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OF IMF ADJUSTMENT PROGRAMMES**

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# A CRITICAL ASSESSMENT OF THE THEORETICAL FRAMEWORK OF IMF ADJUSTMENT PROGRAMMES



BY

MS ZANNA BARNARD

## Abstract

The recent global financial and economic crisis has prompted both advanced and developing economies to implement IMF/Fund programmes. This paper is a theoretical one, which serves to identify and examine the strengths and weaknesses of the theoretical framework underlying Fund adjustment programmes. The IMF model is assessed with respect to the role of the Fund as outlined in its Articles of Agreement (Article I) and in the context of its suitability for a developing country. This research work concedes the strength of the Fund's framework, that is, its focus on balance of payments adjustment through aggregate demand management. The results also highlight inherent limitations, particularly its de-emphasis on aggregate supply. The findings are crucial, not only in pointing out directions for future research work, but also in enabling policy makers in developing countries to negotiate IMF programmes from a more informed position.

**JEL Classification:** E61, F53

**Keywords:** adjustment programmes; developing; Fund; theoretical framework.

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# **A CRITICAL ASSESSMENT OF THE THEORETICAL FRAMEWORK OF IMF ADJUSTMENT PROGRAMMES**

## **1.0 Introduction**

The 2007/2008 global financial and economic crisis has created serious balance of payments difficulties for countries, prompting them to implement Fund adjustment programmes. Notably, CARICOM member countries such as Antigua and Barbuda (2010-2013), Jamaica (2010-2012) and St Kitts and Nevis (2011-2014) have accessed the IMF's Stand-By Arrangement (SBA), and implemented adjustment programmes.<sup>1</sup> Other CARICOM member states may soon implement Fund adjustment programmes, in light of the intensity and duration of the crisis, and its protracted recovery.

IMF member borrowing countries may be cognisant of the conditionalities associated with adjustment programmes but not of the theoretical framework underlying them. A deeper understanding of the theoretical framework will enable borrowing countries such as CARICOM states to negotiate IMF adjustment programmes from a more informed position and hopefully agree on conditionalities that are more suitable to their economies.

This paper is a theoretical one, which seeks to do the following: examine the theoretical framework underlying IMF adjustment programmes; assess the framework and identify its strengths and weaknesses; determine whether the framework is relevant in the context of analysing balance of payments and guiding economic policy in a developing country.

The remainder of the paper is organized as follows. The second section provides an overview of the methodology. Section III introduces the subject of IMF adjustment programmes. Section IV gathers the main theoretical contributions underlying IMF adjustment programmes and traces their evolution and implications. The last section provides a summary of the findings and recommendations.

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<sup>1</sup> Jamaica's most recent Stand-By Arrangement was for the period 2010 to 2012.

## 2.0 Methodology

This paper involved secondary research and the methodology adopted was as follows:

- Examining the origin of the framework
- Analysing the evolution of the framework and its implications
- Assessing the framework particularly with respect to the role of the Fund as outlined in its Articles of Agreement, Article I and in the context of its suitability for a developing country.

## 3.0 IMF Adjustment Programmes Simply Explained

The Fund basically uses its resources to temporarily help countries with balance of payments problems, while concomitantly safeguarding those resources. It ensures that whenever resources are used by a member, they are repaid within a reasonable period and there is an associated programme.

Adjustment programmes administered by the IMF are referred to as Fund-supported adjustment programmes or simply Fund programmes. The IMF's Occasional Paper No. 241 (2005), "The Design of IMF-Supported Programs", hereinafter referred to as OP 241, defines a Fund-supported programme

*"as a package of policy measures which, combined with approved financing, is intended to achieve certain economic objectives."*

The SBA is one such adjustment programme which the IMF (2010) defines as

*"a decision of the IMF by which a member is assured that it will be able to make purchases (drawings) from the General Resources Account (GRA) up to a specified amount and during a specified period of time, usually one to two years, provided that the member observes the terms set out in the supporting arrangement."*<sup>2</sup>

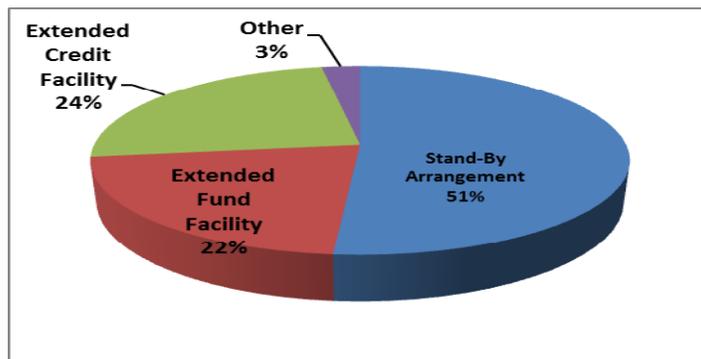
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<sup>2</sup> International Monetary Fund. *Official Website of the IMF*.  
<http://www.imf.org/external/np/exr/glossary/showTerm.asp#86> (accessed June 29, 2010).

It is a non-concessional facility, introduced by the Fund in June 1952 to assist countries in dealing with short-term balance of payments problems. According to the IMF (2010), in recent years, the largest amount of funds has been provided through the SBA, and these funds are most often used by middle income member countries.

For CARICOM member states, the SBA is the most popular IMF lending facility. **Figure (1)** indicates that among the total of thirty-seven (37) balance of payments financing arrangements that have been approved for CARICOM member states during the period 1979 to 2014, fifty-one (51) per cent were SBA. CARICOM states that have been approved for the SBA are Antigua and Barbuda, Barbados, Belize, Dominica, Grenada, Guyana, Jamaica, St Kitts and Nevis, and Trinidad and Tobago.

**Figure (1): Distribution of IMF Balance of Payments Support among CARICOM states during the period 1979 to 2014**



*Sources: Official Website of the International Monetary Fund; Fontaine, Thomson. "Caribbean Country Experiences with IMF Stabilization Programs Within the Context of Globalization." 2003: 2-18. Data as at 20 January 2014.*

The IMF upgraded the SBA during 2009 to become a more flexible and responsive lending facility in light of the crisis. The “new” SBA framework comprises: doubled borrowing limits; more finance upfront; simplified and streamlined conditions; and broader high-access borrowing on a precautionary basis. Structural performance criteria have been eliminated by holistic assessments of the progress made with implementation of structural measures. There

is more flexibility with regard to the frequency of reviews during the monitoring phase of programmes. The release of financing is based on the attainment of quantitative programme targets associated with the level of international reserves and government deficits or borrowing.

The SBA usually lasts between 12 to 24 months and does not proceed beyond 36 months. Repayments are made in eight equal quarterly installments, commencing 3¼ years following the date of each disbursement. The lending rate is based on the Fund's market-related interest rate and a commitment fee is charged which is refundable if the country borrows the full amount committed under the facility. The SBA, under a precautionary arrangement, allows countries to have the option of drawing down on approved amounts based on whether economic conditions improve or deteriorate; the commitment fee is not refunded to countries which have a precautionary arrangement and do not draw down. A service charge has to be paid on the amount of finance that is drawn.

#### **4.0 The Theoretical Framework of IMF Adjustment Programmes, its Evolution and Implications**

##### The Theoretical Framework

The IMF Occasional Paper No. 55 (1987), "Theoretical Aspects of the Design of Fund-Supported Adjustment Programs", hereinafter referred to as OP 55, highlighted that the analytical basis of the Fund programmes negotiated in the 1950s and 1960s was articulated and formalized in a number of papers by the Fund staff, principally by Polak (1957) and Robichek (1967, 1971).

Polak presented a model in his seminal article piece entitled "Monetary Analysis of Income Formation and Payments Problems, which has formed the basis for what is known as "The IMF Monetary Model". At the time of his 1957 article, Polak's policy concern was to integrate monetary and credit factors in the explanation of income or of payments

developments.<sup>3</sup> He reviewed Keynes' General Theory and considered that it provided an adequately integrated theory of income (employment) and money but it did not develop empirical monetary and income analysis. Polak developed Kahn's multiplier approach which was more relevant to analysis and policy making. He streamlined Kahn's monetary side of the analysis by building on the circular flow of income and incorporating the multiplier theory. He analysed the impact of autonomous changes in exports and credit expansion on income, imports, and the monetary system. Polak's model is illustrated in Box 1.

**Box 1: Polak's Model of Income Formation and Balance of Payments Problems (1957)**

$Y(t) = Y(t-1) + \Delta DA(t) + X(t) - M(t)$	Equation (1)
$M(t) = mY(t-1)$	Equation (2)
$\Delta MO(t) = Y(t) - Y(t-1)$	Equation (3)
$\Delta DA(t) + X(t) - M(t) = \Delta MO(t)$	Equation (4)
$Y(t) - cY(t-1) - gr(t) = Y(t) - Y(t-1) + hr(t)$	Equation (5)
<p>Notes: Y is national income (money value); <math>\Delta DA</math> is increase in credit by the banking system; X represents exports (money value); M represents imports (money value); <math>\Delta MO</math> represents increase in quantity of money ; m represents marginal change in money value of imports owing to change in money national income; c is the marginal propensity to spend ; the dependence of Y(t) on the rate of interest, r (t) is represented as <math>gr(t)</math>; the dependence of money on the rate of interest is represented as <math>hr(t)</math>; (t) and (t-1) indicate the timing of the variables in terms of unit periods that are equal to the income period of circulation of money</p>	

Source: Polak, J.J. "Monetary Analysis of Income Formation and Payments Problems." In *The Monetary Approach to the Balance of Payments: A Collection of Research Papers by Members of the Staff of the International Monetary Fund*, 15-64. Washington, D.C.: IMF, 1977.

According to Polak (1957), the model begins with Equation (1) which depicts the circular flow of income. Income of this period = Income of the previous period + new income resulting

<sup>3</sup> Polak, Jacques J. *The Two Monetary Approaches to the Balance of Payments: Keynesian and Johnsonian*. IMF Working Paper Series, Washington, D.C.: International Monetary Fund, 2001.

from internal credit creation + new income resulting from exports – income lost from imports. In order to complete the model, Polak included an import equation, Equation (2). In Equation (2) which is a behavioural equation, it is assumed that the elasticity of demand for imports was one.

Equations (1) and (2) help to determine how the two endogenous variables (income and imports) develop as functions of the two exogenous variables (exports and credit creation). Equation (3) reflects one of the main assumptions underlying the model - a constant velocity of circulation of money which implies that the marginal propensity to spend is one. This equation depicts a behavioural relation between money and income, where money and income are proportional to each other. Current income is determined from the income of the previous period and the change in the money supply. Equation (4) defines changes in the balance sheet of the banking system.

If Equation (3) is combined with Equation (4), then Equation (1) can be derived. According to Polak, this is another way of stating that the determination of income by a continuous circular flow, and the constancy of the velocity of circulation, are one and the same assumption.

Polak (1957) assumed that if the marginal propensity to spend is not equal to one then a coefficient can be placed before the lagged value of income,  $Y(t-1)$  and also there must be an inclusion of the interest rate variable. Thus Equations (1), (3), and (4) can be combined to obtain Equation (5). A major conclusion of Polak's 1957 model was that the control of credit expansion can give the desired result for the balance of payments.

The other pioneer, Robichek, was instrumental in the application of the framework, which is referred to as financial programming. Robichek (1967) outlined one of the main assumptions of the Fund's financial programming model – “money creation is predominantly, if not exclusively, linked to national income”. Robichek's 1971 work was not published, but in his published 1967 address entitled “Financial Programming Exercises of the International Monetary Fund in Latin America” he defined financial programming as

*“an exercise aimed at finding a suitable relationship between resource availabilities and needs that causes minimum strain on the internal price level and produces a desired balance of payments result.”*

The financial programming model involves assessing both the prospective resources which are of internal and external origin, as well as the prospective calls on these resources. Thus the model results in finding the right set of policy instruments to adjust the demand for resources with their availability.

Robichek (1967) referred to the amount of bank credit and exchange rate level as two of the major policy variables which can complement each other in ensuring a balance between the demand for resources and their availability. He emphasized that excessive growth in bank credit can lead to balance of payments difficulties which may prompt the need for devaluation in the exchange rate.

Over the years, there have been slight variations in the presentation of the theoretical framework. Polak and Argy jointly presented a model in 1971; OP 55 and OP 241 contained models of 1987 and 2005 respectively; Polak provided a simple version of the “IMF Monetary Model” in 1997.

For the purpose of this analysis, the presentations in OP 55 and OP 241 are examined. The former presentation will be examined as it seems to be the one of most extensive pieces of literature from the Fund on the theoretical features of Fund adjustment programmes. An examination of the latter presentation, which is more recent, allows for the writer to study the evolution of thought associated with the framework. The two presentations are essentially the same, as they are based on Polak’s and Robichek’s ideology which have remained an integral part of the IMF approach.

(i) *The Framework (OP 55)*

OP 55 outlined the essential theoretical framework of any Fund programme designed for a small, open economy with a fixed exchange rate regime. This framework comprised: (a) the derivation of the basic financial programming framework; and (b) extensions of the financial programming framework. They are summarized in **Boxes (2) and (3)**.

(a) The Basic Financial Programming Framework

**Box 2: The Basic Financial Programming Framework (1987)**

$\Delta M = \Delta R + \Delta D$	Equation (1)
$\Delta M^d = f(\Delta y, \Delta P, \dots)$	Equation (2)
$\Delta M^d = k(\Delta Y)$	Equation (3)
$\Delta M^d = \Delta M$	Equation (4)
$\Delta R = \Delta M - \Delta D = f(\Delta y, \Delta P, \dots) - \Delta D$	Equation (5)
$CA = Y - A$	Equation (6)
$CA = \Delta R - \Delta FI$	Equation (7)
$CA + \Delta FI = \Delta M - \Delta D$	Equation (8)
$Y - A + \Delta FI = \Delta M - \Delta D$	Equation (9)

Notes: M is the stock of money; R is the domestic currency value of net foreign assets of the banking system (international reserves); D is net domestic assets of the banking system (domestic credit);  $\Delta$  represents a one-period change;  $(\Delta M^d)$  is the change in nominal money balances;  $(\Delta y)$  is the change in real income;  $(\Delta P)$  is the change in the domestic price level; k is the inverse of the income velocity of money assumed to be constant over time; (Y) is nominal income; (A) is absorption;  $(\Delta R)$  is the change in net foreign assets;  $(\Delta FI)$  is the change in foreign indebtedness

Source: Research Department, International Monetary Fund. *Theoretical Aspects of the Design of Fund-Supported Adjustment Programs*. Occasional Paper No. 55, Washington, D.C.: International Monetary Fund, 1987.

Equation (1), an accounting identity, depicted a balance sheet relationship for the banking system, in which liabilities (the stock of money) is the sum of foreign and domestic assets of the banking system. Equation (2) represented a demand for money function which shows that the change in nominal money balances  $(\Delta M^d)$  is positively related to the change in variables

such as real income ( $\Delta y$ ) and the domestic price level ( $\Delta P$ ). The more restricted version of the money demand function, Equation (3), reflected the major assumption of Polak's 1957 model - income velocity of money is constant over time. The demand for money was assumed to be stable. Equation (4) depicted a condition of flow equilibrium in the money market, where the change in the demand for money equates the change in the actual supply of money.

When the first four equations were combined, Equation (5) was derived. Equation (5) represents the analytical core of Fund programmes, particularly SBA.<sup>4</sup> From Equation (5) it can be deduced that the balance of payments is the difference of the change in the money stock (which is equal to the change in the nominal demand for money from the equilibrium condition) and the change in domestic credit. The change in net foreign assets is positive (surplus on the balance of payments) when the change in the total money stock is greater than the change in domestic credit. In Equation (5) real income was assumed to be exogenous; this was a departure from Polak original 1957 model which focused on nominal rather than real income and assumed this was endogenous. Equation (6) was the absorption identity while Equation (7) was essentially the balance of payments identity expressed in terms of the current account.<sup>5</sup> Since the change in net foreign assets of the banking system ( $\Delta R$ ), equated to the difference of the change in the money supply and the change in domestic credit, Equation (8) was derived. Equation (9) was derived by expressing the current account balance in Equation (8) in terms of the absorption identity (Equation 6). According to OP 55, Equation (9) shows that calls on resources by residents (absorption) will exceed the sum of the supply of domestic resources (income) and foreign savings (changes in net foreign indebtedness) when the change in domestic credit exceeds the change in the money stock.

According to OP 55, if it is assumed that the nominal demand for money balances is a function of a few variables, and that these variables are independent of changes in domestic credit, then the conclusion remains that a ceiling for a change in net domestic assets of the banking system

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<sup>4</sup> Killick, Tony. *IMF Programmes in Developing Countries: Design and Impact*. New York: Routledge, 1995.

<sup>5</sup> The Absorption Identity was coined by Sidney Alexander, a past IMF staff member.

( $\Delta D$ ) will determine the change in net foreign assets of the banking system ( $\Delta R$ ), that is the balance of payments. In the context of adjustment programmes this reflected the importance of setting targets for nominal money demand and international reserves in order to determine the residual amount of credit. It also reflected the importance of credit policy.

(b) Extensions of the Financial Programming Framework

**Box 3: The Extensions of the Financial Programming Framework (1987)**

$IMV = \alpha y$	Equation (1)
$\Delta R = X - IM + \Delta FI$	Equation (2)
$IM^* = \Delta R^* - (X + \overline{\Delta FI})$	Equation (3)
$\Delta FI = \Delta FI_p + \Delta FI_g$	Equation (4)
$\Delta D = \Delta D_p + \Delta D_g$	Equation (5)
$G - T = \Delta D_g + \Delta FI_g$	Equation (6)
$\Delta H = \Delta R + \Delta DCB$	Equation (7)
$M = mH$	Equation (8)
$\Delta M = m(\Delta R + \Delta DCB)$	Equation (9)

Notes: IMV is the volume of imports; y is real income;  $\alpha$  is a constant; X and IM are the domestic currency values of exports and imports of goods and services, respectively;  $\Delta FI$  is the change in net external indebtedness not held by the banking system; IM\* is the target level of imports;  $\overline{X}$  and  $\overline{\Delta FI}$  are the projected and targeted values of exports and capital flows respectively; the change in the net foreign indebtedness of the country ( $\Delta FI$ ) is the sum of changes in the private sector's ( $\Delta FI_p$ ) and public sector's ( $\Delta FI_g$ ) net foreign debt position;  $\Delta D$  is the change in credit which comprises,  $\Delta D_p$ , the change in credit given to the private sector and  $\Delta D_g$ , is the change in credit to the government; G and T represent total government expenditure and total government revenue respectively; the difference (G-T) represents the fiscal deficit; H is reserve money; M is the country's total money supply; m is the money multiplier which is a function of the ratio of currency deposits and the ratio of commercial bank reserves to deposits;  $\Delta R$  is the change in the stock of net foreign assets;  $\Delta DCB$  is the change in the stock of domestic assets of the central bank;

Source: Research Department, International Monetary Fund. *Theoretical Aspects of the Design of Fund-Supported Adjustment Programs*. Occasional Paper No. 55, Washington, D.C.: International Monetary Fund, 1987.

OP 55 presented extensions of the financial programming framework, which treated the structure of the balance of payments as a crucial element in the design of Fund adjustment programmes.

Equation (1), an import equation, depicts the demand for imports, just as in Polak's 1957 model. However, in this model, there is an emphasis on the volume of imports rather than the money value and also a focus on real rather than nominal income. According to OP 55, this model assumes that the volume of imports is positively related only to real income, and the volume can be multiplied by exogenous import prices to get the value. The balance of payments identity, Equation (2), shows the decomposed balance of payments in terms of imports, among other variables. After setting the target for the overall balance of payments as well as projecting or targeting for exports and capital flows, the target value for imports is derived as a residual from the balance of payments identity, Equation (3). According to OP 55, an iterative process converge the value of imports derived from the import equation and that derived from the balance of payments identity.

The striking feature of the extension of the financial programming framework is its attempts to make a link between the monetary and fiscal accounts, by expanding the underpinning balance sheet relationships. A distinction was made between growth in credit to the private and public sectors. The inclusion of fiscal policy in the framework necessitated including three other ex post identities: Equation (4), (5), (6). Equation (4) shows the decomposition of the change in the net foreign indebtedness of the country ( $\Delta FI$ ) into that of private ( $\Delta FI_p$ ) as well as public sector ( $\Delta FI_g$ ). Equation (5) indicates the decomposition of changes in domestic credit  $\Delta D$  in terms of the change in credit given to the private sector  $\Delta D_p$  as well as that given to the government  $\Delta D_g$ . Equation (6) introduces the budget constraint in which the government must finance a deficit by raising net borrowing from abroad or from the banking system.

According to OP 55, an assumption is that there are no sales of government debt to the private (nonbank) sector since markets for government securities are believed to be underdeveloped in developing countries.

Equations (4), (5) and (6) show the relationship between monetary expansion and the fiscal position of the government and provide justification for placing ceilings on the amount of foreign borrowing  $(\Delta FIg)$  and the amount of bank financing  $\Delta Dg$  that is available to the public sector. The ceilings enable monitoring of the public sector deficit.

The ceilings on public sector credit are used as policy instruments and the rate of growth in credit to the private sector  $(\Delta Dp)$  is an important secondary target in the framework. The difference between the rate of credit growth  $(\Delta D)$  and credit expansion to the private sector  $\Delta Dp$  (or vice versa) should be equal to the rate of growth in credit to the public sector  $(\Delta Dg)$ . The targeted or estimated value of credit growth to the public sector is added to a realistic level of official foreign borrowing to obtain a first estimate of the government's overall budget deficit. If this calculated deficit is different from that budgeted by the authorities, then, adjustments to taxes or expenditures, or both, have to be made to close the fiscal resource gap; another alternative is more restriction on credit to the private sector.

This presentation highlighted the balance sheet of the central bank in Equation (7). It also highlighted, in Equation (8), the basic monetary relationship between the total supply of money (M) and reserve money (H) through the money multiplier ( $m$ ). It is assumed that the money multiplier is stable and predictable, thus, the balance sheet relationship of the banking system can be expressed as Equation (9). According to OP 55, in this framework a change in net foreign asset,  $(\Delta R)$ , now leads to a change in reserve money,  $(\Delta H)$ , rather than money,  $(\Delta M)$ .

Under the above assumptions, changes in the net domestic assets of the central bank rather than growth in total credit expansion, would be the policy variable. The choice of variable for credit policy depends on the development of the financial system and the way in which the monetary authorities implement monetary policy.

(ii) *The Framework (OP 241)*

The 2005 adaptation of the framework, presented in **Box 4**, emphasised the relationship between: the fiscal balance; the balance sheet of the banking system; and the balance of payments. According to OP 241, the framework

*“provides a direct link between policies (the fiscal deficit, monetary policy) and the reserves target while requiring only central bank (or banking system) balance sheet data”*

In Equation (1), there is a decomposition of domestic credit in terms of that given to the private and public sectors. Unlike previous presentations, the exchange rate is explicitly included. Equation (2) explicitly expresses the source of government financing: credit from the central bank, domestic bond financing, and that from international capital markets. Equation (3), like the presentation in OP 55, assumed that money demand was predictable. By substituting Equations (1) and (3) into Equation (2), Equation (4) is derived. Like previous presentations, it is assumed that there is no bond financing, thus Equation (5) is obtained, which expressed the limited finance available for the budget deficit.

#### Box 4: The Financial Programming Model (2005)

$$\Delta M \equiv \Delta DC_G + \Delta DC_p + \bar{e} \Delta R \quad \text{Equation (1)}$$

$$Def = \Delta DC_G + \Delta B_G + \bar{e} \Delta B_p^* \quad \text{Equation (2)}$$

$$\Delta M - \Delta \bar{M} - M(\Delta \bar{y} + \bar{\pi} + \Delta \bar{v}) \quad \text{Equation (3)}$$

$$Def - \bar{e} \Delta B_p^* + \Delta B_G + (\Delta \bar{M} - \Delta DC_p - \bar{e} \Delta R) \quad \text{Equation (4)}$$

$$Def = (\Delta \bar{M} - \Delta DC_p - \bar{e} \Delta R) \quad \text{Equation (5)}$$

$$(S_p - I_p) + (S_G - I_G) = CA(\bar{y}, \bar{e}) = -e \Delta B_p^* - e(\Delta B_G^* - \Delta R) \quad \text{Equation (6)}$$

$$S_p = (\Delta \bar{M} - \Delta DC_p) + \Delta B_G - e \Delta B_p^* + I_p \quad \text{Equation (7)}$$

$$(\Delta M - \Delta DC_p) + \Delta B_G - e \Delta B_p^* - Def = -e \Delta B_p^* - e(\Delta B_G^* - \Delta R) \quad \text{Equation (8)}$$

Notes<sup>6</sup>: Base money (M) comprises domestic credit to the government ( $DC_G$ ), the private sector, ( $DC_p$ ), and international reserves (R);  $\bar{e}$  is the fixed/given exchange rate regime;  $Def$  is the government's financing of the deficit from sources namely the central bank ( $DC_G$ ), the domestic bond market ( $B_G$ ) and international capital market ( $B_p^*$ );  $\bar{M}$  is predictable money demand;  $\Delta$  represents a one- period change;  $(\Delta \bar{y})$  is real output growth;  $\bar{\pi}$  is targeted inflation;  $\bar{v}$  is predictable velocity;  $\bar{R}$  is the reserves target;  $DC_p$  is minimum growth in credit to the private sector;  $CA$  current account balance;  $S_p$  is private sector saving;  $I_p$  is private sector investment;  $S_G$  is public sector saving;  $I_G$  is public sector investment;  $\Delta B_p^*$  is net borrowing by the private sector;  $(\Delta B_G^* - \Delta R)$  is borrowing by the public sector net of its accumulation of reserves;  $-e \Delta B_p^*$  represents private capital flows.

Source: Atish Ghosh, Charis Christofides, Jun Kim, Laura Papi, Uma Ramakrishnan, Alun Thomas, and Juan Zalduendo. *The Design of IMF-Supported Programs*. IMF Occasional Paper 241, Washington, DC: International Monetary Fund, 2005.

Equation (6) expressed the balance of payments identity. It showed that for a certain level of income and exchange rate, the current account deficit must be financed by private sector net borrowing or public sector borrowing (net of the build-up of foreign reserves). According to OP 241, Equation (7) showed that private saving must comprise the acquisition of government

<sup>6</sup> The writer believed that a typographical error was made in Equation 6 in OP 241, thus  $-e(\Delta B_G^* + \Delta R)$  was substituted with  $-e(\Delta B_G^* - \Delta R)$ .

bonds, foreign assets, the difference of base money and credit given to the private sector, or domestic physical assets. The substitution of Equation (7) into Equation (6) gives Equation (8). Equation (8) shows that the private capital flows can be ignored (as the variable by which it is represented cancels out on either side of the equation). Thus Equation (4) can be derived from Equation (8) which shows the association between the fiscal deficit and the build-up of international reserves.

All models have common assumptions: the constant velocity of money and predictable money demand; unit elasticity for the demand of imports; little or no bond financing of the government deficit. These assumptions characterised the identities and behavioural relationships which make up the framework. OP 241 emphasised that the identities of the framework – the central bank balance sheet, the balance of payments constraints, and the government budget constraints - still hold when the assumptions are violated.

#### The Evolution of the Framework

Despite the changes over the years, the fundamental contributions of Polak and Robichek still remain the cornerstone thought underlying the theoretical framework of Fund adjustment programmes. A major assumption of Polak's original model still holds - the balance of payments is monetary in nature.

Though the framework has fundamentally remained the same, the writer has observed a few developments:

- **A shift in focus from nominal to real income.** This was the case for the import function.
- **A shift in focus from the total banking system to the balance sheet of the central bank.** This was essential from a policy perspective.
- **Inclusion of the fiscal accounts.** This was essential to show the relationship between the government fiscal balance, the monetary accounts and the balance of payments. A fiscal deficit is often associated with excessive credit creation and the root of balance of payments deficits. This reflects how crucial fiscal policies are in terms of the balance of

payments. Thus quantitative targets in the SBA do not only include those for international reserves, but also those for government deficits and borrowing.

- **Decomposition of domestic credit.** Domestic credit was decomposed into that given to the public and private sectors. This was essential in the application of credit and fiscal policy.
- **Consideration of exogenous growth.** Growth was considered endogenous in Polak's 1957 model where as it was considered an exogenous variable in OP 55 and OP 241.

### Implications of the Framework

The theoretical framework, as presented in OP 55 and OP 241, forms the basis of the formulation of major elements in IMF adjustment programmes namely projections, objectives, targets and policies. It does not only ensure that projections are consistent, but that there is also consistency between objectives, targets and policies. The framework is associated with the following:

- **It is used as a consistency check when undertaking macroeconomic projections in adjustment programmes.** The framework is used as a general method for making projections for the various sectors (external, monetary, real and fiscal) in a consistent manner, while accounting for country peculiarities. The framework is not applied in a simple and mechanical way, but as an iterative process. According to OP 241, an eclectic approach is taken, in which there is a reliance on a variety of models, techniques, and economic judgment.
- **It is useful in defining programme targets and objectives.** Targets are usually on a quarterly basis and their attainment influences disbursements from the Fund. The targets bridge ultimate objectives with policy instruments.
- It is useful in formulating an internally consistent set of macroeconomic policies geared at maintaining or improving economic performance.<sup>7</sup> The framework is not only an ex ante

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<sup>7</sup> Staff Team IMF Institute. *Financial Programming and Policy: The Case of Sri Lanka*. Washington, D.C.: IMF Institute, 1996.

consistency check, but also serves as a tool for monitoring the economy throughout the programme.

## **5.0 The Critique: Assessment of the Theoretical Framework underlying IMF Adjustment Programmes**

Although the framework has received its share of critical feedback (Killick 1995, Easterly 2002; Baqir et al 2003), it still stands today - a testimony of its resilience over the years. The framework's monetary foundation justifies the need for IMF borrowing to boost reserves and is consistent with the Fund's purpose of being a monetary institution as outlined in Article I (i).

*“To promote international monetary cooperation through a permanent institution which provides the machinery for consultation and collaboration on international monetary problems”*

### Strengths of the Framework

The main strengths of the framework are as follows: it has evolved from a number of theoretical thoughts and approaches; it is focused on the balance of payments; and it fosters monetary and fiscal discipline.

#### *1. Evolved from a number of theoretical thoughts and approaches*

The writer observed that the theoretical framework has a strong background as it draws from a cadre of economic schools of thought to show how balance of payments disequilibrium can be solved. The framework is a synthesis of the Classical, Keynesian, and Monetary schools of thought on the balance of payments.

Polak (1957) admitted that the majority of his conclusions, including that of the balance of payments having an adjustment mechanism that restores equilibrium, were based on Classical theory. He believed though, that his contribution, compared to the Classical economists, was empirical and more analytical in terms of his study of fluctuations in income, imports, money and reserves over time.

The monetary foundation of the framework advocates monetary policy in which a tight monetary stance is usually adopted in programmes. The framework reflects one of the crucial elements of adjustment programmes – a credit ceiling on component(s) of credit creation to achieve balance of payments equilibrium.

The Keynesian foundation of the framework, as it pertains to absorption and/or income, influences the use of demand management, growth and structural policies. There has been a challenge of incorporating growth and structural policies into the framework due to the assumption of the exogeneity of growth.

## 2. *Focuses on the balance of payments*

The theoretical framework definitely focuses on the balance of payments and shows how to correct balance of payments disequilibrium. Thus, the framework is relevant in pursuing, in part, the following purpose of the Fund as outlined in Article I (vi):

*“... to shorten the duration and lessen the degree of disequilibrium in the international balances of payments of members”*

The framework provides a clear road map for balance of payments adjustment – aggregate demand management. The “core” of the framework, presented in Equation (5) in the Basic Financial Programming Framework (1987), mirrors the need to restrict aggregate demand through monetary aggregates such as domestic credit, when there is balance of payments disequilibrium. Demand restricting measures reduce the demand for imports and foreign exchange. This is consistent with the monetary approach to the balance of payments.

The OP 241 presentation reflected that during an adjustment programme, aggregate demand can be restricted not only from the monetary, but through the fiscal side. Government’s deficit is controlled by restrictions on public sector credit, which

ultimately reduces absorption. This also mirrored the Keynesian approach to the balance of payments.

### 3. *Fosters monetary and fiscal discipline*

The restrictions needed on aggregate demand, as the framework dictates, have led to the focus on two types of policies – monetary and fiscal. The emphasis of the framework on these two policies has ensured monetary and fiscal tightness.

The degree of fiscal and monetary tightening prompted by Fund programmes is evident in CARICOM member states which have entered into arrangements with the IMF. Upon the completion of the tenth and final review of Antigua and Barbuda's economic performance under the SBA of 2010-2013, it was noted that much of the adjustment under the programme had come from fiscal consolidation efforts including cuts in public spending and investment. The fiscal deficit for Antigua and Barbuda declined from 18.0 per cent of GDP in 2009 to just over 1.0 per cent in 2012.<sup>8</sup> Barbados which was among the first countries to implement the SBA had fiscal contraction at the heart of its 1992-1993 SBA, since devaluation was not an option. The fiscal deficit in Barbados was at annual average of 2.4 per cent of GDP in 1992-2006, compared with an average of 5.4 per cent of GDP prior to the adjustment period (1977 to 1990).<sup>9</sup> Dominica, which underwent an SBA in 2004, has remained committed to the attainment of a primary surplus of 3.0 per cent of GDP, a target which emerged from its 2003 -2006 experiences with IMF programmes. The fiscal framework adopted by the Government of Dominica in its 2013/2014 budget is one that results in an annual average primary balance of 3.0 percent of GDP during the medium term. During the

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<sup>8</sup> International Monetary Fund. Press Release No. 13/200, IMF Completes Tenth and Final Review Under the Stand-By Arrangement for Antigua and Barbuda, 5 June 2013. Retrieved January 2014, 21, from <http://www.imf.org/external/np/sec/pr/2013/pr13200.htm>

<sup>9</sup> Daniel Boamah, Kevin Greenidge and Sasha Mapp. *The Macroeconomic Impact of IMF-Supported Programmes in Small Open Economies: The Case of Barbados*. Georgetown, Guyana: 41st Annual Monetary Studies Conference Building Financial Sector Resilience in the Caribbean, 2009

period (1984-1986) of Jamaica's first SBA arrangements there were fiscal measures which included reductions in public spending and increased public utility rates as well as monetary measures like interest rate controls, ceilings on credit and currency devaluations. Under the 2010-2013 SBA in Jamaica, quantitative performance criteria include fiscal and monetary targets from the central government primary surplus, public sector overall deficit and net international reserves. This programme for Jamaica aimed to ensure fiscal and debt sustainability, among other things like reduce financial sector risks, and during 2012/13, the authorities began to tighten fiscal policy.<sup>10</sup> In St Kitts and Nevis, according to an IMF press release dated 25 July 2013, the authorities have continued the successful implementation of their Fund-supported programme, SBA for 2011 to 2014, in particular making progress toward achieving fiscal objectives and debt restructuring. The core objectives of the SBA in St Kitts and Nevis were fiscal consolidation and debt restructuring. Some of the fiscal and public financial management actions in the SBA included debt restructuring efforts and corporatization of the country's Electricity Department which partly contributed to improvements in its fiscal and debt performance. The fiscal operations of the central government of St Kitts and Nevis which was characterized by fiscal deficits, averaging 3.1 per cent of GDP in the decade prior to 2011 shifted to overall surpluses averaging 9.4 per cent of GDP from 2011 to 2013. The debt to GDP ratio which peaked at 153.1 per cent of GDP in 2005, reached 100.8 per cent of GDP at the end of December 2013.<sup>11</sup> In Trinidad and Tobago's 1989-1991 SBAs, targets such as those for the overall central government, net domestic assets of the central bank and the net international reserves were all consistent with the framework and a necessary part of adjustment.

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<sup>10</sup> International Monetary Fund. *IMF Country Report No. 13/126, Jamaica, May 2013*. Retrieved January 2014, 21, from <http://www.imf.org/external/pubs/ft/scr/2013/cr13126.pdf>

<sup>11</sup> The data was sourced from the ECCB as at February 2014.

Fiscal and monetary tightening is also evident in non-CARICOM member states which have SBAs. The analysis conducted by EURODAD encompassing ten IMF arrangements (two of which were SBA) approved between December 2008 and April 2009, concluded that the IMF is still recommending to low income countries the need for stringent fiscal and monetary policies.<sup>12</sup> The IMF review of 15 SBA, approved during the period September 2008 and July 2009, indicated that monetary policy conditions were initially tightened.<sup>13</sup>

### Weaknesses of the Framework

There are issues not emphasised in the framework which may need further attention, as they are not only issues associated with the Fund's purposes but also crucial to policy makers in developing countries.

The following are limitations of the framework:

1. *What of the Expansion of Exports as a catalyst to trade and growth?*

The Fund's theoretical framework deals well with focusing on Article I (vi) but there is no theoretical guide for achieving or focusing on Article I (ii):

*"To facilitate the expansion and balanced growth of international trade, and to contribute thereby to the promotion and maintenance of high levels of employment and real income and to the development of the productive resources of all members as primary objectives of economic policy."*

According to Article I (ii) export revenue should at least match, if not surpass import payments, for expansion of trade. The framework is explicit on the determination of imports and the reduction of imports, through restrictions on aggregate demand but it is

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<sup>12</sup> Molina-Gallart, Núria. *Bail-out or blow-out? IMF policy advice and conditions for low-income countries at a time of crisis*. European Network on Debt and Development, 2009.

<sup>13</sup> IMF Strategy, Policy and Review Department. "Review of Recent Crisis Programs." Washington: International Monetary Fund, September 14, 2009

not as explicit on the determination and expansion of exports to facilitate growth of international trade.

2. *Inadequate emphasis on supply side measures*

Article I (ii) specifies the Fund's purpose to promote and maintain "high levels of employment and real income"... "as primary objectives of economic policy". This Article reflects that increasing aggregate supply and maintaining full employment should be a major focus of the Fund. The theoretical framework though does not focus on those. The framework (as presented in OP 55 and OP 241) treats real income as exogenous and does not explain how it is derived. Thus, the framework does not focus on supply side policies which are supposed to sustain elevated levels of employment and real income. This is inconsistent with the mandate of the Fund.

The framework is potent in restricting aggregate demand, imports and absorption but is silent on policies to preserve high employment, exports and economic activity. It largely posits demand side factors rather than supply side constraints as the source of balance of payments problems. The framework reflects the use of monetary and fiscal austerity measures to adjust the balance of payments; there is an apparent silence on supply side measures. A relationship was expressed between savings, investment and the current account balance in OP 55 but this relationship is not extended to incorporate growth.

The origin of the theoretical framework (Polak's 1957 model) has an original focus on money and credit factors as the determinants of nominal income, but this ignores the fundamental issues that countries may face. In the case of Trinidad and Tobago's 1989-1991 SBAs, the framework would have been relevant in analysing imprudent demand management, as a factor contributing to balance of payments difficulties, and developing policies to deal with it. Where the framework would have been deficient would be in analyzing and developing policies to deal with other contributing factors to balance of payments disequilibrium such as declining oil production and the failure of

efforts at diversification, which were all supply side constraints confronting the economy.<sup>14</sup>

It has been noted that the Fund takes into consideration structural constraints. According to a press release by the IMF, dated 18 February 2011, for an IMF mission to Jamaica that took place during the period 14-18 February 2011

*“The mission discussed with the authorities the need to complement the existing policy framework with a growth strategy that featured actions/policies aimed at reducing the main impediments to growth.”*

The framework, however, does not reflect supply side constraints in its analysis of income, and the mere fact that it has not been amended to do so, reduces the Fund’s transparency in its recent revamped approach to programmes.

In the absorption identity (Equation (6) in the Basic Financial Programming Framework of 1987), the focus is first on absorption, and its reduction, rather than on promoting or preserving high levels of income. Absorption rather than growth was the target variable. Killick (1995) questioned whether the theoretical framework can be more dynamic to incorporate growth as a target variable.<sup>15</sup> The framework has an inadequate emphasis on how to increase growth and this prompts the question of whether this (absorption) approach is diametrically opposed to growth.

Perhaps the reason for growth not being a target variable can be found in the work of Baqir et al. Baqir et al (2003) referred to the growth generating process as one of the least understood problems in developing countries, by many persons and institutions,

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<sup>14</sup> These were some of the factors outlined in Trinidad and Tobago’s “Letter of Intent” sent to the IMF on 16 November 1988, to explain the country’s sharp contraction in macroeconomic performance.

<sup>15</sup> Killick, Tony. *IMF Programmes in Developing Countries: Design and Impact*. New York: Routledge, 1995.

including the Fund.<sup>16</sup> Whatever the reason, the Fund has a mandate to fulfill, unless it removes Article I (ii) from its Agreement. A fundamental issue is whether balance of payments adjustment can take place with growth and vice versa. Polak's original model concluded that permanent growth can cause a temporary relief in the balance of payments. One of the policy instruments used in IMF programmes, devaluation, which is based on the Elasticities Approach to the balance of payments, assumes that there is idle capacity in the economy. In order to make devaluation a more potent policy tool, there can be great emphasis on dealing with this idle capacity to maintain high levels of income.

Despite the work done by the Fund leading to the conclusion that economic growth has to take place with adjustment, the framework still does not show how to achieve this. In 1987, a symposium organized by the IMF and World Bank aimed at, among other things, examining how best to help developing countries achieve balance of payments stability with sustainable growth, the Managing Director of the Fund at the time, Michel Camdessus remarked that

*“The Fund will continue to cooperate with countries in designing growth oriented adjustment programmes and in mobilizing the finances needed, including our own in carrying them out.”*

After a little more than two decades, new resources are being allocated to the Fund and the matter of incorporating growth in the adjustment framework has not been settled. Fischer (2001), who served as Deputy Managing Director of the Fund during the period 1994 to 2001, emphasized that one of the fundamental issues is how to design programmes to increase growth over the medium term. In 2005, OP 241 emphasised that analytical tools for understanding the factors driving sustained output growth are limited, and such tools as do exist are not always fully utilized in programme design.

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<sup>16</sup> Reza Baqir, Rodney Ramcharan and Ratna Sahay. *The Consistency of IMF Programs*. Research Workshop: Macroeconomic Challenges in Low Income Countries, Washington, DC: International Monetary Fund, 2003.

It is no surprise that the SBA has not conferred the same growth benefits across CARICOM countries. Barbados and Belize appear to have succeeded more quickly than Jamaica, Dominica, and Trinidad and Tobago in achieving sustained economic growth.<sup>17</sup> The Stand-By Arrangement approved by the Fund Board for Jamaica in February 2010 which went off-track, not only eroded confidence and led to acute balance of payments pressures but also lowered economic growth.<sup>18</sup>

### 3. *A de-emphasis on development*

Article I (ii) points to the role of the Fund in the development of its member states' productive resources. Article I (v) points out that the Fund should promote balance of payments adjustment "without resorting to measures destructive of national or international prosperity." Based on the assumption that national prosperity is synonymous to economic development, then there should be consideration for economic development in the process of balance of payments adjustment. The theoretical underpinnings of framework, however, reflects the latter issue, balance of payments adjustment, but does not mirror consideration of the former issue, economic development.

Social issues which are essential to "national prosperity" are not reflected in the framework. This may be partly the reason why programmes do not adequately address social costs in some circumstances. The attendance to social issues in programmes is more ad hoc than standard. In the IMF Occasional Paper 191, Social Issues in IMF-Supported Programs, published in 2000, it was indicated that programme countries varied considerably in terms of the speed of improvement of social indicators and recommended the strengthening of social safety nets in IMF-supported programmes.

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<sup>17</sup> Fontaine, Thomson. "Caribbean Country Experiences with IMF Stabilization Programs Within the Context of Globalization." 2003. 2-18.

<sup>18</sup> International Monetary Fund. IMF Country Report No. 13/126, Jamaica, May 2013. Retrieved January 2014, 21, from <http://www.imf.org/external/pubs/ft/scr/2013/cr13126.pdf>

Fischer (2001) highlighted that one of the issues that present a challenge to programme design is how to ensure that stabilization does not adversely affect the poor. Developmental and/or social issues are very crucial to developing countries experiencing adjustment as Trinidad and Tobago government's austerity measures during the 1989-1991 SBAs generated social unrest.

#### 4. *Issue of timing*

The time dimension is an issue arising from the framework. The framework is used to analyse policy in the short run. However, a major assumption of the framework - equilibrium between money supply and money demand - is a long run condition. There is some inconsistency in the timing of the framework.

The time inconsistency is reflected in the Fund's stance on the length of programmes. Although the IMF (2010), on its Official Website, describes the length of an SBA as flexible, this programme has a maximum of three years. There may not be much flexibility after all.

The Fund has to achieve its mandate of expansion of balance of payments adjustment, expansion of trade, promotion and maintenance of employment and real income within the time frame set. Since the Fund is focused on balance of payments adjustment within the time frame, then it is more than likely that more time will be needed to focus on other objectives. The Fund's mandate may not be able to be achieved over the short term in some countries, due to fundamental supply side constraints which the Fund admits. In OP 55, it is suggested that if capital and labour cannot move freely among various economic sectors, then it may be necessary to have an extended period of adjustment to ensure changes in the allocation of resources.

Article I (v) spells out that Fund resources have to be "temporarily" available to members with balance of payments difficulties. The meaning of "temporary" in terms

of years, is subject to the Fund's discretion. It was noted in the literature (Killick, 1995) that in the 1960's and 1970's "temporary" was interpreted as 12-18 months. Today 'temporary' means a maximum of three years for the SBA. Perhaps the Fund needs to clarify 'temporary' as the term may not be synonymous with short term. In the past, countries have had successive programmes, making the total years for a programme more long-term. For instance, Jamaica, had successive SBAs from 1984 to 1992.

##### 5. *Exchange Rate Issues*

Exchange rate issues are contentious and related answers are beyond the scope of this study. However there are a few issues that must be highlighted.

Article I (iii) and (iv) reflects the Fund's role in promoting exchange rate stability and establishing the multilateral payments system respectively. It is ironic that the framework which is based on the assumption of a fixed exchange rate, advocates forms of monetary policy. The scope to conduct independent monetary policy in a regime of a fixed exchange rate is at the very least, marginal or non-existent. Thus the framework's application in advocating monetary policy would be less relevant in CARICOM states such as those of the Eastern Caribbean Currency Union which have a fixed exchange rate and no capital controls.

The theoretical framework was not definitive on the most appropriate exchange rate regime (fixed or flexible). Though the Fund has witnessed a paradigm shift from fixed to floating exchange rates, it has not determined a theoretical framework for the appropriate exchange rate regime. The framework does not reflect an integration of the floating exchange rate regime, which now exists in certain jurisdictions such as Jamaica.

6. *De-emphasis on capital flows*

The focus on the current account is consistent with Article I (iv) which identifies the Fund as an institution “to assist in the establishment of a multilateral system of payments in respect of current transactions”.

However, there is a de-emphasis on private capital flows which raises the issue of whether the theoretical framework is robust to perfect capital mobility. The Keynesian component of the framework ignores the capital and financial account in the overall balance of payments. The Fund would need to focus on the role of capital flows in conjunction with current ones.

7. *The missing link between the fiscal accounts and income*

The inclusion of the fiscal accounts in the framework seemed to flow more in OP 241 than in OP 55. OP 241 was better able to show the derivation of the relationship between fiscal deficit and balance of payments; it also showed the relationship between the fiscal deficit and the banking system.

What neither of the presentations show is the explicit relationship between the fiscal accounts and income. If Polak’s original (1957) framework showed how monetary factors can determine income, and OP 241 explicitly related how the government’s fiscal balance is related to the monetary sector, then this implies a relationship can be shown between the government’s fiscal balance and income.

Amend the Framework?

Having examined the strengths and weaknesses of the theoretical framework, the fundamental question posed is whether there is a need to amend the framework. The analysis indicates that the Fund’s purposes are broader than the framework provides.

The framework seems best at defining how to achieve Article I (vi). What the remainder of Article I spells out is that the Fund is set up to be, among other things a development

institution, catalyst for the expansion of trade, promoter of exchange rate stability, and catalyst for setting up a multi-lateral payments system. It is that remainder of Article I that the framework is silent on. The theory is inadequate to substantiate Article I (ii), (iii), (iv) and to some extent (v).

Furthermore, the existing theoretical framework does not seem to encompass the “new mandate” of the Fund. The IMF, on its Official Website (2010) expressed that

*“The SBA framework allows the Fund to respond quickly to countries’ external financing needs, and to support policies designed to help them emerge from crisis and restore sustainable growth”<sup>19</sup>*

The framework is not robust in defining how to achieve and/or maintain: high rates of employment and real income; greater productivity and a country’s prosperity. For developing countries, these are crucial issues which the framework does not address, thus reducing its relevance.

The theoretical challenge is amending the framework to focus on the simultaneous achievement of balance of payments adjustment and growth and development, so that they are not left by chance, but that direct policies are geared towards achieving them.

The framework is not conclusive on whether balance of payments adjustment can be achieved with the expansion of exports; high levels of employment and real income; and development. There is no conclusive evidence on whether the objectives of Article I (ii) and Article I (vi) can be attained simultaneously.

The empirical studies on the macroeconomic impact of adjustment programmes, in general, on growth, have not been conclusive - some indicate positive results while others express that

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<sup>19</sup> International Monetary Fund. *Official Website of the International Monetary Fund*. <http://www.imf.org/external/np/exr/facts/sba.htm> (accessed August 10, 2010)

programmes hamper growth. Thirty-three (33) studies conducted between 1978 and 2005 revealed that 7 programmes increased growth, 9 decreased growth and the remainder (17) had no impact on growth.<sup>20</sup> The empirical challenge is that models built to assess the impact of programmes do not capture development indicators such as employment; or productivity.

In response to some of the limitations, the Fund basically argues that framework is not an end in itself, and that it takes an eclectic approach whereby it draws from a variety of models, techniques, and economic judgment. It is indeed correct that no single framework will be able to analyse different types of economies, but the lack of an updated framework reduces Fund transparency in programme design. This means that there is no standard approach in programme design, but an ad hoc one.

The framework's need for updating is even more urgent now with the Fund currently in the process of revamping its lending facilities, governance and mandate. Clearly, the existing framework is inconsistent or does not reflect the Fund's 'unconventional' responses during the global crisis. The IMF, in their Review of Recent Crisis Programmes (2009), have described current programmes as involving "less compression of domestic demand"; a fiscal policy stance that was "accommodative and adjusting to evolving conditions"; more emphasis on social safety net expenditure. The theoretical framework would have to be strengthened to justify the financial sector and trade policies proposed by the IMF during the crisis. In the case of Iceland, which was the first country to sign a SBA during the global crisis, provisions were included with respect to the need for stringent capital controls; capital flows are not highlighted in the framework.

While there may be a need to amend the framework, the other issue is whether the theoretical framework can be amended to be realistically applied to country situations.

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<sup>20</sup> Dreher, Axel. "IMF and Economic Growth: The Effects of Programs, Loans, and Compliance with Conditionality." *Department of Management, Technology, and Economics*. Zürich: Swiss Federal Institute of Technology Zurich, August 2005.

Polak (1997) who examined this issue claimed that the theoretical framework would need to be extended but that it would be challenging to incorporate these extensions and that is not feasible to design an alternative model or a full set of structural equations for the types of economies in which the IMF works. This may have been the opinion more than a decade ago, but with developments taking place within the IMF and the global economy, the challenge may have to be put to the test. There is a more urgent call to undertake feasibility studies on extensions and amendment of the framework.

OP 241 emphasised that although the programme approach is not well suited to handling the Keynesian effects and is clearly not intended as a model of long-term growth, any alternative approaches to modeling the balance of payments and the link to macroeconomic variables may be equally or more unreliable. The emphasis of OP 241 does not negate further research work since it in fact recommended some priorities for future work on programme design.

Perhaps the Fund can amend the framework by emphasizing more of its Keynesian foundation. In the Keynesian component, the emphasis will then be on income while containing absorption. By focusing on income, then the emphasis will be more on supply side measures that can engender growth of exports and be a catalyst towards development. Supply side measures would take time to mature and this is where the Fund's flexibility would have to come in, with regards to the length of the SBA. By taking a more Keynesian approach though, would still place little or no emphasis on the capital accounts. The exchange rate would still be a critical component of this approach and the framework would have to incorporate measures to reduce any anticipated inefficiencies. The caveat is that exchange rate policy would hinge on using the idle capacity in the economy. What would most likely be needed to complement the Keynesian focus, would be more research work on fiscal policy and its impact on the internal and external balance.

Another possibility is that, based on the calls for growth with adjustment, the Fund should incorporate an endogenous theory of growth into the existing theoretical framework. This calls for merging the existing framework with a theory of economic growth whereby increased

productivity can be associated with higher levels of innovation and additional investment in human capital. This will reflect more of the attainment of Article I (ii) and Article I (vi).

## **6.0 Findings, Conclusion and Recommendations**

If one has to account for Polak's original model, the theoretical framework of IMF adjustment programmes have been in existence for a little more than five decades, reflecting tremendous years of experience from which to draw lessons.

The key findings of this paper are as follows:

- i. The theoretical framework underlying Fund adjustment programmes draws from a cadre of economic thoughts. There is a synthesis of the Classical, Keynesian and Monetary traditions, so the Fund has drawn from the general body of literature on the determination and analysis of the balance of payments and income. There is no doubt that the Fund's work has drawn from and even shaped the literature.
- ii. The framework shows how to solve balance of payments disequilibrium through aggregate demand management. It is very good at aggregate demand management from the monetary and fiscal side. The writer concedes the strength of the framework: controlling aggregate demand and reducing the demand for foreign exchange.
- iii. The framework reflects how to control aggregate demand but lacks emphasis on expanding aggregate supply. It is silent on the expansion of exports as a catalyst to trade and growth. There is an inadequate emphasis on supply side measures.
- iv. Other limitations of the framework include: a de-emphasis on development; a missing link between the fiscal accounts and growth; failure of the incorporation of the flexible exchange rate; de-emphasis on capital flows; and improper time frame.

- v. In the context of a developing country, the framework is relevant for guiding policy towards balance of payments adjustment but inadequate in guiding sustained growth and development policy.

The main conclusion is that there is a need to strengthen the theoretical framework which underlies Fund adjustment programmes. The need for a more refined theoretical and analytical framework is based on the argument that existing framework is inadequate to enable the Fund to achieve all of its purposes as set out in Article I.

Another argument is that there is need for a more appropriate framework for analyzing the balance of payments problems in developing countries. Developing countries are faced with the issue of how to proceed with the economy post balance of payments adjustment. There is no theoretical guide for expanding exports and the economy, thus there is scope for expanding the theoretical basis of the Fund so that export expansion and employment can be guaranteed.

The recommendations can be divided into two categories: those to strengthen the framework, and others to strengthen the negotiating position of Fund member countries.

**The following are recommended in order to strengthen the theoretical framework:**

1) Theoretical Work

There is a need to re-appraise existing framework and amend it to incorporate growth. Theoretical work should be undertaken to reconcile Article I (ii) and (vi). This can involve examining the possible integration of a theory of economic growth with the existing framework.

Given the findings of endogenous growth theorists it is recommended that the research agenda of the Fund should include integrating endogenous growth with the original work of Polak et al. This would involve integrating monetary and human capital dimensions of growth. If the Fund introduces endogenous growth theory in the adjustment programme, then there will be more of a focus on supply side measures and any policies that are “destructive of national

prosperity” will be removed. Measures which actually harm human capital formation would have to be removed from adjustment programmes. Endogenous growth theory will deal with human capital formation which the framework is silent on.

## 2) Empirical Work

This tradition of the need for growth and adjustment exists in the literature but no longer active in research. The issues need to be re-investigated in the context of endogenous growth.

Adjustment programmes should be analysed for a range of countries to determine the extent to which they can be revisited and revised so that they would have more of a growth and balance of payments emphasis. Programmes should be continually assessed to determine whether they are consistent with growth. There needs to be some conclusiveness on the empirical work dealing with the impact of adjustment on growth. Empirical research should also seek to answer the extent to which borrowing member countries need a theory of economic growth post adjustment.

**The following are recommended to IMF member countries to strengthen their negotiations in Fund adjustment programmes:**

### 1) Integrate adjustment programmes with development plans

This will deal with the issues of growth, development and timing. Adjustment programmes should be integrated and not divorced from a country’s development plan. The timing of the development plan, which may last five (5) years, should be integrated with the Fund programme. Borrowing member countries must negotiate with the Fund to lengthen the time period – a suggestion is from a three (3) year period to five (5) years. A case for this negotiation stance can be argued on the basis of the long term equilibrium conditions of the framework or the flexibility now afforded with programmes.

2) Coordinate capital flows

Since the framework lacks emphasis on capital flows, the borrowing member country must take the initiative on this important issue. An agency can be established to coordinate finance between bilateral and multilateral agencies that give support during Fund adjustment programmes. Coordination of the flows must be done on a standard rather than ad hoc basis.

3) Continue to negotiate strongly for supply side policies

The case for the inclusion of such policies in negotiations can be found in Article I. Based on the Article, balance of payments adjustment is supposed to be “in accordance” with full employment and high levels of real income.

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# ACCOMMODATIONS, OCCUPANCY RATES AND ECCU TOURISM DEVELOPMENT



BY

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## ABSTRACT

Tourism is arguably the world largest industry and in the Caribbean and the ECCU in particular, the importance of the industry takes on even greater significance. Recent experiences have however, revealed a general declining trend in both arrivals and income into the region; worrying signs for a region that is almost entirely tourism dependent. A key element of the tourism product is the accommodation and by extension the occupancy rates or bed nights in these tourism plants. The simulation exercise undertaken in this paper was done in excel using rudimentary Monte Carlo type calculations based on data for 2011. It revealed that given the existing room stock in the member states of the ECCU, the rate of economic growth at the time of the simulation and the minimum targeted growth rate of 3.0 per cent per annum; holding everything else constant, stay over arrivals will have to increase by an average of 10.0 per cent each year over the three-year period 2014 – 2016 to provide the necessary impetus for economic activity in the Currency Union.

**JEL Classification: E17**

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## **1.0 INTRODUCTION**

According to Mann (2000:5), tourism is considered to be the world's largest industry providing one out of every ten jobs. It is increasingly being looked upon as an important economic growth driver in developing, as well as developed countries (Harrison, 1992: 39). The impact of tourism runs deep into the economies, it benefits relevant economies through increased output, labour earnings and employment. Beyond the money visitors spend on travel, accommodation, activities and souvenirs – visitor exports; the industry stimulates the engagement and collaboration of communities, tourists, governments, local suppliers and businesses throughout the supply chain. Furthermore, demand for tourism – both international and domestic – stimulates investment. In 2011 an estimated 4.5 per cent of total capital investment worldwide, or some US\$650 billion, has been driven by Travel & Tourism according to the World Travel and Tourism Council (WTTC).

Within the services sector tourism is the mainstay of the majority of regional economies. This is particularly the case of the smaller economies of CARICOM, where tourism plays an important social role and has a major impact on their financial stability and their external position (ECLAC, undated). Weaver (1981) declares that since world war two, tourism has evolved into a major industry within the Caribbean region. This development has not occurred evenly in space, and significant discrepancies in intensity exist among and within the islands. As such Jamaica, the Bahamas and Barbados, have had a long history of tourism development; but notwithstanding, the region as a whole has seen much growth in the sector. King, LeBlanc and Van Lowe (2000) note that even with the global recession of the 1970s and early 1980s, tourist arrivals to the Caribbean rose 52.2 per cent from 1978-1988 and that islands that were not a part of this initial surge in tourism were eager to obtain their share of the spoils, and those who were old hands in the industry sought to maintain or surpass their share. This in some ways explains the rise of the industry in ECCU. Since the early 1990s, tourism has evolved as the lead sector in the territories of the Eastern Caribbean Currency Union area, as more and more countries shifted from agrarian-based economies to service oriented ones. The Organisation of Eastern Caribbean States (OECS) Draft Common Tourism Policy (2011) document states that tourism is of critical importance to the economies, livelihoods, and people

of the OECS. It provides incomes for people, delivers foreign exchange and generates government revenue. In addition to the foreign exchange and tax revenue earnings, growth of tourism has an important role of stimulating economic activity for many sectors of the ECCU economies given its significant linkage effects (see Kweka et al, 2001). For instance, growth of tourism can stimulate expansion of the food and beverage industry, which in turn can accelerate production of food crops, thus benefiting agriculture and the welfare of rural sector. With tourism being the dominant industry in the region all efforts must be made to leverage it to advance the growth process.

Recent trends in Caribbean tourist market share developments from a global perspective have given rise to the debate as to where the region stands in its tourism evolution life cycle. The evolution of the tourism industry on the islands of the Caribbean may be divided into a number of stages, including pre-touristic, early development and developmental. These constructs, based on tourist arrival and accommodation data, resemble the earlier phases of the product diffusion 'S'-curve; the core tenet of the Butler 1980 model. To this end, de Albuquerque and McElroy in 1992 and McElroy and de Albuquerque again in 1998 empirically affirmed the applicability of Butler's model to over 30 Caribbean small island developing states, where countries have progressed upward in their tourism life cycle from an emergent Stage I to the rapid expansion of Stage II and, finally, mass-market maturity and saturation in Stage III (McElroy and de Albuquerque, 1991). Conway and Timms (2010) advocate that it is important for the region to avoid the stagnation or decline stage once a tourism market reaches these latter stages.

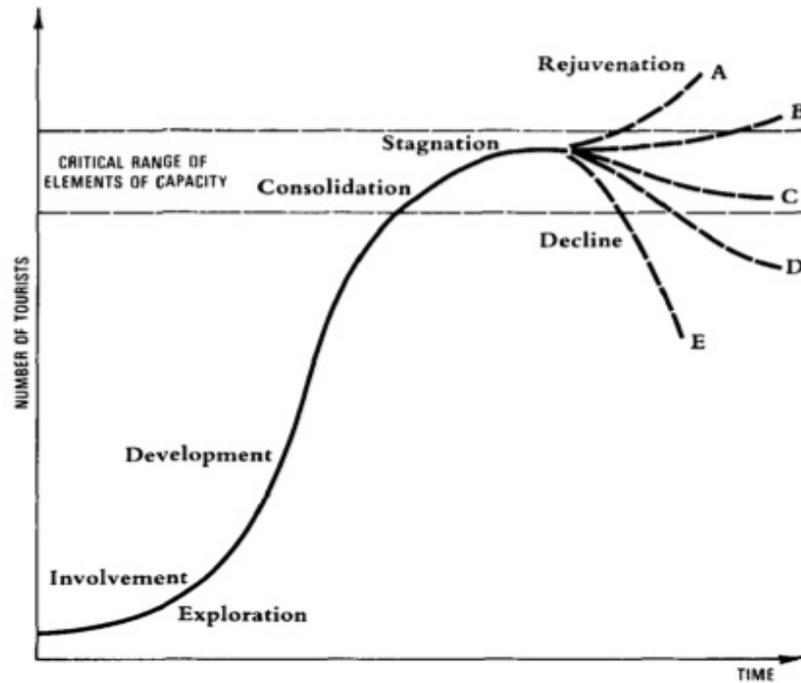


Figure 1. Hypothetical evolution of a tourist area (Butler, 1980)

Stage	Characteristics
Exploration	Few, adventurous tourists; interest in nature/culture; close interaction with local people; minimal effect on social, cultural and physical environments; local facilities are used
Involvement	Increased tourists' number; some advertising; start of tourist market and season; interaction stays high; some changes in social life and pressure on infrastructure.
Development	Tourists' numbers rapidly increase to equal or exceed local population; more foreign-owned facilities; loss of local control; promotion of artificial attractions; use of migrant labour.
Consolidation	Growth rate declines; tourism now a major economic sector; heavy advertising; some opposition to tourism; facilities deteriorate
Stagnation	Tourist capacity reached/exceeded; reliance on repeats and conventions; surplus hotel capacity and changes in ownership; focus on package tourist; social, environmental and economic problems
Decline	Tourist market is lost; vacationers decline; reliance on week-enders and day visitors; conversion of many facilities
Or rejuvenation	Changed attractions; a new tourist market is found

Source: Butler, 1980

While there has been criticism of the Butler model<sup>21</sup>, in principle, the conceptual model of a tourist area evolution has been accepted as a generalized theory of tourism development. ECLAC argues that on the whole, the [Caribbean] region has suffered from stagnation, partly on account of insufficiently varied attractions. At a more granular level, Bardolet and Sheldon (2008) posit that a major issue relating to islands in an archipelago is that they may be at different stages of the life cycle and as such would require distinct product and market policies. Consistent with that notion and based on observed trends in international tourist arrivals to the ECCU, the islands can be identified as being at varying stages of the developmental cycle. Dominica and St Vincent and the Grenadines for example are arguably at the second stage while Antigua and Barbuda and Saint Lucia are at the consolidation stage, bordering on stagnation. This assessment gives relevance to the new perspective on regional tourism as the main driver of economic growth. The ‘*new*’ regional industrial policy recognises tourism as the priority industry which is expected to provide the impetus for economic growth in the Eastern Caribbean Currency Union going forward. The aim therefore is to circumvent the stagnation stage of the lifecycle theory and rejuvenate the industry, a necessary undertaking especially in the wake of the recent global recession.

In order to facilitate the reinvigorated thrust, supply-side issues of adequate airlift and accommodation are critical elements in the process. This paper attempts to address the particular issue of accommodation. Accommodation is one of the largest and fastest growing sectors in the tourism industry and as stated by Smith (2012), the Caribbean’s economy relies heavily on the hotel industry. With international visitor arrivals to the ECCU forecast to breach the one million mark by 2016, well below the level required to provide the big push, it is essential that the industry invests in tourism development to attract and accommodate visitors. In other words, the supply-side of the region’s tourism product must be optimal. In order for the industry to thrive, visitor arrivals and occupancy levels will have to rise which in turn means that product development and marketing are central to the growth of the industry. Given current occupancy levels there are opportunities to utilise the spare capacities in the first

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<sup>21</sup> See Prosser (1995) for full treatment of the criticism of the Butler Model.

instance so as to increase tourism receipts, with the eventual positive impact on economic growth. Essentially, in order for the output impact of tourism to be viably and profitably realised, improvement of infrastructure, including hotel plants, is necessary. The result would be enhanced productive efficiency of the tourism sector and likely increased contribution to the local economy. In this paper an assessment is undertaken to analyse what would be the economic impact of an increase in tourism demand in seven of the ECCU economies.

The paper is not about the determinants of tourism demand or supply as these are assumed to be known factors. The objective to the paper is rather to ascertain the level of stay over tourist arrivals necessary to arrive at a minimum 3.0 per cent economic growth assuming all other factors remain constant. The paper is structured in the following way: Section 2 provides some background information or stylized facts along with supporting data regarding the state of the tourism industry in the ECCU. Section 3 reviews the literature assessing the tourism supply and demand argument, which essentially forms the basis of the research, focusing on issues of accommodation/bed nights and occupancy levels. Section 4 presents the simulation exercises. Section 5 closes with some policy recommendations and conclusions.

## **2.0 BACKGROUND/STYLIZED FACTS**

In 2012, global tourism reached a record of 1.0 billion international tourist arrivals, up 3.8 per cent from 2011; signalling a strengthening in tourism demand worldwide. At the Caribbean level, the Caribbean Tourism Organization (CTO) is reporting a continuation of growth in tourism statistics around the region. Stay over visitor arrivals for 2012 is said to have increased in nearly every reporting country, with the top 11 markets reporting a 4.4 per cent average increase over 2011. By contrast, the data for ECCU member territories indicate that most destinations recorded declines in international tourist arrivals, mainly reflecting lapses in cruise ship passenger arrivals; this outturn bucked global and Caribbean trends. The more worrying trends, as illustrated by Figure 3, is that the ECCU's share of both world and Caribbean tourist arrivals have been on a steady decline over the past ten years. The member states like the rest of the Caribbean countries have a natural comparative advantage for the

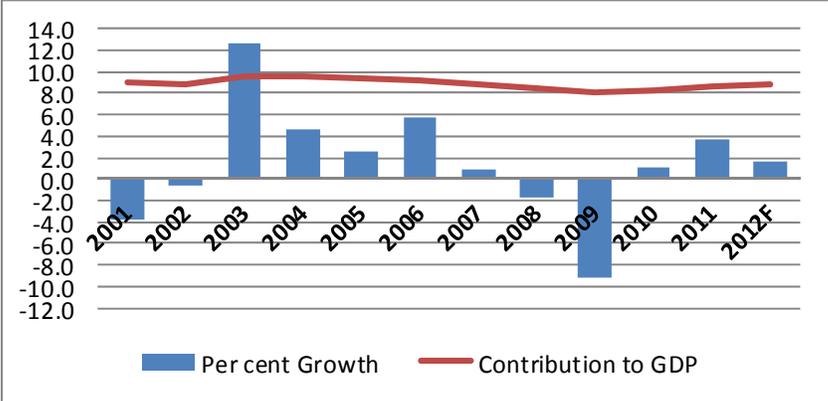
development of the tourism industry and are long-established tourist destinations. However, CARICOM economies have lost market share relative to other Caribbean destinations, due to relative cost disadvantage. In some cases the economies have also witnessed a decline in tourist expenditure and receipts and in the growth of visitors. This deteriorating performance was aggravated by the September 11th events initially and more recently by the global economic recession, which dealt a blow to the development of the tourism industry in the Caribbean. In the wake of the September 11 event the region experienced an 18.3 per cent drop in tourist arrivals vis-à-vis 11.0 per cent for the world as a whole and following the global recession the region suffered losses of 12.0 per cent, while globally the decline was roughly 5.0 per cent.

Tourism is an important industry in ECCU economies; it has contributed significantly to employment and economic growth, directly and indirectly, as well as to development in rural communities. It is estimated to have directly contributed on average 9.5 per cent to the GDP of the sub-region since the year 2000. The overall contribution of tourism (direct and indirect) was estimated at 28.0 per cent, which puts the region, like the rest of the Caribbean among the most tourism-intensive region in the world.

The profile of the ECCU tourism market has changed significantly over the past ten years in line with the growth of the cruise segment. The evolution of tourism development in the ECCU has been characterised by three distinct phases since the mid-1990s when the industry began to assert itself as the dominant industry in the region; the figure below illustrates. Each phase of the evolution marked two major external events, the September 11 2001 events in the United States and the global economic recession of 2008, whose effects are still lingering. In the pre-September 11 period 1995-2000 the region's stay over arrivals increased at a modest year on year rate of approximately 2.1 per cent. Then in 2001, much like arrivals to the rest of the world, arrivals declined by 4.9 per cent region wide. With increased security concerns about other destinations around the world the region enjoyed a strong recovery in stay over arrivals following the 2001 decline. Prior to the onset of the global economic and financial crisis, the growth in ECCU tourist arrivals exceeded those of most other regions, as well as

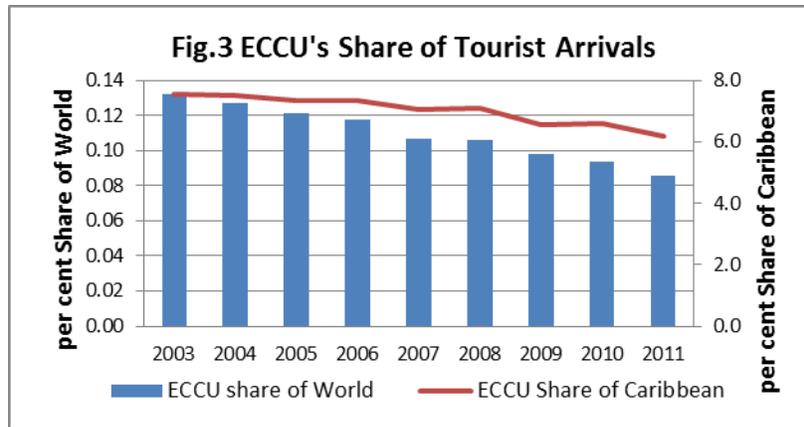
overall world tourist arrivals; growth averaged 3.7 per cent over the period 2002-2007. Then came the global economic recession of 2008 and the decline returned and in 2009 in particular the region suffered an 11.8 per cent contraction, the largest single year on record. Since then, arrival numbers have been improving with positive but low growth recorded in the following three years up to 2012. On average however, the recession years 2008-2012 yielded a decline of 1.1 per cent, dragged down by the outturn of 2009 in particular. Apart from the adverse impact of the exogenous shocks outlined, tourism in the ECCU has also been constrained by airline seat capacity with relative high fares and the absence of low cost carriers.

Figure 2 Tourism Growth and Contribution to GDP



Source: ECCB data and ECCB staff calculations.

Although the contribution of tourism (direct and indirect) to the economies of the sub-region has been significant, especially for countries such as Anguilla, Antigua and Barbuda and Saint Lucia, its global market share has been declining. In 2010 the Caribbean’s estimated share of total world demand was, at 0.13 per cent, the lowest for all regions. Despite this, both stop-over and cruise arrivals have increased in the region over the last decade or so. Cruise arrivals, as was noted before, have increased more significantly than stop-over arrivals, its numbers have fallen off somewhat over the past year. The industry as a whole has in recent years been subjected to significant adverse externalities that depressed its growth as shown in figure 2 above.



Source: World Development Indicators.

The UNWTO World Tourism Barometer has forecast increased growth of global tourism in 2013 of between 3 per cent and 4 per cent. However, as far as the ECCU destinations are concerned growth is forecast to be meagre - between 1.5 per cent and 1.8 per cent for the year – well below their pre-crisis trends. For the longer term, the organisation expects global tourism arrivals growth of 4.0 per cent per annum between 2013 and 2023.

### 3.0 TRENDS IN ACCOMMODATION AND OCCUPANCY RATES

As part of the supply side of the tourism industry, the accommodation sector is at the epicentre and is therefore a key element of the tourism value chain. In fact, Haider observed in 1985 that in the context of tourism in the Caribbean, accommodations constitute the single most important tourist service at the destination; a situation that still holds true. Overall, hotels are the dominant type of accommodation available in the Caribbean (Travelwatch, 2006). The Caribbean has a wide range of hotels, from large scale international hotel and conference centres (owned by island nationals and international conglomerates) to small independent guest houses. Hotels clearly vary significantly in their size and the nature of their operation. The Caribbean Hotel Association rates 65.0 per cent of all hotels in the region as small with under 75 rooms (Travelwatch, 2006). Recent data from Smith Travel Research (STR) for the Caribbean indicate that in 2012 the region as a whole continued to realise positive growth numbers for hotels performance in term of the standards metrics: occupancy rates, average

daily rates (ADR) and revenues per available room (revpar)<sup>22</sup>. The STR data also shows that 2012 was the fourth straight year of increases in each of these categories, with the exception of a slight decline in occupancy for 2010.

Hotel development has been largely stagnant in the Caribbean over the last few years as the global crisis has constrained foreign direct investments, which have been the major source of financing for the major hotel projects. Beginning in the last quarter of 2008, construction of some tourism accommodation projects has been slowed or placed on hold, owing to financing difficulties and sluggish sales (IMF, 2009). There are exceptions to these developments though, which according to Andrews (2013) include those with no debt financing or unconventional financing such as from sales of limited partnerships or private-public joint ventures.

The story of the accommodation sector in the Caribbean prior to the onset of the global crisis was quite different. The development phase was also boosted by the booming villa-type residential sector and the co-related proliferation of strata-titled serviced apartments. A willingness by retail investors to accept lower investment yields and the ability to pre-sell serviced apartment developments (which can de-risk the capital structure compared to in-one-line developments) has skewed the feasibility of development projects toward the serviced apartment strata-titled option, and resulted in the rapid expansion in supply of this sector relative to hotels, (Andrews, 2013).

*TABLE 1: ANNUAL COMPARISON – CARIBBEAN HOTEL PERFORMANCE*

<b>Statistic</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
<b>Occupancy</b>	60.50%	59.30%	61.80%	67.23%
<b>Average Daily Rate</b>	\$157.41	\$164.22	\$169.44	\$182.92
<b>RevPar</b>	\$95.24	\$97.33	\$104.78	\$123.56

*Source: STR Global*

<sup>22</sup> A measure of profitability.

Total demand in the Caribbean increased 4.4 per cent in 2011 but improved to 7.1 per cent growth in 2012. The increase in demand for the Caribbean in 2012 exceeded that of Mexico, Hawaii, Florida and Central America. As the data in the table above shows occupancy levels in the Caribbean steadily rising, suggesting a recovery in the accommodation sector. A similar story can be told for average daily room rates and room profitability as measured by revpar.

Fourth quarter 2012 statistics provided by Smith Travel Research (STR) indicate a minor decrease in number of rooms, continued moderate increase in occupancy over the same period in 2011, and a modest increase in average daily rates; all which result in an 11 per cent increase in RevPar and a 10.1 per cent increase in overall revenues. Overall, hotel performance improved throughout all four quarters of the year compared with prior period as well as the same periods in 2011.

*TABLE 2: QUARTERLY HOTEL STATISTICS - CARIBBEAN - 2012*

<b>Statistic</b>	<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>
Hotels	2,125	1,989	1,884	1,880
Hotel Rooms	231,278	227,653	222,319	222,535
Occupancy	72.50%	67.60%	62.90%	61.60%
Average Daily Rate	\$205.04	\$170.59	\$150.53	\$173.14
RevPar	\$148.69	\$115.27	\$94.75	\$106.71
Room Revenues	\$3,098,012,012	\$2,389,272,919	\$1,948,002,073	\$2,182,266,126

*Source: Smith Travel Research*

Hotel room stock among ECCU member states is relatively low compared to other Caribbean destinations. As table 3 below shows, Saint Lucia dominates the room stock landscape with nearly five thousand (5000) rooms, followed by Antigua and Barbuda with approximately three thousand five hundred (3500). Dominica with only two “*major*” hotel plants has the lowest number of rooms. It follows therefore that both Saint Lucia and Antigua and Barbuda supply the largest number of bed/room nights in the ECCU. These numbers show that within the ECCU, the evolution of the industry has been multispeed and support the view in Hodge (2011) that Antigua and Barbuda and Saint Lucia boast the highest development in the region

while Dominica and St Vincent and the Grenadines are at the other end of the spectrum. The latter two countries not having international airports are adversely affected by issues of access and airlift capacities. Not only are Antigua and Barbuda and Saint Lucia accounting for the largest number of room stock they also host the largest number of Upscale and Upper Upscale establishments.

Occupancy rates are used throughout the accommodation sector to indicate how often rooms are occupied and in this paper hotel occupancy is quoted in bed nights. With regards to occupancy rates, the region hovers around the mid 60.0 per cent range on average; similar to the general trends in the wider Caribbean. Grenada reports the highest occupancy rates at 71.0 per cent.

Table 3. Room Stock, Occupancy Rates and Visitor Expenditure in the ECCU.

<b>Territory</b>	<b>No. of Rooms</b>	<b>Occupancy Rate (%)</b>	<b>Visitor Expenditure (EC\$ m)</b>	<b>H&amp;R Contribution to Nominal GDP (%)</b>
<b>Anguilla</b>	1405	60	277.02	21.2
<b>Antigua and Barbuda</b>	3486	60	841.77	13.5
<b>Dominica</b>	901	62	265.01	2.1
<b>Grenada</b>	1679	71	283.99	4.1
<b>St Kitts and Nevis</b>	1754	60	254.06	5.6
<b>St Lucia</b>	4,845	64.9	856.14	15.0
<b>SVG</b>	1640	61	247.55	2.0

*Source: ECCB data and ECCB staff calculations.*

#### **4.0 LITERATURE REVIEW**

For the purpose of this study, demand is defined as the number of people who actually participate in a tourist activity, or visit a given area. This is consistent with the definition of demand postulated by Pearce (1995:8); while the concept of supply is defined as the number of beds that are available in the destination. It is commonly accepted that origin represents tourism demand, that is, the potential and actual tourists, whereas destination refers to tourism supply, which receives the tourists and consists of various elements such as natural resources,

historical and cultural attractions, infrastructure, facilities, and services (Meng, 2006). From a theoretical point of view, tourism has traditionally been viewed as a demand rather than supply-driven industry in the existing literature (Zhang and Jensen, 2005). It is argued that the emphasis on the demand side in the past is partly owing to the fact that tourism is traditionally defined as a demand phenomenon and measured by the flow of people from origin to destination countries (Zhang and Jensen, 2005). Consideration of the demand side of tourism is particularly appropriate for island development (Croes, 2006).

Tourism demand is usually regarded as a measure of visitors' use of a good or service (Frechtling, 2001). McIntosh et al (1995:299) advocate three measures of demand. These are, visitor arrivals, visitor days or nights, and amounts spent. Considering statistical availability and consistency between data sources, tourist arrivals (*TA*) and tourist expenditure (*TE*) (receipts) are the most commonly used tourism demand measures in empirical studies (Song, et al; 2010). Tourism product/service suppliers are more interested in tourist volumes because they have direct impacts on their supply capacity (Song, et al; 2010). For example, the decisions on investment in new hotels and new aircraft rely largely on accurate forecasts of tourist arrivals (Sheldon, 1993, p 18). At a practical level, Andrews (2013) declares that demand is measured by total room nights sold, whereas occupancy is measured at each property to create a statistical average.

The traditional demand theory in tourism suffers from a number of drawbacks, as it ignores the particularities of the products (Papatheodorou, 2001). The development and competitiveness in the tourism destinations should be taken into consideration when analysing the tourism flows, (Zhang and Jensen, 2005). Bull (1997:28) notes that tourism is a very unusual product, in that consumer must physically go to the place of production to acquire the product. In order to encourage the consumers of the product, that is, the tourist, to come the product must be of a sufficiently good quality and numbers. These arguments introduce the perspective of the supply-side. On the supply side, according to Leiper (1979:79) the tourism industry consists of all those firms, organizations, and facilities which are intended to serve the specific needs and wants of tourists. Smith (1988) views tourism as the aggregate of all

businesses that directly provide goods or services to facilitate business, pleasure, and leisure activities away from the home environment – essentially his view of tourism is from the supply side. A difficulty with supply side definitions in the tourism sector is the fact that there is a spectrum of tourism businesses and organisations to take account of, from those which are wholly serving tourists to those who also serve local residents and other markets (Smith, Webber and White, 2010). It is through supply as it responds to demand from tourists that the economic contribution of tourism can be traced and measured; hence the interest in studying the supply of consumption goods and services to visitors for the understanding and description of tourism in a country (IRTS, 2008). Tourism supply, therefore, is understood as the direct provision to visitors of the goods and services that they spend their money on (Smith, Webber and White, 2010).

In order to fully articulate the development process of ECCU tourism going forward as the driver of economic activity in the region a consolidated view from both the demand and supply sides is required. Formica, (2000) advocates the integrated approach to tourism analysis and defines the interaction between supply and demand as tourism attractiveness which “depends on the relationship between the availability of existing attractions and the perceived importance of such attractions”. Iatu and Bulai (2011) state that tourism supply alone, does not explain tourism development nor the amplitude of demand. Tourism is a comprehensive system with the origin and destination as two essential components, and the success of tourism development of a destination is based on how well the supply matches the demand (Uysal, 1998; Gunn, 1994). This last perspective is essentially the crux of this research.

## **5.0 THE SIMULATED RESULTS OF AN INCREASE IN TOURISM DEMAND**

To achieve a meaningful analysis of the economic impact of tourism for countries such as the ECCU, simulations are carried out. The model is inherently static and obviates any dynamism (that is the model avoids any spill-over effects from an increase in tourism demand). The choice of simulation is policy-driven in that it reflects the thrust of both government policy to enhance growth of the economy by improving infrastructure in general, and promoting the

growth and role of the tourism sector in particular. The simulation exercise was done in excel using rudimentary Monte Carlo type calculations based on data for 2011. The exercise is based on all room type with no differentiation among the ranges of properties. Similarly, no consideration was made for “*unsaleable*” rooms since the assumption is that these rooms still represent part of the existing room stock. The simulation was done using visitor expenditure on a bed night basis since that variable is calculated on an individual basis.

The models for each of the island economies were used to investigate the effects of first, an increase in tourism demand and, second, its impact on economic growth. Demand is measured by total room nights sold, whereas occupancy is measured at each property to create a statistical average. The effects were quantified at the macroeconomic level, in terms of the changes in GDP and gross value added. The key variables used in this study are the number of bed nights sold per year and from this an estimate the increase in visitor arrivals<sup>23</sup> and thereby estimate the increase in visitor expenditure.

The effect of tourism on the local economy is influenced by a few key factors:

- The characteristics and the spending patterns of the local tourists, affecting the direct impact on the economy (i.e. spending per tourist).
- The length of stay (tourists staying for the day are likely to spend a smaller share of total expenditure in locally produced goods);
- The accommodation chosen (hotels are more expensive than campsites).

In Tables 4 to 6 we show the required number of bed night’s, stay over visitors, as well as the occupancy levels which are required to achieve a growth rate of 3.0 from 2014 to 2016. In table 4 the required number of bed nights is shown that is commensurate with achieving a targeted rate of economic growth of 3.0 per cent per annum over the period 2014to 2016. From these calculations we can also derive the occupancy levels and stay over arrivals which

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<sup>23</sup> The model may be wrong in the sense that total stay over arrivals is not the same thing as stay over visitor arrivals in paid accommodation.

are commensurate with the increase in bed nights per year. In Table 3 above, the number of available rooms in each island is shown, if we assume that each room can potentially accommodate two individuals we can calculate the number of bed nights which is available in any given year assuming the room stock remains constant. For example, in Antigua and Barbuda there is an estimated 3,486 rooms on the island which gives an estimated 2,544,780 bed nights available per year. However, the current occupancy level in Antigua and Barbuda at the end of 2012 was approximately 60.0 per cent which means that only 60.0 per cent of the estimated bed nights are being used; this yielded a growth rate of 2.2 per cent in the Hotels and restaurants sector.

Therefore in this exercise we attempt to show what is the required number of stay-over arrivals and the needed bed nights and occupancy rates which are required to yield a 3.0 per cent rate of economic growth from 2014 to 2016. Based on the simulation exercise, a growth rate of 10.0 per cent per annum in the tourism industry is what will be required to deliver a 3.0 per cent rate of economic growth per year. From the results this means that stay over tourists will have to increase by 10.0 per cent each year from 2014 to 2016 to yield this targeted rate of growth (*shown in Table 5*). For some countries increasing the level of stay over tourist to these levels means that issues regarding air transportation will have to be dealt with in a frontal manner while at the same considering the fiscal implications of offering subsidies for airlift.

This sustained rate of increase in stay over tourist translates into occupancy levels across the ECCU will have to be maintained in region of 65.0 per cent annum, a tall task given that tourism is essentially an exogenous factor since it is determined by factors usually beyond the scope of policy makers. In some countries such as Antigua and Barbuda, Grenada and Saint Lucia occupancy levels will have to maintained in the order of 70.0 per annum again a very daunting task for these countries (*shown in Table 6*).

*Table 4: Required Number Bed Nights to Achieve 3.0% GDP Growth*

Target Growth 3% 2014-2016

	2014	2015	2016
<b>Anguilla</b>	<b>507,697</b>	<b>558,466</b>	<b>614,313</b>
<b>Antigua and Barbuda</b>	<b>1,786,436</b>	<b>1,965,079</b>	<b>2,161,587</b>
<b>Dominica</b>	<b>325,576</b>	<b>358,134</b>	<b>393,947</b>
<b>Grenada</b>	<b>849,389</b>	<b>934,328</b>	<b>1,027,761</b>
<b>St Kitts and Nevis</b>	<b>739,443</b>	<b>813,387</b>	<b>894,725</b>
<b>St Lucia</b>	<b>2,334,321</b>	<b>2,567,753</b>	<b>2,824,528</b>
<b>St Vincent and the Grenadines</b>	<b>566,276</b>	<b>622,903</b>	<b>685,193</b>

*Source: Author's estimation*

*Table 5: Required Number of Stay over Arrivals to Achieve 3.0 per cent Economic Growth Over the period 2014 to 2016*

	2014	2015	2016
<b>Anguilla</b>	<b>72,528</b>	<b>79,781</b>	<b>87,759</b>
<b>Antigua and Barbuda</b>	<b>255,205</b>	<b>280,726</b>	<b>308,798</b>
<b>Dominica</b>	<b>46,511</b>	<b>51,162</b>	<b>56,278</b>
<b>Grenada</b>	<b>121,341</b>	<b>133,475</b>	<b>146,823</b>
<b>St Kitts and Nevis</b>	<b>105,635</b>	<b>116,198</b>	<b>127,818</b>
<b>St Lucia</b>	<b>333,474</b>	<b>366,822</b>	<b>403,504</b>
<b>St Vincent and the Grenadines</b>	<b>80,897</b>	<b>88,986</b>	<b>97,885</b>

*Source: Author's estimation*

*Table 6: Required Occupancy rates to Achieve 3.0 per cent Economic Growth Over the period 2014 to 2016*

	2014	2015	2016
<b>Anguilla</b>	<b>49.5</b>	<b>54.5</b>	<b>59.9</b>
<b>Antigua and Barbuda</b>	<b>70.2</b>	<b>77.2</b>	<b>84.9</b>
<b>Dominica</b>	<b>49.5</b>	<b>54.5</b>	<b>59.9</b>
<b>Grenada</b>	<b>69.3</b>	<b>76.2</b>	<b>83.9</b>
<b>St Kitts and Nevis</b>	<b>57.8</b>	<b>63.5</b>	<b>69.9</b>
<b>St Lucia</b>	<b>66.0</b>	<b>72.6</b>	<b>79.9</b>
<b>St Vincent and the Grenadines</b>	<b>47.3</b>	<b>52.0</b>	<b>57.2</b>

*Source: Author's estimation*

In table 7 we show the estimated results from increasing the number of visitors per year from 2014 to 2016. The results in the tables show that the effects of the change in tourism demand on GDP, as a percentage of the original value of GDP, is greatest in Anguilla, Antigua and Barbuda and Saint Lucia. These three countries are able to achieve the required 3.0 per cent growth in real GDP emanating from a 10.0 per cent boost in stay arrivals. The effect of an increase in stay over arrivals is muted for countries such as Dominica, Grenada and St Vincent and the Grenadines. Comparison of the results in the tables across the islands shows that in the short run, the effect of the change in tourism demand on tourist expenditure, as a percentage of the original expenditure, is greater for Anguilla, Antigua and Barbuda and Saint Lucia.

*Table 7: GDP Growth per year with increasing Stay over arrivals*

<b>Target Growth 3% 2014-2016</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>
<b>Anguilla</b>	<b>3.13</b>	<b>3.27</b>	<b>3.41</b>
<b>Antigua and Barbuda</b>	<b>3.46</b>	<b>3.50</b>	<b>3.55</b>
<b>Dominica</b>	<b>1.95</b>	<b>1.96</b>	<b>1.98</b>
<b>Grenada</b>	<b>2.11</b>	<b>2.18</b>	<b>2.26</b>
<b>St Kitts and Nevis</b>	<b>3.43</b>	<b>3.44</b>	<b>3.44</b>
<b>St Lucia</b>	<b>3.10</b>	<b>2.88</b>	<b>2.94</b>
<b>SVG</b>	<b>2.01</b>	<b>2.04</b>	<b>2.06</b>

*Source: Author's estimation*

If the analysis is carried a step further by assuming that the number of rooms is an indicator of potential tourism demand (i.e., if all the rooms were utilised) then what is the required number of arrivals to fill these rooms and what is the impact on GDP growth? It is assumed that the maximum occupancy rate that a country can achieve is 70.0 per cent. With that in mind it is possible to calculate the number of extra rooms that is needed for the tourism industry to meet its potential. This is shown in Table 3. In column 1 of the table stay over arrivals at 100.0 per cent occupancy is shown, this is what is represented as the potential of the tourism industry, however as stated previously 70.0 per cent occupancy may be a reasonable assumption to use. The difference between arrivals at 100.0 per cent and 70.0 per cent occupancy represents a gap in unfilled potential. How many hotels are required to meet this potential demand? From

the table Antigua and Saint Lucia require a greater number of hotels<sup>24</sup> to be built to match the potential demand while the other countries require less effort.

*Table 6: Number of Stay over Tourist, Bed Nights and Hotels needed to achieve 3.0 per cent Growth assuming occupancy at 70.0 per cent*

	Arrivals at 100%		Difference between 100% and 70%	Extra Bed Nights		
	Occu	Arrivals at 70% Occu		Needed	Rooms Needed	Hotels Needed
Anguilla	146,521	102,565	43,956	615,390	843	6
Antigua and Barbuda	363,540	254,478	109,062	1,526,868	2,092	14
Dominica	93,961	65,773	28,188	394,638	541	4
Grenada	175,096	122,567	52,529	735,402	1,007	7
St Kitts and Nevis	182,917	128,042	54,875	768,252	1,052	7
St Lucia	505,264	353,685	151,579	2,122,110	2,907	19
SVG	171,029	119,720	51,309	718,320	984	7

*Source: Author's estimation*

Based on the analysis above it was shown that under reasonable assumptions it would take a 10.0 per cent increase in stay over arrivals in the tourism industry to result in a 3.0 per cent growth in real GDP growth. However this 10.0 per cent growth in tourism arrivals is far stretch given the current economic conditions in source country markets and secondly to achieve a 10.0 per cent growth in stay over arrivals for three consecutive years may not be realistic or even achievable.

## 6.0 LIMITATION

Unfortunately, the tourism industry does not view measurement as a priority and is content to leave data collection to the public sector. Tourism is therefore an industry with a paucity of data (Rutherford, 2001). The fact became extremely evident during the course of this research; for example consistent data on occupancy and accommodation were absent, thus limiting the strength and depth of the analysis. Additionally, being able to distil from the available the difference between total stay over visitors and stay over visitors in paid accommodation proved difficult across all countries; this of course has the effect of generalisation rather than the specificity that visitors in paid accommodation would have allowed. Furthermore, while

<sup>24</sup> Assumption is that average size of a hotel is 150 rooms.

tourism in the Caribbean has benefited from significant levels of research, the ECCU in particular, mainly because of their size and market importance relative to the more developed destinations have not been afforded the same level of coverage. Therefore, data and literature specific to the sub-region are harder to come by.

## **7.0 POLICY RECOMMENDATIONS**

The results outlined above are encouraging in the sense that if the necessary effort can be expended then the tourism industry can be the basis for enhanced economic prosperity in the region; however, they are not likely to mushroom into reality. Realising these results require significant effort from all stakeholders. How the region properly positions itself to fully develop or by-pass the stagnation stage of the tourism life cycle and rejuvenate the industry would depend heavily on deliberate and targeted policy intervention from the policymakers.

Though not exhausted, consideration should be given to the following recommendations:

- Increased marketing – to influence higher levels arrivals and occupancy rates. This should preferably be done at a regional level as we move the OECS integration process forward.
- Product development – through branding and improved attractions so as to increase marketability and attractiveness.
- Increased reliable and less costly transportation systems – relook taxes, fees and charges with a view to reducing them where possible so as to encourage increased visitor flows. Anecdotally, the rules of price elasticity suggest that if the cost of travel, which is highly price elastic, is reduced, then more visitors will be encouraged to travel to these shores.
- Very importantly, if excess capacities are to be utilised so as to maximise the returns from existing hotel stock, as the analysis is hinting to, then plants enhancements should be key undertakings. The aim should be to bring idle room stock back online to accommodate any increases in tourist arrivals.
- Even as the industry is developed and enhanced, it will be necessary to pursue the creation of linkages with other industries and sectors so as to take advantage of

available multipliers and push out the region's production possibility frontiers even further.

## **8.0 CONCLUSION**

The ECCU is an extremely tourism dependent region with roughly 30 cents of every dollar generated by the industry. There is therefore a strong case to be made to leverage the industry further to accelerate the growth trajectory of the sub-region. There are well known constraints which have essentially retarded the growth and development of the industry to its full potential; none more so than financial resources. Notwithstanding, as the simulations above have indicated, if the region is to focus on the development of its onshore tourism product, then *ceteris paribus*, the industry will have to expand considerably even as it uses up available spare capacities. The analysis in essence reveals that in a partial equilibrium type analysis where several other variables are held constant the effort needed to increase the number of stay over arrivals to achieve at least a 3 per cent increase in economic growth; not exactly an easy task in the prevailing economic circumstances. Additionally, increasing the arrivals to the islands means that bed nights will naturally have to be increased, which translates to more hotel rooms coming on-stream. The simulation shows that the number of hotel plants needed to satisfy the increase in arrivals, assuming each plant has 150 rooms vary across the islands, ranging from 4 in Dominica to 19 in Saint Lucia; but are these requirements feasible? A major lesson learnt from the recent global economic crisis is its adverse impact on foreign direct investments to fund tourism development. The options for FDI funded tourism development will likely remain subdued in the foreseeable future. A work-around should therefore be the maximisation of the current room stock so as to realise higher levels of occupancy rates and an eventual expansion in such capacities as the industry grows.

Ultimately though, a decision will have to be made about the product that the region pursues. Understandably, we are small vulnerable island states which are severely exposed to any adverse environmental developments. Mass tourism is likely to result in comparatively large environmental footprints and therefore may not be the best model for the region. The obvious

preference should be mid to high range facilities which are likely to bring high returns with smaller environmental footprints. A pursuit along this line presents interesting opportunities which are likely to redound to a development of the regional industry which maximises room capacities, returns and limited environmental footprints.

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Appendix



Source: STR Global

**Expected Developments in ECCU Tourism**

	<b>Airlift</b>	<b>Accommodation</b>
<b>Anguilla</b>	Losses in airlift with reduce flights by LIAT and the discontinuation of the AA eagle service.	Government signed a MOU for a new hotel in Shoal Bay. Zemi Beach a hotel with 112 rooms set to be completed by 2015
<b>Antigua and Barbuda</b>	<b>New:</b> West jet now flies in Antigua. There are also charter flights from Italy and discussions are on the way to resume Air Condor flight out Germany. There are discussions for Virgin to use smaller aircrafts into the destination; British Airways now flies in Antigua 5 days per week.	No major developments on the accommodation front except to note that discussions are on-going to have a beaches hotel built.
<b>Dominica</b>	American Eagle ended flights from Puerto Rico in 2013.  Seaborne Airlines began flights to Dominica in April 2013.	A Morocco-funded fifty-room hotel now under construction in Cabrits Portsmouth will be completed by October 2013
<b>Grenada</b>	<i>British Airways to reduce its twice weekly summer flights to Grenada to Sundays only, beginning 2013.</i>  <i>Air Canada will be adding flights from Toronto to Grenada</i>	The first ever Sandals Resort (Sandals La Source Resort and Spa) to be opened later this year with an additional 100 room. The Radisson brand will make its Grenada debut later this year with the rebranding of the Grenada Grand Beach Resort. La Luna resort is adding 35 rooms later this year.
<b>Montserrat</b>	N/A	N/A
<b>St Kitts and Nevis</b>	Construction is nearing completion on the new private jet terminal Addition of two non-stop AA flights from Miami from November 16, 2012. Delta upgraded aircraft size from a 737-800 to a 757 effective December 15, 2012. Both Delta and Air Canada to reinstate their peak season flying later in 2013.	New Resort Developments include: Koi Resort and Residences Imperial Bay Beach and Golf Residences Pelican Bay Resort Park Hyatt Kittitian Hill Ocean's Edge Resort Silver Reef Resort
<b>Saint Lucia</b>	<i>Air France commenced flying passengers to Saint Lucia from October, 2012.</i> <i>Reduced AA flights and discontinuation of AA eagle service.</i>	Recently renovated, Blu St Lucia opened its doors on 1st April 2012. Work has begun on the new Freedom Bay sustainable luxury resort
<b>St Vincent and the Grenadines</b>	Work continues at the Argyle International Airport	Sandy Lane hotel in Barbados to undergo the first phase of development for a resort in Canouan.

# HAS THE CREDIT – GDP RELATIONSHIP CHANGED?



**BY**

**MR GARFIELD RILEY**

## **ABSTRACT**

Private sector credit growth in the Eastern Caribbean Currency Union has been anemic since the onset of the global financial and economic crisis, heightening concern within the policy arena that real GDP growth rates will be negatively affected. The interest in the credit-GDP relationship is well placed, given the important contribution of private sector credit to expansions in economic output. The main objective of this policy brief is to assess whether the relationship between private sector credit and real GDP growth has changed, and discuss the implications for ECCU growth and development. Using a simple empirical framework, the brief suggests that the dynamics of the credit-GDP time series has not materially deviated from past norms. Credit-GDP gaps are not unduly large, compared to historical standards, and the cyclical co-movements among real private sector credit and real GDP are broadly similar to previous cycles.

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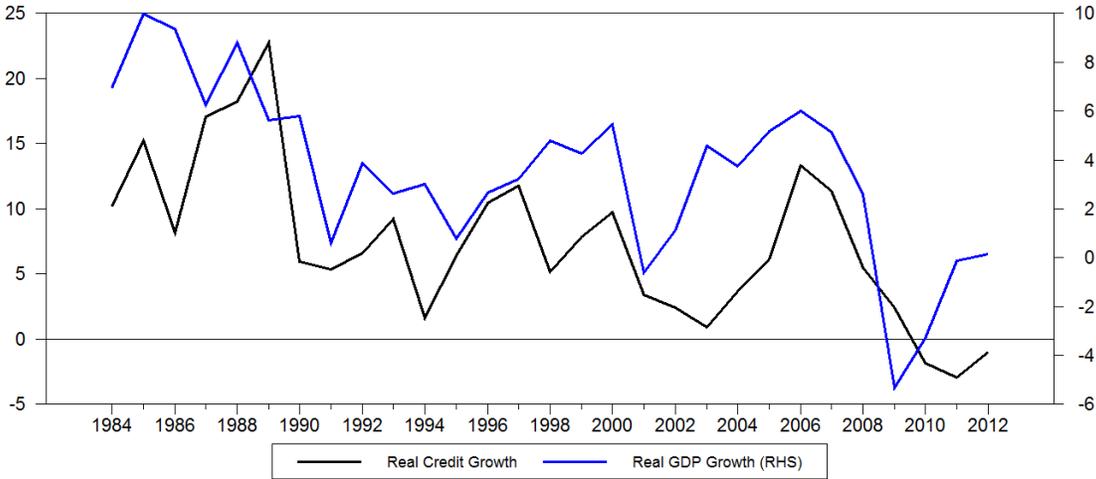
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**1.0 Executive Summary**

**Real private sector credit in the ECCU increased at an annual rate of 9.1 per cent in the four years prior to the economic and financial crisis of 2008, reflecting in part an increase in Foreign Direct Investment (FDI) as well as favourable conditions in the world economy.** The expansion in private sector credit was associated with an increase in real GDP growth of 4.8 per cent, somewhat above the long run average growth rate of 3.0 per cent. However, the synchronicity between the time paths of private domestic credit growth and growth in real GDP appear to have changed after the financial crisis (chart 1). Real GDP growth contracted at an annual rate of 2.1 per cent over the period 2009 – 2012, while real credit extended to the private sector declined by an average of 0.8 per cent.

**Chart 1: Private Sector Credit and Gross Domestic Product Growth**

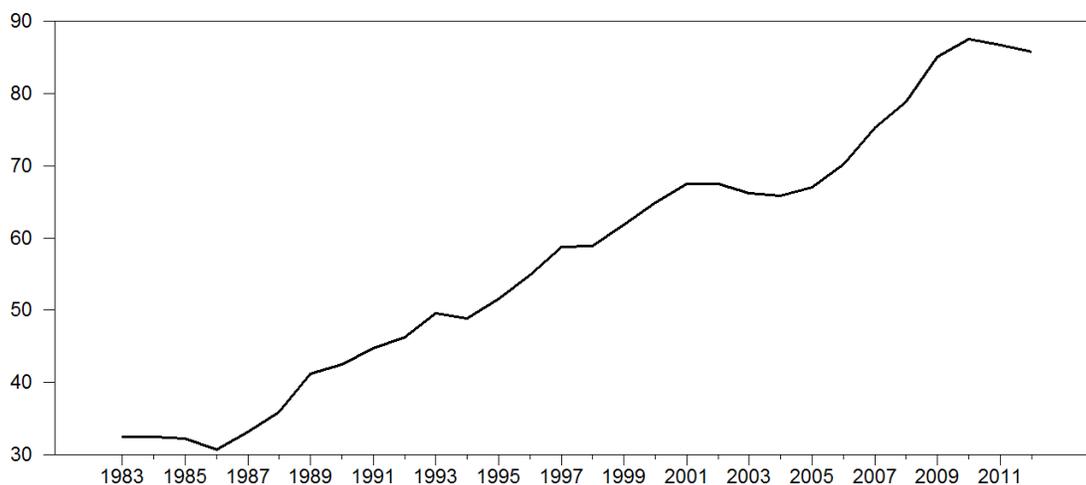


**The apparent weakening of the relationship between the two variables is of concern, given the important contribution of private sector credit to growth in real GDP.** The main objective of this policy brief is to assess whether the relationship between private sector credit and real GDP growth has changed, and discuss the implications for ECCU growth and development. Now that the adjustment process appears to have stabilized – and economic growth seems to have recovered, with a positive growth rate recorded in 2012 – what will the post-crisis recovery phase look like? And what role will credit play in the recovery?

## 2.0 Context and Importance of the Problem

**Real credit growth in the ECCU can be divided into three sub-periods.** From 2002 – 2007, real credit in the region expanded at a rapid pace of 6.6 per cent. During the economic and financial crisis of 2008 – 2009, real credit growth decelerated to 4.0 per cent, as investors re-priced risk exposure to emerging and developing markets, leading to a flight to quality effect and a credit crunch. In the post-crisis period (2010 – 2012), real credit contracted by 1.9 per cent. The period of high credit growth (2002 – 2007) prompted an increase in the credit-to-GDP ratio. The credit-to-GDP ratio increased from 67.5 per cent in 2002 to 87.5 per cent in 2010 (chart 2). In the post-crisis period however, the credit-to-GDP ratio declined, falling to 85.8 per cent in 2012.

**Chart 2: Private Sector Credit (% of GDP)**



**There is some concern in the international and domestic policy arenas that declining levels of bank lending to the private sector will reduce economic growth in the future.** However, there is a budding empirical literature that focusses on economic recoveries after financial crisis that suggests that economic activity can rebound without an increase in domestic credit growth. See for example, Kannan (2010), Abiad et al (2011) and Coricelli and Roland (2011). In summary, this strand of literature suggests that “credit-less recoveries” are not rare events, particularly in low and middle income countries. Additionally, a recovery in output following recessions associated with financial distress may not be accompanied by an

increase in new lending (Bijsterbosch and Dahlhaus 2011, Kannan 2010). Importantly however, credit-less recoveries tend to be relatively weak, compared to recoveries associated with “normal” recessions – that is, recessions that were not preceded by financial instability.

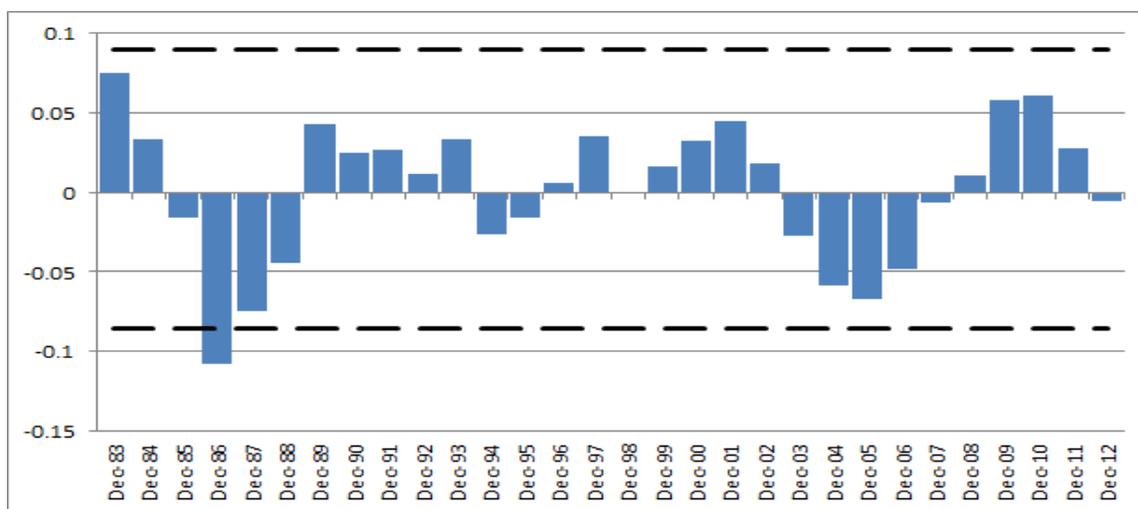
## **2.1 Has the Relationship Changed?**

**Assessing whether the time paths of credit and GDP has diverged is of first order importance for domestic policy makers.** Credit from the banking sector finances investment and working capital, particularly in the ECCU given the dearth of alternative funding sources for domestic firms seeking to expand. From a cyclical perspective, declines in credit growth are often associated with contractions in real GDP (chart 1). More generally, financial development (proxied by the credit-to-GDP ratio) has been found to be an important determinant of long-term economic growth.

**To assess whether recent developments in the credit-GDP ratio has departed substantially from historical trends, we apply two approaches that have been previously utilized in the literature.** The first approach is adapted from the ideas of Borio and Drehmann (2002, 2009). This method starts from the observation that the build-up of financial imbalances is often manifested in rapid credit growth. To capture this phenomena, the deviations of the credit-to-GDP ratio from its estimated long-run trend is calculated, and the resulting credit “gap” is assessed relative to thresholds that indicate a build-up of significant vulnerability. The second approach is more short-term in nature, and consists of comparing the cyclical components of both real private sector credit and real GDP. This decomposition serves two purposes: it codifies the relationship between the variables at business cycle frequencies, and it allows a determination of whether the recent trends in both real credit and GDP has departed significantly from historical norms.

The credit “gap” is derived using the Hodrick-Prescott filter<sup>25</sup>, applied to the credit-to-GDP ratio. Borio and Drehmann (2002) construct a vulnerability indicator using the gaps from the trend credit-to-GDP. If the credit gap exceeds a given threshold, the indicator issues a warning. Borio and Drehmann (2009) suggests that a plausible choice of a threshold is one that has historically performed well in issuing signals prior to banking crises, while reducing the number of times a signal is given when no banking crisis has occurred (false signals). The threshold suggested by Drehmann et al (2011) for the credit-GDP ratio is within the interval 2 - 10 percentage points. In a departure from the literature, a symmetrical threshold was adopted for the purposes of this study, in that all deviations (either positive or negative) should be considered in assessing whether the credit-GDP ratio has significantly departed from historical norms. The threshold interval is constructed as the historical mean of the credit-GDP ratio plus two standard deviations, a typical choice in the literature on banking and currency crises.

**Chart 3: Credit-GDP-Gaps (Percentage Points)**

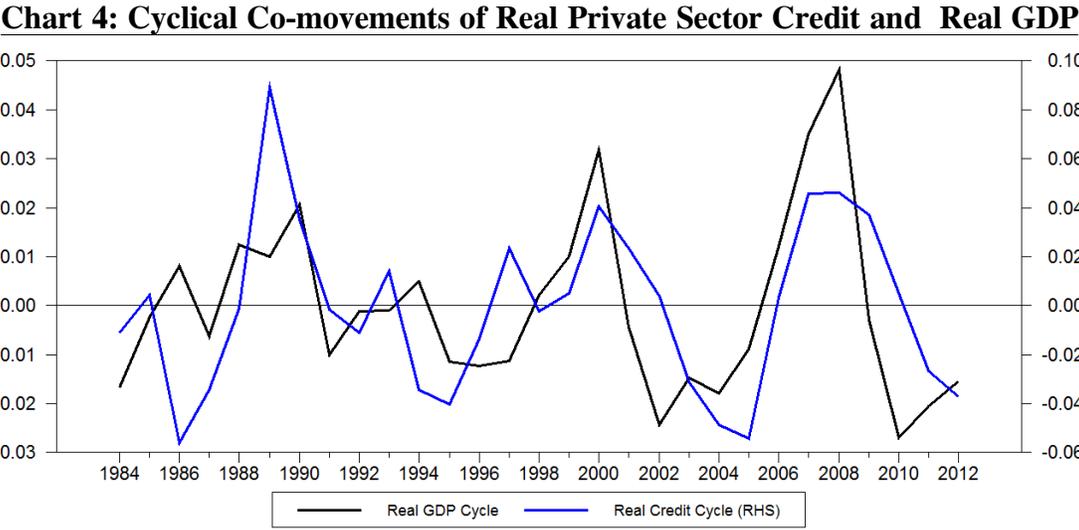


The estimated credit “gap” and thresholds are depicted in chart 3 above. Interestingly, the period of rapid credit growth from 2004 to 2008 can be seen as “catch-up” growth. The

<sup>25</sup> The tuning parameter in the filter was set at 6.25 for annual data, as per Ravn and Uhlig (2002). The results are insensitive to the choice of filter.

credit gap was positive during the period 1999 – 2002, but did not exceed the thresholds. The credit gap turned negative after the recession of 2001-2002, and remained below its long-term trend until 2008. The credit-GDP ratio was positive in 2008 and 2009, as real GDP contracted faster than real private sector credit, mechanically increasing the ratio. The decline in credit growth during 2010 – 2012 precipitated a reversal in the credit gap, which turned negative in 2012. The overall impression from chart 3 is that the current evolution of the credit-GDP ratio is not abnormal, specifically in relation to the historical trend of the series. However, the credit-GDP ratio may remain negative in the near-term: positive “gaps” have been followed by negative “gaps”, which have lasted approximately 4 years on average.

The cyclical co-movements of real GDP and real private sector credit is shown in chart 4 below. The two series share similar cyclical features, with real GDP growth cycle leading the real private credit cycle.<sup>26</sup>

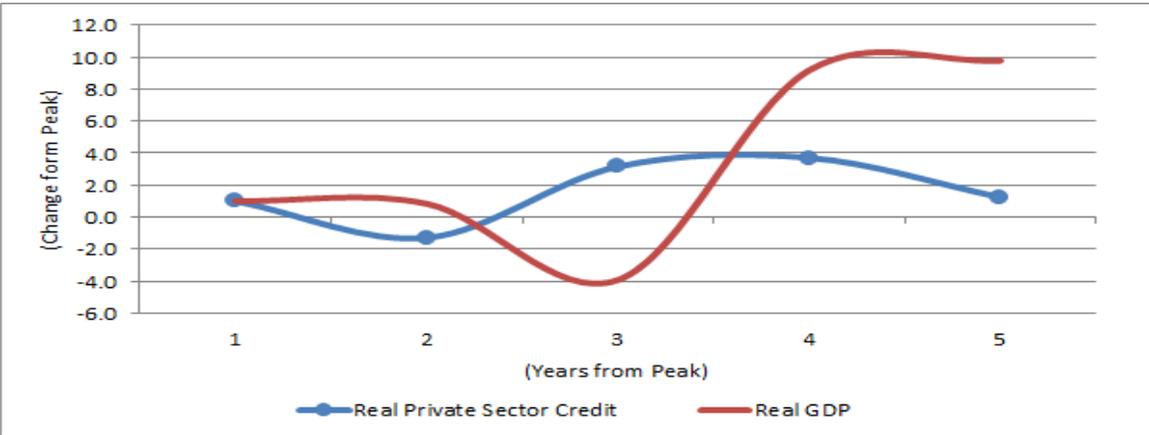


To identify whether the co-movements between domestic credit and GDP have changed at business cycle frequencies, an ECCU ‘growth cycle’ was calculated. A growth cycle is defined as the fluctuations in real output relative to its long-term trend, and consist of a high

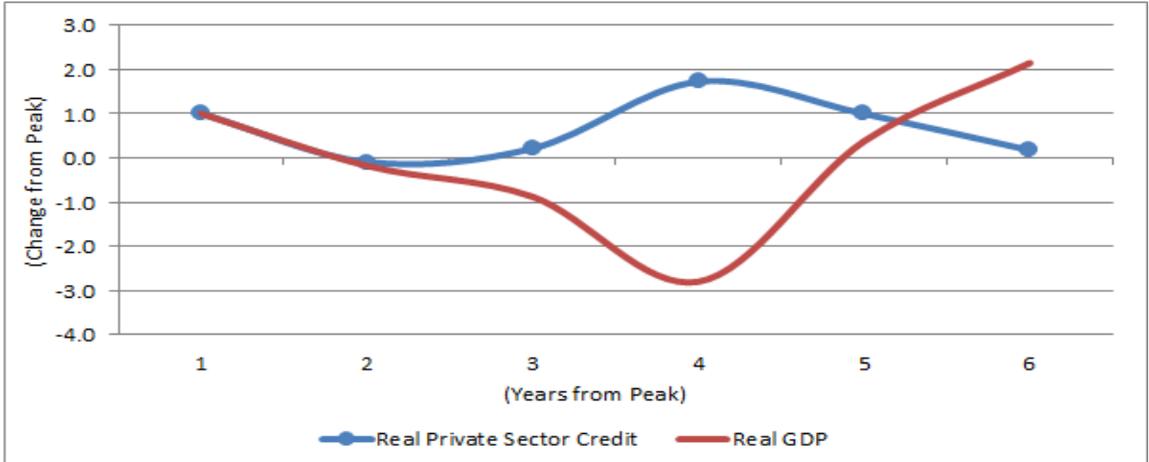
<sup>26</sup> This intuition is confirmed by testing the significance of the cross-correlation coefficient of the two series.

rate phase (positive deviations of output from trend) and a low rate phase (negative deviations of output from trend). The methodology for calculating and dating the growth cycle follows TU (2013). Charts 5 – 6 depict the co-movements between domestic credit and output in three growth cycles: 1992 – 1996, 1997 – 2002, and 2003 – 2012. The variables are indexed at the peak of each growth cycle. Several insights can be gleaned from the charts. Firstly, the charts confirm that changes in real output leads changes in private sector credit on average over the cycles considered. Secondly, real output can recover without a corresponding increase in real private sector credit.

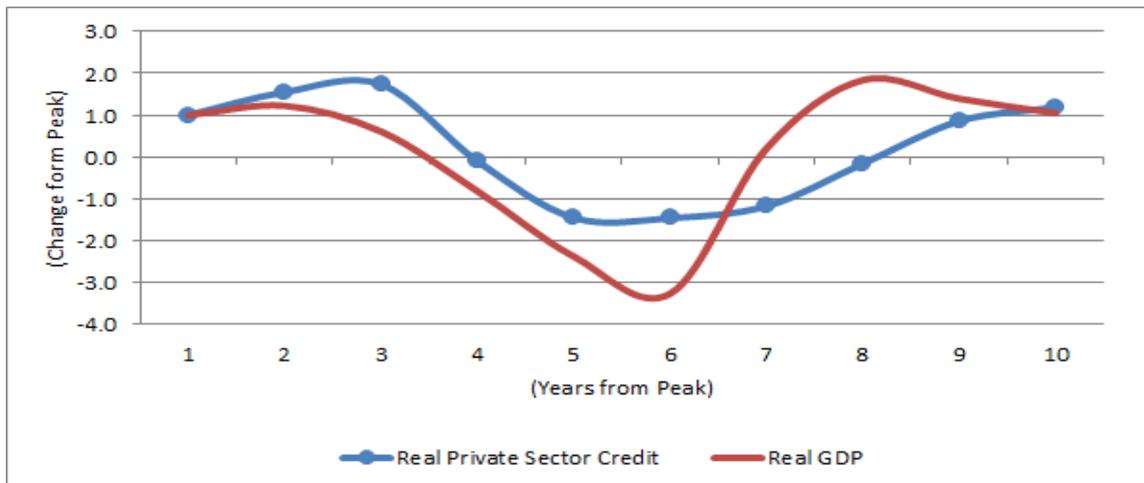
**Chart 5: Cyclical Co-movement between Credit and GDP (1992 – 1996)**



**Chart 6: Cyclical Co-movement between Credit and GDP (1997 – 2002)**



**Chart 6: Cyclical Co-movement between Credit and GDP (1997 – 2002)**



Thirdly, the current cycle (2003 – 2012) is qualitatively different to the 1992 – 1996 and 1997 – 2002 cycles, at least in the peak to trough phase of the cycle. However, the current cycle is similar to the others from the trough (2008) onwards, in that real output cyclically recovers before real private sector credit growth.

### 3.0 Policy Discussion and Conclusion

The symbiotic relationship between real private sector credit and real GDP was examined in this policy brief, given the importance of these two variables to macroeconomic outcomes in the ECCU. The relationship between credit and GDP appears to have diverged since the economic and financial crisis of 2008, leading to some concern for future growth and economic development in the ECCU. The contribution of this policy brief was to empirically examine the plausibility of a change in the dynamics of the credit-GDP time series, using standard approaches drawn from several strands of the literature on banking and currency crises, and business cycle analysis. The results presented indicate that the credit-GDP relationship has not changed significantly. Credit-GDP gaps are not unduly large, compared to historical standards, and the cyclical co-movements among real private sector credit and real GDP are broadly similar to previous cycles. Importantly, the absence of a significant increase in real private sector credit, despite the ECCU region returning to positive (but relatively weak) growth is also in line with the historical experience.

**The finding that the temporal relationship between credit and real GDP has not altered significantly does not imply that the pace of the current recovery is optimal in any sense.**

The sectoral distribution of credit towards the non-tradable sectors, as opposed to sectors that generate foreign exchange has traditionally been emphasized as a key constraint on economic growth within the ECCU. Sectors such as distributive trades, construction and land development, and the personal sub-sectors account for the major share of credit extension over the period 1992 – 2012 (see tables 1 – 3). The tables also reflect however, that these sub-sectors share of credit have declined somewhat over the three cycles. In the 1997 – 2002 cycle for example, the personal sub-sector's share of domestic credit rose from 43.5 per cent at the beginning of the cycle to 46.4 per cent in December 2002. In the current cycle however (2003 – 2012), the personal sub-sector's share of domestic credit fell from 48.4 per cent in 2003 to 44.4 per cent in 2012. Conversely, the share of credit extended to the tourism sub-sector, which is the ECCU region's main source of foreign exchange rose from 7.5 per cent in 2003 to 10.4 per cent in 2012.

**Assessing whether these changes in the distribution of domestic credit are cyclical or more long-term in nature is somewhat outside the scope of this brief.** It is conjectured that credit distribution is a function of the underlying production structure of the economy. Credit is geared towards non-tradable sectors primarily because that is how the ECCU economies are currently configured. Another important consideration is the relative under-provision of financing for small, non-established firms in the ECCU. Access to finance is consistently ranked as the biggest constraint to private sector development in the ECCU, according to the World Bank Doing Business Indicators, as well as the Enterprise Surveys conducted by Compete Caribbean. It is hypothesized that altering the underlying structure of the ECCU economies may lead to a change in the credit distribution, and this may play a greater role in economic growth and development.

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**Table 1: Sectoral Credit Distribution: 1992 - 1996**

1992 - 1996	Dec-92	Dec-93	Dec-94	Dec-95	Dec-96
Agriculture	3.14	3.22	3.65	3.18	3.05
Fisheries	0.23	0.17	0.18	0.17	0.16
Mining & Quarrying	0.41	0.40	0.48	0.36	0.26
Manufacturing	4.66	4.43	4.23	4.35	4.26
Public Utilities	3.45	2.83	2.61	1.96	2.25
Construction & Land Development	6.61	5.14	4.55	5.33	5.34
Distributive Trade	14.63	15.09	15.03	14.77	14.04
Tourism	9.77	9.96	9.82	9.32	9.40
Entertainment	1.22	1.11	1.05	1.17	1.35
Transport	3.34	3.02	2.88	3.28	3.03
Financial Institutions	0.82	0.56	1.02	1.26	1.05
Professional & Other Services	4.09	4.41	4.29	4.95	4.93
Government & Statutory Bodies	7.66	7.59	7.78	9.35	9.07
Personal	39.97	42.07	42.44	40.55	41.80

**Table 2: Sectoral Credit Distribution: 1997 - 2002**

1997 - 2002	Dec-97	Dec-98	Dec-99	Dec-00	Dec-01	Dec-02
Agriculture	2.99	2.57	2.81	3.24	3.64	3.94
Fisheries	0.17	0.13	0.17	0.17	0.22	0.20
Mining & Quarrying	0.30	0.24	0.28	0.27	0.30	0.35
Manufacturing	3.80	3.31	3.04	2.82	2.60	2.63
Public Utilities	2.13	2.18	2.06	2.24	2.20	2.20
Construction & Land Development	5.24	5.00	5.06	4.42	4.81	4.83
Distributive Trade	13.67	12.80	11.81	12.07	11.23	11.12
Tourism	8.54	7.75	7.77	7.94	7.51	7.89
Entertainment	1.21	1.32	1.22	1.19	1.22	1.12
Transport	3.05	2.65	2.79	2.65	3.16	2.68
Financial Institutions	1.15	1.47	1.47	1.16	1.21	1.06
Professional & Other Services	5.42	5.28	6.30	5.92	6.27	5.94
Government & Statutory Bodies	8.84	10.19	9.49	10.01	9.02	9.61
Personal	43.49	45.10	45.72	45.89	46.63	46.43

**Table 3: Sectoral Credit Distribution: 2003 - 2012**

2003 - 2012	Dec-03	Dec-04	Dec-05	Dec-06	Dec-07	Dec-08	Dec-09	Dec-10	Dec-11	Dec-12
Agriculture	3.95	3.96	3.62	3.00	0.62	0.65	0.55	0.50	0.43	0.44
Fisheries	0.18	0.15	0.12	0.11	0.09	0.08	0.08	0.08	0.08	0.09
Mining & Quarrying	0.41	0.33	0.36	0.37	0.28	0.31	0.38	0.49	0.43	0.30
Manufacturing	2.76	2.41	2.14	2.05	1.65	1.84	1.73	1.74	1.72	1.78
Public Utilities	2.33	2.50	2.10	3.21	3.54	3.44	3.21	3.09	2.73	2.35
Construction & Land Development	4.47	5.62	5.52	5.98	6.74	7.83	8.64	8.70	8.74	8.37
Distributive Trade	10.22	9.72	9.29	7.90	6.84	7.00	7.19	7.72	7.69	7.59
Tourism	7.51	7.72	8.01	9.63	11.23	11.32	10.73	11.41	11.37	10.44
Entertainment	1.15	0.99	0.86	0.92	0.89	1.08	0.81	0.88	1.20	1.12
Transport	2.02	1.69	1.95	2.07	2.44	2.24	2.45	2.12	1.90	1.86
Financial Institutions	1.96	1.52	1.55	1.15	0.87	0.89	1.15	1.04	0.68	0.85
Professional & Other Services	6.47	6.71	7.00	8.24	8.94	8.33	9.06	9.16	9.67	10.05
Government & Statutory Bodies	8.15	9.18	10.02	10.04	12.83	12.75	12.43	10.26	10.11	10.36
Personal	48.42	47.48	47.46	45.33	43.04	42.24	41.57	42.80	43.25	44.38