The Role of Structural Reforms in Building Economic Resilience in the Caribbean

Abstract

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The paper advocates the pre-emptive implementation of structural reforms to unlock the latent growth potential of Caribbean economies. Empirical evidence suggests Caribbean economies have been more crisis-oriented as opposed to resilience-oriented. The recent history of economic underperformance could further be explained by a combination of capacity constraints, which limit a structured approach to long range planning, and political economy factors that disrupt and/or generate resistance to reforms. Using panel methodology to test the relationship between structural reforms and economic growth, the assessment reveals possible short-run and long-run payoffs. A reform agenda has the potential to substantially boost investment and trade and to reinvigorate growth in the Caribbean while improving the ability of countries to adjust to shocks. Recommendations for structural reforms broadly cover labour and product markets, improving capacity to generate statistics, modernizing financial sector regulation and supervision, public financial management and regional trade and transportation considerations.

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I. Introduction

Economic growth stalled in the Caribbean[2] in the aftermath of the 2008/2009 financial crisis, averaging just below one per cent (0.85 per cent) over the period 2009-2014[3]. However, the growth performance began to deteriorate even before then, pausing momentarily amidst the considerable activities which surrounded the Caribbean's hosting of the ICC Cricket World Cup in 2007. While there was a distinction in the outturn between commodity-exporting (CE) economies such as Guyana, Suriname and Trinidad and Tobago compared with the tourism-dependent (TD) economies primarily of the Eastern Caribbean Currency Union (ECCU), there is evidence to suggest that permanent output losses (as measured by changes in potential GDP) have occurred. Many factors have been espoused for the serial decline in growth. These include, but not limited to; loss of preferential access for agricultural output to the European Union, the prevalence and increasing severity of natural disasters, oppressive public debt and migration of skilled labour.

Classified as middle-income countries[4] by the World Bank and other development agencies, Caribbean small states have been unable to tap sufficient Official Development Assistance (ODA) to offset the reduction in their revenue-earning capacity. With the exception of Belize, Jamaica and St. Kitts and Nevis, there has been a secular decline in ODA flows to the Caribbean since 1995[5]. The reduction and shift in ODA to other regions is perhaps unfortunate since several Caribbean economies share many of the same characteristics and vulnerabilities of low-income countries. Unable to engender a reversal of ODA flows due to income status; home–grown strategies to ignite economic growth are urgently required. To ensure countries' growth potential could be effectively realised and not suffocate before being unearthed, the implementation of structural reforms is critically important at this juncture. While some economies have undertaken first generation reforms such as deregulation and trade and financial liberalisation, others remain stuck in the blocks and the next wave of reforms (second generation reforms) have been slow to materialise. The relative youth of some of the democracies in question may be a valid explanatory factor, but given current economic realities inexperience is not a legitimate justification for inaction.

Recent examples in the international arena display the potential potency of structural reforms in boosting growth. As a member of the infamous PIIGS (Portugal, Ireland, Italy Greece and Spain) country grouping, economic growth was rekindled in Spain much sooner than the other crisis-stricken euro area economies. Notwithstanding the open debate on the efficacy of structural reforms for the Spanish economy, real GDP expanded by 1.4 per cent in 2014 after three successive years of negative growth and rose by 3.2 per cent in 2015. The economy continued to add jobs at a record-setting pace. The Spanish authorities implemented a slew of difficult reforms in the labour market such as reducing labour market duality and the labour

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[2] Refers to the 15-member states of CARCIOM.

[3] A divergence from the regional average of 2.5 per cent over the five-year pre-crisis period.

[4] Upper middle-income countries (UM) have annual per capita income of between $4,086 and $12,615; lower middle income countries (LM) of between $1,015 and $4,085; lower-income countries (Low) of $1,015 or less based on the World Bank Atlas method.

[5] See OECD International Development Statistics Online Database.

wedge; and in the financial sector by resolving weak entities and restructuring 'cajas'. However, growth in the other PIIGS countries (excluding Ireland) averaged a mediocre 0.4 percent.

The objective of the paper is to make a case for the implementation of pre-emptive structural reforms in the Caribbean in order to support the revival of growth and arrest the slide in regional competitiveness. Article IV Consultations[6] and lending arrangements with the International Monetary Fund (IMF) are the main source of information to assess structural reforms undertaken. Structural benchmarks under borrowing arrangements, in particular, are useful since they are multi-dimensional and often reflect the input of other development partners such as the World Bank (WB), the Inter-American Development Bank (IDB) and the Caribbean Development Bank (CDB)[7].The track record of reforms indicates that structural adjustments undertaken were primarily in response to crises and not part of overarching national policy agendas for economic transformation. Structural rigidities, categorised by economic sector, are outlined and recommendations for reform are advanced.

The structure of this paper is as follows: Section II surveys the empirical literature on structural reforms and economic development; section III catalogues the structural reforms undertaken over the past two decades for select CARICOM member countries[8], categorised according to economic sector; section IV discusses the methodology used to test the relationship between structural reforms and economic growth along with the attendant results; section V outlines a proposed structural reform agenda for Caribbean small states; and the paper concludes in section VI.

[6] Under Article IV of the IMF's Articles of Agreement, the IMF holds bilateral discussions with member countries, usually every year. A staff team visits the country, collects economic and financial information, and discusses with officials the country's economic developments and policies. The staff prepares a report, which forms the basis for discussion by the Executive Board, and at the conclusion of the discussion, the Managing Director, as Chairman of the Board, summarises the views of Executive Directors, and this summary is transmitted to the country's authorities.

[7] Since the 1980s with the introduction of the IMF/WB adjustment programs, structural reforms have been a core part of the reform agenda in the Caribbean.

[8] Countries include: Antigua and Barbuda, Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Jamaica, St. Kitts, St. Lucia, St. Vincent and the Grenadines, Suriname and Trinidad and Tobago.

II. Literature Review

Structural reforms could be defined as policies that increase the role of market forces and competition in the economy, while maintaining appropriate regulatory frameworks to deal with market failures—to boost economic performance (IMF, 2008). Structural reforms centre on improving medium-term economic performance and are generally sparked by domestic political factors, exogenous shocks, economic crisis and international linkages. Timing and sequencing of reforms are critically important.

The scan of the literature focuses mostly on the empirical studies undertaken rather than the theoretical discourse which eventually centres on the merits and demerits of alternative growth models. The literature is replete with studies that provide empirical evidence of the positive effects of structural reforms on macroeconomic outcomes. However, few studies go beyond testing the effects of one broad type of reform in isolation. Christiansen et al. (2009) assessed the economic performance of three groups of economic reforms: domestic finance, trade and the capital account. It was found that financial and trade reforms were positively associated with economic growth, but only in middle-income countries. The growth effects were persistent, lasting up to six years. The impact of capital account liberalisation, however, was not significant. More specifically, financial reforms were found to impact economic growth through increases in aggregate total factor productivity growth rather than a rise in aggregate investment. Further, the quality of property rights was found to be a key explanatory factor for the differing outcomes of the reforms in developing countries. Developing property rights was therefore seen as a precondition to extract maximum benefits from economic reforms.

IMF (2008) used a new data set on reforms (domestic product markets, international trade, domestic financial sector and external capital account) to examine the effects of structural policies on 91 advanced and developing countries. While the study found that there was a general tendency to pursue structural reforms over the 30-year period investigated, it was apparent that economic crises and the presence of IMF-supported programs helped to catalyse structural reforms. The quality of political institutions was also a contributing factor, particularly among advanced countries. Real and financial sector reforms appeared to have the larger effects on per capita GDP outturns through various channels. Real sector reforms elicited more favourable prospects by firms for future profitability and solvency and the ability to gain a comparative advantage following market deregulation. Meanwhile, financial sector reforms were associated with a reduction in domestic credit constraints and a greater inflow of foreign direct investment (FDI). The sequencing of reforms also seemed to alter the growth outcomes. Trade reforms followed by capital account reforms were found to have more positive effects than the reverse or even pursuing all reforms simultaneously. Similarly, pursuing domestic financial reforms first before capital account liberalisation was more beneficial for growth.

Everaert and Schule (2006) used the IMF's Global Economic Model to trace the effects of labour and product market reforms on large and small countries of the European Union. The reduction of mark-ups in these markets produced sizeable steady-state benefits for output—as much as 10 percentage points. However, reforms in the services sector yielded the largest gains because the degree of competition in this sector was initially the lowest. It appeared that the size of the effects was influenced by the degree of pre-reform rigidity. More flexible economies with a higher per capita GDP experienced smaller gains. An important finding was that although all of the reforms were welfare enhancing, labour market reforms were associated with lower real wages, while product market reforms supported higher real wages. The authors therefore advocated synchronising the timing of product and labour market reforms to dampen the downward impact on real wages.

Productivity deficiencies have been the bane of Caribbean economies, but the main challenge has been the general unavailability of appropriate measures of productivity in order to assess the full extent of the problem. Structural reforms can aid broad productivity enhancements, but evidence suggests that some countries gain and others do not. Salgado (2002) investigated the impact of structural reforms on productivity growth for 20 OECD countries. While there were concerns about the representativeness of the proxies for structural reforms, the data limitations did not invalidate the results. Short-run effects were either weak or negative as the authors opined that adjustment costs were high in the short-run as firms would have to learn how to operate in a more competitive environment. However, the long-run effects of trade and product market reforms on productivity growth were positive.

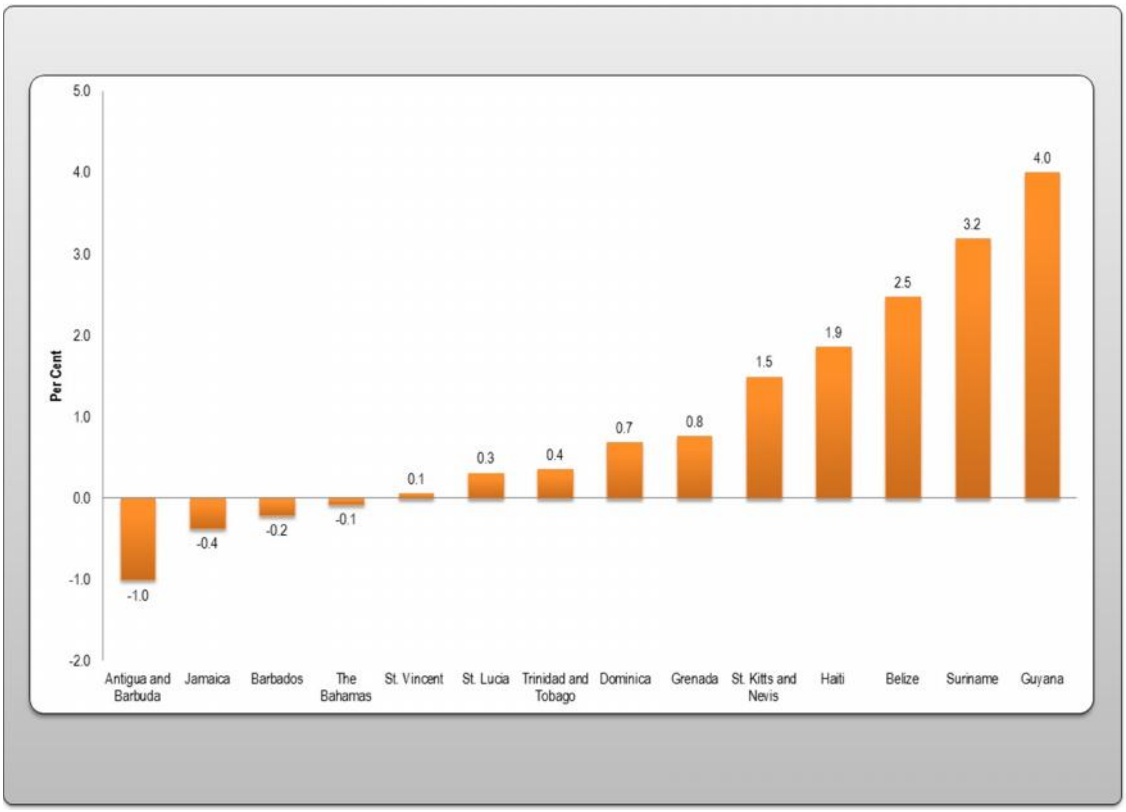
In a recent IMF study (Greenidge et. al, 2016) on a sample of Caribbean small states, they found that in the short-run structural reforms do not influence economic growth. However, in the long-run the benefits of structural reforms are evident. The results showed that FDI, gross domestic investment, trade openness and the real effective exchange rate exert a positive impact on the level of real GDP, while government consumption expenditure and financial development have a negative effect. Therefore, lowering average tariff rates, removing restrictions on the flow of international finances and improving fiscal measures have the potential to boost long-run economic growth. It appears that structural reforms in the areas of trade liberalisation, financial liberalisation and tax policies need to be revived in order to reinvigorate growth. Tangentially, this suggests greater attention to strengthening institutional quality is also required.

III. Structural Reforms in the Caribbean—Diagnosing the Problem

While Caribbean economies continue to cope with globalisation, legacy effects of the global financial crisis (GFC) and broader external trade shocks, the adoption of measures to streamline structural impediments and stimulating growth remain major challenge. For most Caribbean economies, in the aftermath of the GFC average annual growth slowed, pausing momentarily before resuming a trend of deterioration. Only a few Caribbean economies (notably Guyana and Suriname) were able to broadly recover from the slow growth/no growth episode, recording growth in excess of 2 per cent (Figure 1).

Notwithstanding the importance of structural reforms in supporting economic growth and development in the Caribbean, there has been little evidence of pre-emptive implementation. The post-GFC economic underperformance of the region signals the need for growth-enhancing structural reforms. Impediments such as low concessionary financing, elevated levels of debt, the impact of natural disasters, continuous emigration of highly educated and trained personnel, poor physical and administrative infrastructure for cost-efficient conduct of business, hinder the implementation of structural reforms by reducing the resources and institutional support available for their pursuit.

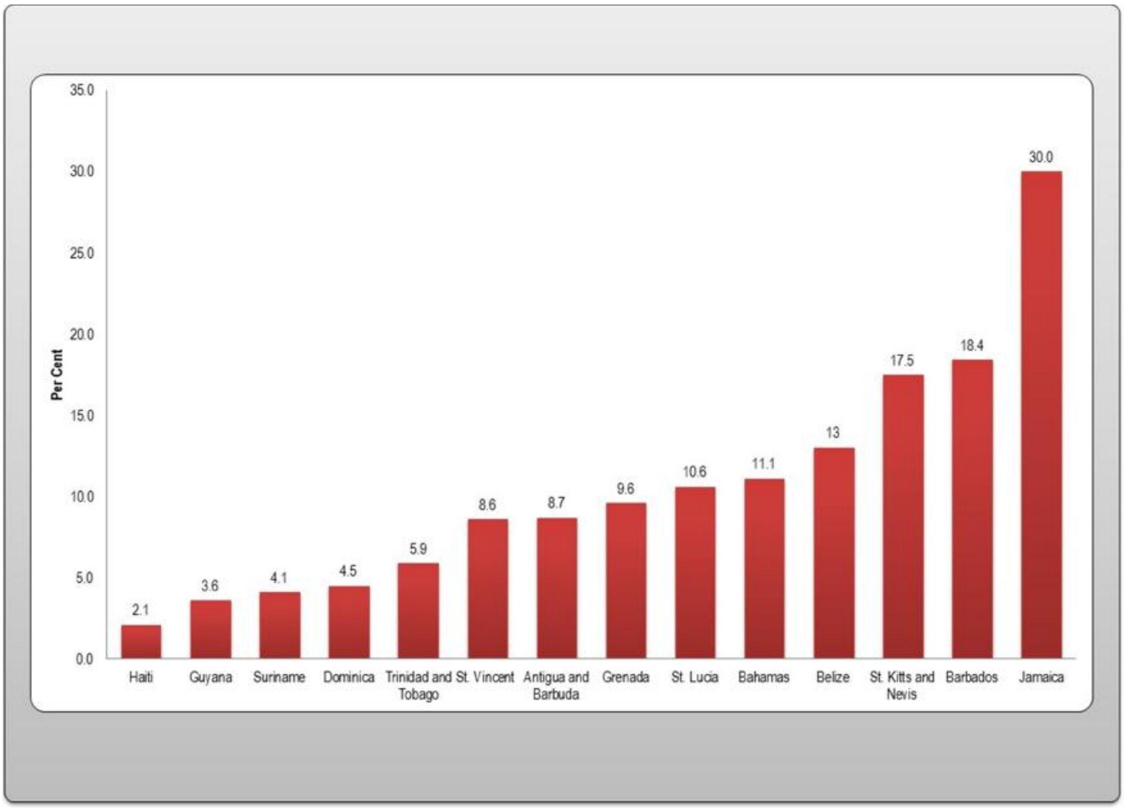
Figure 1
CARICOM Average Real GDP Growth, 2008-2015
Per Cent



Source: International Monetary Fund, World Economic Outlook Database, April 2016.

Similarly, factors such as lack of economies of scale, small market size and infrastructure bottlenecks inhibit private sector development in small states. As a result, the onus is often on the government to provide a range of goods and services, including employment. This has contributed to fiscal dominance in many Caribbean small states, causing a seeming inability to contain burgeoning fiscal deficits and rapid public debt accumulation. In certain cases, debt service accounts for more than 50 per cent of government revenue, creating a gross mismatch between available resources and commitments. Figure 2 shows that interest payments alone could account for as much as one-third of government recurrent expenditure.

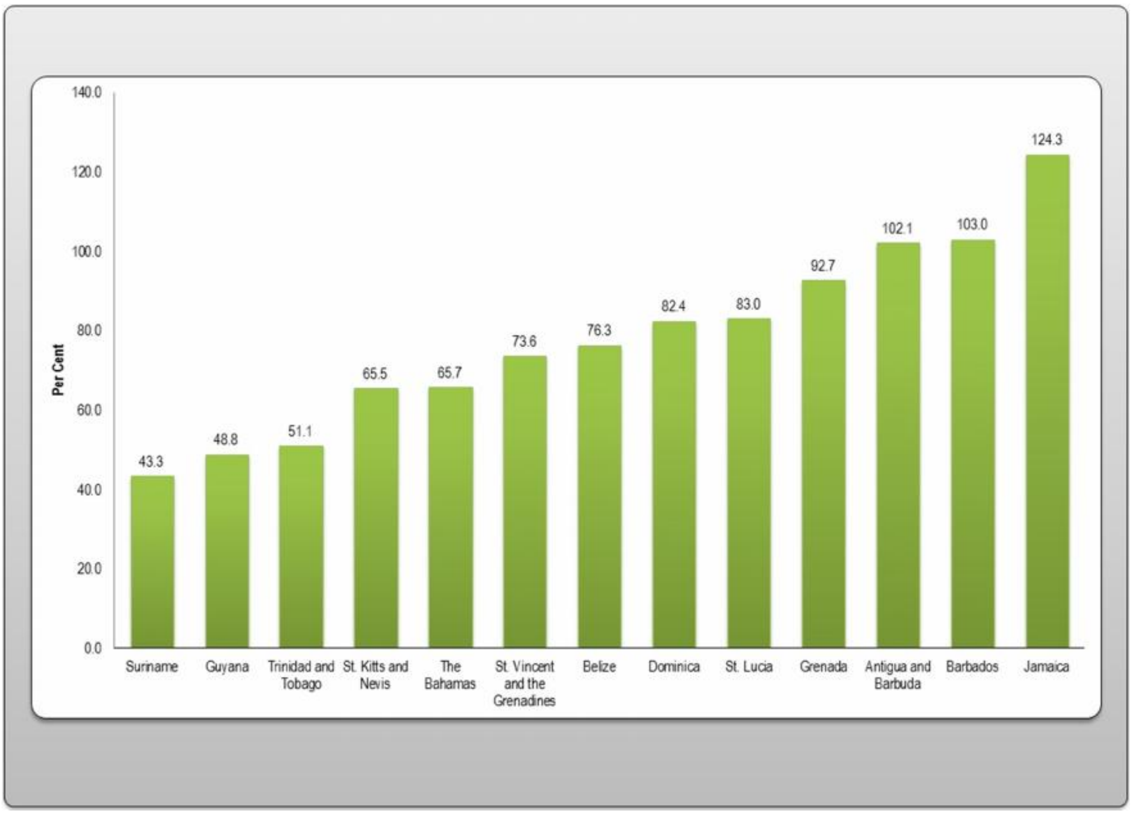
Figure 2
Central Government Interest Payments in Selected Caribbean Countries
Per Cent of Government Current Expenditure



Source: National Statistics Offices, Caribbean Economic Performance Report and Central Banks.

Caribbean countries are in the main heavily indebted countries. A profile of gross public sector debt for the 2015 revealed that most countries have debt-to-GDP ratios greater than 60 per cent with some in excess of 100 per cent. Domestic debt has been a growing concern in a few countries as they experience greater difficulty accessing international capital markets. Categorically, high levels of government debt have further intensified the challenge of financing long-term development by committing significant proportions of government recurrent expenditure to interest payments. With such high debt, it may be understandable why so few resources have been earmarked for the pursuit of structural reforms (Figure 3).

Figure 3
Public Sector Gross Debt in Selected Caribbean Countries, 2015
Per Cent



Source: International Monetary Fund, World Economic Outlook Database, April 2016.

The crash of CL Financial, the GFC and ongoing sovereign debt issues are a few examples of events which underpin a crisis-management approach to governance. In the Caribbean, structural reforms have been pursued mostly within the context of IMF-supported structural adjustment programs (SAPs) in the aftermath of economic and financial crises. In this regard, IMF lending programs and Article IV consultations with Caribbean economies are utilised as the main source of information on structural reforms undertaken for the period 1993-2015. The information source is thick since these facilities often reflect the input of other development agencies such the World Bank, the IDB and the CDB. A dichotomised reporting of the reforms is adopted given the differing challenges faced by commodity-exporting versus tourism-dependent economies. While reforms in the former would fixate on insulating the domestic economy from 'boom-bust' cycles associated with the vagaries of the international commodity markets and the overall management of natural resource wealth, over time growth, fiscal and debt sustainability concerns are likely to feature more prominently in the latter group. Table 1 shows that structural reforms across both country categories were concentrated on fiscal affairs. Not unexpectedly reform momentum slowed or stalled in the aftermath of a natural disaster or financial crises.

Table 1
Taxonomy of Structural Reforms in CARICOM

Commodity-Exporting Economies				
	Real	Fiscal	Financial	External
Belize		Debt restructuring (2013)	(i) Preparation of a financial crisis management plan and bank resolution templates; (ii) Addressed the deficiencies identified by the Caribbean Financial Action Task Force allowing Belize to exit the CFATF follow-up and monitoring process.	
Guyana	(i) Restructured state-owned sugar company; (ii) Business environment: Procurement, investment and securities legislation; (iii) Subscribed to IMF's General Data Dissemination System (2010).	(i) New remuneration structure for civil service professionals; (ii) Privatisation of state-owned companies (electricity, bauxite, airline & retail outlet); (iii) Introduction of VAT (2007).	(i) Privatisation of the Guyana National Cooperative Bank; (ii) Consolidated banking and insurance supervision, (iii) Pension reform; (iv) AML/CFT guidelines; (v) Passage of Credit bureau Act and widening of Bank of Guyana regulatory perimeter.	
Suriname	Subscribed to IMF's General Data Dissemination System (2005).	Fiscal responsibility law - Introduction of a public debt brake at 60 per cent of GDP.	(i) Passage of new AML/CFT law (2002); (ii) Passage of new banking supervision law (2003).	(i) Liberalisation of the foreign exchange market; (ii) Ratified CARICOM Single Market & Economy Treaty.
Trinidad and Tobago	Liberalisation of the telecommunications sector.	(i)Tax administration – Establishment of a large taxpayer's unit; (ii) Divestment of state-owned enterprises (First Citizens Bank) through IPOs (2013); (iii) Introduction of a Heritage and Stabilisation Fund (2007); (iv) Subscribed to the Extractive Industries Transparency Initiative.	(i) Securities Legislation to enhance the powers of the Securities and Exchange Commission (2012); (ii) Enhancement of the National Insurance Scheme (2013).	Enactment of the Investment Promotion Act.
Haiti	The adoption of a fuel price mechanism and measures to improve the performance of the electricity sector (2012).	The adoption of a front- loaded fiscal consolidation.		

Tourism–Dependent Economies[9]				
	Real	Fiscal	Finance	External
Antigua and Barbuda	Voluntary civil service separation (2008).	(i) Implementation of the tax reform package (VAT and property tax). This included a reintroduction of personal income tax and reduced discretionary tax waivers (2005); (ii) Customs administration – introduced the ASYCUDA system.	Finance Administration Act passed by Parliament in 2006, and implementation began with the 2008 budget.	
Bahamas	Enacted the Employment and Minimum Wages Acts. Highlights include: a shortened work week to 44 from 48 hours and a minimum wage of $4/hour.	(i) Privatised most of the major hotels; (ii) Government divested a portion of its holdings in a commercial bank; (iii) Implementation of an improved tax administration. This entails the implementation of a customs information system, which has become more intensive since 2001.		See National Development Plan: Vision 2040
Barbados	(i) Restructured private sugar industry; (ii) Corporatisation of the Port Authority and Airports Authority; (iii) Liberalised telecommunications sector; (iv) Launched a major IADB competitiveness project (2011).	Introduced tax reform (VAT) in 1997. This involved a reduction in corporate and personal taxes.	(i) Closed and restructured two state banks; (ii) Passed legislation to strengthen prudential supervision; (iii) Establishment of regulatory framework for private pensions; (iv) Reform of national insurance scheme; (v) Privatised a major insurance company.	(i) Lowered import duties; (ii) Phased out import surcharges; (iii) Relaxed foreign exchange controls to permit holding of foreign currency accounts.
Dominica	(i) Divesture of public stake in electricity company; (ii) Automation of customs and land titling.	(i) Introduction of VAT (2006); (ii) Debt restructuring (2004-2005).		Reduced external tariff in line with CARICOM commitments.

[9] Montserrat is excluded from the list since the economy is sustained by grants from the United Kingdom and 2011 was the first year the Montserratian authorities' took part in the Article IV Consultation Discussions, which helped to provide context for the 2011 Eastern Caribbean Currency Union Common Policies Discussions.

Tourism–Dependent Economies[10]				
	Real	Fiscal	Finance	External
Grenada	Divested the radio and TV station.	(i) Downsized civil service; (ii) Moved the Post Office off budget and outside government control; (iii) Adopted automatic fuel price adjustment mechanism; (iv) Improved tax administration by strengthening collection of tax arrears (2010).	(i) Privatised two commercial banks; (ii) Established the Grenada International Financial Services Authority to monitor offshore banking sector (2010).	Reduced external tariff in line with CARICOM commitments.
Jamaica	(i) Privatised electric company; (ii) An energy diversification program is being implemented, including the construction of three renewable energy projects (2015).	Eliminated discretionary tax waivers and improved the tax administration system (2007).	(i) Consolidated and privatised state-owned financial institutions (banks and insurance companies); (ii) Passed the Financial Services Commission Act to strengthen supervision.	(i) Reduced maximum external tariff on non-agricultural products to 20 per cent; (ii) Implemented ASCYUDA World at Kingston Port.
St. Kitts and Nevis	(i) Liberalised the provision of cellular services; (ii) Corporatised the Electricity Company.	(i) Operationalised the 2011 Civil Service Act (2014); (ii) Improved tax administration and widened the tax base and customs exemptions (2014); (iii) Strengthened public financial management through passage of a Procurement and Contract Act and adoption of medium-term debt management strategy.	Strengthened financial sector supervision.	
St. Lucia		(i) Introduced a flexible fuel pricing regime; (ii) Increased the VAT rate on tourism services and raising certain fees and charges (2014).	The authorities passed the Banking Act and took other regionally harmonised actions to reform the bank supervision and regulation framework (2014).	Improved customs operations by automating the import clearance process and introducing a Risk Management Task Force (2014).

[10] Montserrat is excluded from the list since the economy is sustained by grants from the United Kingdom and 2011 was the first year the Montserratian authorities' took part in the Article IV Consultation Discussions, which helped to provide context for the 2011 Eastern Caribbean Currency Union Common Policies Discussions.

Tourism–Dependent Economies[10]				
	Real	Fiscal	Finance	External
St. Vincent and the Grenadines	Restructured the banana sector.	(i) Tax reform: Introduction of VAT in 2007; (ii) Enhanced capacity and frequency of onsite examinations and audits at the Inland Revenue Department (2014).		

Source: IMF Article IV Consultations and Program Reviews, 1995-2015.

IV. Assessment of the Relationship between Structural Reforms and Economic Growth

Methodology

Much of the empirical work adopted to evaluate the effects of structural reforms on macroeconomic outcomes utilises an underlying macroeconomic model. The use of macro models among Caribbean Central Banks is not ubiquitous, but the data gaps are perhaps the more overwhelming challenge. To analyse the relationship between growth and structural reforms in the Caribbean[11] a panel co-integration approach using a standard growth regression across time and space is utilised[12]. The model specification adopted is described in the following form:

$$Y_{it} = \alpha + \beta X_{it} + \Phi_i + V_{it} \quad (1)$$

Where Y_{it} is the dependent variable and refers to the log of real GDP, α is the intercept term, β is a k x 1 vector of parameters to be estimated on the explanatory variables, X_{it} is a 1 x k vector of observations on the explanatory variables which vary over t and i, where k represents the number of parameters to be estimated and sub-indices t and i denote the time period and country respectively, where t = 1,2,…..T and i = 1,2,….N. X contain key determinants of growth as postulated in the growth literature while variables contained in Z reflect those indicators relevant to the growth literature on SIDS. Finally, V represents the composite error term and can contain two or three components: individual effect (μ_i); time effect (L_t) and the disturbance term (U_{it}).

In the model, key variables are used as proxies to capture growth dynamics such as capacity utilisation and economic and financial constraints while controlling for other possible growth determinants. PSD which represents public sector debt-to-GDP is specified in the model as a constraint variable for the level of funds available to pursue growth-enhancing capital investments. GW, which reflects central Government expenditure on wages-to-GDP, is included as a proxy for the size of the public sector since in most of the sample countries the government is the largest employer and can be an indicator of private sector crowding out. This variable can also help determine the share of non-tradables in GDP. UR refers to the unemployment rate and is included as a barometer for labour market rigidities. In addition, the trade effect on growth is included. CA refers to the external current account balance-to-GDP, which measures trade openness. Investment expenditure (I) is captured by gross capital formation as a share of GDP. For the purpose of estimating the interplay between structural reforms and economic growth a dummy variable was utilised. The dummy variable SR reflects broad measures of structural reforms taking the value of one for the year of implementation and zero otherwise. While most empirical studies adopt structural reform indices to examine its effect on economic growth, the paper incorporates dummy variables as a broad measure of

[11] A sample of six Caribbean Countries namely; the Bahamas, Barbados, Belize, Jamaica, Suriname and Trinidad and Tobago were included in the model based on availability of data.

[12] Most empirical analyses on structural reform and growth adopts the pioneering work of Barro and Sala-i-Martin (1995) which was first exploited by Mankiw, Romer and Weil (1992).

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structural reforms. This is due to data paucity, especially with respect to product and labour market reforms[13].

Corroborating the empirical framework as a generic growth equation that reflects the properties of commodity-exporting and tourism-dependent countries. Panel unit root and panel cointegration tests are employed. Common unit root processes are examined using Levin, Lin and Chu panel unit root test[14] and individual unit root processes are evaluated based on two types of unit root tests, namely, the Augmented Dickey Fuller-Fisher Chi-square test and the Phillips Perron-Fisher Chi-square panel unit root test. The results of the panel unit root test suggest that there is a common unit root process across all six cross sections and individual intercepts (Table 2). Further, to examine co-integration two types of tests are applied. The Kao Residual Cointegration Test and the Johansen Fisher combined procedure. The results of both cointegration procedures suggest that the null hypothesis of no cointegration is rejected at conventional levels of significance.

Table 2

Summary of Panel Unit Root and Panel Cointegration Tests

Details	Tests	Significant	Insignificant
Common unit root processes	Levin, Lin and Chu panel unit root test	√	
Individual unit root processes	ADF-Fisher Chi Square test	√	
	Phillips Perron-Fisher Chi-square panel unit root test	√	
Residual based Cointegration Test	Kao Residual Cointegration Test	√	
Non stationary time series Cointegration Test	Johansen Fisher combined procedure	√	

Source: Authors' Construction.

Having established that there is a linear combination that holds the variables in proportion to each other, the long-run fully modified OLS method originally introduced and developed by Philips and Hansen (1990) is employed. This is in view of the fact that the OLS estimator is a biased and inconsistent estimator when applied to cointegrated panels. The fully modified OLS estimator generates consistent estimates in small sample sizes and controls for endogeneity of the regressor and serial correlation. Cognizant of the notion of model performance, robustness checks revealed that the assumptions and specifications of the model are relevant[15] (Appendix I).

[13] The use of the dummy variable is effective for instances where data on structural reform is unavailable. For example data as it relates to products and labour markets. This type of data is integral for assessing Caribbean economies as they usually grapple with structural impediments in their product and labour markets. However, data on trade liberalisation reforms, financial liberalisation reforms and fiscal reform/taxations are more readily available.

[14] In recent years a number of investigators, namely Levin, Lin and Chu (2002), Breitung (2000), Hadri (1999), and Im Pesaran, and Shin (2003) developed panel unit root test similar to those carried out on a single series. These investigators showed that panel unit root test is more powerful than unit root test applied to a single series.

[15] The fully modified OLS method utilises Kernal estimators of the nuisance parameters that affect the asymptotic distribution of the OLS estimator. In order to achieve efficiency, this technique modifies least squares to account for serial correlation effects

Results

The results show statistically significant relationships between structural reforms and growth outcomes of Caribbean countries[16] in the long-run (Table 3). The positive sign on the slope parameter suggest structural reforms are in fact significant to unlock the growth potential of Caribbean economies. The findings of the pairwise granger causality test are also worth noting. The null hypothesis which states that structural reform does not Granger Cause economic growth is rejected, in favour of the panel estimation results which suggests that the payoffs from different types of reforms raises economic growth. However, this relationship is found to be unidirectional as economic growth does not Granger Cause structural reform.

The results are broadly aligned with previous research undertaken by the IMF[17]. Variables such as the share of investment in GDP (gross capital formation), structural reform (SR) and trade openness (current account to GDP) are found to be significant in raising economic growth. The trade effect on growth is found to have the largest influence on real GDP. According to the results a one percent increase in openness raises economic growth by 0.3 percentage points over time.

Table 3
Long-run Estimates for Structural Reform and Growth

Sample: 1990-2015 Countries: 6	
Variable	**Coefficient**
Public Sector Debt to GDP	0.051907
Government Expenditure on Wages to GDP	-0.053080 *
Unemployment Rate	-0.018054 *
Total Investment to GDP	0.001286 *
Current Account	0.288397 *
Structural Reform	0.034313 *

Source: Authors' Construction.
* Reject at all levels of significance

The findings that government expenditure on wages as a percent of GDP and the unemployment rate has a negative relationship with growth are consistent with economic theory. A coefficient of -0.05 per cent suggest that a 1 per cent increase in government wage expenditure lowers growth by 0.05 percentage points. The negative effect of government expenditure on wages and salaries on growth may be on account of withdrawals/leakages from the economy due to high marginal propensities to consume on imports. More broadly, while there is a notion that government spending tends to crowd out private sector investment, not all classes of government spending have a dampening effect on output. For example, in small states the

and test for endogeneity in the regressor that usually results from the existence of co-integrating relationships Rukhsanna and Shahbaz (2008).
[16] Null hypothesis of insignificance is rejected at the 10 per cent level of significance.
[17] See Greenidge et al. (2016), Everaert and Schule (2006), Salgado (2002) and Swiston and Barrot (2011) for similar discussions on the role of structural reforms in raising economic growth.

fiscal multipliers associated with capital spending are positive and significant compared to zero to negative for recurrent expenditure. In terms of the unemployment rate, a 1 per cent increase in unemployment lowers real GDP by 0.02 percent – consistent with Okun's Law.

The relationship between structural reform and economic growth was also evaluated using a Vector Error Correction Model (VECM)[18] to assess the short-run dynamics. The positive and statistically significant nature of the error correction term indicates that there is in fact a short run dynamic and long-run equilibrium impact of structural reforms on economic growth (Appendix I). This result is at variance with most of the empirical literature which tend to validate only the long run relationship between structural reforms and economic growth. A possible explanation for this finding is that small island states are some distance away from their optimal production and technological frontiers. As such, small structural changes tend to have a more transformational impact than in more developed economies which are closer to their potential output. This is an important result since it may serve to confront the political economy rationale for resisting structural reforms. Oftentimes the payoff from structural reforms does not materialise in or synchronise with the electoral cycle. In this regard, the finding of a significant short-term impact could underpin bold policy action within an electoral term.

[18] Using a panel VAR approach, we explore the possibility of variables being collinearly iterated over time. The results of the Johansen procedure and VECM suggest that there is short run dynamics and a long-run equilibrium between structural reform and economic growth.

V. A Structural Reform Agenda for the Caribbean

Structural reforms should not be a vicarious endeavor. For emerging market economies such as China, reforms are undertaken as part of five-year development plans which serve as anchors for progress. Although most Caribbean economies designate responsibility for economic planning to a particular ministry, a silo approach combined with lack of/ineffective communication often fails to engender population buy-in. There have been some notable attempts, including Vision 2020 in Trinidad and Tobago and Vision 2030 in Jamaica. However, in a few cases the efforts have been sacrificed at the altar of political expediency. In this regard, a national planning mechanism, insulated from the political process, needs to be established. This is a necessary and first-order condition that must be met in order to ensure that reforms requirements could be identified at prescribed intervals, developed with stakeholder input and executed within a reasonable timeframe. The Caribbean Growth Forum (CGF) has been a useful vehicle to support this process. The CGF is a multi-stakeholder platform designed to identify, prioritise and implement a set of activities to improve the growth enabling environment in the Caribbean while promoting participatory public policy making. The CGF commenced in 2012 and is organised in two phases:

Phase 1 focused on the identification, prioritisation, and sequencing of actions plans for reforms arising from the working groups on each of the three priority areas which include logistics and connectivity, investment climate and skills and productivity. Final reports and action plans for ten of the participating countries have been completed with details on each activity established to support the reform process. Where countries had national development strategies, the aim of the CGF was complementary, identifying the priorities within the three pillars that can contribute to their implementation.

Phase 2 focuses on the consolidation and implementation of the reform agenda by the government, with the CGF facilitating public accountability – through independent monitoring by the private sector and civil society representatives - for progress on the implementation of prioritised actions. A series of accountability workshops are held to report progress.

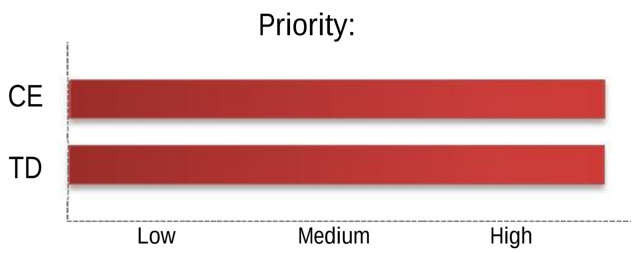
It would be important to not lose traction and avoid reform fatigue. Since the Third Regional CGF held in St. Lucia in July 2015, public disclosure of progress via accountability workshops have not taken place. However, engagement does not appear to have waned as twelve countries have renewed their commitment to the CGF agenda. A technical working group meeting was held in Jamaica in May 2016.

Cognisant of reform initiatives currently in train such as the CGF, the ensuing discourse on proposed structural reforms is not meant to be exhaustive. Against the backdrop of the empirical findings of possible short-run dynamics outlined In Section IV, recommendations aim to spotlight a few key reforms in the relevant sectors that have the potential to yield large dividends. An assessment of the criticality of the relevant reforms for commodity-exporters and tourism-dependent economies is also presented (Figure 4).

a. The Real Sector

Product and labour market reforms are overdue in the region. Small market size often gives rise to either natural monopoly, monopolistic or oligopolistic market structures. Concentration indices calculated for Trinidad and Tobago (Finch and Cox, 2005) suggest a high degree of concentration in the non-energy sector, with the situation possibly more acute in key sectors in the ECCU region. Redress for possible abuse of market power is often unavailable because legislation is either absent or toothless and where there is enabling legislation, implementation deficits are evident. For example, the Fair Trading Act was enacted in Trinidad and Tobago since 2006, but the regulatory body was only established in 2014 and is chronically understaffed. The presence of national competition authorities (NCAs) in a few countries does not guarantee the effectiveness of competition policy, as veiled conjecture about regulatory capture is not uncommon. Given capacity and other constraints, a useful starting point could be to revisit the roles and responsibilities (within the parameters of the Revised Treaty of Chaguaramas) of the existing regional competition regulatory architecture, the CARICOM Competition Commission (CCC), to better position the regional body to play a more supportive role to NCAs.

Labour legislation is quite outdated. In some cases, the legislation has been in place since the 1950s. The events surrounding the exit of a multinational steel manufacturer from Trinidad and Tobago attest to the urgency of updating industrial relations legislation. However, a major issue in many countries is the disproportionally large role the government plays in the labour market. Governments face a conundrum by their dual role of employer and regulator of the labour market. The challenge is how to shift the state from being the employer of first resort, especially when the private sector does not possess the absorptive capacity to facilitate such transference. High rates of unionisation also pose a difficulty as it imposes a measure of inflexibility in employment contracts. For the private sector to play a larger role in the economy, the cost of hiring and firing needs to be internationally competitive. Along with encouraging business start-ups, enhancing employment flexibility could help mitigate the debilitating "brain drain" the region faces. For countries with distortionary government employment programs, earned income tax credits[19] may also be an option. Here, low-income individuals can be given a tax credit as an incentive to find work in the private sector. In keeping with the empirical evidence, it would be advisable to pursue product market reforms before labour market modifications in order to avert possible negative consequences on real wages.



[19] An Earned Income Tax Credit is a refundable tax credit targeted to low income individuals.

b. Fiscal Reforms

As highlighted in Table 1, the majority of structural reforms in CARICOM have been in the fiscal dimension. Yet the reform agenda is still far from complete. A pressing reform, as advocated by the IMF, is a regional approach to tax concessions. Evidence suggests that tax holidays are not an effective mechanism to derive sufficient benefits from FDI[20]. Competition on the basis of enticements only leads to a “race towards the bottom”. Negotiation of a regional investment policy, targeting mainly the tourism-dependent ECCU sub-region in the first instance is recommended. To gain traction, the policy focus in this area should be included in the Strategic Plan for the Caribbean Community, 2015-2019 under the Building Economic Resilience pillar.

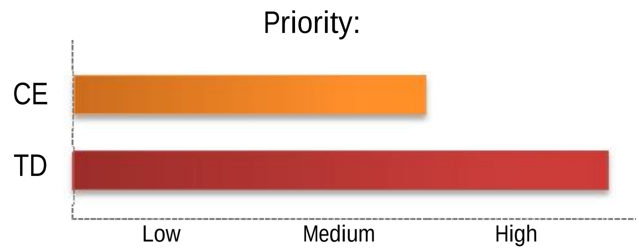
In a related point, the onus is generally on the host country to provide the appropriate conditions (fiscal and other incentives) to facilitate investment of mainly non-residents, but there should also be a thrust (perhaps by agencies such as the UNDP, IDB or the Commonwealth Secretariat) to help develop Guidelines for Responsible Investing in Small States. This will place some of the responsibility on the investor to adhere to guiding principles when investing in jurisdictions that may not have modern legislative or regulatory mechanisms to govern the many facets of FDI nor the technical capacity to adequately navigate the different phases of the investment cycle—from negotiation to exit. For example, one area where technical assistance is needed is in the design and implementation of environmental levies to fund climate change mitigation initiatives.

The approach to contracting public debt needs review. Some countries do not possess international credit ratings, restricting access to international capital markets. The corollary is that a heavy dependence on domestic financing can threaten financial stability when debt restructuring results in creditors, mainly indigenous financial institutions, having to take haircuts and the losses charged against their capital base. While fiscal fragilities of individual countries may inhibit external bond financing, a regional bond instrument may stand a chance. A regional bond could be successfully raised in the ECCU given the governance arrangements already in place (OECS Authority/Assembly/Commission) and an established precedent for independent economic assessments at the sub-regional level[21]. The available information should be sufficient to secure an international credit rating and the scale economies from pooling financing requirements should redound to lower financing costs compared to if each territory sought to raise financing individually.

Another area ripe for reform is transfers and subsidies. In Caribbean small states where the government is often expected to play a communitarian role, transfers and subsidies tend to be excessive and their reform divisive. Without a sufficiently diversified stream of revenue, the sustainability of the welfare state model can be extremely challenging. To commence the dialogue, the institutionalisation of tax expenditure studies should be pursued and utilised as a public education tool. Public knowledge of forgone tax receipts could

[20] Sosa, Sebastian, January 2006, “Tax Incentives and Investment in the Eastern Caribbean,” IMF Working Paper, WP/06/23.
[21] The IMF Executive Board considers a report on ECCU Common Policies on an annual basis.

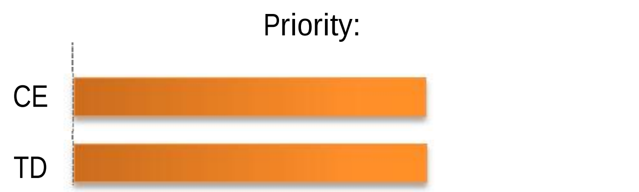
perhaps make reforms more palatable. This would also facilitate compliance with pillar I of the IMF's Fiscal Transparency Code.



c. Financial Sector

Despite the fallout from the CLICO crisis and a few bank failures in the OECS over the past six to eight years, the financial sector is perhaps one of the better regulated sectors in the region. The CLICO failure served as the catalyst to strengthen legislation governing the non-bank sector, with several territories establishing Financial Service Authorities which generally have oversight of insurance companies, credit unions, and building societies to name a few. The legislative reform agenda is still incomplete and outdated regulations need modernisation. For example, on the banking side, most of the region's regulators still base their supervisory activities on Basel I standards. Though, countries are at different phases in adopting Basel II and elements of Basel III. Due to significant financial interconnectedness, there is the possibility of positive spill-overs effects from legislative changes in the home territory of the parent institution to host countries. In the case of Trinidad and Tobago whose financial entities have subsidiaries in several Caribbean jurisdictions, the new Insurance Bill, the Securities Act and impending credit union legislation could have a transformative impact on other jurisdictions.

There is some lag in comprehensively addressing deficiencies in the Anti-Money Laundering and Countering the Financing of Terrorism in several jurisdictions. Here, time is against many countries as failure to meet certain compliance thresholds could give rise to blacklisting by international standard-setters, some of which has already occurred (despite reservations about the transparency of the assessments). Issues such as de-risking and the attendant loss of correspondent banking relationships have become quite topical and threaten to escalate if there is inaction. Several potential solutions have been proposed, but the establishment of a regional Bank of Settlements warrants serious consideration. The majority shareholders of this institution could comprise commercial banks with a regional footprint, leaving a minority shareholding for indigenous institutions and even international banks. This would provide the economies of scale necessary to make transacting business with the region economically viable for the major international banks.

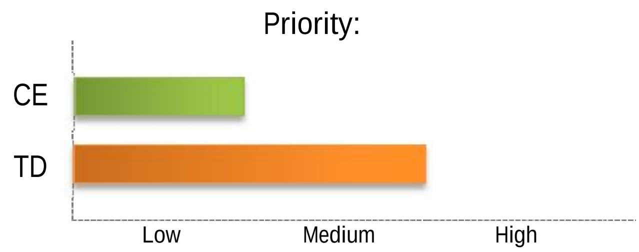


d. External Sector

The modalities for improving trading relations have been articulated under the Caribbean Single Market component of the Caribbean Single Market and Economy (CSME). Some of the structural impediments which remain include transport linkages and antiquated customs practices. Regional transportation continues to be a severe challenge, hampering competitiveness in the trade of goods and services. Small cargoes lead to high fixed costs of marine transport – costs which are passed on to businesses and ultimately the final consumer. Previous attempts at a government-owned shipping line have failed[22] since the function did not match the capabilities of government. Going forward, this area seems to be a good candidate for a public-private partnership (PPP). In terms of passenger transport, a similar recommendation holds. Again, past proposals for a regional ferry were non-starters primarily because the service would have to be heavily subsidised and it was difficult to negotiate burden sharing arrangements.

Air travel is subject to omnipresent inefficiencies because the main regional airline, LIAT, is viewed as a public good given that previous attempts to inject private competition were unsuccessful. Regional air travel seems to be in a "Catch 22" situation. The loads are insufficient to make business sense for a purely private, profit-maximising entity and the main shareholders (regional governments) do not have the fiscal resources to effect a comprehensive transformation of LIAT. Here a PPP might again be an appropriate "solution" as full privatisation may not necessarily translate into fiscal relief[23].

Customs administration is generally in need of reform. Merging customs functions and implementing a revenue sharing mechanism hold strong promise for territories of the ECCU, in particular. This would relieve each government of having to provide the full range of services required for a modern customs operation. However, one must acknowledge the complexities given the sovereign and legal ramifications. Lessons from the operation of customs in federal systems may prove useful.



[22] West Indies Shipping Corporation Act (1961) enacted by the Parliament of the former West Indies Federation.
[23] Governments are often required to provide minimum load guarantees to private airlines.

Statistics Enhancement

Monitoring and evaluation of any reform exercise cannot ensue without good data. The breath, timeliness and quality of statistical information disseminated by regional statistical authorities differ (Appendix 2). Without being exhaustive, a few areas that warrant improvement over the medium-term include, national accounts, labour and fiscal statistics. Few countries prepare GDP by income and expenditure. Preparation of quarterly GDP statistics seems also to be a challenge. Labour market statistics are particularly weak in the ECCU where data tend to be compiled in the context of household surveys which occur infrequently. On the fiscal front, the IMF's Fiscal Transparency Code which has standards in four broad areas (fiscal reporting, fiscal forecasting, fiscal risk analysis and resource revenue management) should be adopted as many countries are at a basic level according to the framework. This would facilitate international comparison and help better inform policy decision-making. Technical assistance would be imperative to make advancements in these areas.

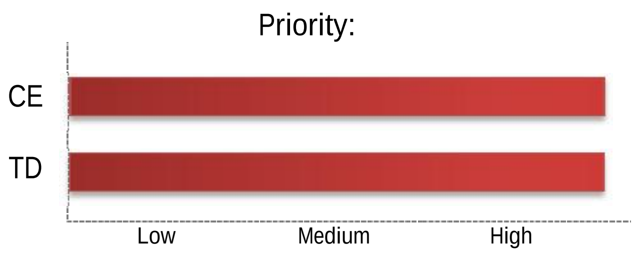


Figure 4
CARICOM Structural Reform Priorities

Source: Authors' Judgment.

VI. Conclusion

Since the 1980s, structural reforms have facilitated an outward-oriented growth strategy through embracing neoliberal policies that advocate free markets and a reduced role for the state. Structural reforms have the potential to improve productivity and competitiveness while reducing countries' susceptibility to external vulnerabilities. In the Caribbean, reforms have generally been undertaken in the aftermath of a crisis suggesting that regional economies could be characterised as more crisis-responsive as opposed to resilience-building oriented. The recent history of economic underperformance in the region could be partly traced to this crisis orientation. Further where reforms are pursued, implementation is often hampered by capacity constraints, absence of long range planning frameworks to properly contextualise the reforms, and political economy factors that disrupt and/or generate resistance to reforms. However, there are signs that reforms undertaken in the past in response to economic crises have had positive impacts.

In this regard, the paper contributes to the literature on the efficacy of structural reforms by testing the relationship between reforms and economic growth with a view towards encouraging a more strategic use of structural reforms as part of a resilience building agenda. The analysis is differentiated from the substantive work in this area as the sample is drawn from Caribbean small states and uses a different methodology from IMF, 2016 which attempted to test a similar relationship between reforms and growth. Using a panel co-integration approach, the results show a positive impact of structural reforms, but only over the long-run. However, using a VECM short-term dynamics were found to be at play. This suggests not only the need to devise a reform agenda and insulate it as best as possible from the electoral cycle, but also the potential for structural reforms to yield benefits within governments' typical five-year term.

A concise structural reform agenda is put forward to tackle the major structural impediments that have hampered the region. The recommendations are categorised by economic sector (real, fiscal, finance and external), but should not be viewed in a linear fashion as some reforms can be pursued simultaneously. The brevity of the number of structural reforms advanced is deliberate given capacity constraints and to avert possible reform fatigue. In the real sector, calls are made for more support from the regional competition apparatus and to update badly outdated labour legislation to facilitate employment flexibility and labour mobility. On the fiscal front, suggested reforms include a regional approach to tax concessions, safeguarding fiscal and debt sustainability through the issuance of regional bonds at the ECCU level in the first instance, improving public financial management, the development of guidelines for investing in small states and addressing the heavy reliance on the state via transfers and subsidies. Financial sector reforms centre on updating financial sector regulation and supervisory practices. Enhancing the capacity to generate statistics is also highly recommended.

Progress will ultimately depend on the political will of regional governments. A tighter link between policy decisions taken at the CARICOM Heads of Government and execution at the national level needs to take place. Adjustments to CARICOM governance arrangements to strengthen regional coordination would support compliance and enforcement efforts in this regard.

Bibliography

- Babecky, J., & Havranek, T. (2013, August). Structural Reform and Economic Growth: A Meta-Analysis. Retrieved May 17, 2016, from https://www.cnb.cz/en/research/research_publications/cnb_wp/2013/cnbwp_2013_08.html
- Baum, C. F. (2013). Dynamic Panel Data Estimators. Retrieved May 17, 2016, from EC 823: Applied Econometrics: http://fmwww.bc.edu/EC-C/S2013/823/EC823.S2013.nn05.slides.pdf
- Christiansen, L., Schindler, M., & Tressel, T. (2009). Growth and Structural Reforms: A New Assessment. IMF Working Papers, (WP/09/284). doi: December 2009
- Everaert, L., & Schule, W. (2006). Structural Reforms in the Euro Area: Economic Impact and Role of Synchronisation across Markets and Countries. IMF Working Papers, (WP/06/137). doi: June 2006
- Finch, K. and Cox D. (2005): Corporate Conglomerates and Concentration in Trinidad and Tobago. Research Review Seminar, Central Bank of Trinidad and Tobago
- Greenidge, K., McIntyre, M. A., & Yun, H. (2016, April). IMF Working Paper. Retrieved May 04, 2016, from Structural Reform and Growth:What Really Matter? Evidence from the Caribbean: http://www.imf.org/external/pubs/ft/wp/2016/wp1682.pdf
- International Monetary Fund. (2015, November). Structural Reform and Marcoeconomic Performance: Initial Considerations for the Fund. Retrieved May 17, 2016, from http://www.imf.org/external/np/pp/eng/2015/101315.pdf
- IMF Policy Paper. (August 2014). Update of Fiscal Transparency Initiative
- Mitrovic, R. D., & Ivancev, O. (2010, April-June). Driving Forces of Economic Growth In the Second Decade of Transition. Retrieved May 17, 2016, from http://www.doiserbia.nb.rs/img/doi/0013-3264/2010/0013-32641085007D.pdf
- Organisation of Eastern Caribbean Development. (2015, February). Structural Reforms in Italy:Impact on Growth and Employment. Retrieved May 17, 2016, from https://www.oecd.org/italy/structural-reforms-in-italy-impact-on-growth-and-employment.pdf
- Research Department, June 2008, “Structural Reforms and Economic Performance in Advanced and Developing Countries”, International Monetary Fund
- Salgado, R. (2002). Impact of Structural Reforms on Productivity Growth in Industrial Countries. IMF Working Papers, (WP/02/10). doi: January 2002
- Structural Reforms and Economic Performance in Advanced and Developing Countries. (2008). Research Department, International Monetary Fund. doi: June 10, 2008
- Swiston, A., & Barrot, L. (2011). The Role of Structural Reforms in Raising Economic Growth in Central America. IMF Working Papers, (WP/11/248). doi: October 2011
- Taylor, Ashley, February 2008, “Trade and Financial sector reforms: interactions and spillovers”, London School of Economics/Financial Markets Group, IMF conference on Causes and Consequences of Structural Reforms, Washington DC
- Turto, A. L. (2005, May). The Growth Impact of Structural Reform in Latin America. Another Look. Retrieved May 17, 2016, from http://docs.dises.univpm.it/web/quaderni/pdf/235.pdf

Appendix I

Econometric Results (Eviews)

Unit Root Tests

Variable	Levin, Lin & Chu t[1]			ADF - Fisher Chi-square[2]			PP - Fisher Chi-square		
	Individual Effects	Individual Effects and Trends	None	Individual Effects	Individual Effects and Trends	None	Individual Effects	Individual Effects and Trends	None
Log of Real GDP	0.02**	0.89	0.97	0.73	0.72	0.97	0.88	0.20	0.10
D(Log of Real GDP)	0.00*	0.00*	0.00*	0.00*	0.01**	0.00*	0.00*	0.00*	0.00*
Public Sector Debt to GDP	0.33	0.83	0.50	0.03**	0.36	0.17	0.97	0.96	0.77
D(Public Sector Debt to GDP)	0.44	0.37	0.00*	0.02**	0.02**	0.00*	0.00*	0.00*	0.00*
Government Expenditure on Wages to GDP	0.00*	0.04**	0.13	0.04**	0.06***	0.25	0.03**	0.02**	0.04**
D(Government Expenditure on Wages to GDP)	0.00*	0.18	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*
Unemployment Rate	0.16	0.57	0.00*	0.12	0.16	0.01**	0.33	0.74	0.11
D(Unemployment Rate)	0.00*	0.00*	0.00*	0.0*	0.00*	0.00*	0.00*	0.00*	0.00*
Current Account Balance to GDP	0.26	0.85	0.01**	0.40	0.52	0.05*	0.12	0.15	0.01**
D(Current Account Balance to GDP)	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*
Private Sector Credit to GDP	0.36	0.04**	0.75	0.88	0.02**	0.96	0.77	0.56	0.94
D(Private Sector Credit to GDP)	0.00*	0.00*	0.00*	0.00*	0.01**	0.00*	0.00*	0.00*	0.00*
Structural Reform	0.94	0.00*	0.00*	0.10	0.00*	0.01**	0.00*	0.00*	0.00*
D(Structural Reform)	0.03**	0.40	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*
Total Investment to GDP	0.07***	0.15	0.22	0.00*	0.03**	0.20	0.04**	0.39	0.27
D(Total Investment to GDP)	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*

Johansen Fisher Combined Procedure

Hypothesised (No. of CE/s)	F- Statistic* (from max-eigen test)	Prob.
None	68.39	0.000
At most 1	30.41	0.000
At most 2	35.37	0.000
At most 3	43.76	0.000
At most 4	23.9	0.0005
At most 5	13.83	0.0316
At most 6	15.57	0.0163

Kao Residual Cointegration Test

Series: LGDP PSD SR UR GW CRD CA		
Date: 06/21/16 Time: 13:53		
Sample: 1990 2015		
Included observations: 156		
Null Hypothesis: No cointegration		
Trend assumption: No deterministic trend		
Automatic lag length selection based on SIC with a max lag of 3		
User-specified bandwidth: 6 and Bartlett kernel		
	T-Statistic	Prob.
ADF	-1.37712	0.0842
Residual variance	0.00025	
HAC variance	0.000718	

Pairwise Granger Causality Tests

Date: 06/21/16 Time: 14:31			
Sample: 1990 2015			
Lags: 2			
Null Hypothesis:	Obs	F-Statistic	Prob.
SR does not Granger Cause LGDP	143	4.05503	0.0194
LGDP does not Granger Cause SR		0.82994	0.4382

Vector Error Correction

VAR Model-Substituted Coefficients: D(LGDP) = - 0.000513390513979*(LGDP(-1) + 7.28660086394*PSD(-1) - 12.1671525485*SR(-1) - 1.45298731698*UR(-1) + 14.729793014*GW(-1) - 0.155847051386*I(-1) - 21.2532748585*CA(-1) + 12.1635710205) + 0.518128365462*D(LGDP(-1)) + 0.0853086929886*D(LGDP(-2)) + 0.00319179748996*D(PSD(-1)) - 0.0127203476402*D(PSD(-2)) - 0.0036378264375*D(SR(-1)) - 0.00881252552324*D(SR(-2)) - 7.00427971162e-05*D(UR(-1)) - 0.000864975033405*D(UR(-2)) + 0.0946378893632*D(GW(-1)) - 0.0452208082885*D(GW(-2)) - 7.33142404711e-05*D(I(-1)) + 0.000119918359483*D(I(-2)) - 0.0217605747436*D(CA(-1)) + 0.0111116955335*D(CA(-2)) + 0.00386258789307

Variable	Coefficient	T-Statistic
Error Correction Term	0.000863	2.71008*

*The test statistic is sufficient to reject the null hypothesis of insignificance.

Appendix 2

Table 4
Fiscal Accounting Methods

Caribbean Country	System of National Accounting				
	Full Cash Basis	Full Accrual Basis	Modified Cash	Modified Accrual	Cash/ Accrual
Trinidad and Tobago	√				
Belize					√
Guyana	√				
Suriname	√				
Haiti	√				
Antigua and Barbuda	√				
Bahamas	√				
Barbados			√		
Dominica	√				
Grenada	√				
Jamaica	√				
St. Kitts and Nevis	√				
St. Lucia			√		
St. Vincent and the Grenadines	√				

Source: OECD International Database of Budget Practices and Procedures, OECS Country Financial Accountability Assessment, National Statistics Offices and Central Banks.

Table 5
System of National Accounts

Caribbean Country	GDP Calculation*		
	Income	Expenditure	Production
Trinidad and Tobago			√
Belize		√	
Guyana			√
Suriname			√
Haiti			√
Antigua and Barbuda		√	
Bahamas			√
Barbados			√
Dominica			√
Grenada			√
Jamaica			√
St. Kitts and Nevis			√
St. Lucia			√
St. Vincent and the Grenadines			√

Source: National Statistics Offices and Central Banks.

*Gross Domestic Product (GDP) at constant prices for Belize and Trinidad and Tobago is calculated at base year 2000. For the other member states GDP at constant prices is at varying base year ranging from 1974, in the case of Barbados, to 1988 for Guyana, to 1990 for the OECS countries and Suriname, to 2003 for Jamaica, to 2006 for the Bahamas.

Table 6
Labour Force Surveys

Caribbean Country	Frequency of Labour Force Survey*		
	Annually	Quarterly	Other
Trinidad and Tobago		√	
Belize		√	
Guyana			√
Suriname		√	
Haiti			√
Antigua and Barbuda			√
Bahamas			√
Barbados		√	
Dominica			√
Grenada			√
Jamaica		√	
St. Kitts and Nevis			√
St. Lucia		√	
St. Vincent and the Grenadines			√

Source: National Statistics Office and Central Banks.
*The Bahamas, Barbados, Belize, Jamaica, St Lucia, Suriname and Trinidad and Tobago, conduct regular labour force surveys. The other countries undertake Ad Hoc surveys, or the data is usually derived from the Population and Housing Census, Country Poverty Assessment or the Household Budgetary Survey.