter causes an increase in the rate; (d) an improvement (deterioration) in the terms of trade increases (decreases) the savings rate; (e) an increase (reduction) in inflation increases (reduces) the savings rate.
- For ***Group A*** countries (Barbados, Guyana, Jamaica and Trinidad/Tobago) the results are similar with respect to private capital flows, changes in the terms of trade and inflation. The effect of GDP per capital is positive with no lag effects and the rate of growth of GDP becomes significant. The higher the growth rate the higher the savings rate – a result that is consistent with the experience in Latin America and indeed with other empirical results on the relationship between growth and savings.
- The picture changes somewhat with ***Group B*** countries (Belize, Dominica, Grenada, St. Kitts/Nevis, St. Lucia and St. Vincent & the Grenadines). For these countries, total

[6] The data used was from IMF International Financial Statistics, 1999 and CDB's internal database.

[7] The program used for the analysis adjusts for missing data by excluding those observations thus significantly reducing the sample size.

capital flows positively affects domestic savings but private flows have a negative effect that is not significant. It is useful to recall here that official flows are much more significant for ***Group B*** countries. The faster growing economies have a higher savings rate but the effect of GDP per capita is "reversed" in the sense that a higher per capita GDP first improves then decreases the savings rate. For these countries also, the savings rate appears to be more sensitive to changes in the terms of trade while inflation effects are not significant.

- The regression in which variable effects are observed indicates the importance of GDP per capita, terms of trade and inflation in determining savings rates. The effect of capital flows is insignificant for all the countries except Guyana (positive) and St. Vincent (negative) for private flows. But perhaps the more interesting feature of the variable effects regression result is the sign of the coefficients, even though most are not significant. Apart from Jamaica, the countries exhibiting a negative relationship between capital flows and savings are banana producers that have recently experienced significant deterioration in the terms of trade. This may suggest the existence of multicollinearity, especially between terms of trade and capital flows.

The inferences that could be drawn from the analysis is constrained by the limited data set, but some preliminary comments may be appropriate. Overall, the availability of foreign capital increases the savings rate. The grouped data suggests that the savings rate is positively related to private capital flows, even though the effect does not appear to be significant when variable effects are observed. On balance, it would seem that the availability of foreign capital (both private and official) does not lead to domestic undersaving. The significance, in ***Group A*** countries, of private capital flows and, in ***Group B***, of total capital flows is probably reflective of the relative significance of the different flows in the respective country groups. One policy implication of the result that under-saving is not induced by external flows is related to the fact that the same factors which are likely to improve domestic savings rates – "good" fiscal, monetary and trade policies, effective financial sector supervision, and a level of capital market development that facilitates a range of financial instruments – are also likely to attract larger amounts of external capital.

The effect of the terms of trade on savings rate underscores the significance of the vulnerability of the Caribbean economies to economic shocks. Trade preferences, which underpin the majority of Caribbean commodity exports, are rapidly being removed. As the terms of trade deteriorates so to would growth rates and savings rates. This can lead to a "viscous circle" with lower growth rates leading to lower savings rates and then to lower future growth rates. Indeed, in the banana producing countries (Belize, Dominica, Grenada, St. Kitts/Nevis, St. Lucia and St. Vincent & the Grenadines) the effects are being already manifested in lower GDP growth rates, fiscal imbalances and rising levels of rural poverty.

The Caribbean countries thus need to rapidly re-structure and re-position the economies and require significant capital resources to do so.

The inflation effect on savings, experienced by ***Group A*** countries, is probably a behavioral response as individuals and firms seek to reduce the impact of inflation by investing in real assets that may serve as inflation hedges. But this type of savings is not necessarily growth enhancing and the negative effects of high inflation levels far outweigh an net savings benefits. It is notable that the inflation effect was not observed in ***Group B*** countries probably because the fixed exchange rate regimes resulted in relatively low inflation rates.

The positive relationship between GDP growth rates and savings rates, observed when the countries are analyzed in groups, but not when the data for all 10 countries are regressed, is probably related to the highly volatile growth rates experienced by most of the countries during

certain periods. One policy implication in this context is the desirability of reducing such volatility since it influences risk perceptions and therefore can affect the rate of private capital flows.

In summary, it would seem that the availability of external capital does not adversely affect domestic savings rates in the Caribbean countries. If anything, the external capital flows induces higher levels of domestic savings, though the exact mechanism by which this occurs is not clear. But there is one aspect of the relatively low savings rates in the Caribbean that should be noted. This is the fact that it results in a heavy reliance on external capital to finance investment thus increasing the vulnerability of the economies to external shocks. In such a situation the composition of the external flows becomes even more significant.

IV. Increasing capital flows to the Caribbean

Can Caribbean economies do anything to increase the flows of international capital? Clearly, any action in this area would have to concentrate on the internal factors that affect capital flows. As previously mentioned these include the "quality'' of macroeconomic policies and management, the adequacy of financial sector supervision and regulation and the level of development attained. Most of the Caribbean countries made strident efforts, albeit with varying degrees of intensity, to improve monetary and fiscal policies during the 1980s and 1990s. This partly explains the increase in FDI when the international environment "turned positive" at the start of the 1990s. But the small size of most of the Caribbean countries presents additional constraints in their capacity to attract international capital. Collier and Dollar (1999) indicate that even when small states have good policies they tend to be perceived to be more risky (by some 28%) than larger countries. This means that small states are at a disadvantage relative to other developing countries at attracting capital (Commonwealth Secretariat/World Bank, 1999). And the effects of any reversal in capital flows would tend to be much more pervasive. Small size also means that the unit cost of supervision and regulation is high and, in an environment of limited institutional capacity, many of the small Caribbean countries have extreme difficulty in adequately regulating the domestic financial system - with implications on the degree and rate of financial liberalization that is possible.

Clearly there is still room for improvement in the policy and regulatory environment of most Caribbean economies. The persistence, in some of the countries, of foreign exchange controls and varying degrees of financial repression acts as a constraint on capital movements (even among the Caribbean countries) and significantly retards capital market development. The continuing involvement of the public sector in productive sector enterprises reduces private sector investment opportunities and, conceivably, reduces the efficiency of capital use. There is also urgent need for improvements in the adequacy of the supervisory and regulatory functions in the financial sectors of most of the countries. In some countries the legal system does not always facilitate contract enforcement and issues of property rights (particularly intellectual property rights) can experience major delays. This is not to say that Caribbean governments are not working to improve in all of these areas but the fact remains that they still act as constraints to investment and growth.

The particular vulnerabilities of the Caribbean economies need also to be addressed and it is here that the international donor community could play a significant role (see Box 3). Recent empirical work on aid effectiveness sheds light on this issue. Collier and Dollar (1999) demonstrate that in a good policy environment (i.e. most of the Caribbean economies) official capital flows reduce perceived risk and thus increases private flows. The official flows also have a direct effect on private capital and this effect is strongest in a good policy environment. The direct effect arises when official capital supports the government in providing services that are complementary to private capital such as airports, roads and schools. A major implication of these findings is that increases in private capital to the Caribbean should not be used as a rationale to reduce official flows. Since reduction in official flows could induce reductions in private flows.

A. Role of the Caribbean Development Bank

The Caribbean Development Bank (CDB) plays a role in improving access to international capital by attempting, *inter alia*, to offset the effects of small size. Some of the approaches used by CDB are outlined below:

- Facilitating capital market development by supporting domestic financial institutions in their asset/liability management and by encouraging the development of new financial instruments;
- Supporting improvements in the regulatory and supervisory environment by providing appropriate technical assistance;
- Enhancing competitiveness by improving human capital through education and skill training interventions and by supporting the improvement in infrastructure facilities;
- Reducing inequities by social sector interventions that directly target vulnerable groups such as the poor, women and children.
- Improving the macroeconomic environment by the provision of policy advice on a continuing basis;
- Utilizing its AAA credit rating to access funds from international capital markets at preferential interest rates and channeling these funds through other financial intermediaries to the small and medium sized private sector;
- Acting as a catalyst to encourage the involvement of other financiers in investments that have demonstrated economic and social benefits to the region or one of its member countries.

V. Summary and conclusions

The Caribbean, like the rest of the developing world, experienced declining aid flows during the decade of the 1990s. Aggregate data for 10 Caribbean countries indicate ODA peaking in 1991 at around $688 million and declining to $226 million by 1996. Increases in 1997 and 1998 were due mainly to ODA flows to one country – Guyana. Indeed, over the entire period aid flows to Guyana alone accounted for, on average, 42% of the total aid flows to the 10 countries. This experience with ODA flows during the 1990s is significant, for whereas the global decline has tended to be concentrated in large countries, the rate of decline to the Caribbean has been higher than for the rest of the world. Significantly also, net ODF has exhibited an even more drastic decline moving from close to $710 million in 1991 to $73 million by 1997.

The decline in official flows to the Caribbean is more than compensated for by the significant increases in private flows. Private flows increased dramatically, from $154 million in 1990, to in excess of $1.6 billion by 1998. Private capital flows are now more than eight times as large as official flows. This is quite a remarkable transformation since in 1991, official flows were in excess of $700 million while private flows were at around $220 million. The increase in private flows to the Caribbean mirrors the global experience, with net private capital flows to all developing countries exceeding $300 billion in 1998, nearly eight times greater than at the start of the decade.

The composition of private flows, in the form of foreign direct investment (FDI), bonds, commercial banks, portfolio flows and other private loans, is significant:

- **FDI** is by far the largest, exceeding net total flows over the majority of the period. But of the approximately $7.3 billion in FDI that flowed to the Caribbean between 1990 and 1998, 84% went to three countries – Trinidad & Tobago 53%; Jamaica 21%; Guyana 10%.
- **Net bond flows** are of relatively minor significance and one country, Jamaica, accounted for the majority of these flows. However, in recent years, with the Bahamas, Barbados and Trinidad & Tobago achieving investment grade credit ratings, bonds have become a more significant source of external capital and are likely to increase in importance.
- **Portfolio flows** were zero except for two years (1996 & 1997) and all were to one country – Barbados. There are indications that these portfolio flows to Barbados were related to how investments were categorized (i.e. put through the stock exchange) rather than reflecting any trend.
- **Commercial bank** and other private loans were negative throughout the period reflecting the short maturity of most of these loans and a decline in the relative importance of commercial bank lending.

Box 3
SMALL STATES AND VULNERABILITY

Global trade liberalization and financial integration have presented unique development challenges to small states. The significance of these challenges has encouraged a detailed look of the special circumstances of small states. The World Bank/Commonwealth Secretariat Joint Task Force on Small States identified the following characteristics as having important implications for development in such states:

- Susceptibility to natural disasters and because of small size such natural events are pervasive affecting the entire population and economy;
- Openness because of the heavy reliance on external trade. This means that small states are particularly vulnerable to external economic shocks;
- Weak institutional capacity resulting from higher costs associated with the provision of public services due to indivisibilities;
- Limited diversification in production and exports due to the narrow resource base and small domestic markets;
- Remoteness from markets with implications for transport costs.

These characteristics underscore the importance of the vulnerability of small states to exogenous shocks, be they economic, political or environmental. This vulnerability is manifested in high income-volatility and small states have much less capacity to insure against adverse shocks to income, since risk pooling at the national level is not feasible. High income-volatility is important because it reflects welfare changes, can lead to uncertainty causing depressed investment expenditures and may undermine social cohesion. Limited institutional capacity and the high unit costs of governance exacerbates vulnerability and present additional challenges to small states as they try to adjust to globalization. Indeed, it is the vulnerability of small states that underlie the argument that they need adequate time to adjust as well as additional resources to support domestic efforts at adjustment. In other words, vulnerability suggests the need for more rather than less official support for the transition process even when per capita income levels suggest otherwise.

Source: Brunton (2000).

Aggregate savings in the Region, at around 23% of GDP, dwarfs external flows which averaged around 6% of GDP. However, savings were more volatile and declined steadily since 1994. At the same time, Gross Domestic Investment (GDI) increased from 1994 suggesting that external flows, at least the private flows, were becoming more important. Indeed, whereas in 1990 external private flows represented 5% of GDI, by 1997 private flows accounted for 14%.

Compared to the East Asian economies, which exhibited savings rates of between 30 and 40 percent, the Caribbean's savings performance is considered low though it probably reflects the

norm for the Latin America region. Saving rates are important because endogenous growth theories and empirical evidence indicate that, over the long run, increases in capital accumulation resulting from higher savings can lead to a permanent increase in the rate of growth. The relatively low savings rates in the Caribbean partly explain the relatively low and volatile growth rates exhibited by most of the economies in the decade of the 1990s.

Overall, the availability of foreign capital increases the savings rate. The grouped data suggests that the savings rate is positively related to private capital flows, even though the effect does not appear to be significant when variable effects are observed. On balance, it would seem that the availability of foreign capital (both private and official) does not lead to domestic undersaving. One policy implication of the result that under-saving is not induced by external flows is related to the fact that the same factors which are likely to improve domestic savings rates –"good" fiscal, monetary and trade policies, effective financial sector supervision, and a level of capital market development that facilitates a range of financial instruments– are also likely to attract larger amounts of external capital.

Most of the Caribbean countries made strident efforts, albeit with varying degrees of intensity, to improve monetary and fiscal policies during the 1980s and 1990s. This partly explains the increase in FDI when the international environment "turned positive" at the start of the 1990s. But the small size of most of the Caribbean countries presents additional constraints in their capacity to attract international capital. Empirical evidence indicates that even when small states have good policies they tend to be perceived to be more risky (by some 28%) than larger countries. This means that small states are at a disadvantage relative to other developing countries at attracting capital. And the effects of any reversal in capital flows would tend to be much more pervasive. Small size also means that the unit cost of supervision and regulation is high and, in an environment of limited institutional capacity, many of the small Caribbean countries have extreme difficulty in adequately regulating the domestic financial system - with implications on the degree and rate of financial liberalization that is possible.

This is still need for improvement in the policy and regulatory environment of most Caribbean economies. The persistence, in some of the countries, of foreign exchange controls and varying degrees of financial repression acts as a constraint on capital movements (even among the Caribbean countries) and significantly retards capital market development. The continuing involvement of the public sector in productive sector enterprises reduces private sector investment opportunities and, conceivably, reduces the efficiency of capital use. In some countries the legal system does not always facilitate contract enforcement and issues of property rights (particularly intellectual property rights) can experience major delays. This is not to say that Caribbean governments are not working to improve in all of these areas but the fact remains that they still act as constraints to investment and growth.

The particular vulnerabilities of the Caribbean economies need also to be addressed and it is here that the international donor community could play a significant role. Recent empirical work on aid effectiveness demonstrates that in a good policy environment (i.e. most of the Caribbean economies) official capital flows reduce perceived risk and thus increases private flows. The official flows also have a direct effect on private capital and this effect is strongest in a good policy environment. The direct effect arises when official capital supports the government in providing services that are complementary to private capital such as airports, roads and schools. A major implication of these findings is that increases in private capital to the Caribbean should not be used as a rationale to reduce official flows. Since reduction in official flows could induce reductions in private flows. Indeed, there is a strong argument for increases in official flows to help the Caribbean countries to overcome some of the adverse effects of small size.

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Appendix

Appendix 1

NET EXTERNAL FLOWS TO CARIBBEAN COUNTRIES
(US$mn)

Barbados	1990	1991	1992	1993	1994	1995	1996	1997	1998
Net Resource Flows	14.4	(16.3)	(31.5)	(28.3)	31.5	9.0	274.6	109.0	34.0
Long term debt	2.1	(24.3)	(45.3)	(56.9)	16.4	(4.2)	19.3	(4.1)	14.7
Multilateral	8.6	(2.7)	(4.6)	(9.5)	(6.2)	(3.4)	37.7	23.9	41.5
Concessional	(0.5)	(0.8)	(1.5)	(2.3)	(2.9)	(3.4)	11.5	(2.4)	15.7
Bilateral	7.5	(2.2)	(3.4)	(1.3)	(4.6)	(3.4)	(4.2)	(3.8)	(3.7)
Concessional	1.6	1.5	0.2	(0.3)	(0.8)	(1.3)	(1.1)	(0.9)	(1.7)
Private Guaranteed	(14.0)	(19.5)	(37.3)	(46.2)	27.2	2.6	(14.2)	(24.2)	(23.1)
Bonds	(44.1)	(32.0)	0.0	0.0	(4.9)	34.7	(4.6)	(4.1)	(23.0)
Commercial Banks	36.4	16.9	(32.5)	(41.4)	36.9	(27.2)	(7.2)	(20.1)	(0.1)
Other Private	(6.2)	(4.4)	(4.8)	(4.8)	(4.8)	(4.8)	(2.4)	0.0	0.0
Private non-guaranteed	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bonds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Banks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Grants	1.3	1.0	0.0	19.6	2.2	1.2	2.3	3.1	4.3
TC Grants	2.4	4.0	3.0	2.4	2.1	1.9	1.8	1.8	1.3
FDI	11.0	7.0	14.0	9.0	12.9	12.0	13.0	14.0	15.0
Portfolio Flows	0.0	0.0	0.0	0.0	0.0	0.0	240.0	96.0	0.0
Net Transfers	(34.0)	(61.5)	(72.7)	(64.7)	4.4	(22.3)	243.9	73.8	(1.6)

Belize	1990	1991	1992	1993	1994	1995	1996	1997	1998
Net Resource Flows	33.7	29.5	47.5	30.9	28.4	33.0	51.1	44.7	62.7
Long term debt	12.4	12.5	25.2	4.2	0.5	5.0	33.2	23.3	11.6
Multilateral	3.1	2.4	4.8	(0.4)	5.3	5.2	3.2	20.0	13.0
Concessional	0.8	1.9	3.5	(0.2)	(0.6)	0.3	(2.0)	(0.5)	(0.8)
Bilateral	3.6	7.3	18.6	2.9	(2.4)	3.5	23.6	(5.1)	(7.6)
Concessional	3.5	1.1	5.4	(1.5)	(1.6)	0.9	23.6	(1.9)	(4.0)
Private Guaranteed	2.2	5.0	4.3	4.5	(0.4)	(2.2)	6.3	8.4	6.2
Bonds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Banks	2.3	2.5	4.5	(1.5)	2.3	0.2	9.2	(0.1)	7.6
Other Private	(0.1)	2.5	(0.2)	6.0	(2.7)	(2.4)	(2.9)	8.6	(1.4)
Private non-guaranteed	3.4	(2.2)	(2.5)	(2.8)	(2.1)	(1.5)	0.0	0.0	0.0
Bonds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Banks	3.4	(2.2)	(2.5)	(2.8)	(2.1)	(1.5)	0.0	0.0	0.0
Grants	4.4	3.0	6.3	17.7	13.0	7.0	2.9	4.4	31.1
TC Grants	13.0	15.0	13.8	16.1	9.2	11.9	10.7	6.9	3.5
FDI	17.0	14.0	16.0	9.0	15.0	21.0	15.0	17.0	20.0
Portfolio Flows	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net Transfers	19.7	14.7	28.9	12.3	8.3	10.1	28.3	22.4	32.6

Appendix 1 (Continued)

Dominica	1990	1991	1992	1993	1994	1995	1996	1997	1998
Net Resource Flows	25.1	25.9	32.6	20.5	34.3	52.8	46.0	23.2	43.7
Long term debt	9.0	7.9	6.1	2.2	0.3	4.3	4.4	(3.4)	(1.4)
Multilateral	6.3	4.8	0.9	1.2	(0.8)	1.3	1.8	(0.6)	(0.3)
Concessional	4.6	2.9	(0.7)	(0.2)	(1.0)	0.8	1.0	0.1	0.0
Bilateral	2.9	3.2	5.2	1.1	1.1	3.0	2.6	(2.8)	(1.1)
Concessional	2.9	3.2	5.2	1.1	1.1	3.0	2.6	(2.8)	(1.1)
Private Guaranteed	(0.1)	(0.1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bonds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Banks	(0.1)	(0.1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Private	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Private non-guaranteed	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bonds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Banks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Grants	3.1	3.0	5.5	5.3	12.0	23.5	22.6	6.6	24.1
TC Grants	3.1	3.0	2.5	2.2	4.0	3.6	4.8	4.1	5.0
FDI	13.0	15.0	21.0	13.0	22.0	25.0	19.0	20.0	21.0
Portfolio Flows	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net Transfers	18.1	17.5	24.3	12.8	26.2	43.7	37.9	12.3	32.7

Guyana	1990	1991	1992	1993	1994	1995	1996	1997	1998
Net Resource Flows	165.0	212.0	195.0	152.0	134.0	90.0	152.0	298.0	205.0
Long term debt	91.0	54.0	6.0	22.0	(5.0)	(5.0)	35.0	13.0	6.0
Multilateral	80.0	57.0	22.0	39.0	11.0	17.0	50.0	25.0	18.0
Concessional	103.0	55.0	31.0	50.0	27.0	34.0	67.0	40.0	33.0
Bilateral	27.0	10.0	2.0	(10.0)	(12.0)	(12.0)	(17.0)	(7.0)	(8.0)
Concessional	19.0	13.0	13.0	(6.0)	(3.0)	(2.0)	(9.0)	(2.0)	(3.0)
Private Guaranteed	(16.0)	(13.0)	(19.0)	(7.0)	(4.0)	(10.0)	2.0	(5.0)	(4.0)
Bonds	(1.0)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Banks	(8.0)	0.0	(10.0)	0.0	0.0	(2.0)	6.0	(4.0)	(3.0)
Other Private	(8.0)	(13.0)	(9.0)	(7.0)	(4.0)	(8.0)	(5.0)	(2.0)	(1.0)
Private non-guaranteed	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bonds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Banks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Grants	74.0	158.0	42.0	61.0	32.0	21.0	36.0	196.0	105.0
TC Grants	9.0	12.0	11.0	12.0	13.0	16.0	17.0	14.0	7.0
FDI	0.0	0.0	147.0	70.0	107.0	74.0	81.0	90.0	95.0
Portfolio Flows	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net Transfers	92.0	165.0	151.0	116.0	102.0	59.0	123.0	245.0	145.0

Appendix 1 (Continued)

Grenada	1990	1991	1992	1993	1994	1995	1996	1997	1998
Net Resource Flows	30.6	37.5	30.9	21.6	36.1	30.4	29.1	36.2	23.4
Long term debt	13.4	13.5	3.7	(0.7)	5.5	(1.0)	4.7	10.0	(1.6)
Multilateral	1.9	1.1	4.2	(1.7)	3.1	0.8	2.3	2.0	(0.1)
Concessional	2.1	1.2	4.1	(1.1)	2.9	(1.1)	0.3	1.7	0.0
Bilateral	11.2	1.3	(0.2)	2.1	3.7	(0.1)	3.2	8.5	(1.4)
Concessional	1.0	1.3	0.0	2.1	2.4	(0.1)	2.7	1.4	(0.6)
Private Guaranteed	0.3	11.1	(0.2)	(1.1)	(1.3)	(1.7)	(0.8)	(0.5)	0.0
Bonds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Banks	(0.1)	(0.1)	0.0	0.1	0.0	(0.2)	(0.1)	0.0	0.0
Other Private	0.4	11.2	(0.2)	(1.2)	(1.3)	(1.5)	(0.7)	(0.5)	0.0
Private non-guaranteed	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bonds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Banks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Grants	4.2	9.0	4.1	2.3	11.3	7.4	4.4	4.1	4.0
TC Grants	2.9	4.0	3.9	3.9	3.4	3.8	2.5	3.3	3.4
FDI	13.0	15.0	23.0	20.0	19.3	24.0	20.0	22.0	21.0
Portfolio Flows	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net Transfers	21.0	30.6	23.1	14.0	27.6	19.1	19.1	25.6	13.5

Jamaica	1990	1991	1992	1993	1994	1995	1996	1997	1998
Net Resource Flows	249.0	474.0	(131.0)	276.0	95.0	159.0	60.0	234.0	534.0
Long term debt	(6.0)	59.0	(68.0)	(44.0)	(125.0)	(51.0)	(163.0)	(8.0)	73.0
Multilateral	2.0	0.0	(37.0)	25.0	(54.0)	(12.0)	(35.0)	(50.0)	(26.0)
Concessional	1.0	(6.0)	(10.0)	(7.0)	(10.0)	0.0	(1.0)	(15.0)	(4.0)
Bilateral	39.0	121.0	(19.0)	(67.0)	(78.0)	(67.0)	(139.0)	(198.0)	(118.0)
Concessional	84.0	140.0	11.0	(19.0)	(14.0)	1.0	(50.0)	(88.0)	(59.0)
Private Guaranteed	(38.0)	(57.0)	(12.0)	(2.0)	(43.0)	(22.0)	16.0	175.0	226.0
Bonds	0.0	0.0	0.0	0.0	13.0	13.0	53.0	200.0	250.0
Commercial Banks	(1.0)	5.0	(10.0)	29.0	0.0	(31.0)	(28.0)	(10.0)	(17.0)
Other Private	(37.0)	(62.0)	(2.0)	(31.0)	(56.0)	(4.0)	(8.0)	(15.0)	(6.0)
Private non-guaranteed	(8.0)	(6.0)	0.0	0.0	50.0	50.0	(5.0)	65.0	(9.0)
Bonds	0.0	0.0	0.0	0.0	55.0	0.0	0.0	0.0	0.0
Commercial Banks	(8.0)	(6.0)	0.0	0.0	(5.0)	50.0	(5.0)	65.0	(9.0)
Grants	117.0	282.0	57.0	242.0	91.0	63.0	39.0	40.0	92.0
TC Grants	35.0	42.0	36.0	42.0	37.0	51.0	38.0	37.0	32.0
FDI	138.0	133.0	142.0	78.0	130.0	147.0	184.0	203.0	369.0
Portfolio Flows	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net Transfers	(142.0)	110.0	(93.0)	105.0	(113.0)	(67.0)	(163.0)	31.0	324.0

Appendix 1 (Continued)

St. Kitts/Nevis	1990	1991	1992	1993	1994	1995	1996	1997	1998
Net Resource Flows	56.8	27.7	15.2	17.2	20.0	21.4	26.6	72.0	35.7
Long term debt	5.8	4.7	1.2	3.1	4.5	0.6	8.4	47.3	6.3
Multilateral	1.7	1.4	1.2	4.0	1.2	2.2	4.4	7.0	3.8
Concessional	1.6	1.4	1.2	3.1	0.6	2.3	4.4	5.8	3.0
Bilateral	4.6	2.0	(0.4)	(1.2)	1.1	(0.7)	5.2	25.8	4.5
Concessional	4.7	0.9	(0.1)	(0.7)	(0.3)	(0.3)	5.6	26.2	4.8
Private Guaranteed	(0.4)	1.3	0.4	0.2	2.3	(0.9)	(1.2)	14.4	(2.0)
Bonds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Banks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	(0.7)
Other Private	(0.4)	1.3	0.4	0.2	2.3	(0.9)	(1.2)	(0.6)	0.0
Private non-guaranteed	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bonds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Banks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Grants	2.0	2.0	1.0	0.2	0.4	0.8	1.2	0.3	5.4
TC Grants	2.3	2.0	2.0	6.3	4.0	2.3	2.3	2.4	1.0
FDI	49.0	21.0	13.0	14.0	15.0	20.0	17.0	25.0	24.0
Portfolio Flows	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net Transfers	50.4	19.4	3.7	7.4	9.3	11.0	14.6	58.8	21.0

St. Lucia	1990	1991	1992	1993	1994	1995	1996	1997	1998
Net Resource Flows	53.0	66.5	67.1	58.2	53.6	82.9	78.7	53.6	66.5
Long term debt	4.9	1.5	21.1	9.8	3.4	5.7	11.4	3.6	6.2
Multilateral	4.6	3.1	13.0	8.8	3.3	7.0	8.6	2.2	0.6
Concessional	2.2	2.0	9.0	5.2	1.7	6.7	5.1	2.4	(0.4)
Bilateral	1.1	(0.7)	8.9	1.5	0.1	(1.3)	2.7	1.3	(1.4)
Concessional	0.2	1.4	8.6	3.5	1.6	0.7	4.7	3.3	0.5
Private Guaranteed	(0.8)	(0.9)	(0.8)	(0.5)	0.0	0.0	0.0	0.0	7.0
Bonds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Banks	(0.8)	(0.9)	(0.8)	(0.5)	0.0	0.0	0.0	0.0	7.0
Other Private	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Private non-guaranteed	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bonds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Banks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Grants	3.1	7.0	5.0	14.3	17.8	42.2	28.3	5.0	14.3
TC Grants	3.5	5.0	4.0	4.3	7.2	4.8	4.4	4.3	4.5
FDI	45.0	58.0	40.9	34.1	32.4	35.0	39.0	45.0	46.0
Portfolio Flows	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net Transfers	23.7	33.6	33.9	20.3	15.1	45.2	43.4	16.4	27.8

Appendix 1 (Concluded)

St. Vincent	1990	1991	1992	1993	1994	1995	1996	1997	1998
Net Resource Flows	16.1	17.4	31.5	37.8	61.0	75.7	40.7	49.6	66.0
Long term debt	4.7	5.4	4.2	4.0	11.3	(1.1)	0.7	3.3	14.4
Multilateral	4.3	4.7	0.8	0.1	3.6	(0.9)	(2.2)	5.4	8.4
Concessional	3.3	1.0	(0.1)	0.2	3.9	(0.7)	(1.3)	5.8	3.7
Bilateral	0.4	0.8	3.4	3.9	2.9	(0.3)	2.9	(0.5)	6.4
Concessional	0.6	1.0	3.6	4.1	1.9	0.2	3.3	(0.2)	6.7
Private Guaranteed	0.0	0.0	0.0	0.0	4.7	0.1	0.0	(1.6)	(0.4)
Bonds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Banks	0.0	0.0	0.0	0.0	4.7	0.1	0.0	(1.6)	(0.4)
Other Private	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Private non-guaranteed	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bonds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Banks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Grants	3.4	3.0	8.3	2.7	2.8	45.3	20.5	4.3	11.6
TC Grants	2.5	4.0	2.3	3.8	2.3	2.7	2.4	2.5	2.0
FDI	8.0	9.0	19.0	31.0	47.0	31.4	19.0	42.0	40.0
Portfolio Flows	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net Transfers	1.2	3.5	20.3	24.7	46.7	60.2	19.6	27.6	41.9

Trinidad & Tobago	1990	1991	1992	1993	1994	1995	1996	1997	1998
Net Resource Flows	(26.0)	57.0	168.0	313.0	551.0	239.0	358.0	712.0	733.0
Long term debt	(148.0)	(115.0)	(18.0)	(71.0)	26.0	(70.0)	(4.0)	(296.0)	(6.0)
Multilateral	29.0	53.0	57.0	83.0	82.0	113.0	84.0	43.0	17.0
Concessional	0.0	0.0	(1.0)	(1.0)	(1.0)	(1.0)	0.0	1.0	2.0
Bilateral	1.0	(28.0)	7.0	(42.0)	(45.0)	(65.0)	(111.0)	(95.0)	(54.0)
Concessional	0.0	(4.0)	(5.0)	(5.0)	(5.0)	(6.0)	(5.0)	(5.0)	(4.0)
Private Guaranteed	(134.0)	(93.0)	(40.0)	(76.0)	21.0	(91.0)	36.0	(220.0)	(59.0)
Bonds	(52.0)	(52.0)	1.0	14.0	95.0	0.0	125.0	(150.0)	0.0
Commercial Banks	(99.0)	(16.0)	(27.0)	(51.0)	(51.0)	(51.0)	(69.0)	(55.0)	(46.0)
Other Private	17.0	(24.0)	(14.0)	(39.0)	(23.0)	(40.0)	(21.0)	(15.0)	(13.0)
Private non-guaranteed	(44.0)	(47.0)	(41.0)	(36.0)	(32.0)	(27.0)	(12.0)	(24.0)	89.0
Bonds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Banks	(44.0)	(47.0)	(41.0)	(36.0)	(32.0)	(27.0)	(12.0)	(24.0)	89.0
Grants	13.0	2.0	8.0	5.0	9.0	10.0	7.0	8.0	9.0
TC Grants	5.0	5.0	6.0	6.0	5.0	6.0	6.0	5.0	4.0
FDI	109.0	169.0	178.0	379.0	516.0	299.0	355.0	999.0	730.0
Portfolio Flows	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net Transfers	(401.0)	(349.0)	(225.0)	(45.0)	169.0	(171.0)	(89.0)	285.0	317.0

Source: Global Development Finance, 2000.

Appendix 2

GDP IN CURRENT MARKET PRICES
(US$mn)

	1990	1991	1992	1993	1994	1995	1996	1997	1998
Barbados	1,720	1,697	1,589	1,651	1,737	1,869	1,995	2,204	2,688
Guyana	397	349	374	454	546	622	706	749	725
Jamaica	4,248	3,730	3,346	4,184	4,275	5,181	5,880	6,689	6,846
Trinidad & Tobago	5,068	5,282	5,439	4,578	4,951	5,327	5,732	5,848	6,082
Total Group A	**11,433**	**11,058**	**10,748**	**10,867**	**11,509**	**12,999**	**14,313**	**15,490**	**16,341**
Belize	405	433	485	530	552	587	604	614	630
Dominica	166	180	185	200	215	223	236	244	257
Grenada	221	242	251	250	263	276	295	315	336
St Kitts & Nevis	159	165	182	198	222	231	246	268	288
St. Lucia	416	448	497	498	519	554	571	578	627
St . Vincent & Grenadines	198	212	233	239	243	264	279	294	316
Total Group B	**1,565**	**1,680**	**1,833**	**1,915**	**2,014**	**2,135**	**2,231**	**2,313**	**2,454**
Total Group A and Group B	**12,998**	**12,738**	**12,581**	**12,782**	**13,523**	**15,134**	**16,544**	**17,803**	**18,795**

SAVINGS
(US$mn)

	1990	1991	1992	1993	1994	1995	1996	1997	1998
Barbados	279	245	272	305	371	343	393	361	413
Guyana	101	115	135	165	199	235	267	265	209
Jamaica	1,009	946	1,017	953	1,012	1,058	1,149	1,217	1,076
Trinidad & Tobago	1,496	1,153	1,253	902	1,664	1,620	1,527	1,385	1,292
Total Group A	**2,885**	**2,459**	**2,677**	**2,325**	**3,246**	**3,256**	**3,336**	**3,228**	**2,990**
Belize	102	88	96	100	97	111	120	110	104
Dominica	25	23	25	22	24	31	30	16	54
Grenada	39	41	35	29	60	44	42	35	48
St Kitts & Nevis	38	35	58	65	32	53	46	72	60
St. Lucia	62	61	92	114	115	132	106	95	114
St . Vincent & Grenadines	37	5	35	19	10	42	46	21	23
Total Group B	**303**	**253**	**341**	**349**	**338**	**413**	**390**	**349**	**403**
Total Group A & Group B	**3,188**	**2,712**	**3,018**	**2,674**	**3,584**	**3,669**	**3,726**	**3,577**	**3,393**

GROSS DOMESTIC INVESTMENT
(US$mn)

	1990	1991	1992	1993	1994	1995	1996	1997	1998
Barbados	324	290	150	210	232	284	303	407	460
Guyana	168	123	201	236	249	282	309	331	294
Jamaica	1,184	995	1,050	1,344	1,315	1,648	1,902	2,167	1,989
Trinidad & Tobago	638	711	750	657	1,000	1,107	1,397	2,114	1,711
Total Group A	**2,314**	**2,119**	**2,152**	**2,448**	**2,796**	**3,321**	**3,911**	**5,020**	**4,453**
Belize	106	132	138	159	127	129	132	141	152
Dominica	68	57	50	54	58	73	70	80	76
Grenada	84	92	74	78	94	89	104	115	135
St Kitts & Nevis	88	71	71	90	84	107	113	121	125
St. Lucia	102	109	128	140	144	136	141	155	155
St . Vincent & Grenadines	59	63	57	61	69	80	79	87	101
Total Group B	**508**	**523**	**518**	**582**	**577**	**613**	**639**	**699**	**743**
Total Group A & Group B	**2,822**	**2,642**	**2,670**	**3,029**	**3,372**	**3,934**	**4,549**	**5,718**	**5,196**

Source: CDB: Social & Economic Indicators for Borrowing Member Countries- 2000.

Appendix 3

Capital flows and savings

An analysis was performed on a panel of annual data for the period 1985-1999, for 10 Caribbean countries: Barbados, Belize, Dominica, Grenada, Guyana, Jamaica, St. Lucia, St. Kitts/Nevis, St. Vincent and Trinidad & Tobago. Data was obtained from IMF Financial Statistics, 1999 and CDB's data-base.

The model used was taken from Gavin et al (1997). The specification of the model, which is in line with both economic theory and empirical studies, allows the capturing of dynamic adjustments by the use of lagged and unlagged variables. The objective of the analysis was to determine if the availability of foreign capital flows results in domestic under-saving.

The model regressed (generalized least square) domestic savings (as a percent of GDP) assuming common coefficients for the following variables: growth of GDP per capita (GGCAP); GDP per capita (GCAP); inflation (INF); net private capital flows (CFLOWS); total net capital flows (TCFLOWS); and changes in the terms of trade (CTOT).[8] Some of the variables were also lagged and denoted with a lag numeral. Cross section specific coefficients were generated for the capital flows permitting variable effects to be observed.

Several iterations were performed to test the significance of the identified variables in all 10 countries. Caution should be adopted when interpreting the data since only limited adjustments was possible given the small sample size. **Further examination is warranted and a longer run analysis may yield different results.**

Some of the right-hand side variables may be endogenous i.e. correlated with the disturbances. Instrumental variables were not used to correct for simultaneity as the condition for non-singularity is violated. Further, although the model tested with a very high F-value (> 60) suggesting multicollinearity, further examination suggests that this is not serious.

The group of selected variables explain over 90% of the variation in domestic savings. The results of the regression are presented in Tables 3.1 to 3.8. Except for capital flows, variables that were not significant were eliminated.

With respect to all ten countries (Tables 3.1 and 3.2): (a) domestic savings are positively related to the availability of private capital flows; (b) savings are also positively related to the availability of total capital flows (i.e. private and official flows) but this effect is only significant at the 20% level; (c) increases in per capita income results in a reduction in the savings rate initially but latter causes an increase in the rate; (d) an improvement (deterioration) in the terms of trade increases (decreases) the savings rate; (e) an increase (reduction) in inflation increases (reduces) the savings rate.

For ***Group A*** countries the results are similar with respect to private capital flows, changes in the terms of trade and inflation. The effect of GDP per capital is only positive and the rate of growth of GDP becomes significant (Tables 3.3 & 3.4). The higher the growth rate the higher the savings rate – a result that is consistent with the experience in Latin America and indeed with economic theory.

The picture changes somewhat with ***Group B*** countries (Tables 3.5 and 3.6). For these countries, total capital flows positively affects domestic savings but private flows have a negative effect that is not significant. The faster growing economies have a higher savings rate but the effect of GDP per capita is "reversed" in the sense that a higher per capita GDP first improves then decreases

[8] Because of data limitations, changes in the terms of trade was measured by changes in the ratio of exports to imports.

the savings rate. For these countries also, the savings rate appears to be more sensitive to changes in the terms of trade while inflation effects are not significant.

The regression in which variable effects are observed (Tables 3.7 & 3.8) indicates the importance of GDP per capita, terms of trade and inflation in determining savings rates. The effect of capital flows is insignificant for all the countries except Guyana (positive) and St. Vincent (negative) for private flows. But perhaps the more interesting feature of the variable effects regression result is the sign of the coefficients, even though most are not significant. Apart from Jamaica, the countries exhibiting a negative relationship between capital flows and savings are banana producers that have recently experienced significant deterioration in the terms of trade. This may suggest the existence of multicollinearity, especially between terms of trade and capital flows.

Table 3.1
TOTAL CAPITAL FLOWS – ALL COUNTRIES

Dependent Variable: Domestic Savings
Method: GLS (Cross Section Weights)
Sample: 1985 – 1998
Included Observations: 14
Cross-sections used: 10
Total Panel (balanced) Observations: 130

Variable	Coefficient	Std. Error	t-statistic	Probability
C	0.143612	0.022712	6.323078	0.0000
GCAP	2.94E-05	8.39E-06	3.504025	0.0006
CTOT	0.096811	0.017808	5.436398	0.0000
INF	0.000985	0.000285	3.456659	0.0008
GCAP(-1)	-3.36E-05	8.74E-06	-3.847219	0.0002
TCFLOWS	0.085226	0.056542	1.5407286	0.1343
AR(1)	0.662737	0.058720	11.28635	0.0000
Weighted Statistics				
R-squared	0.906202	Mean dependent variable		0.272261
Adjusted R-squared	0.901626	S.D. dependent variable		0.156235
S.E. of regression	0.049003	Sum Squared residuals		0.295355
Log likelihood	239.9974	F-statistic		198.0539
Durbin-Watson	2.253518	Prob(F-statistic)		0.000000

Table 3.2
PRIVATE CAPITAL FLOWS – ALL COUNTRIES

Dependent Variable: Domestic Savings
Method: GLS (Cross Section Weights)
Sample: 1985 – 1998
Included Observations: 14
Cross-sections used: 10
Total Panel (balanced) Observations: 130

Variable	Coefficient	Std. Error	t-statistic	Probability
C	0.141805	0.023341	6.075484	0.0000
GCAP	2.88E-05	8.25E-06	3.491998	0.0007
CTOT	0.101208	0.018265	5.541137	0.0000
INF	0.001035	0.000264	3.924669	0.0001
GCAP(-1)	-3.37E-05	8.65E-06	-3.892821	0.0002
CFLOWS	0.186491	0.073805	2.526792	0.0128
AR(1)	0.692918	0.057714	12.00610	0.0000
Weighted Statistics				
R-squared	0.916911	Mean dependent variable		0.280044
Adjusted R-squared	0.912858	S.D. dependent variable		0.165896
S.E. of regression	0.048972	Sum Squared residuals		0.294989
Log likelihood	241.8724	F-statistic		226.2240
Durbin-Watson	2.200795	Prob(F-statistic)		0.000000

Table 3.3
TOTAL CAPITAL FLOWS – GROUP A COUNTRIES

Dependent Variable: Domestic Savings
Method: GLS (Cross Section Weights)
Sample: 1985 – 1998
Included Observations: 14
Cross-sections used: 4
Total Panel (balanced) Observations: 52

Variable	Coefficient	Std. Error	t-statistic	Probability
C	0.172365	0.029054	5.923630	0.0000
GCAP	2.79E-05	9.23E-06	3.019693	0.0042
CTOT	0.082234	0.020492	4.013069	0.0002
INF	0.000918	0.000306	3.004935	0.0043
GCAP(-1)	-3.45E-05	9.61E-06	-3.687569	0.0006
TCFLOWS	.073653	0.065361	1.126845	0.2658
AR(1)	0.652411	0.110303	5.914701	0.0000

Weighted Statistics

R-squared	0.789702	Mean dependent variable	0.266707
Adjusted R-squared	0.761662	S.D. dependent variable	0.068005
S.E. of regression	0.033200	Sum Squared residuals	0.049601
Log likelihood	114.3875	F-statistic	28.16361
Durbin-Watson	1.839837	Prob(F-statistic)	0.000000

Table 3.4
PRIVATE CAPITAL FLOWS – GROUP A COUNTRIES

Dependent Variable: Domestic Savings
Method: GLS (Cross Section Weights)
Sample: 1985 – 1998
Included Observations: 14
Cross-sections used: 4
Total Panel (balanced) Observations: 52

Variable	Coefficient	Std. Error	t-statistic	Probability
C	0.114751	0.016236	7.067627	0.0000
CTOT	0.102343	0.022160	4.618393	0.0000
INF	0.001474	0.000309	4.765112	0.0000
GGCAP	0.001094	0.000335	3.267968	0.0021
CFLOWS	0.231554	0.088111	2.627978	0.0116
AR(1)	0.690381	0.111539	6.189577	0.0000

Weighted Statistics

R-squared	0.886215	Mean dependent variable	0.300414
Adjusted R-squared	0.873847	S.D. dependent variable	0.099642
S.E. of regression	0.035391	Sum Squared residuals	0.057616
Log likelihood	115.3320	F-statistic	71.65394
Durbin-Watson	1.893959	Prob(F-statistic)	0.000000

Table 3.5
TOTAL CAPITAL FLOWS – GROUP B COUNTRIES

Dependent Variable: Domestic Savings
Method: GLS (Cross Section Weights)
Sample: 1985 – 1998
Included Observations: 14
Cross-sections used: 6
Total Panel (balanced) Observations: 78

Variable	Coefficient	Std. Error	t-statistic	Probability
C	-0.006737	0.088876	-0.075806	0.9398
GCAP	-0.000211	9.68E-05	-2.180263	0.0326
CTOT	0.250886	0.059106	4.244680	0.0001
GGCAP	0.005706	0.002533	2.252661	0.0274
GCAP(-1)	0.000251	0.000104	2.419357	0.0181
CTOT(-1)	-0.223900	0.055547	-4.030857	0.0001
TCFLOWS	0.430440	0.123332	3.490094	0.0008
AR(1)	0.724587	0.062902	11.51921	0.0000
Weighted Statistics				
R-squared	0.873468	Mean dependent variable		0.212603
Adjusted R-squared	0.860815	S.D. dependent variable		0.135883
S.E. of regression	0.050694	Sum Squared residuals		0.179895
Log likelihood	138.9905	F-statistic		69.03145
Durbin-Watson	2.129543	Prob(F-statistic)		0.000000

Table 3.6
PRIVATE CAPITAL FLOWS – GROUP B COUNTRIES

Dependent Variable: Domestic Savings
Method: GLS (Cross Section Weights)
Sample: 1985 – 1998
Included Observations: 14
Cross-sections used: 6
Total Panel (balanced) Observations: 78

Variable	Coefficient	Std. Error	t-statistic	Probability
C	-0.032634	0.069384	-0.470339	0.6395
GCAP	3.90E-05	1.68E-05	2.319286	0.0232
CTOT	0.229818	0.065865	3.489220	0.0008
GGCAP	0.000943	0.000962	0.979785	0.3305
CFLOWS	-0.055473	0.196127	-0.282842	0.7781
AR(1)	0.662297	0.079807	8.298774	0.0000
Weighted Statistics				
R-squared	0.838398	Mean dependent variable		0.219179
Adjusted R-squared	0.827175	S.D. dependent variable		0.136209
S.E. of regression	0.566625	Sum Squared residuals		0.230860
Log likelihood	129.7336	F-statistic		74.70756
Durbin-Watson	2.292733	Prob(F-statistic)		0.000000

Table 3.7
TOTAL CAPITAL FLOWS – ALL COUNTRIES
(Variable effects)

Dependent Variable: Domestic Savings
Method: GLS (Cross Section Weights)
Sample: 1985 – 1998
Included Observations: 14
Cross-sections used: 10
Total Panel (balanced) Observations: 130

Variable	Coefficient	Std. Error	t-statistic	Probability
C	0.167353	0.025021	6.688643	0.0000
GCAP	2.29E-05	9.84E-06	2.325758	0.0218
CTOT	0.100263	0.019995	5.014404	0.0000
INF	0.000981	0.000262	3.736710	0.0003
GCAP(-1)	-2.88E-05	1.01E-05	-2.854230	0.0051
CTOT(-1)	-0.025032	0.019203	-1.303564	0.1950
BD-TCFLOWS	0.147719	0.112577	1.312157	0.1921
GU-TCFLOWS	0.141451	0.099803	1.417304	0.1591
JA-TCFLOWS	-0.160595	0.112573	-1.426581	0.1565
TT-TCFLOWS	0.109839	0.190127	0.577716	0.5646
BZ-TCFLOWS	0.057101	0.307344	0.185787	0.8529
DO-TCFLOWS	-0.005948	0.266546	-0.022315	0.9822
GR-TCFLOWS	0.062572	0.197385	0.317007	0.7518
SKN-TCFLOWS	0.326322	0.212742	1.533883	0.1279
SL-TCFLOWS	-0.045896	0.183572	-0.250018	0.8030
SVG-TCFLOWS	-0.248527	0.264691	-0.938934	0.3498
AR(1)	0.632388	0.067597	9.355337	0.0000
Weighted Statistics				
R-squared	0.927272	Mean dependent variable		0.279090
Adjusted R-squared	0.916974	S.D. dependent variable		1.171559
S.E. of regression	0.049433	Sum Squared residuals		0.276133
Log likelihood	245.2965	F-statistic		90.04571
Durbin-Watson	2.233482	Prob(F-statistic)		0.000000

Table 3.8
PRIVATE CAPITAL FLOWS – ALL COUNTRIES
(Variable effects)

Dependent Variable: Domestic Savings
Method: GLS (Cross Section Weights)
Sample: 1985 – 1998
Included Observations: 14
Cross-sections used: 10
Total Panel (balanced) Observations: 130

Variable	Coefficient	Std. Error	t-statistic	Probability
C	0.172614	0.023060	7.485281	0.0000
GCAP	2.13E-05	9.66E-06	2.210314	0.0291
CTOT	0.100381	0.019257	5.212838	0.0000
INF	0.001117	0.000266	4.201039	0.0001
GCAP(-1)	-2.67E-05	9.74E-06	-2.744821	0.0070
CTOT(-1)	-0.037531	0.019035	-1.971647	0.0511
BD-CFLOWS	0.229657	0.135976	1.688958	0.0940
GU-CFLOWS	0.375730	0.136475	2.753099	0.0069
JA-CFLOWS	-0.126334	0.223436	-0.565415	0.5729
TT-CFLOWS	0.137411	0.182565	0.752673	0.4532
BZ-CFLOWS	0.643554	0.476994	1.349187	0.1800
DO-CFLOWS	-0.567416	0.480787	-1.180183	0.2404
GR-CFLOWS	-0.250909	0.277702	-0.903518	0.3682
SKN-CFLOWS	0.312640	0.253921	1.231252	0.2208
SL-CFLOWS	-0.212500	0.230879	-0.920397	0.3593
SVG-CFLOWS	-0.648453	0.309240	-2.096924	0.0382
AR(1)	0.546240	0.069299	7.882386	0.0000
Weighted Statistics				
R-squared	0.928606	Mean dependent variable		0.278012
Adjusted R-squared	0.918497	S.D. dependent variable		0.167193
S.E. of regression	0.047731	Sum Squared residuals		0.257445
Log likelihood	249.9381	F-statistic		91.86054
Durbin-Watson	2.159445	Prob(F-statistic)		0.000000

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