SERIES

ECLAC
SUBREGIONAL
HEADQUARTERS FOR
THE CARIBBEAN

studies and perspectives

5

Debt accumulation in the Caribbean: origins, consequences and strategies

Esteban Perez

UNITED NATIONS

ECLAC

Economic Development Unit

Port of Spain, May 2007

This document was presented at the Latin American Studies Association (LASA) meeting held in Puerto Rico, 2006. A final version was presented at the American Allied Social Science Association Meeting held in Chicago, January 2007.

The views expressed in this document, which has been reproduced without formal editing, are those of the author and do not necessarily reflect the views of the Organization.

United Nations Publications
ISSN printed version 1727-9917
ISSN online version 1728-5445
ISBN: 978-92-1-121639-4
LC/L.2710-P
LC/CAR/L.106
Sales No.: E.07.II.G.58

Printed in United Nations, Santiago, Chile

Contents

Tables

Figures

Abstract

This document analyses the origins and consequences of debt accumulation in the Caribbean. The focus is placed on Caribbean Community (CARICOM) economies. The document also examines current strategies for the reduction of debt.

During the second half of the 1990s, Caribbean economies accumulated debt on an unprecedented scale. Between 1995 and 2005 the debt stock increased from 65 per cent to 81 per cent of GDP. Most economies exhibit debt-to-GDP ratios above 50 per cent and some (Antigua and Barbuda, Dominica, Jamaica, Guyana, and St. Kitts and Nevis) above 100 per cent. Caribbean countries are amongst some of the most indebted market emerging economies in the world. The debt issue is not a country issue but a regional one.

From the point of view of this document, the accumulation of debt has one overriding effect. It changes in a fundamental sense the role of institutions and the orientation of economic policy. They become agents of debt management rather than the promoters of real sector activities.

Most of the current analyses on the subject view debt as the result of government spending. The recommendation that follows logically is that governments should increase their primary surplus (which is equal to government spending minus revenue less interest payments). This approach is incomplete for it fails to consider an economy in its entirety.

The document uses a stock-flow approach to analyze debt generation, stabilization and accumulation. The analysis shows that an increase in debt occurs when both the fiscal accounts and the external sector are in a deficit position. Alternatively this can be reformulated by stating that an expansion of the fiscal stance above GDP and a deterioration of the export performance ratio are two preconditions for the increase in debt.

Second, the analysis shows that an economy will be able to liquidate its debt over time if the fiscal stance is less than the export performance ratio. The economy will accumulate debt over time if the fiscal stance exceeds the export performance ratio. When the economy accumulates debt, the debt levels become eventually unsustainable.

Finally, the economy will maintain its current debt levels if the fiscal stance equals the export performance ratio.

The conditions derived from the stock-flow framework are validated for CARICOM economies. With the exception of Trinidad and Tobago, the ratio of the fiscal stance to the export performance ratio is positive. Moreover, those economies that exhibit the highest ratios of the fiscal stance to the export performance ratio are also the ones that have the highest levels of debt to GDP ratios.

Debt strategies such as debt restructuring or the increase in the primary surplus that do not take into account the relationship between the fiscal accounts and the external sector may not, according to the framework adopted in this document, prosper. The stock-flow framework adopted in this document can be used to explain the reason why countries that are continually subject to tax reforms and debt forgiveness proposals are not capable as a rule of eliminating budget deficits or substantially reduce their debt stock.

I. Introduction

During the 1990s the public debt stock of most Caribbean economies increased significantly. This is especially the case of the member States of the Organization of Eastern Caribbean States (OECS) [1].

Between 1990 and 2005, the debt stock rose on average from 65 per cent to 84 per cent of GDP for CARICOM.[2] For the OECS, the debt stock expanded from 75 per cent to 105 per cent of GDP between 2000 and 2005. Also, with the exclusion of Trinidad and Tobago, the economies that have witnessed a decline in their debt stock to GDP ratios (Guyana and Jamaica) still maintain debt levels that surpass 100 per cent of GDP.

As it stands, Caribbean economies are among the most indebted emerging market economies in the world. By standard criteria the debt levels are unsustainable.

Caribbean economies have contracted their debt mainly from external sources. However, in some cases, notably Barbados, Jamaica and St. Kitts and Nevis, countries have increasingly sought funding in domestic financial markets.

[1] The States members of OECS include Anguilla, Antigua and Barbuda, the British Virgin Islands, Dominica, Grenada, Montserrat, St. Kitts and Nevis, Saint Lucia and St Vincent and the Grenadines. The analysis presented covers all member States with the exception of the British Virgin Islands. These States form a currency union and fall under the monetary authority of the Eastern Caribbean Central Bank (ECCB).

[2] The treaty establishing CARICOM (1973) provided for the creation of two distinct entities: the Caribbean Community and the Common Market. The Caribbean Community (CARICOM) has 15 member States (Antigua and Barbuda, The Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, St. Kitts and Nevis, Saint Lucia, St. Vincent and the Grenadines, Suriname and Trinidad and Tobago). The Bahamas is not a member State of the Common Market. CARICOM has five associate members (Anguilla, Bermuda, British Virgin Islands, Cayman Islands, and Turks and Caicos Islands). Aruba, Mexico, Venezuela, Colombia, the Netherlands Antilles, the Dominican Republic, and Puerto Rico are observers. Six member States are considered more developed countries (Bahamas, Barbados, Guyana, Jamaica, Suriname and Trinidad and Tobago) and eight countries are considered less developed countries (Antigua and Barbuda, Belize, Dominica, Grenada, Haiti, Saint Lucia, St. Kitts and Nevis, and St. Vincent and the Grenadines).

Debt flows mostly take the form of multilateral and bilateral loans and supplier credit. However, commercial bank loans are becoming important in some economies representing up a quarter of total debt obligations.

The accumulation of debt has been shown to be detrimental to growth and welfare. The 'mainstream' transmission channels include, among others, uncertainty, increases in the cost of finance, expectation of higher taxes, crowding out of public and private investment, and the effects of debt overhang on the rates of return.[3]

From the point of view of this document, the accumulation of debt has one overriding effect. It changes the role of institutions and the focus of economic policy in a fundamental way. Debt accumulation leads to a situation where debt management becomes the main objective of economic policy. All other objectives are rendered captive to debt management. In particular, this entails the separation of government from its traditional functions such as the provision of public goods and services. It also means the creation of a financial system for the purpose of recycling government paper. Ultimately, debt accumulation dissociates the financial from the productive sphere in such a way that the development of productive activity ceases to be the focus of economic policy.

The analysis of the generation and accumulation of debt is generally carried out using a budget constraint or a current account identity. The results are well known.

This first approach inevitably leads to placing the burden of the adjustment on governments. The government is the responsible party. Within this approach, sustainability implies that the rate of interest does not exceed the rate of growth of the economy and that budgets are balanced.[4]

Placing the focus on the external sector leads to the conclusion that debt accumulation depends rather on export performance. In this case, debt sustainability is achieved when the rate of growth of exports does not exceed the interest rate and the trade balance is in equilibrium.

When all relationships within an economy are considered and made visible and are shown to be consistent with one another, it becomes clear that the accumulation of debt cannot be explained solely by recourse to the budget constraint or the external sector, in isolation from one another. Rather debt is explained by their interaction and relationship. As debt accumulates, debt levels become eventually unsustainable.

The starting point is a monetary one. The development of smaller economies depends to a great extent on the acquisition of a means of payment accepted in international transactions, which they themselves cannot issue. Smaller economies can only build their economic infrastructure and develop by importing capital and raw materials as well as technology. It follows that countries must earn the foreign exchange required to finance their imports. In other words, they must export or, more to the point, their export potential must be commensurate with that of their import capacity.

---

[3] See, Blavy, R. Public Debt and Productivity: The Difficult Quest for Growth in Jamaica. IMF Working Paper. WP/06/235. October 2006.

[4] A budget deficit is said to be unsustainable when it leads to uncontrolled increases in the public debt or when interest rates are perceived as being too much of a burden as they are imposed on taxpayers through excessive tax rates or unequal distribution of the burden of the debt. Within the budget constraint approach the concept of fiscal sustainability is examined using an equation that relates four variables: government expenditures, government revenues, rate of growth of real GDP, the real interest rate and the outstanding public debt. More specifically the equation says that the primary budget surplus as percentage of GDP equals the difference between the real interest rate and real GDP growth multiplied by the share of public debt to GDP. There are several approaches to sustainability. Two of the most common approaches found in the literature include the accounting approach and the present value constraint approach. See, Chalk, N. and Hemming R. (2000) "Assessing Fiscal Sustainability in Theory and Practice" IMF Working Paper 00/81.The most common practical methods to compute sustainability in the case of developing economies include: (i) the method of the fiscal deficit-growth gap, (ii) the financial gap method; (iii) the intertemporal budget restriction; (iv) the constant patrimony method; (v) the primary fiscal gap method. The sustainability approach used in this section (See Box 5) is based on Pasinetti (1998) and is developed in ECLAC (2000) "The fiscal impact of trade liberalization and commodity price fluctuation: the Case of the Dominican Republic, 1980-1998" (LC/MEX/R.426).

As a result, over the long run countries must maintain equilibrium in the balance of payments or at least in the basic balance. Countries can only grow over the long run at rates of growth compatible with their external position. In this sense countries are said to be balance-of-payments constrained. Or to put it another way "countries' performance in overseas markets, and the response of the world financial markets to this performance, constrains the rate of growth of the economy to a rate which is below that which internal conditions would warrant". (McCombie and Thirlwall, 1994).

Debt increases when the fiscal stance exceeds the limits imposed by this fundamental constraint. That is, governments do not spend too much or too little. Rather they over or under spend according to the limits imposed by the external sector. This implies that debt can increase because government is spending or because the performance of exports is deteriorating and net capital flows cannot fill the gap or due to a combination of both.

This has far-reaching policy implications. For one thing, fiscal policy objectives and targets have to be commensurate with the existing possibilities of the external sector. Also any fiscal reform that does not take into account the performance of the external sector is bound to fail. Finally, achieving a 'sustainable' debt position is a difficult task. It requires the combination and synchronization of short-term objectives mainly related to fiscal policy with long-term ones which pertain to the external sector.

The aim of this document is to present an analysis of debt by using a consistent stock-flow model and to apply it to the Caribbean case. In this sense, it follows in the tradition developed by Wynne Godley and Wynne Godley and Francis Cripps (1983).

The document is divided into four sections. The first section presents the stylized facts of public debt in the Caribbean. The second section sets out a standard stock-flow model. This framework is used to derive the conditions for debt accumulation and debt sustainability. These are that the fiscal stance of the government should not exceed the export performance ratio and that the present value should be less than its future discounted value. Section three tests these conditions to the Caribbean case. Section four addresses the consequences of debt accumulation and debt reduction strategies.

II. The public debt and its stylized facts

The public debt stock in the Caribbean has, with a few exceptions (Guyana and Trinidad and Tobago), steadily increased in the past three decades especially in the case of the smaller economies of the region, namely in the member States of the OECS.

In the past decade the stock of outstanding debt for the larger sized economies has evolved, on average, from 60 per cent in 1995 to 79 per cent of GDP in 2005. Among these, Jamaica and Guyana exhibit the highest indebtedness ratios (144 per cent and 140 per cent of GDP, respectively, for 2005).

In the case of the smaller economies the stock of debt increased from 26 per cent to 106 per cent of GDP for the same period. St. Kitts and Nevis, Dominica, and Grenada exhibit the highest debt to GDP ratios (173 per cent, 107 per cent and 109 per cent, respectively, for 2005).

On closer inspection, the analysis of the available data shows that most countries were able to reduce or maintain roughly constant their debt levels in the first half of the 1990s, but that the second half saw unprecedented levels of expansion for all economies with the exception of Guyana and Trinidad and Tobago. This is shown in figure 1 on a country-by-country basis.

Trinidad and Tobago was able to reduce its debt due to the good performance of the oil sector which is the mainstay of the economy. Guyana managed to reduce its debt stock mainly as a result of the Highly Indebted Poor Country (HIPC) initiative which was launched in 1996.

According to the HIPC initiative, a country could qualify for debt relief if its GNP per capita was equal or less than $695 and if its debt burden was unsustainable (a net present value of the debt-export and debt-government revenue ratios in excess of 200-250 per cent and 280 per cent, respectively). The sustainability criteria were revised and reduced to 150 per cent of exports and 250 per cent of government revenue later in 1999.[5] Guyana qualified for the HIPC initiative in 2007 and as a result its debt obligation payments (3 per cent of GDP) and interest rates (roughly 1 per cent) are one of the lowest in the Caribbean.

TABLE 1
SELECTED CARIBBEAN COUNTRIES
TOTAL DEBT AS A PERCENTAGE OF GDP
1980-2005

Total debt as % of GDP	1980	1990	1995	2000	2005	1990-1995	1995-2000	2000-2005
Anguilla	...	13.3	11.6	15.1	25.3	13.2	11.2	19.6
Antigua and Barbuda	...	75.4	57.9	119.7	103.4	63.8	68.7	117.6
Aruba	...	...	...	28.5	46.3	42.6	35.1	41.8
Barbados	10.1	62.7	43.6	71.4	74.6	34.7	68.8	83.0
Belize	...	...	...	51.6	84.3	...	19.9	68.8
Dominica		49.5	46.9	114.9	106.9	48.4	54.4	119.1
Grenada	...	39.7	34.7	58.2	109.4	36.7	36.1	91.7
Guyana	100.7	459.3	330.8	167.4	139.6	440.9	217.2	155.3
Jamaica	56.4	131.1	96.6	107.8	143.5	124.9	92.2	141.2
Netherlands Antilles	...	...	...	72.8	84.4	...	70.2	77.9
St. Kitts and Nevis	...	25.1	23.2	114.4	173.0	24.5	48.9	152.7
St. Lucia	...	16.9	20.7	40.5	65.1	19.1	25.1	56.3
St. Vincent and Grenadines	...	28.1	33.5	70.0	78.7	31.6	40.8	73.9
Suriname	...	...	...	54.3	22.4	...	9.0	35.7
The Bahamas	8.2	29.0	43.6	37.6	46.2	40.5	41.7	42.0
Trinidad and Tobago	10.2	...	34.2	20.6	8.9	5.7	26.5	15.2
Average	...	...	64.8	71.6	82.0	71.3	54.1	80.7
Average OECS a/	...	...	25.8	75.0	105.6	25.1	38.3	94.3
Average CARICOM	...	...	64.8	74.5	84.4	73.7	54.3	83.7
Average CARICOM b/	...	...	40.6	67.4	80.1	40.3	41.8	78.2

Source: ECLAC, on the basis of official information.

Note: a/Includes data for domestic debt from 2000 to 2005 for the OECS. b/ Excludes Guyana.

[5] The HIPC initiative granted debt relief to the 'world's poorest and most indebted countries to reduce the constraint on economic growth and poverty reduction.' The HIPC initiative granted debt relief after a three year proven reform record. In 1999, developed countries introduced the enhanced HIPC which besides lowering the sustainability threshold also provides greater debt relief and access to it. Currently 28 countries benefit from the HIPC initiative.

TABLE 2
STRUCTURE OF PUBLIC DEBT AND DEBT INDICATORS (SELECTED COUNTRIES), 2005

In percentage

	Antigua and Barbuda	The Bahamas	Barbados	Belize	Dominica	Grenada	Guyana	Jamaica	St. Kitts and Nevis	St. Lucia	St Vincent and the Grenadines	Suriname	Trinidad and Tobago
External debt													
Multilateral	4.5	22.0	32.4	22.3	61.2	30.2	89.0	23.9	34.7	53.0	36.3	14.7	
Bilateral	14.5	...	1.2	16.0	19.1	16.2	9.3	14.8	12.0	7.8	13.7	83.9	
Commercial	20.6	78.0	64.6	61.4	17.7	0.4	1.0	61.3	32.2	39.1	43.6	...	
Export credit	6.3	...		...	...	0.5	...	...	0.2	0.0	1.7	...	
Other	60.3	...	1.8	0.3	2.0	53.1	0.8	...	21.1	0.0	6.4	1.4	
Domestic debt													
Government securities	19.1	95.5	88.4	50.0	...	...	99.0	80.6		76.6	47.9	...	100
Bank loans	28.6	0.5	0.5	50.0	...	...	1.0	2.1		8.1	30.9	...	...
Unpaid contributions	37.8	...	...	...	...	...	...	...		...	...	...	...
Supplier credits	7.8	...	...	...	...	...	...	...		...	...	...	...
Other	11.7	4.0	11.2	...	...	...	...	21.5		15.3	21.2	...	...
External debt service/GDP	3.5	...	3.7	19.4	3.4	1.8	3.1	9.1	9.8	4.3	4.5	1.9	
External debt service/Exports	6.1	2.8	9.9	56.0		7.9	5.3	14.4	22.2	7.0	10.7	2.3	
External debt service/Revenue	168.4	1.9	11.4	81.2	10.5	6.5	8.7		20.4	16.8	17.0	7.1	
Domestic debt service/ GDP	...	...		2.1	...		1.9	27.5					
Domestic debt service/Revenue	...	...		4.5	...		5.3	98.1					
Domestic debt/total debt	65.4	71.3	63.9	13.0	34.3	26.4	23.5	58.0	63.6	35.2	29.9	...	52.7
Effective average interest rate													
Domestic debt	...	...	5.5	81.4	...		98.8	36.9					
External debt	3.2	5.4	6.6	31.2	1.9	0.8	36.6	38.0	6.8	5.4	3.4	...	7.1
Interest payments/ Revenue													
Domestic	6.9	...	8.9	3.7	3.1	8.8	5.2	36.7	10.3	3.7	4.8	...	
External	11.2	1.9	5.6	26.2	7.1	7.7	7.7	12.8	11.2	8.5	6.0	6.5	

Source: ECLAC, on the basis of official data.

With a few exceptions (notably Bahamas, Barbados, Jamaica and St. Kitts and Nevis) the debt is mainly financed from external sources, that is, public debt is equivalent to external debt. According to the available information, the bulk of the external debt is held by the central government representing more than 80 per cent of the total (see charts in Annex 1 for the case of the OECS).[6]

The decomposition of external debt by creditor category shows that multilateral sources are the main source of debt finance. However, their importance has declined over time. On average OECS member States financed more than half of their public debt through multilateral institutions in 1990, and roughly a third in 2005. Bilateral sources have also lost importance (26 per cent and 14 per cent of the total in 1990 and 2005). Contrarily, commercial banks have gained (4 per cent and 26 per cent of the total in the same period).

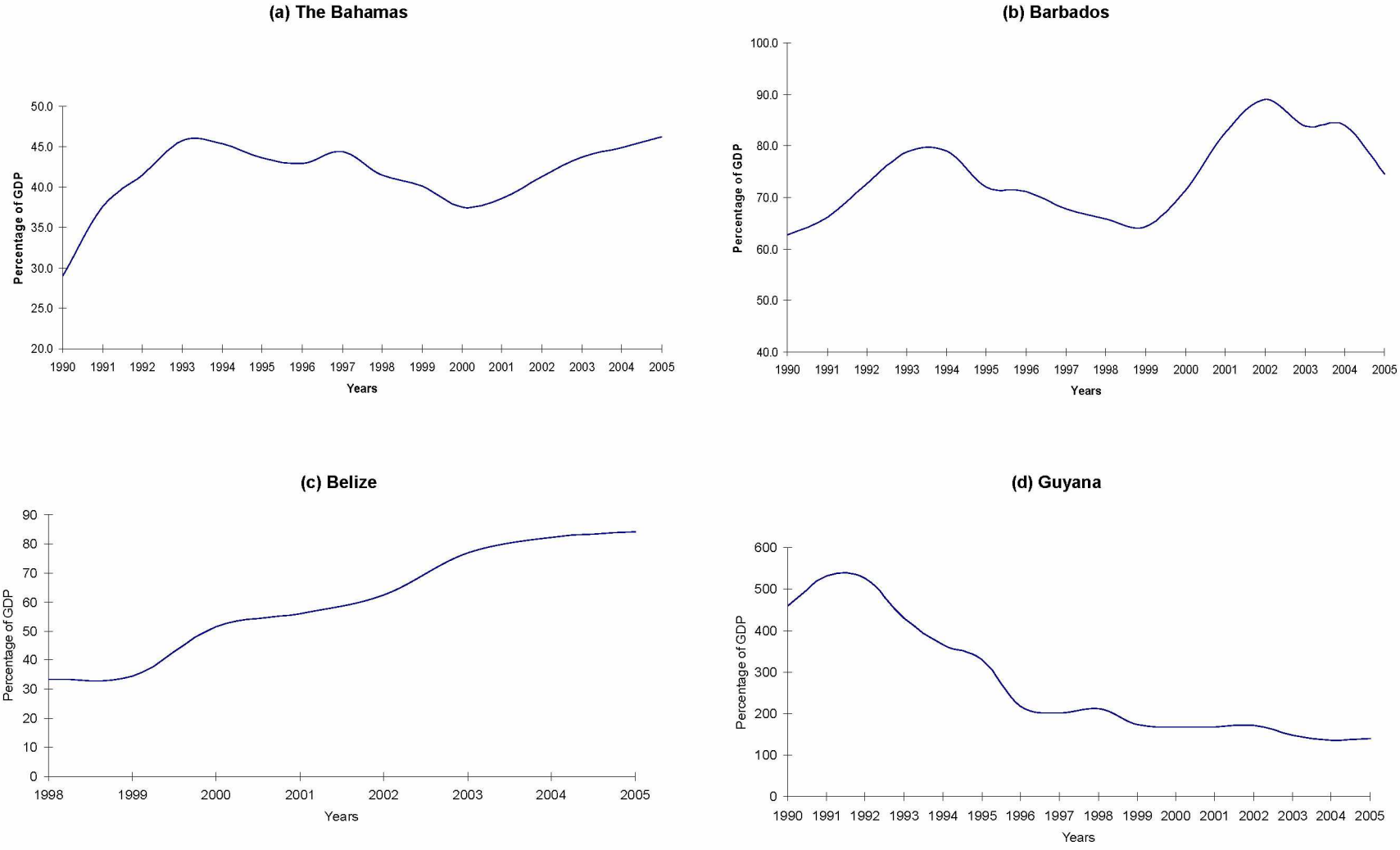
For the OECS member States, where the data is available, the rise in importance of commercial banks as a source of finance closely coincides with the increase in interest payments and in debt accumulation. The correlation coefficient between both is statistically significant. This may indicate the fact that economies with higher debt levels have a higher risk of default and thus pay a higher risk premium. As well, the greater the risk premium the greater the debt stock. The feedback between debt stock levels and interest rates is obviously conducive to a financial 'Ponzi' type regime.

Indebted countries turn to commercial creditors to seek alternative sources of finance, when these cannot or are not willing to comply with the austerity conditions required by international institutions to act as lender of last resort and capital markets are liberalized.[7] In the absence of a global currency for settling all transactions, countries that do not issue the international reserve currency must be able to offer marketable assets in order to secure loans. The marketability of a country's assets can be determined by their ability to pay in terms of the net present value of future net foreign exchange earnings or its foreign reserve position. The OECS complies with this requirement. It has a currency that is backed by a reserve ratio reaching 80 per cent of its liabilities.

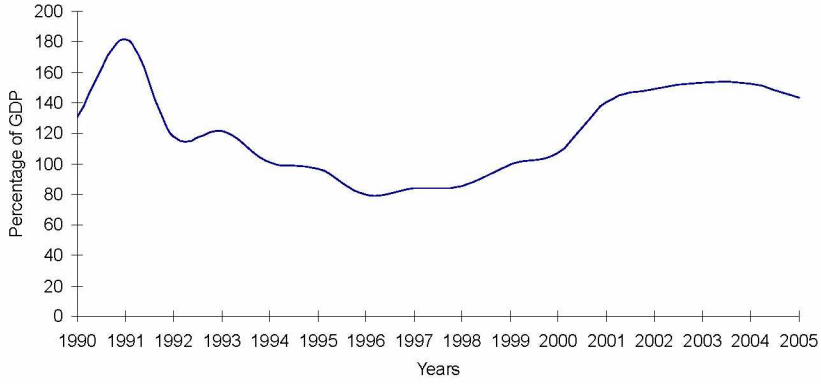
[6] The decomposition of total debt by borrower category is not available in the cases of the Bahamas, Belize, Jamaica, Guyana, Trinidad and Tobago and Suriname. The Bahamas and Belize provide data for the decomposition of public sector debt. In both cases, the central government accounts for 85 per cent and 95 per cent of total public debt.

[7] The positive relationship between the liberalization of capital flows and commercial bank lending to governments is noted by Nissanke and Stein (2002). Commercial banks provide short-term loans. Multilateral institutions provide medium-to long-term loans. The former requires liquidity to secure loans. The latter assumes the country's ability to pay. In this sense Arestis et Al. (2005, p.521) write: "the IMF… has to raise loans from the international market. ….The IMF acts as the guarantor that that these countries will meet the international creditor's demand….the IMF has to set conditions that comply with international creditor's demand, and these conditions act as the credit standard against which the international loans are issues." As it will become clear the main credit standard condition is the increase in the primary surplus of the government.

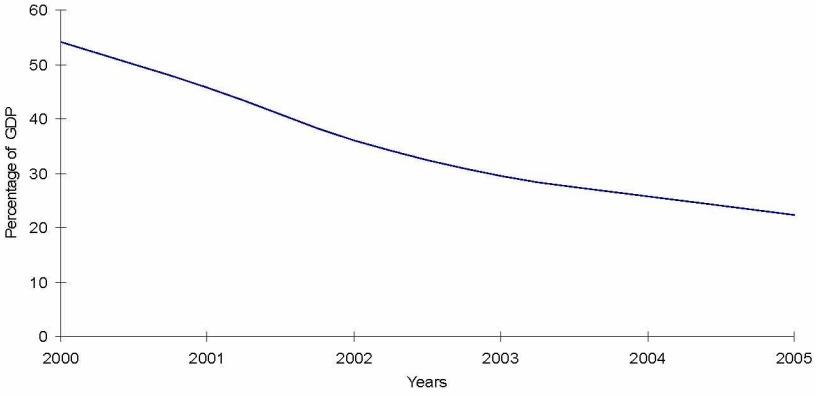
FIGURE 1
DEBT TO GDP RATIOS FOR CARICOM ECONOMIES



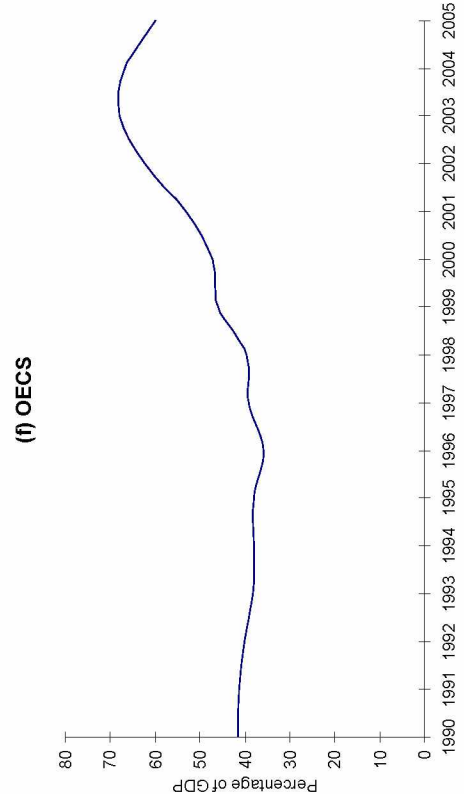
(e) Jamaica

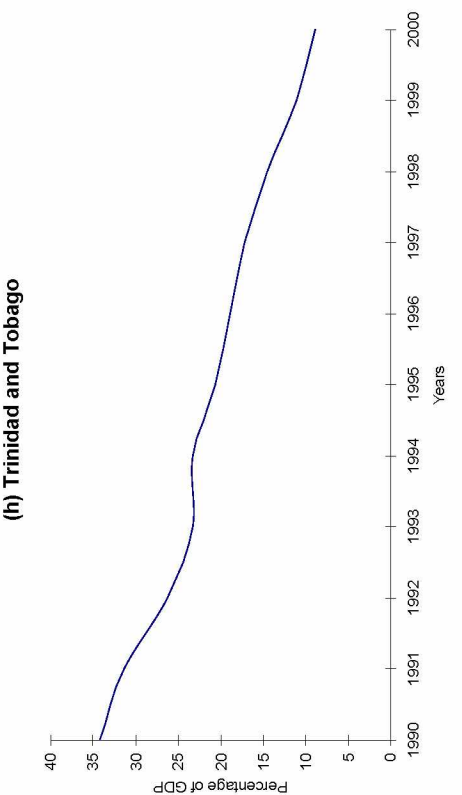


(g) Suriname



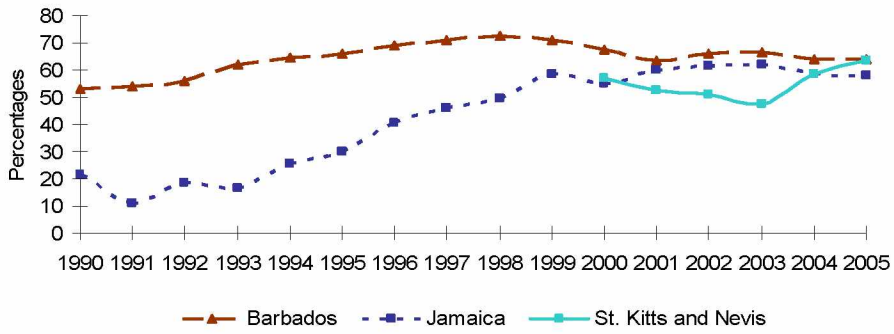
Source: ECLAC, on the basis of official data.


(f) OECS
Percentage of GDP
0
10
20
30
40
50
60
70
80
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
Years


(h) Trinidad and Tobago
Percentage of GDP
0
5
10
15
20
25
30
35
40
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
Years

As indicated previously, not all economies have turned to external sources in order to finance their debt. The Bahamas, Barbados, Jamaica and St. Kitts and Nevis have made explicit attempts to finance their debt from internal sources and in fact the stock of domestic debt represents more than 50 per cent of the total. This is shown in figure 2 for Barbados, Jamaica, and St. Kitts and Nevis.

FIGURE 2
DOMESTIC DEBT AS A PERCENTAGE OF THE TOTAL, 1990-2005



Source: ECLAC, on the basis of official data.

For Jamaica, at the end of 2005, the domestic debt stock was held mainly in short-term instruments (82 per cent of the total with a 1-5 years maturity profile) denominated in local currency (73 per cent of the total). Moreover, more than half of the domestic debt instruments had a variable interest rate. Contrarily, in the case of Barbados, the domestic debt is held in long-term instruments with a fixed rate denominated in domestic currency (see table 2).

In the case of the OECS, domestic debt consists of treasury bills and commercial bank loans (30 per cent and 40 per cent on average). Also in the case of Antigua and Barbuda unpaid contributions represent an important part of the domestic stock. Treasury bills are placed in the Regional Government Securities Market (see table 2).

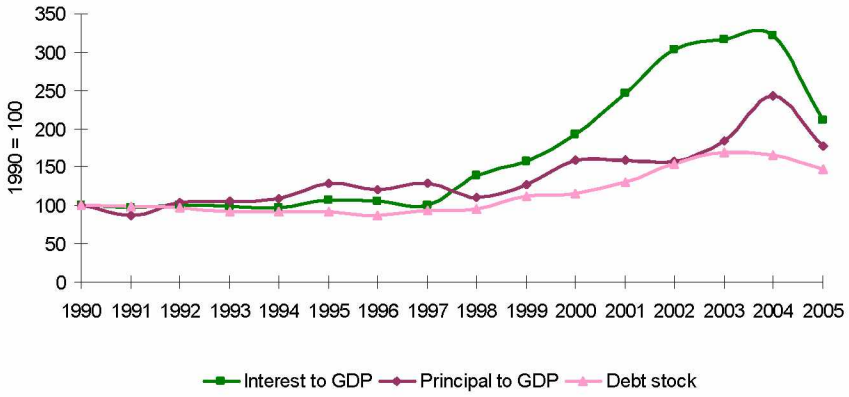
The rise in the stock of debt has been accompanied by an upward trend in debt service payments particularly for Belize and the OECS.

In the case of the OECS, debt service payments represented on average 2 per cent and 3 per cent of GDP; 13 per cent and 35 per cent of exports in 1990 and 2005, respectively. The decomposition of the debt service into interest payments and principal shows that the former accounts for the bulk of the increase (see figure 3 below). Interest rate payments increased roughly around the period that commercial banks began to play an important role as creditors to the OECS governments. For Belize, the rise in interest payments is accounted for by the evolution of the principal.

Contrarily in the cases of the Bahamas, Barbados, Jamaica and Guyana, debt service payments declined. This responded to the HIPC initiative in the case of Guyana and to adjustment efforts in the cases of the Bahamas, Barbados, and Jamaica that date to the beginning of the 1990s (see Annex for a description of the stabilization packages implemented in the Caribbean).

The decomposition of the debt service into its different components shows a reduction in amortization and interest rate payments. In the case of Jamaica interest payments as a percentage of exports of goods and services declined from 13 per cent in 1990 to five per cent in 1993 and have remained around that level.

FIGURE 3
OECS
EXTERNAL DEBT STOCK AND PAYMENTS ON INTEREST AND PRINCIPAL
1990-2005



Source: Eastern Caribbean Central Bank (2006)

III. The generation and accumulation of debt: A stock-flow approach

A. The stock-flow framework

The generation and accumulation of debt can be shown to occur using a standard stock flow model. Building on the previous analysis, this section presents a stock-flow framework that outlines the basic macroeconomic relations in an economy.

This section builds and draws heavily from the work of Godley (1983, 1999, 2000, 2001), Izurieta (2001) and Lavoie (2001) and Backus et al. (1980). The framework is presented in the form of stock-flow matrices that incorporate transaction among different agents (that is, flows) and their corresponding balance sheet holding gains or losses (that is, stocks). The rows of the matrices represent money transactions among agents for each good, service or asset considered in the model. A negative sign in a row signifies a source of expenditure and a positive sign a destination of expenditure. As a result, as Godley (1999, p. 394) points out "every flow comes from somewhere and goes somewhere." Thus to provide a consistent macroeconomic framework all rows must sum up to zero. The columns are defined by the sectors or agents considered in the model and represent their budget constraint. For this reason, they must also sum up to zero. The counterpart of the budget constraint of each sector is the generation of changes in stocks of assets and liabilities. These appear as changes in agents' balance sheets.

The stock-flow framework has several characteristics worth detailing. First, it is a consistency framework and thus does not require satisfying particular "*ex ante*"equilibrium conditions. Second, as pointed by Backus et al. (1980), the money flows of goods, services and assets refer to sales and purchases during a discrete period of time (a quarter or a year). In this sense, the construction of the matrix allows for the introduction in a given period of patterns of evolutionary change. That is, it is an open system (Dow and Chick, 2002). From the reasoning underlying both these reasons, it follows that the framework does not impose an excessive burden on deductive reasoning, but rather seeks to highlight the compatibility of defined configurations of transactions Godley (1983, p. 44).

The institutional and behavioral workings of the stock-flow framework model built on the analysis of the previous sections are as follows. The stock-flow framework is divided in three sub-matrices. The first shows the money transactions (a minus sign indicates the origin of a monetary flow and a plus sign the expenditure) of the economic agents. Their sum of rows is equal to zero. The second sub-matrix represents the flow of funds (or savings), which is the counterpart of the transactions matrix. The columns of the transactions and flow balances sum up to zero. The third sub-matrix is a stock matrix. It shows the balance sheets of the agents (or their accumulation accounts).

The framework considers one country, say country A, and the rest of the world (i.e., external sector). The country in question comprises, in turn, four agents' households, firms, government and commercial banks. Following (Tobin (1969 and Godley, 1999) the framework treats the capital and current account separately for firms. The capital account includes assets and debts and the current account production and income flows.[8]

Because the internal capital market is not developed and is restricted, the framework considers only loans and money in the form of deposits in the capital account for commercial bank (as an example, demand deposits (DDd) and commercial bank loans (Lb)). In the case of firms the capital account includes demand for investment (INV). The framework also includes a Central Bank which is part of the government.

The Central Bank is assumed to maintain a passive policy satisfying the demand for base money at a given rate of interest through the variation of its international reserve holdings. That is, money supply is endogenous. This appears clearly in the capital account of the flow balances of the central bank. Changes in commercial banks deposits (DDa) are validated by changes in the money base (HP) through variations in foreign assets (Fg).

Commercial banks pay interest on deposits from households and firms (rdDh and rdDf) and charge interest to businesses and households (rlf and rlh). The framework assumes an interest rate spread, which constitute the profits of the bank which then are distributed to households as dividends (-DIVh). In other words there are no retained profits and the flow of funds of the commercial banks sum to zero.

The economic activity of households is limited to consumption (C). Households receive wages (W) and profits and dividends from households and banks (+ Πaf +DIVh). That is, firms' and banks' profits are distributed to households. Taking into account our previous analysis of bank loans in the Union, households also receive interest income on their deposits and pay interest on their loans (-rlh). Thus firms' and banks' money income earnings flow back to households.

The counterpart of households' earnings and payments are their money holdings which are deposited back in the commercial bank system (DHP) due to the lack of a developed capital market (see, the sub-matrix of flow balances in table 3 below). The banking system satisfies passively the

[8] In table 3, the negative and positive signs in the transactions matrix represent the origin (payment) and destination (receipt) of money flows. In the flow of funds matrix, the negative and positive signs denote the uses and sources of funds, respectively.

demand for loans. Within this diagram, money flows can be seen as completing a "circuit" from the time a decision is made to finance production or consumption.

Firms distribute profits and pay wages to households and firms and supply and demand investment (INV), export and import to and from the rest of the world (-M and +X), and pay taxes to the government (Γf) and interest on their loans to commercial banks (-rlf). Firms also receive transfers from the government.

The government spends and taxes (G and Γ). Following the analysis of earlier sections the government has a deficit (FBg), which is financed with the issue of treasury bills and foreign assets on which it pays interest.

The rest of the world is characterized in terms of its commercial and capital flow relations (exports (X), imports (M) and private and official capital flows (denoted by Deq). The exports (X) are necessarily equal to the imports of the rest of the world. The country in question pays also interest on its debt (rtb) and registers capital repatriation flows (πfs).

TABLE 3
STOCK-FLOW MATRIX

	Households	Firms Current	Capital	Banks	Government	External Sector	∑
Transactions matrix							
C	-C	+C					0
I		-INV	+INV				0
G		+G			-G		0
M		-M			+M	+M	0
X		+X			-X	-X	0
T	-Th	-Tf			-Tt		0
W	+W	-W					0
rlb	-rlb	-rlf		-rl			
rtb				+rtb	-rtb	+rtb	0
rd	+rdDh	+rdDf		-rDt			0
Dividends	+πp+πb	-πp		-πb		+πfs	
FB	FBh		FBf		FBg	-CAB	0
Flow of funds							
Cash	-DHP			-DHP	-DHP		0
Demand deposits	-DDd			+DDd			0
Time deposits	DTd			+DTd			0
Treasury bills				-DTb	+DTb	-DTb	0
Loans			+DLf	-DLb			0
Capital	-Deq		+Deq		+Deq	-Deq	0
Σ	0		0	0	0		0
Balance sheet matrix							
Cash	+HD			-HP	-HP		0
Demand deposits	+Dd			-Dd			0
Time deposits	+Td			-Td			0
Treasury bills				+TB	-TB		0
Loans			-Lf	+Lf			0
Capital	+Eq		-Eq				0
Foreign assets					+Fg	-Fg	0

Source: Towards a reconstruction of Macroeconomics using a stock flow consistent (SFC) Model by Wynne Godley, Cambridge Endowment for Research in Finance. University of Cambridge, May 2004.
Monetary Economics, An Integrated Approach to Credit, Money, Income, Production and Wealth by Wynne Godley and Marc Lavoie. NY: Palgrave MacMillan, 2007.

With the use of the first and second matrix, the financial balances or savings (the difference between income and expenditure) can be reproduced as follows,

(1)

$FB_h = W + r_dDh - C - T_h - r_{hl} + \pi$
$FB_b = \prod - T_b - r_{bl}$
$FBg = T - C_g - r_{tb} - er^*l^*g$
$FB_{fs} = r_l + r_{tb} - rDt - \pi_b$
$FB_{es} = e(M + r^*l^*g + \prod - E)$

The financial balances are in turn equal to the transactions in financial assets. In other words the next step is to specify the form in which these financial assets are held, i.e., the flow-of-funds accounts. Formally,

(2)

$FB_h = \Delta M_h - \Delta DD_h - \Delta DD_{eq}$
$FB_b = p\Delta K_b - \Delta D_b$ (i.e., DLf)
$FB_g = \Delta M_h - \Delta D_g - e\Delta D^*_g$ (i.e., DTB)
$FB_{fs} = \Delta M_h - (\Delta D_b + \Delta D_g) - e\Delta R^* = 0$
$FB_{es} = Deq - e(\Delta D^*_g) + e\Delta R^*$

From the set of Eqs.(1)-(2) it can be seen that debt appears in the flow of funds accounts in the household, business, government and external sectors. External debt appears in the government flow of funds accounts and at the same time in the balance of payment accounts.

Debt is, thus, not due to the behavior of one agent or sector but results from the interaction and relationships among all agents and sectors. Any analysis of debt must therefore incorporate explicitly their behavior and interrelation.

B. The analysis of debt

The starting point for this analysis is that of a full steady state. In a full steady state or stationary equilibrium, all stock and flow variables are constant (full equilibrium). In the case of a closed economy this means that the government budget must be in balance. In other words, the government's financial balance must be equal to zero,

(3) $FB_g = 0$,

In the case of an open economy, this condition also applies to the external sector. That is, a full steady state in an open economy requires that the fiscal accounts and the external sector are balanced. That is,

(4) $FB_g = 0$ and $FB_{es} = 0$;

In a case where stock variables are constant (i.e, dSt/dt =0) but flow variables can change, equilibrium requires that the budget deficit be equal to the external sector deficit. In other words,

(3) $FB_g = FB_e$

As pointed by Oates (1966, p.493) in such a situation the stock of net financial assets is equal to zero and 'whatever financial assets are being injected into the system by the budget deficit are simultaneously drained out by the deficit in the trade balance." It follows that from Eq.(3) the level of income equals to,

(4) $FB_g = FB_e \Leftrightarrow C_g - T = M - X$

Assuming that the government's income and imports depend on income, it can be shown that,

(5) $FB_g = FB_e \Leftrightarrow C_g - ty = my - X \Leftrightarrow C_g + x = my + ty \Leftrightarrow y = (C_g + X)/(t + m)$

The derived expression in Eq(5) is termed the Augmented Fiscal Stance (AFS). It determines the level of income coexistent with stock equilibrium. This level is dependent on government expenditure and the average tax rate and on exports and the average propensity to import.

Eqs. (4) and (5) can be used to derive the conditions for the generation and accumulation of debt. This task is undertaken in the following section using as a starting point the budget constraint as is customary in the literature on the subject. The analysis can be undertaken as well using the external sector as a starting point. Ultimately, as the section on the adoption of a quasi steady State implies, the budget and external sector constraints are affected by the same variables.

C. The generation and accumulation of debt

The budget constraint states that the difference between government expenditure and income must be 'financed' by debt or the issue of fiduciary currency. That is,

(6) $C_g - T_g + (1+it)D_{t-1} + (1+ rt)D^*_{t-1} = D_t + D^*_t$

Where,

C_g = government consumption
T_g = government taxes
it = interest rate on the domestic currency denominated debt
rt = interest rate on the foreign currency denominated debt
D_t = stock of domestic debt
D^*_t = stock of foreign debt

Assuming that uncovered interest rate parity holds, Eq.(6) can be expressed as,

(7) $B_t = (1+r)\ B_{t-1} + (C_g - T)$

Where,

$B_t = D_t + D^*_t$

Taking into account that tax revenue is a function of income ($T = \theta y$), that the level of income is given by the quasi steady state Eq. Developed in the previous section, Eq.(7) becomes,

(8) $B_t = (1+r)\ B_{t-1} + (C_g - \theta(G+X)/(\theta+\mu))$

The variables in Eq(8) can be standardized in relation to income with the help of simple algebra. That is,

(9) $B_t/P_tY_t = (1+r)\ (B_{t-1}/P_tY_t) + (Cg - \theta(G+X)/(\theta+\mu))\ (1/P_tY_t)$

Further manipulation yields,

(10) $(\mu g_t - \theta x) + (\mu + \theta)\ (1+ r - \pi - yt)\ b_{t-1} = b_t\ (\mu + \theta)$

From Eq. (10) it can be easily seen that the government is able to meet is debt if the limit of the mathematical expectation of the debt is equal to 0 as t tends to infinity.

(11) $\lim E(b_t\ (\mu + \theta)) = 0 <=> (\mu + \theta)\ \lim E(b_t) = 0$

$t \rightarrow \infty$

Two necessary and sufficient conditions satisfy Eq.(11). These are,:

(12)

$$(\mu g_t - \theta x) < 0 \Leftrightarrow \mu g_t < \theta x \Leftrightarrow Gt/\theta < X/\mu$$

and

$$r - \pi - y_t > 0 \Leftrightarrow r < y_t + \pi \Leftrightarrow r < (Y_t - Y_{t-1})/Y_{t-1}$$

$$\Leftrightarrow r < ((Y_t/Y_{t-1}) - 1) \Leftrightarrow Y_t > (1+r_t)/Y_{t-1} \Leftrightarrow Y_{t-1} < Y_t/(1+r_t)$$

The analysis developed indicates three important facts relating to debt generation, stabilization and accumulation.

First, an increase in debt occurs when both the fiscal accounts and the external sector are in a deficit position. Alternatively this can be reformulated by stating that an expansion of the fiscal stance above GDP and a deterioration of the export performance ratio are two preconditions for the increase in debt.

As stated earlier, the fiscal stance is defined as government expenditure divided by the tax ratio (tax revenue over GDP). Formally,

(13) $FS = G / (T/GDP)$

Where,

FS = fiscal stance.
G = government revenue.
T = total tax revenue.
GDP = Gross Domestic Product.

When the fiscal stance is neutral, that is when tax revenue covers government expenditure, G=T and the fiscal stance is equal to GDP (FS=GDP). The fiscal stance is said to be expansionary when G>T and FS>GDP. It is restrictive if G<T and FS<GDP.

For its part, the export performance ratio is measured by the ratio of exports to the average propensity of import (i.e. the ratio of imports to GDP). Formally,

(14) $EPR = X/(M/GDP)$

Where,

EPR = export performance ratio.
X = exports of goods and services.
M = imports of goods and services.
GDP = Gross Domestic Product.

When exports are equal to imports, the export performance ratio is equal to GDP (EPR=GDP). Export performance will improve when X>M and EPR>GDP. The export will deteriorate when X<M and EPR<GDP.

The fiscal stance and the export performance ratio can be computed in terms of percent deviation from GDP. A value of zero would indicate a state of external (fiscal) equilibrium. A value greater than zero in percentage shows the percent deviation of the fiscal and external accounts from their equilibrium positions.

A positive (negative) deviation for the fiscal stance determines the extent to which it is expansionary (contractive) relative to a balanced position. Contrarily a positive (negative) deviation for the export performance ratio shows the extent to which the surplus (deficit) in the current account exceeds its balanced position.

Second the analysis shows that an economy will be able to liquidate its debt over time if the fiscal stance is less than to the export performance ratio. The economy will accumulate debt over time if the fiscal stance exceeds the export performance ratio. Finally, the economy will maintain its current debt levels if the fiscal stance equals the export performance ratio.

Third, the analysis shows that an economy will exhibit sustainable debt levels if the rate of interest is less than the rate of growth of output. In other words the future streams of income flows must exceed the present ones by value of the interest payments of that income flow. From the point of view of this document, unsustainability follows from debt accumulation. As a result, the first condition is the crucial one.

It is important to note that these conditions could have been derived as well by starting from the financial balance for the external sector. As stated by Eq. (5) above in a quasi steady state the government and external sector balances are equal. The change in perspective would not modify the conclusions regarding the conditions for debt stabilization stated in this section.

IV. Testing for the stock-flow debt conditions

A. The evolution of the fiscal stance

In the case of most Caribbean countries the fiscal stance (FS) has been expansionary throughout the 1990s, as the FS has always surpassed GDP (see figure 5). Moreover it has been increasingly expansionary throughout most of the latter half of the 1990s.

All countries, with the exception of Antigua and Barbuda, St. Kitts and Nevis, and St. Vincent and the Grenadines, adopted an increasingly expansionary fiscal stance roughly close to the second half of the 1990s (see figure 4 below). Antigua and Barbuda, St. Kitts and Nevis, and St. Vincent and the Grenadines increased their fiscal stance in the middle of the 1980s. Further, all countries witnessed an acceleration of the fiscal stance towards the end of the 1990s.

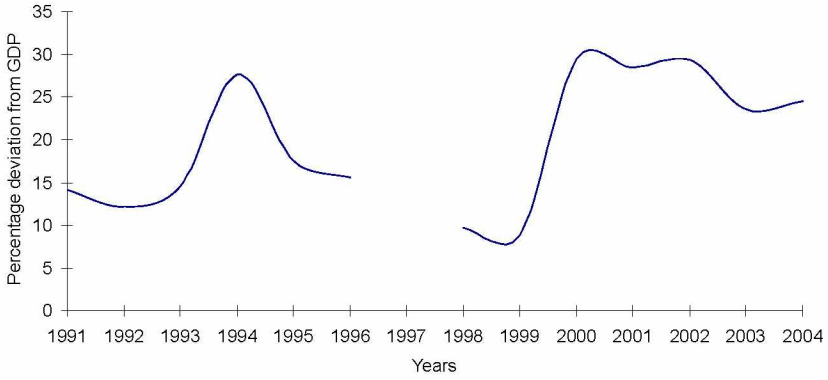
The behavior of the fiscal stance was mainly driven by government expenditures as the taxation levels, with independence of some of the reforms adopted, remained with a few exceptions, constant. The behavior of the fiscal stance was sustained in most cases by increases in both current and capital expenditures.

Capital expenditures played an important role in the cases of Belize, Dominica, Grenada, St. Kitts and Nevis, and St. Vincent and the Grenadines. In these cases the government opted to expand capital expenditures as a policy decision to boost aggregate demand and growth.[9]

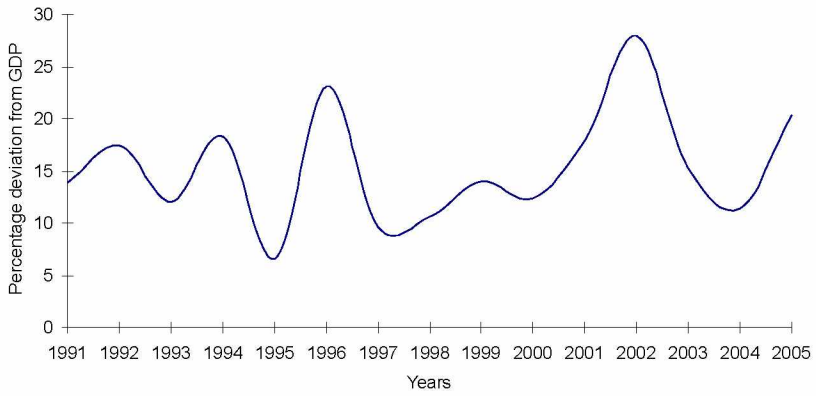
It should also be taken into account that St. Kitts and Nevis' increased capital expenditure also responded to recovery and reconstruction outlays to offset the damage inflicted to the economy by Hurricanes Luis and Marilyn (1995) and Georges (1998). For its part, Dominica's development of capital expenditure increased as part of a policy of structural adjustment and change.

FIGURE 4
FISCAL STANCE FOR CARICOM ECONOMIES, 1991-2005

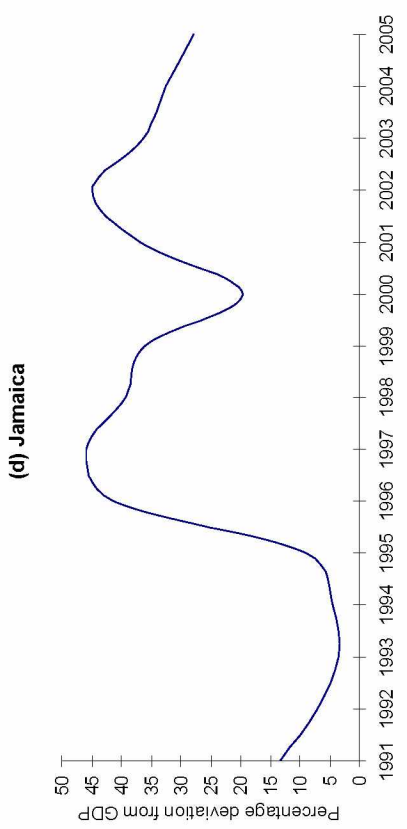
(a) The Bahamas

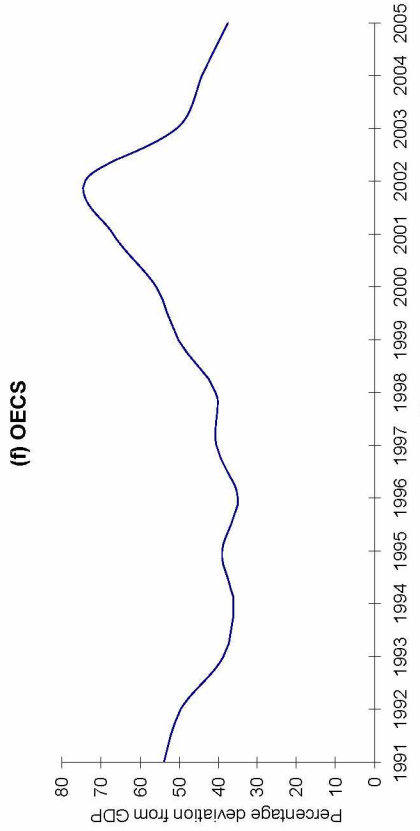


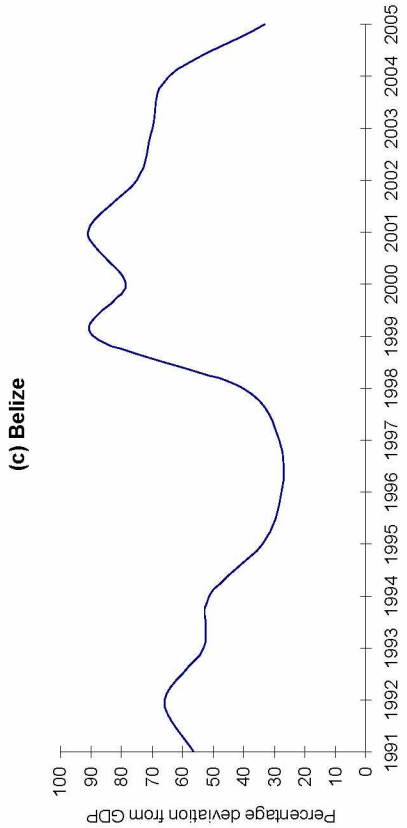
(b) Barbados



[9] St. Vincent and the Grenadines embarked on a series of infrastructure projects during the late 1990s including the Canouan Airport, the central highway, a vegetable market and banana irrigation. See, WTO, TPR, SVT, 2001.

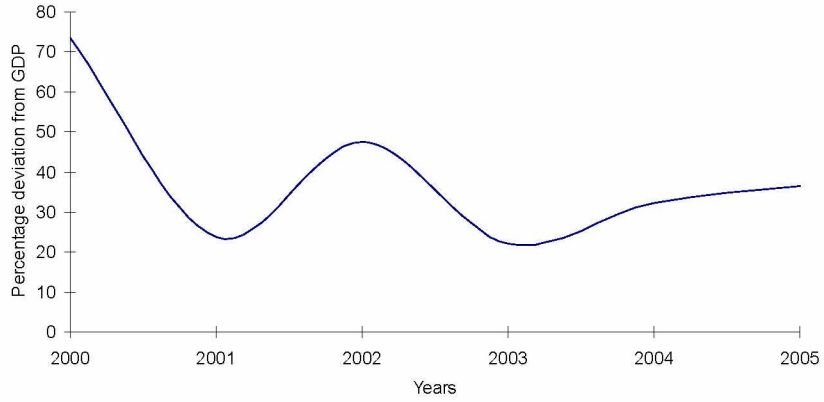

(d) Jamaica
Percentage deviation from GDP
Years
0
5
10
15
20
25
30
35
40
45
50
1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005


(f) OECS
Percentage deviation from GDP
Years
0
10
20
30
40
50
60
70
80
1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005

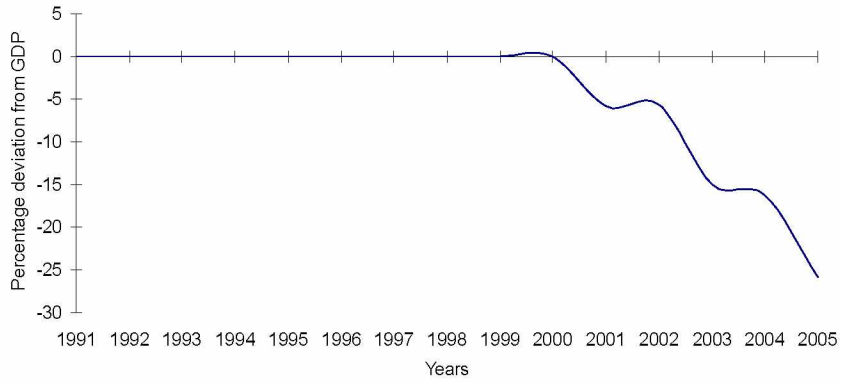

(c) Belize
Percentage deviation from GDP
Years
0
10
20
30
40
50
60
70
80
90
100
1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005

(e) Guyana
Percentage deviation from GDP
Years
0
20
40
60
80
100
120
1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005

(g) Suriname



(h) Trinidad and Tobago



Source: ECLAC, on the basis of official data.

Current expenditures played a significant role in Antigua and Barbuda, Dominica, St. Kitts and Nevis and St. Vincent and the Grenadines in the case of the OECS and in Barbados, Guyana and Jamaica.

In the case of Antigua and Barbuda, interest payments on the stock of debt which began to cumulate in 1996 were the main factor behind the rise in current revenues and indeed of the fiscal position of the government. Interest rate payments widened the fiscal disequilibrium and fed into the debt stock, in turn the higher the debt stock the larger the interest payments.

A similar story can be told in the case of Dominica, with the difference that in this case capital expenditures to transform and diversify the economy resulted in a higher debt stock, interest payments and hence current revenues.

St. Kitts and Nevis and St. Vincent and the Grenadines' current expenditures were driven by increases in the wage bill.[10]

[10] St. Kitts and Nevis current expenditures also responded to expenses related to the St. Kitts Sugar Manufacturing Corporation, and the duplication of government services. Also, available information indicates that in the late 1990s the government increased public sector wages by 10%.

Barbados' expansionary fiscal stance is explained by a reduction in tax revenues lasting from 1996 to 2000, and the rise in current expenditures thereafter. The reduction in tax revenues coincides with the introduction of the value added tax in 1997. The rise in current expenditures is mainly attributed to higher wages meant to compensate for salary cuts that took place a decade earlier.[11]

In the case of Jamaica, the rise in current expenditures was associated with the expansion in nominal wages to counteract the effect of rising prices on public servants' purchasing power. The rise in debt service payments also contributed to the overall result.

Finally Guyana's fiscal performance was determined by transfers to State-owned firms and higher than expected utility costs.

B. The evolution of the export performance ratio

At the same time as the fiscal stance expanded, the current account position of Caribbean countries deteriorated (see figure 7). In fact the current account started to deteriorate at the same time that the fiscal stance became expansionary. On average the current account deficit increased from 11 per cent of GDP in 1991 to -18 per cent in 2005.

In the case of the OECS, the current account deficit increased significantly in the second half of the 1990s due both to the deterioration of export performance and the increase in imports. Exports of goods and services declined steadily from 66 per cent of GDP in 1992 to 63 per cent in 1995 and 54 per cent in 2005. Imports of goods and services rose from 74 per cent of GDP in 1992 to 75 per cent in 1995 and to 66 per cent in 2005.

For Barbados, the current account deteriorated from -1.4 per cent to -8 per cent of GDP between 1991 and 2005. Imports as a percentage of GDP exhibited an upward trend during the 1990s (43 per cent and 57 per cent in 1992 and 2001). Exports rose between 1991 and 1996 from 49 per cent to 61 per cent of GDP and declined thereafter to 53 per cent in 2005.

In the case of Belize the current account widened from -7 per cent to -18 per cent of GDP, between 1991 and 2005. Exports of goods and services as a percentage of GDP declined steadily from 68 per cent to 54 per cent between 1991 and 2003. For their part imports decreased from 80 per cent to 57 per cent between 1991 and 1998, and then reversed its trend increasing to 67 per cent in 2005.

Guyana witnessed a steady decline of both exports and imports as a percentage of GDP. Between 1992 and 2001, exports and imports of goods and services decreased from 151 per cent and 180 per cent to 115 per cent and 133 per cent of GDP, respectively. The behavior of the current account in the case of Guyana is atypical in relation to the rest of the Caribbean countries since the country managed to actually reduce its current account deficit which had reached levels above 40 per cent of GDP in the late 1980s and early 1990s due to the prevailing dire economic conditions.

In the case of Jamaica the current account result deteriorated from 0.7 per cent to -10 per cent of GDP between 1992 and 2005. As in the case of some of the other countries, Jamaica also

[11] In 1991 Barbados implemented a stabilization package centered on restraining the growth of aggregate demand in order to reduce the pressure on the balance of payments. Demand was curbed by monetary and fiscal means. On the fiscal expenditure side nominal wages were cut and frozen and public employment reduced. On the revenue side a surtax, termed the "stabilization tax", was introduced in addition to consumption taxes and levies and at the same time the authorities reduced the rate of CARICOM's common external tariff. The Valued Added Tax was introduced on 1 January 1997. It replaced 11 taxes including a consumption tax, a stamp duty tax, and surcharges. The VAT included a number of tax exempted items. According to Howard (2001, p234) the Barbados Government projected a fall in the revenue yield as a consequence of the introduction of the VAT. The 'strengthening' of social expenditures has been one of the policy development goals of Barbados since the 1960s (see Downes, 2001, Williams, 2001). Social expenditures represented a third of government total expenditure in 1960 increasing to half of the total in 1998.

experienced both a decline in exports and imports expressed as a percentage of GDP, with the former far out pacing the latter (45 per cent and 62 per cent in 1991; 94 per cent and 97 per cent in 2005).

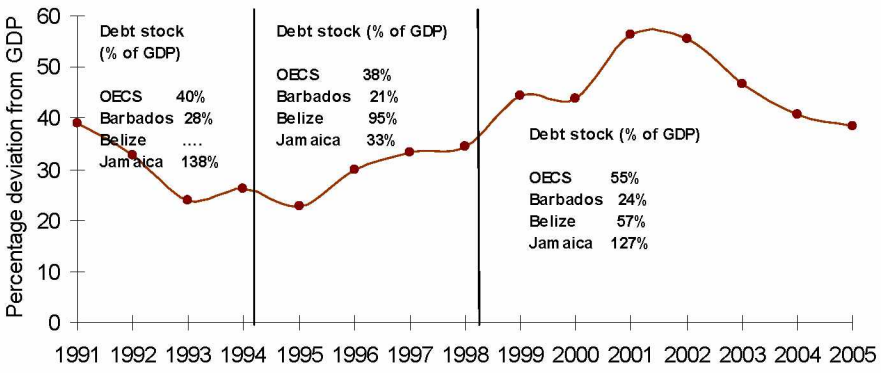
Contrarily Trinidad and Tobago increased its current account surplus from 3 per cent to 9 per cent of GDP between 1993 and 2003. The country saw an increase in both exports and imports of goods and services (42 per cent and 32 per cent of GDP in 1993; 54 per cent and 44 per cent of GDP in 2001, respectively).

The deterioration of the current account is captured by the decline in the export performance ratio. This measure was obtained for each CARICOM economy. Eye inspection of figures 6,7 and 8 show that, the export performance ratio remained roughly stable in the first part of the decade and deteriorated in the second half.

As has been stated in several documents produced by the Economic Commission for Latin America and the Caribbean (ECLAC), the worsening of CARICOM's export performance is reflected in the loss of market share in its major export markets both in goods and tourist services. Between 1985 and 2002, the export market share of Caribbean countries in regional trading blocs, such as the North America Free Trade Agreement (NAFTA) and the European Union (EU) (Western Europe), has decreased from 0.71 per cent to 0.27 per cent and from 0.15 per cent to 0.10 per cent, respectively.

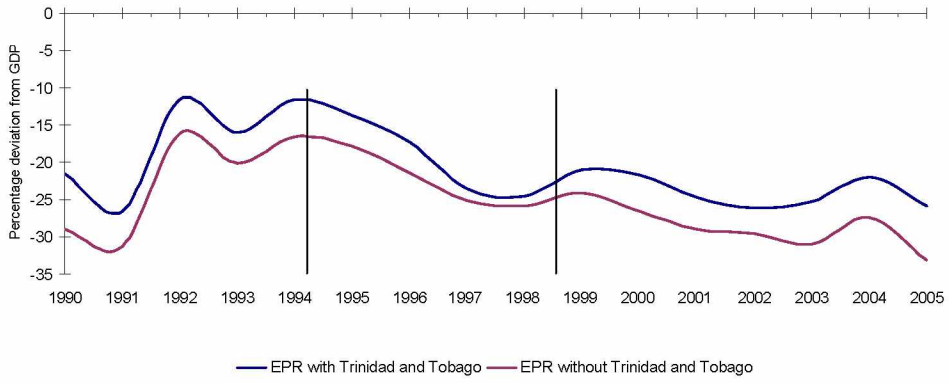
It is also noteworthy to indicate that the deterioration in export performance reflects both the goods and services sector. Figure 8 shows the rate of growth in export services in real terms for Caribbean economies on average from 1982 to 2004. The figure shows a visible declining trend.

FIGURE 5
FISCAL STANCE FOR CARICOM ECONOMIES
1991-2005



Source: ECLAC, on the basis of official information.

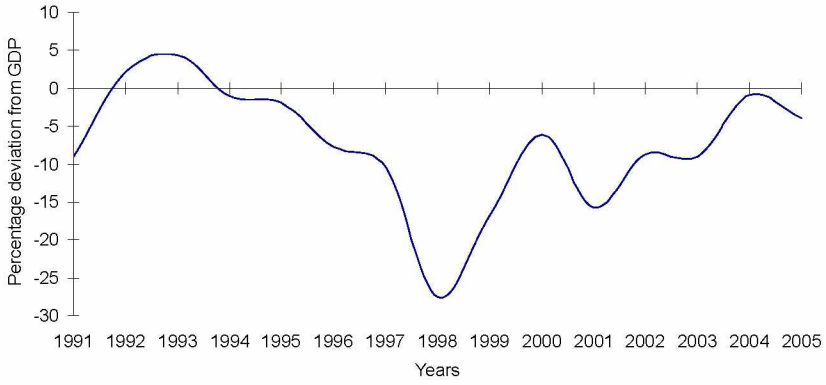
FIGURE 6
EXPORT PERFORMANCE RATIO FOR CARICOM ECONOMIES IN PERCENTAGE DEVIATION FROM GDP, 1990-2005



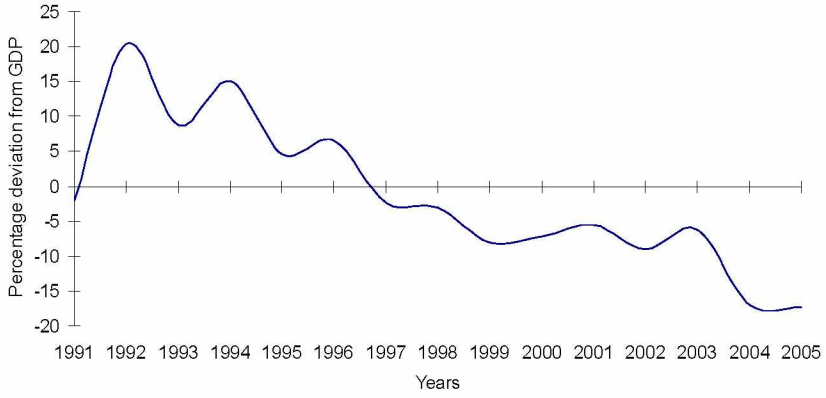
Source: ECLAC, on the basis of official information

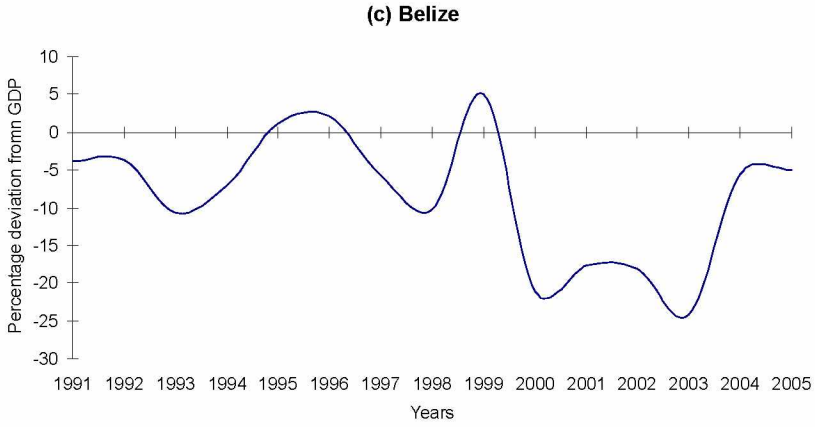
FIGURE 7
EXPORT PERFORMANCE RATIO FOR CARICOM ECONOMIES, 1991-2005

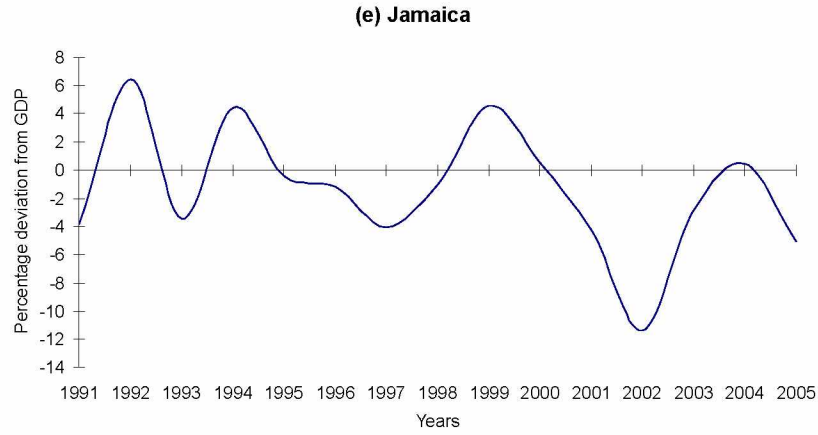
(a) The Bahamas

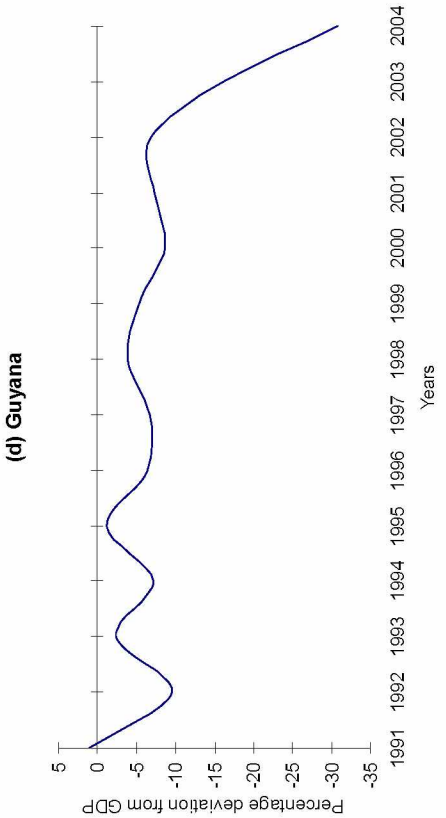


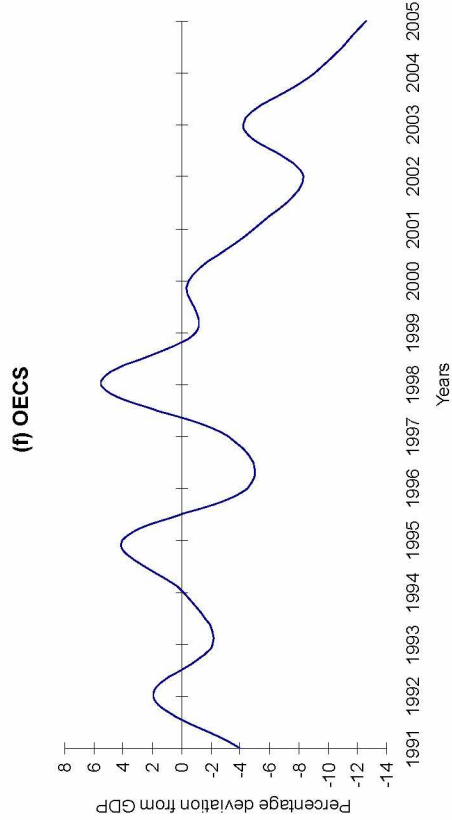
(b) Barbados



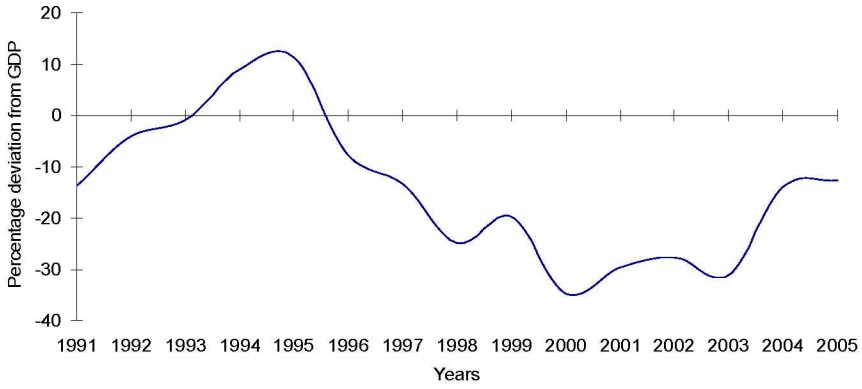

(c) Belize
Percentage deviation fromn GDP
10
5
0
-5
-10
-15
-20
-25
-30
1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005
Years


(e) Jamaica
Percentage deviation from GDP
8
6
4
2
0
-2
-4
-6
-8
-10
-12
-14
1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005
Years

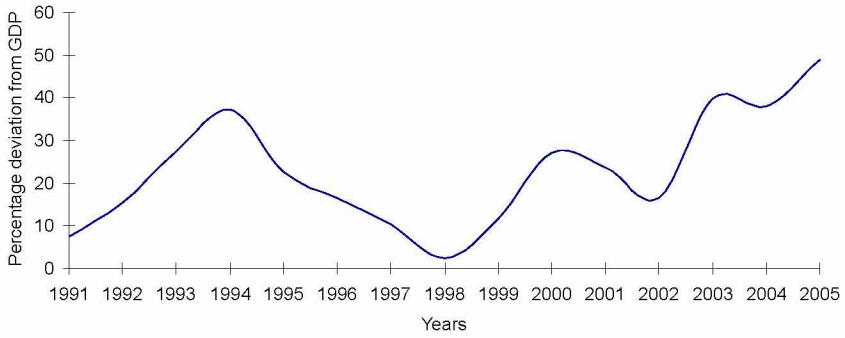

(d) Guyana
Percentage deviation from GDP
5
0
-5
-10
-15
-20
-25
-30
-35
1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004
Years


(f) OECS
Percentage deviation from GDP
8
6
4
2
0
-2
-4
-6
-8
-10
-12
-14
1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005
Years

(g) Suriname

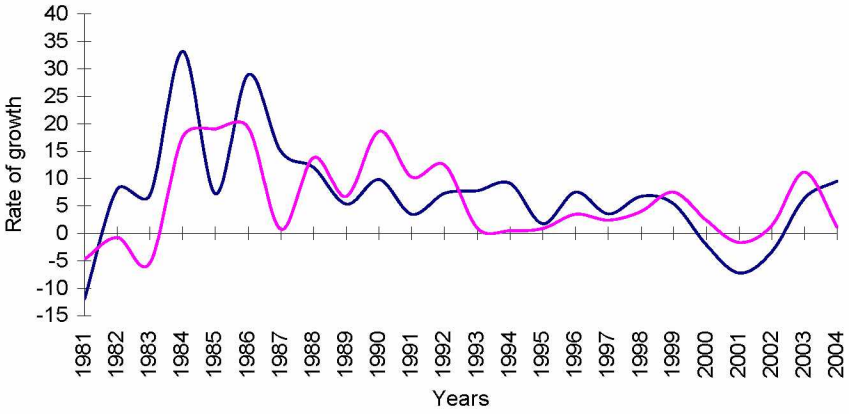


(h) Trinidad and Tobago



Source: ECLAC, on the basis of official data.

FIGURE 8
RATE OF GROWTH IN EXPORT SERVICES IN REAL TERMS
AVERAGE FOR CARICOM (1981-2004)



Source: ECLAC, on the basis of official information.

C. The relationship between the fiscal stance and the export performance ratio

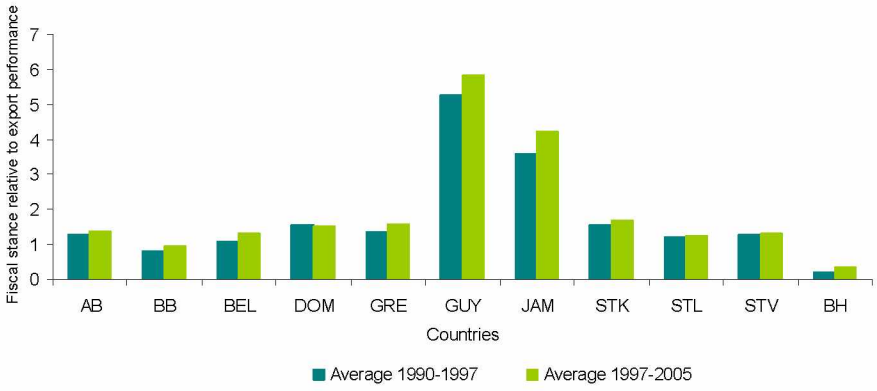
The fiscal stance has exceeded the export performance ratio for all economies with the exception of Trinidad and Tobago. This is shown is figure 9 which plots the ratio of the average fiscal stance to the export performance ratio for CARICOM economies for which data is available for two periods 1990-1997 and 1997-2005.

The figure shows that for both periods under consideration, and in all cases considered, the ratio is greater than one. In other words the fiscal stance has surpassed the export performance ratio. Thus the conditions for debt accumulation have been present since the beginning of the decade.

Also the figure shows that the ratio is greater for those countries that have the highest debt stocks to GDP ratios, Guyana and Jamaica followed by St. Kitts and Nevis. Finally as shown in figure 9, the ratio of the fiscal stance to the debt stock as a percentage of GDP is greater for most economies for the second period under consideration, that is for the 'debt accumulation period.'

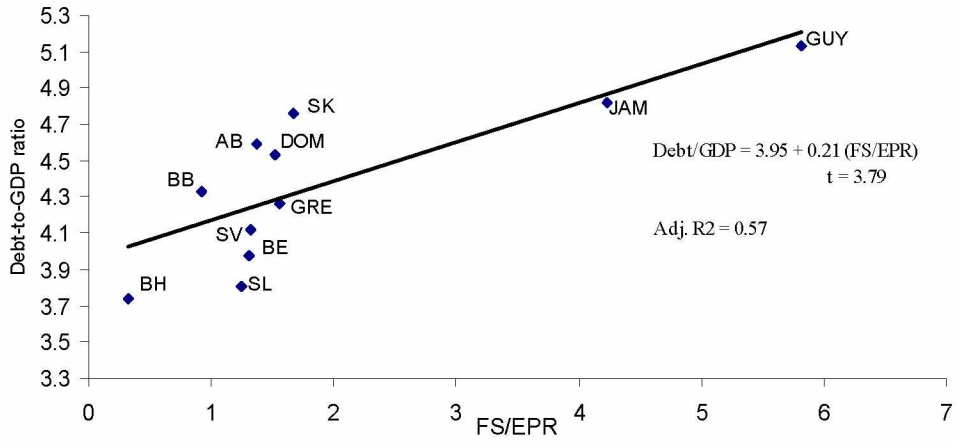
This hypothesis is validated more generally for all CARICOM economies through a simple cross-sectional regression for the 'debt accumulation period (1997-2005) (see figure 10 below). Figure 10 also shows that the relationship between the debt-to-GDP ratio and the ratio of the fiscal stance is positive. The adjusted R2 is equal to 0.57 and the coefficient is positive (0.21) and significant at the 95 per cent level of confidence (the t statistic is 3.79 which is greater than the 1.65 critical value).

FIGURE 9
RATIO OF FISCAL STANCE TO EXPORT PERFORMANCE FOR CARICOM ECONOMIES
LOGARITHMIC SCALE



Source: ECLAC, on the basis of official information.

FIGURE 10
SCATTER PLOT OF THE FS/EPR AND THE DEBT-TO-GDP RATIOS
(LOGARITHMIC SCALE)
1997-2005 (AVERAGES)

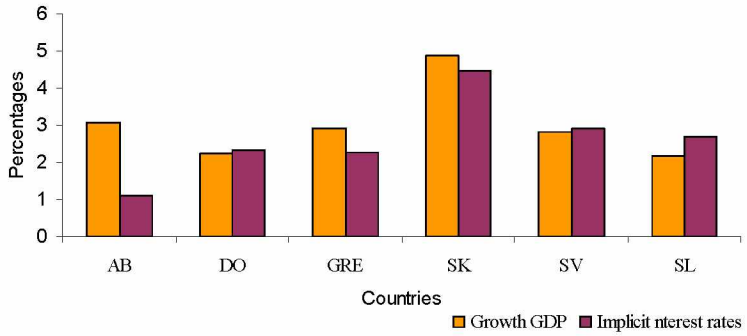


Source: Author's own computations. They are the result of a model.

D. The sustainability condition

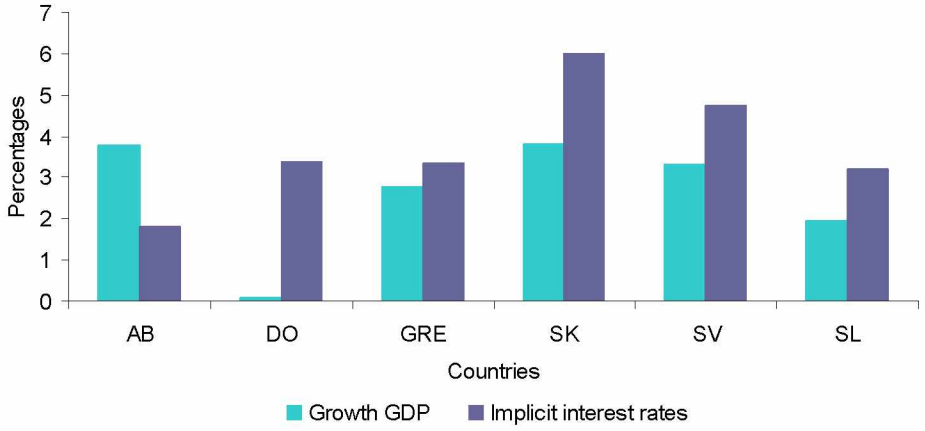
The second condition derived from the stock-flow model is that in order for an economy to stabilize its debt levels, the rate of growth of output must be greater than the rate of interest. As shown in figures 11 and 12 below, countries for which data is available complied with the sustainability condition during the period 1990-1997. However, during the second period, 'the debt accumulation period', the opposite phenomenon occurs. The rate of interest exceeds the rate of growth of output and as a result the debt levels have become unsustainable.

FIGURE 11
DEBT SUSTAINABILITY CONDITIONS FOR THE OECS (1991-1997)



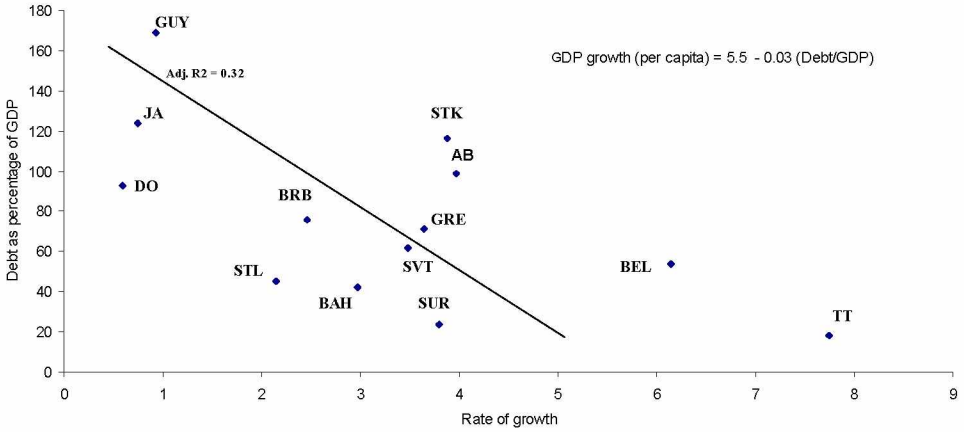
Source: ECLAC, on the basis of official information.

FIGURE 12
DEBT SUSTAINABILITY CONDITIONS FOR THE OECS (1991-1997)



Source: ECLAC, on the basis of official information.

FIGURE13
DEBT STOCK AS PERCENTAGE OF GDP AND GROWTH OF GDP PER CAPITA
1997-2005



Source: ECLAC, on the basis of official information.

V. Debt accumulation: consequences and strategies

A. The implications of debt accumulation

Debt accumulation cannot proceed on an impending scale. Highly indebted countries are exposed to higher risk premia, currency instability, financial fragility, and lower levels of investment and growth.

Figure 13 above captures the inverse relationship between debt accumulation and real GDP per capita growth through a scatter plot and regression analysis. The relationship between both variables is negative, indicating that an increase in the debt stock measured as a percentage of GDP is inversely related to GDP per capita growth. The regression analysis yields an adjusted R2 of 0.32 and a statistically significant coefficient of -0.03. That is, when the debt stock to GDP ratio increases by 1 per cent, the GDP per capita growth declines by -0.3 per cent.

The transmission channels through which debt accumulation affects growth performance include, among others, uncertainty, increases in the cost of finance, expectation of higher taxes, crowding out of public and private investment, and the effects of debt overhang on rates of return.

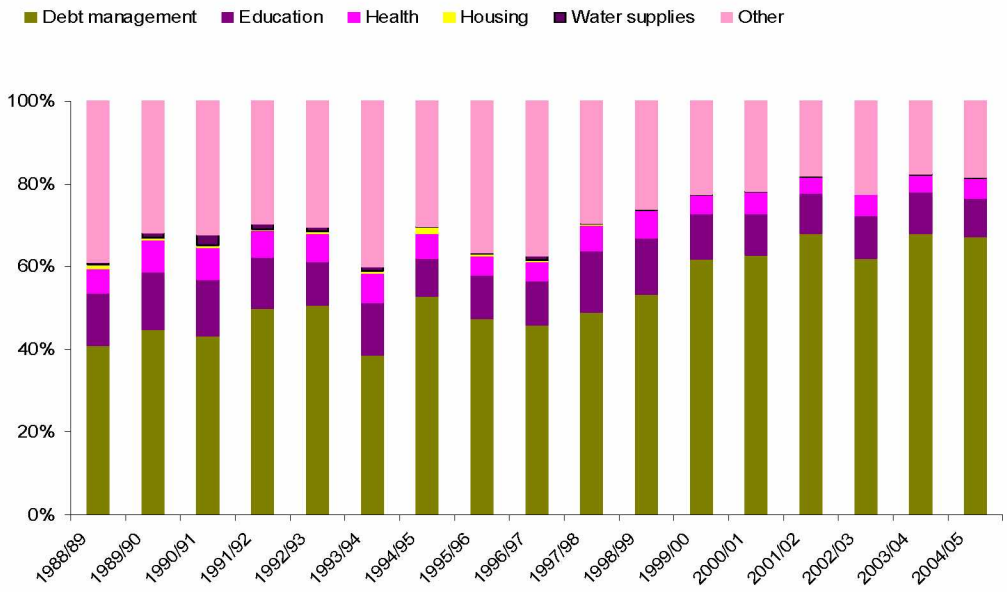
It also has been argued that the structure of output is also a reinforcing factor of the effects of debt on economic growth. Low levels of diversification, higher levels of concentration of production in enclaves with little spillovers to the rest of the economy and a larger sized informal economy are also characteristics that render an economy more vulnerable to the detrimental effects of debt on growth.[12]

From the point of view of this document, the accumulation of debt has a more important effect. It changes in a fundamental sense the role of institutions and the direction of economic policy. Under conditions of accumulating debt, debt management becomes the overriding goal of institutions and of economic policy. All other objectives are subsumed and actually become captive to the debt management objective.

In the Caribbean there are three manifestations of this phenomenon which can be illustrated mostly with the case of Jamaica. The first is that the government's role is divorced from the provision of public goods and services and from functional finance. The government spends its resources in managing its debt.

Figure 14 below shows that expenditures related to debt management grew from 40 per cent to more than 60 per cent of the total between 1988 and 2005. During the same period the combined expenditures for education, health, housing and water supplies declined from 20 per cent to 14 per cent of the total. The International Monetary Fund (IMF) (2006) shows that public investment represented 25 per cent of the total in 1988, and less than 5 per cent in 2005.

FIGURE 14
FUNCTIONAL CLASSIFICATION OF SELECTED GOVERNMENT EXPENDITURE
(1988/89-2004/05)



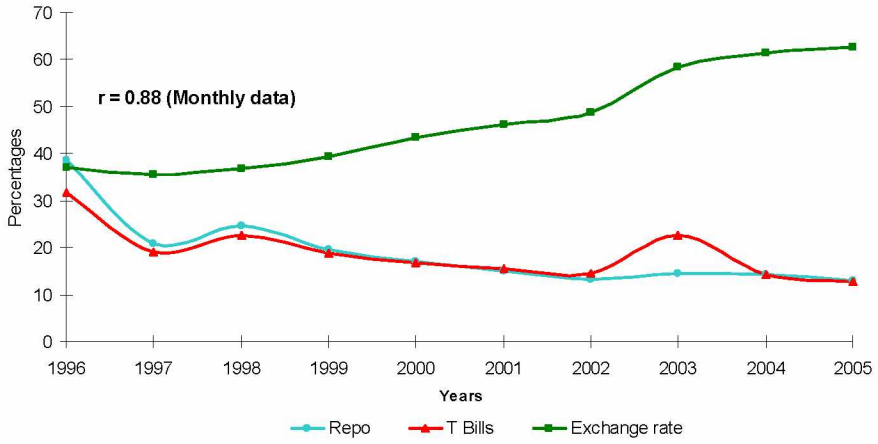
Source: ESSJ (1990-2005).

12 See, Blavy (2006).

Second, the financial sector ceases to be the provider of liquidity to the private sector. The financial system recycles debt and invests in government paper. As pointed out earlier, commercial banks have become one of the main sources of finance for the governments of the OECS representing in some cases a quarter of the total. In the case of Jamaica, the commercial banking system holds most (roughly more than 40 per cent of the total) of its investment in Treasury Bills and government debentures.

Third, when the domestic component of the debt stock is important, as in the case of Barbados or Jamaica, monetary policy can easily be driven by the needs of fiscal policy. [13]In the case of Jamaica the decline in central bank interest rates translates in a commensurate decline in government yields which lessens the burden of interest payments. Figure 15 shows the evolution and correlation coefficient between central bank and Treasury Bill and government interest rate payments.[14]

FIGURE 15
JAMAICA: REPO AND TREASURY BILL RATES AND NOMINAL EXCHANGE RATE
1996-2005



Source: Statistical digest, BOJ several issues.

This has important implications for monetary policy. For one thing, the authorities are compelled to adopt a managed float. In order to maintain the international equivalence of real rates of return on alternative assets, the nominal exchange rate must depreciate in line with the reductions in interest rates. Also the Central Bank must accumulate reserves in order to guarantee the credibility of its policy, to effectively intervene in the money market and to undertake foreign exchange operations in order to avoid interest rates hikes when there are unwarranted movements in the nominal exchange rate.

13 In addition and as the government through the Ministry of Finance 'has ultimate responsibility for the conduct of monetary policy' (WTO, 1996). The Bank of Jamaica implements monetary policy but under the authority of the Ministry of Finance. The Ministry appoints the governor and some members of the board of directors. The Ministry of Finance manages credit policy and open market and foreign exchange operations. Finally, the central bank is the banker of the government.

14 Jamaica's efforts at controlling government expenditure have been reinforced through a wage freeze (incomes policy). The Memorandum of Understanding (MOU) is an agreement signed between the government and the Jamaica Confederation of Trade Unions seeking to reduce the wage bill through a two-year policy of public employment and wage restraint effective 1 April 2004 until 31 March 2006. A new Memorandum of Understanding with the Jamaica Confederation of Trade Unions was signed in May 2006. According to this agreement wage adjustment should not exceed 20 per cent plus an agreed provision of the government's wage bill for 2006-2008.

Finally, this type of monetary policy which is eventually conducive to higher levels of economic growth is dependent on the compliance of announced fiscal targets. If the government cannot meet an announced fiscal target the stability of the currency may be undermined. This forces the monetary authorities to intervene in the foreign exchange market provided they have an adequate level of reserves. If the Central Bank does not have the required reserve level or if foreign exchange interventions prove to be too costly, then interest rate increases become the only option to maintain the stability of the currency. Higher interest rates compromise further the meeting of sound fiscal targets and, at the same time, have contractive effects on the economy.

B. The debt strategies: debt renegotiation

Caribbean countries have addressed debt reduction through two strategies: renegotiation, including debt restructuring and forgiveness and through an increase in the primary surplus. Both are ultimately unsuccessful as they fail to address the main problem, that is, the relationship between the fiscal stance and the export performance ratio. Guyana, Grenada and Belize provide failed attempts at debt renegotiation. [15]

Guyana is one the beneficiaries of a recent initiative undertaken by the G-8 (London, 11 June 2005), the Gleaneagles Proposal, to cancel the debt owed by 18 HIPC to the World Bank, the IMF and the African Development Bank.

As things stand, the G-8 initiative will result in a cancellation of debt amounting to US$283 million US$65 million to the IMF and US$218 million to International Development Association (IDA). In addition, Trinidad and Tobago and the Organization of Petroleum Exporting Countries (OPEC) Fund for International Development granted further debt relief US$123 million and US$5 million) respectively. Trinidad and Tobago's initiative is meant to assist with activities related to natural disaster recovery and rehabilitation.

[15] There are other countries that have re-negotiated their debt. Antigua and Barbuda and Trinidad and Tobago are cases in point. Antigua and Barbuda renegotiated the terms and conditions of its high interest paying debt to domestic banks. The Antigua Government also managed to normalise gradually its relation with external creditors and to secure a significant debt write off with a European Creditor (Italy). As a result of the measures pursued by the government, the debt stock, which had been slashed by 50 per cent in 2004 experienced further reduction in 2005. Also in an effort to improve its debt management and to avoid continued increase in its debt stock, the government re-instituted the National Debt Co-ordinating Committee. In 2006, the government attempted to retire expensive obligation commitments and at the same time stimulate growth through the issue of three regional treasury bonds worth US$19 million. The treasury bills have a maturity date of 91 days with a 6.5 per cent discount rate. For its part Trinidad and Tobago took advantage of the favourable external environment to its oil industry to reduce its debt stock from 48 per cent to 41 per cent of GDP. The government refinanced its debt obligations denominated in domestic currency by issuing low yield bonds with a value of TT$800 million and a maturity of 10 years. The government also repaid existing loans to the European Investment Bank and especially the Inter American Development Bank (IDB). In 2006, the government plans to continue reducing its debt stock by repaying one Eurobond and six bilateral and multilateral loans totalling $232 million. The government also expects to be debt free by the year 2030.

The available data shows that Guyana has a positive net resource transfer (see table 5). Its net resource transfer was equivalent to 28 per cent of GDP in 2005. In so far as the Gleaneagles initiative provides debt relief by reducing the debt service ratio which is the smallest component of the Net Resource Transfer equation, the overall impact may not be very significant (see table 4).[16]

TABLE 4
GUYANA: NET RESOURCE TRANSFER AS PERCENTAGE OF GDP

	Net resource transfer	New lending	Grants	Portfolio equity	FDI	Debt service
2002	13.3	5.7	8.2	-2.3	6.0	4.3
2003	11.5	9.1	5.8	-3.6	3.5	3.3
2004	12.4	6.9	6.5	-2.0	3.8	2.8
2005	27.9	14.2	8.5	0.0	9.8	4.6

In 2005, Guyana's debt stock increased despite the Central Bank's efforts to mop the excess liquidity through the issuance of treasury bills bought mainly by the commercial banks. The total outstanding stock of treasury bills increased 4 per cent. As well, their maturity structure shifted towards longer-term maturities (79 per cent of the total). External debt operations did not register any significant changes other than small multilateral and bilateral disbursements. These include loans provided by the Peoples Republic of China to finance the modernization of the sugar sector and by India for the construction of a cricket stadium to host cricket World Cup games.

Grenada suspended payments on its external debt obligations at the end of 2004 due to the devastation caused by Hurricanes Ivan and Emily in September 2004 and 2005 (200 per cent and 12 per cent of GDP). In September 2005, the authorities announced an offer to exchange new issued bonds denominated in foreign and local currency for the half of its external and domestic bonds, commercial loans and guaranteed debt. The new bonds offered have a 19-year maturity period (i.e., until 2025) and a step-up coupon rate structure from 1 per cent (2005 to 2008) to 9 per cent (2018 to 2025). The interest payments began in March 2006.

Notwithstanding these efforts, the external debt stock increased. This is explained by the effects of additional multilateral loans and bilateral loans granted by the Government of Trinidad and Tobago. Also as a result of the debt restructuring operations, guaranteed government debt and capitalised interest rate charges were included as part of the outstanding debt stock.

---

[16] Highly Poor Indebted Countries (HPIC) have received three debt relief initiatives. The first two focused on forgiving debt and providing a longer time frame for the repayment of the remainder debt. The Gleaneagles proposal focuses on the forgiveness of all debt owed to three multilateral agencies (the International Monetary Fund, the World Bank and the African Development Bank). This is equivalent to US$55 billion in the stock of debt and roughly less than $2 billion in debt service (which amounts to 0.01% of the GDP of OECD economies.

The debt relief initiative is part of the instruments to achieve the millennium development goals. However, the debt relief initiative does little to improve growth or welfare prospects. According to Arslanalp and Henry (2006) this is due to the fact that it has an insignificant impact on the net resource transfer of HIPC countries. The net resource transfer is equal to the sum of new lending, grants, portfolio equity and foreign direct investment minus the debt service. HIPC countries have a small debt service (for HIPC countries it reaches 3 per cent on average. In the case of Guyana it is equal to roughly 1 per cent of GDP) and receive, according to these authors, capital flows that are close to 15 per cent of GDP. That is, HIPC countries receive more capital than they pay out.

NRT = NL + Gr + PE+ FDI – DS

Where,

NRT = net resource transfer

NL = New lending

Gr = grants

PE = portfolio equity

FDI = foreign direct investment

DS = debt service

Belize also increased its debt stock by placing in March 2005 two bonds in international capital markets worth US$137 million. However, due to its low levels of credit worthiness, the country was forced to incur charges and financing fees equivalent to 1 per cent of GDP. The fiscal situation has remained precarious and in August 2006, the authorities defaulted on their debt obligations payments (representing 27 per cent of the government's fiscal revenue).[17]

C. Debt strategies: the increase in the primary surplus

The second policy alternative, slashing government expenditure, is the preferred one by the mainstream economic literature. This policy alternative is instrumentalized through cuts in public employment and/or public works in order to expand the primary surplus. The government cannot directly control interest payments. It can control at most, and only partially, its domestic component.

As a result, the primary surplus is viewed as a signal of the commitment of the authorities to meet their financial obligations. In this way it has become a sign of a government's solvency and a vehicle to influence agents' perception of a country's fiscal solvency. Larger primary fiscal surpluses lead to country risk upgrades and to lower risk premia.

In the case of the Caribbean the debt accounting exercises carried out by the IMF that champions this view shows that more than half of the increase in the public debt to GDP ratios is explained by the 'deterioration of primary fiscal balances' and 39 per cent is accounted for by the effects of interest payments and output growth.[18] (see table 5)

If an economy-wide perspective is adopted, as proposed in this document, the contraction in government expenditure may not be able to reduce the debt stock. Indeed, the contraction in government expenditure can redress the fiscal imbalance but not necessarily close the current account gap.

The reduction in government expenditure can alter the relationship between the export performance and fiscal stance, such that the export performance exceeds the fiscal stance. However, it does not guarantee that this relationship will not change over time as changes in external demand, for example a reduction in external demand, can force the government to contract its expenditures further. In a situation such as that of the Caribbean, where export performance has continually deteriorated since 1992, the government would be forced to contract its expenditures on a continual basis, in order to avoid an increase in debt.

This can be shown through simulation scenarios for a highly indebted Caribbean economy using the model delineated in section 2 of this document. Following Godley and Cripps (1983) the model postulates a stock to flow ratio equal to 1; an average propensity to import equal to 0.80 and a tax to GDP ratio of 0.24. The model describes an economy that is characterized by a fiscal and current account deficit (i.e., the fiscal stance is greater than the export performance ratio).

[17] See, Government of Belize. Belize announces impending debt arrangement.
[18] See, Sahay (2004), p.8.

TABLE 5
DEBT ACCOUNTING FOR SELECTED CARIBBEAN COUNTRIES

Year	Total public debt As % of GDP	Public debt accumu	Primary fiscal balance without grants	Primary fiscal balance With grants	Interest payments	Output Growth	Price effect	Events and measure-ment errors
Very highly indebted Caribbean Countries (average)								
1991-1997	72.4	0.0	0.7	-0.9	3.2	-1.7	-1.6	1.0
1998-2003	123.3	8.5	4.5	2.7	5.4	-2.0	-1.2	3.7
Change	50.9	8.5	3.9	3.6	2.2	-0.3	0.4	2.7
Antigua and Barbuda								
1991-1997	102.1	-1.7	-1.5	-1.9	7.2	-3.1	-2.8	-1.2
1998-2003	114.3	2.0	4.0	3.4	4.5	-3.2	-1.2	-1.5
Change	12.2	3.8	5.5	5.3	-2.7	-0.1	1.6	-0.3
Belize								
1991-1997	41.1	2.3	5.6	4.3	1.6	-1.3	-0.6	-1.7
1998-2003	93.2	8.7	8.8	7.6	2.9	-4.2	0.1	2.3
Change	52.1	6.4	3.3	3.4	1.3	-2.9	0.7	4.0
Dominica								
1991-1997	61.1	-1.1	4.7	0.7	2.3	-1.5	-2.3	-0.3
1998-2003	122.0	10.1	8.2	3.5	4.6	0.8	-1.2	2.4
Change	60.9	11.2	3.4	2.9	2.3	2.2	1.0	2.8
Grenada								
1991-1997	41.5	-2.1	3.5	0.6	2.4	-2.0	-0.2	-3.0
1998-2003	108.5	11.2	7.5	4.0	3.1	-1.4	-1.5	7.0
Change	67.0	13.2	3.9	3.3	0.7	0.5	-1.3	-9.9
Jamaica								
1991-1997	103.0	-2.2	-8.5	-8.5	3.0	0.0	-2.3	5.6
1998-2003	142.0	6.5	-8.3	-8.3	11.8	-1.3	-0.5	4.8
Change	39.0	8.7	0.2	0.2	8.8	-1.4	1.8	-0.8
St. Kitts and Nevis								
1991-1997	85.6	4.5	0.1	-0.5	2.7	-2.4	-1.8	6.5
1998-2003	159.7	12.3	6.9	5.9	5.3	-2.7	-3.2	7.0
Change	74.1	7.9	6.7	6.4	2.6	-0.3	-1.4	0.5

Source: Sahay (2004) p.24

Figure16 below shows the actual and simulated fiscal and current account imbalances and the simulated fiscal stance and export performance ratio for the period 1990 to 2005. The figure shows a deterioration of the actual fiscal and current account deficits from the year 2000 until 2005. The simulated series follow the trend of the actual ones. At the same time, the gap between the fiscal stance and the export performance ratio widens predicting an increase in the debt stock. The actual debt stock increases from 40 per cent to 80 per cent of GDP between 2000 and 2005.

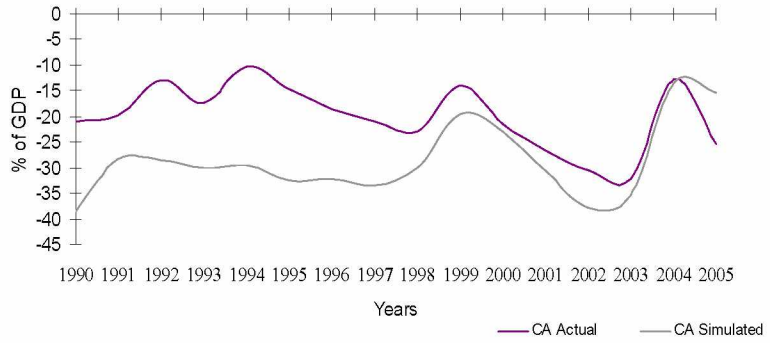
Given this scenario, figure 17 shows the effects of a contraction in government expenditure on the fiscal deficit, the current account, the fiscal stance and export performance ratios and the debt stock. More precisely the model simulates the effects of a 10 per cent contraction in 1995 and a government expenditure freeze thereafter.

The simulation exercise shows that government expenditures decline from 35 per cent to 25 per cent between 1990 and 2005. The fiscal deficit is significantly reduced and turns into a surplus

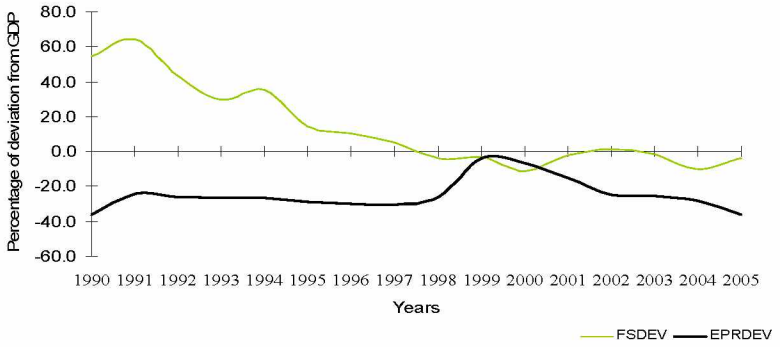
(-13 per cent and 1 per cent of GDP in 1990 and 2005). The current account gap narrows but remains significant (35 per cent and 15 per cent of GDP for the same period). Finally the debt stock rises from 60 per cent to 90 per cent of GDP between the time of the cut in expenditures until the end of the period.

FIGURE16
ACTUAL AND SIMULATED SCENARIOS (USING A STOCK-FLOW MODEL) FOR A SMALL CARIBBEAN ECONOMIES

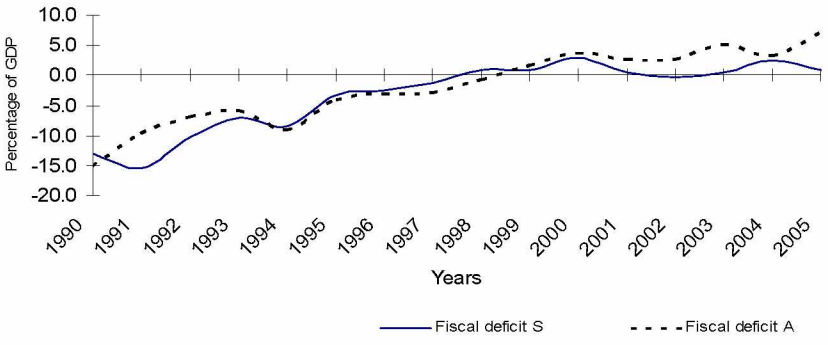
(a) Current account actual and simulated (1990-2005)



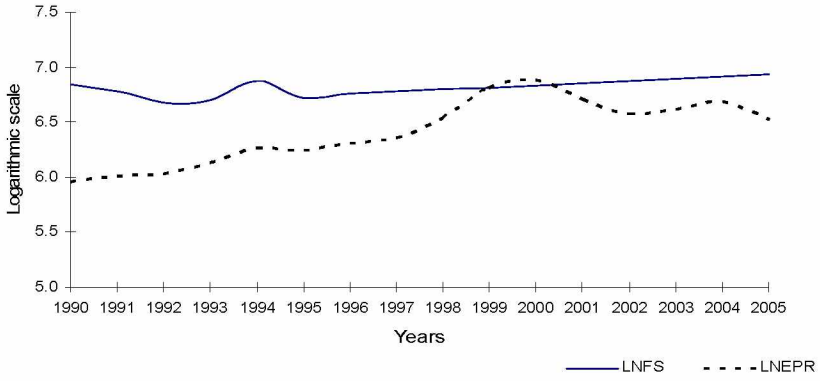
(b) Simulated Fiscal Stance and Export Performance Ratio (deviation from GDP)



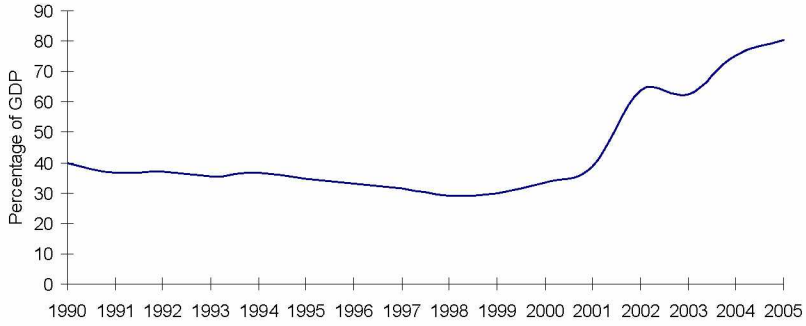
(c) Actual and simulated fiscal deficit as percentage of GDP



(d) Fiscal stance and export performance rations (1990-2005)



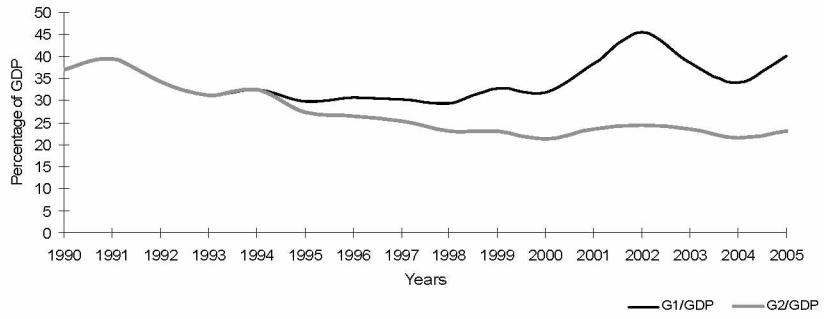
(e) Actual debt stock as percentage of GDP



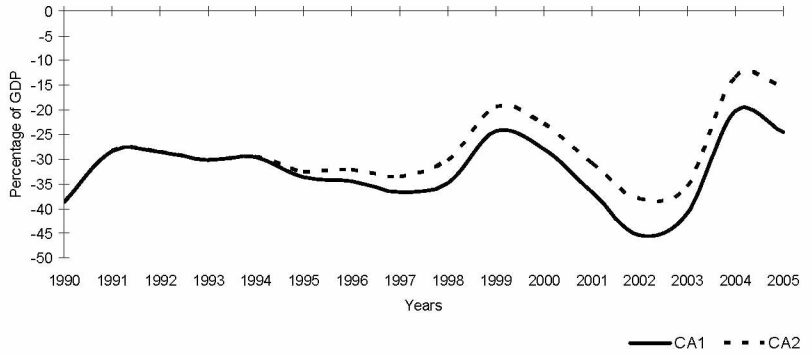
Source: Author's own computations. They are the result of a model

FIGURE 17
SIMULATION OF A CONTRACTION IN GOVERNMENT EXPENDITURE USING A STOCK-FLOW MODEL

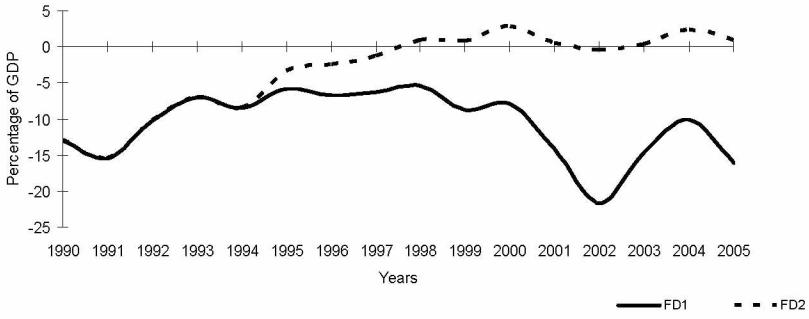
(a) Government expenditure pre (G1/GDP) and post (g2/GDP) adjustment



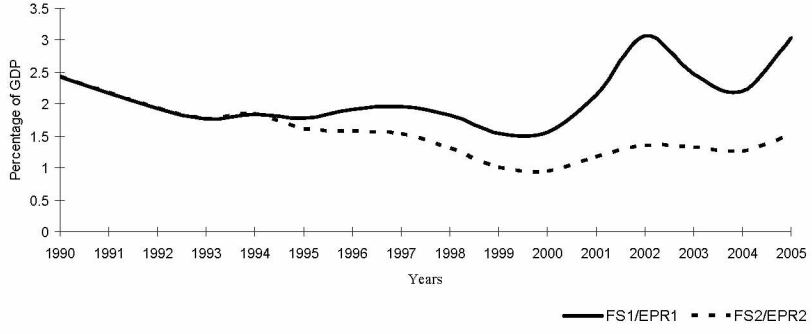
(b) Pre (CA1) and post (CA2) adjustment current account



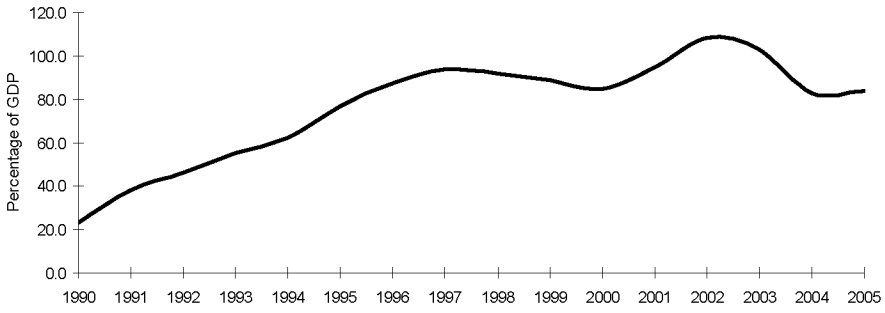
(c) Fiscal result pre (FD1) and post (FD2) adjustment



(d) Pre (FS1/EPR1) and post adjustment (FS2/EPR2) fiscal stance to export performance ratios



(e) Simulated path of external debt with adjustmen



Source: Author's own computations. They are the result of a model.

VI. Conclusion

During the second half of the 1990s, Caribbean countries witnessed an unprecedented increase in their debt levels. Caribbean countries rank among the most indebted emerging market economies in the world.

The accumulation of debt beyond a certain point has a fundamental implication. It changes the role of institutions and of economic policy in a fundamental way. The management of the debt becomes the overriding focus of economic policy and institutions. Economic policy and institutions become in fact divorced from their roles in the development of real sector activity and turn their focus to the development of the financial sector.

The mainstream literature centers its analysis of the debt on two concepts the government budget constraint and 'debt sustainability.' According to this view, debt is a by product of government spending relative to its revenue. Leaving aside debt restructuring, the recommendation to reduce debt is to increase the primary surplus.

Looking solely at the government budget constraint provides no information about the rest of the agent's constraints and can only provide an incomplete analysis. Moreover the analysis cannot explain the accumulation of debt which is a dynamic phenomenon unless it assumes that the government is always 'over spending' which is a simplistic explanation.

This document argues that the debt phenomenon should be analyzed from an economy-wide perspective. The approach taken is that of stock-flow models pioneered by W. Godley because of its transparency and because it provides a consistent picture of the economy. The approach requires that all constraints be consistent which is an important element missing from the mainstream approach.

A consistent picture of an economy with five agents (consumers, firms, banks, government and the rest of the world) encapsulated in a transactions, flow-of-funds and accumulation matrices shows that the generation of debt and debt accumulation can occur if the fiscal stance is greater than the export performance ratio. As a result, debt is not a by-product of government overspending relative to its earnings. Rather, debt is the result of government spending relative to what the external sector allows. In other words, the real constraint of the government is not its 'budget constraint' but the constraint of the 'external sector.' Once governments are able to accumulate debt through a fiscal-external sector interaction (i.e., fiscal-external dynamics) the debt stock eventually becomes unsustainable.

The approach here followed recognizes an obvious fact. Caribbean economies are balanced-of-payments constrained. More precisely, as shown in this document, any attempt to reduce debt that does not take into account the relationship between the fiscal and the external accounts may simply fail. Debt restructuring operations and the contraction in government expenditures are two cases in point

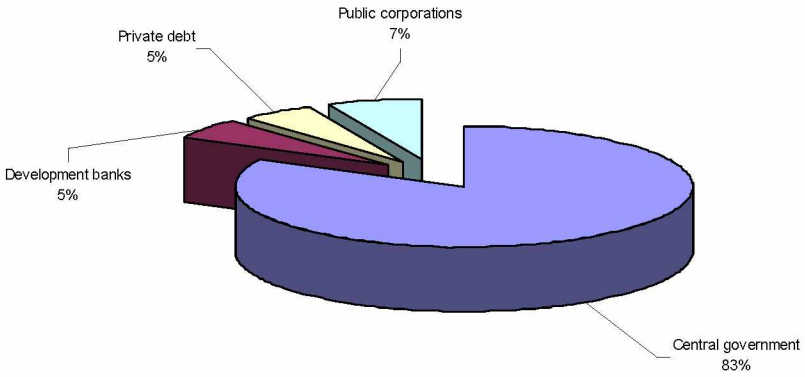
Annexes

Annex 1

PUBLIC AND EXTERNAL DEBT IN THE OECS BY BORROWER CATEGORY

A-1: PUBLIC SECTOR DEBT BY BORROWER CATEGORY

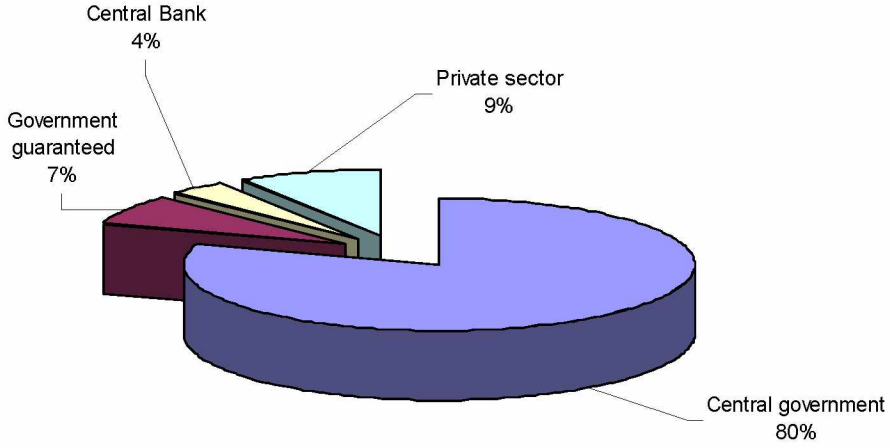
1990-2005 (AVERAGE)



Source: ECLAC, on the basis of official data.

A-2: EXTERNAL DEBT BY BORROWER CATEGORY

1990-2005 (AVERAGE)



Source: ECLAC, on the basis of official data.

Annex 2
Stabilization in the Caribbean: The cases of Barbados, Guyana and Trinidad and Tobago

Barbados adopted a stabilization plan to correct growing balance-of-payments and fiscal deficits. The twin deficits were partly a product of expansionary policies aiming at increasing the level of capital expenditure and of unfavorable external economic conditions.

Barbados' resort to stabilization at the start of the 1980s and the 1990s was the result of a continued expansionary fiscal policy dating from the mid-1960s coupled with a decline in the economy's key economic sector: tourism. The tourism sector is an important source of foreign exchange, of tax earnings and due to its linkages with the other sectors acts as a catalyst for their development.

Barbados' expansionary fiscal policy led to a deficit that was mainly financed from domestic sources. However, by the end of the 1970s the government was borrowing on the external market. During this time the ratio of the total debt to national income increased from 32 per cent to 49 per cent. For its part, tourism saw an important decline in its activity as a consequence of a generalized decline in external demand (its earnings dropped in 1981 by 20 per cent below their 1979 level) which led to the widening of the current account deficit (Anyadike-Danes, 1996).

Thus Barbados found itself with twin deficits (fiscal and balance-of-payments deficits) at a time when the external debt crisis in developing countries exploded (see table 3). The consequent lack of finance led to a decline in reserves forcing the authorities to adopt an unsuccessful stabilization programme in 1982. The programme met with unchanging monetary and fiscal policies on the part of the government and with a world economic recession. In 1991 another stabilization package was adopted centered on restraining the growth of aggregate demand in order to reduce the pressure on the balance of payments. Demand was curbed by monetary and fiscal means.

Direct instruments (i.e., reserve requirements) of monetary management were adopted and interest rates were increased. On the fiscal expenditure side, nominal wages were cut and frozen and public employment reduced. On the revenue side a surtax termed the "stabilization tax" was introduced in addition to consumption taxes and levies and at the same time the authorities reduced the rate of CARICOM's common external tariff. In 1997 the value-added tax was introduced. The authorities decided to maintain a pegged exchange rate regime sustained in part by capital controls on outflows (Hilaire, 2000; Williams, 2001).

Guyana's stabilization history is similar to that of Nicaragua except that Guyana followed more closely the principles of a socialist regime. In 1970, the People's National Congress declared Guyana a Cooperative Socialist Republic. This meant the control of the economy by the government. The guidelines for development included the nationalization of the means of production and distribution, including the sugar and bauxite industries, the adoption of a basic needs strategy (food, housing and clothing)[19] and the subjugation of the financial system's to the needs of the real sector. These guidelines were accompanied by controls on interest rates, and on import and foreign exchange transactions.

In the first stages the implementation of the government's policies were facilitated by international high sugar prices softening in this way the external and fiscal constraints. However, the lack of export dynamism and the persistent granting of subsidies to finance public enterprises and the fiscal stance of the government helped to reduce reserves. According to Howard (1992) the net foreign reserves which peaked in 1975 (G$197 million) became negative throughout the 1980 reaching G$–13 442 in 1989.

[19] Thomas (1993), p.137.

The economy experienced a period of recession and the attempts to redress the macroeconomic situation through fiscal restraint were thwarted by the second oil crisis (1979-1981) (Hilaire, 2000). The oil crisis provoked a rise in government expenditure not met by revenues causing the fiscal deficit to increase to unprecedented levels sending the external debt to an all time high. Other attempts at stabilization guided by the devaluation of the exchange rate were unable to improve the situation.

In 1987, the current account deficit represented 46 per cent of GDP, the public sector deficit reached 34 per cent of GDP, GDP growth was negative (-1.4 per cent), and the stock of external debt was 330 per cent of GDP (see table 1, below).

As in Nicaragua, at the beginning of the 1990s, the Guyanese authorities embarked on a stabilization programme, which consisted of monetary restraint accompanied by fiscal reform. Monetary restraint was based on direct instruments of monetary control such as increasing reserve requirements (9 per cent in 1991 and 16 per cent in 1994 and 12 per cent in 1999). The reserve requirement conditions were extended to include all depository institutions (Ganga, 2000).

The nature of the fiscal reform was colored by the extent of the country's external indebtedness. The reform consisted of the reduction of government expenditure and increases in taxes. Public employment was reduced (the civil service was reduced by one half between 1991 and 1998), State-owned assets were sold to finance fiscal operations, the tax base was widened to include public firms, the tax structure simplified and the consumption tax introduced.

The monetary and fiscal stabilization was complemented with commercial and financial liberalization. The CARICOM external tariff rates were reduced as well as import quotas and import surcharges were applied on a temporary basis. In the financial front, measures included removing restrictions on interest rates, credit and foreign exchange transactions. Financial liberalization measures were also accompanied by measures to strengthen financial supervision[20] (Ganga, 1997 and 2000).

In line with these developments, exchange controls were removed (1991), the exchange rate regime progressed from a pegged based to a flexible exchange rate regime and capital controls were abolished in 1996.

Trinidad and Tobago's economy is largely dependent on the fortunes of oil. Oil not only provides foreign exchange and capital to satisfy import consumption and the requirements of domestic investment, but is also an important source of fiscal revenue and distribution to other sectors of the economy. Foreign companies' exports of oil, which represent in part ex-ante surplus earnings, are taxed financing the State's activities in other areas of economic activities. Oil is a linkage between the balance of payments and the fiscal accounts and between the petroleum sector and the other productive and distribution sectors. The oil sector is currently in decline although it still represented 26 per cent of GDP in 2001. The authorities are turning to natural gas to substitute oil as the motor of the economy.

The oil shocks of 1973 and 1979 increased the price of crude oil improving the terms of trade for Trinidad and Tobago. The net barter terms of trade increased from 154 in 1973 to 223 in 1981 (Central Bank of Trinidad and Tobago, 1998). The favorable movement of the terms of trade strengthened the position of the oil-producing sector in GDP. In 1970 the petroleum industry represented 21 per cent of GDP, 46 per cent in 1975 following the first oil shock and 36 per cent in 1981 following the second oil shock. At the same time these events led to a favorable position in the balance of payments. The value of exports increased and so did its volume due to the fact that petroleum has a low price elasticity of demand. In addition, a profitable activity such as petroleum

[20] In 1995, the Financial Institutions Act was enacted. The Act enables the Central Bank to be the ultimate supervisory institution. A similar arrangement was implemented in the Dominican Republic following its structural adjustment programme in 1990.

attracted capital inflows. These factors facilitated the accumulation of international reserves. Finally, the oil-price hike led to an increase in the government's revenue.

When prices collapsed in 1981-1988, the value of exports declined (due to both a decrease in its price and its quantity), capital inflows exhibited a downward tendency and government revenues were also negatively affected. As a result reserves declined. The economy was faced with a double constraint: balance-of-payments and fiscal constraints. Both effects had a negative impact on growth that was compounded by the linkage between oil and domestic investment (see table 2).

The drain in foreign exchange reserves forced the government to adopt a stabilization package[21]. The aims of the programme included a devaluation (the TT dollar was devalued from TT$ 3.60 to TT$ 4.25 per dollar on August 1988) and monetary and fiscal restraint and the management of liquidity through direct instruments, i.e., high reserve requirements. The programme established ceilings on the net domestic assets of the central bank. The programme contemplated the decrease in the budget deficit from 7 per cent of GDP in 1988 to 4 per cent in 1989 and 1 per cent in 1991. The deficit was reduced first by reducing capital expenditures and then by the decline in current expenditures (i.e., the wage bill). Public wages and employment were reduced.[22] On the revenue side public assets were sold to the private sector and tariffs were increased.[23] The tax system was simplified, and the value -added tax was introduced to replace an array of different taxes.[24] Finally, credit ceilings were imposed on the borrowing requirements of the public sector.

Trade liberalization measures included the decrease in the common external tariff rates and reduction in import restrictions. As in the case of Guyana, temporary imports surcharges were also applied. Export diversification measures were encouraged to widen the productive base and develop non-oil exports. In line with this framework the exchange rate was progressively liberalized to reach a floating exchange rate regime and the capital account of the balance of payments liberalized in 1993.

[21] In practice the government adopted two successive stabilization packages in 1989 and 1990. For expository purposes this section refers to the stabilization package, which encompasses both 1989 and 1990 programmes.

[22] Public wages were reduced by 10% (Howard, 1992 and Hilaire, 2000).

[23] According to Howard, ibid, p. 77: "transfers to public utilities, state enterprises, and statutory bodies was reduced by 0.5% of GDP…state enterprises were reduced by 1100 employees in 1989…as it was estimated that the would be a further reduction of 3 200 employees in 1990."

[24] The value-added tax rate was set at 15 per cent.

UNITED NATIONS

ECLAC SUBREGIONAL HEADQUARTERS FOR THE CARIBBEAN

Series ECLAC studies and perspectives

Issues published

A complete list as well as pdf files are available at

www.eclac.org/publicaciones

and www.eclacpos.org

5. Debt accumulation in the Caribbean: origins, consequences and strategies, LC/L.2710-P; LC/CAR/L.106, Sales No. E.07.II.G.58 (US$10), 2007.
4. Nutrition, gender and poverty in the Caribbean subregion, LC/L.2705-P; LC/CAR/L.105, Sales No. E.07.II.G.54 (US$10), 2007.
3. Suriname: the impact of the May 2006 floods on sustainable livelihoods, LC/L.2690-P; LC/CAR/L.114, Sales No. E.07.II.G.41 (US$ 10), 2007.
2. Caribbean tourism and agriculture: linking to enhance development and competitiveness, LC/L.2687-P; LC/CAR/L.76, Sales No. E.07.II.G.38 (US$ 10), 2007.
1. Caribbean economies 2006: a preliminary overview, LC/L.2686-P; LC/CAR/L.113, Sales No.: E.07.II.G.37 (US$ 10), 2007.

- Readers wishing to obtain the listed issues can do so by writing to: Distribution Unit, ECLAC, Casilla 179-D, Santiago, Chile, Fax (562) 210 2069, E-mail: publications@cepal.org; or to Programme Support Unit, ECLAC Subregional Headquarters for the Caribbean, P.O. Box 1113, Port of Spain, Trinidad and Tobago, Fax (868) 623 5595, E-mail: registry@eclacpos.org.

Name: .....

Activity:.....

Address:.....

Postal code, city, country: .....

Tel.: ..... Fax: ..... E.mail: .....