# Don't Talk to Me about Debt.
# Talk to Me about Growth.

Inder Jit Ruprah
Karl Melgarejo

# Don't Talk to Me about Debt.
# Talk to Me about Growth.

Inder Jit Ruprah
Karl Melgarejo

**IDB**

**Inter-American Development Bank**

**2013**

http://www.iadb.org

 Inder Jit Ruprah: inderr@iadb.org; Karl Melgarejo: karlm@iadb.org

**Abstract**

In this policy brief, we focus on the debates surrounding what has been called the "silent debt crisis" of the Caribbean. We discuss the level of debt at which the relation with economic growth turns from positive to negative. We also discuss, illustrated with simulations of the tradeoffs, how to reduce the debt level with policy options that complement fiscal austerity with debt restructuring, economic growth promotion, acceleration of inflation, and financial repression. Each policy option carries an advantage in terms of easing the required fiscal adjustment; however, each also presents downsides that could undermine such a benefit. There appears to be no gain without upfront pain.

In policy discussions, often two opposing positions are taken: those that discuss debt; those that discuss growth. They need to discuss both. A key policy issue is whether the level of public debt has a positive or negative effect on economic growth, and, if the latter, what should be done?

In this policy brief, we focus on the debates surrounding what has been called the "silent debt crisis" of the Caribbean. We discuss at what level of debt the relation with economic growth turns from positive to negative. We also discuss how to reduce the debt level with policy options such as fiscal austerity, debt restructuring, economic growth promotion, acceleration of inflation, and financial repression.

## Debt and Economic Growth

Typically, discussions on debt start with a description of its evolution over time and with respect to comparators; in our case, these comparators comprise countries with populations of fewer than 3 million people: the rest of small economies (ROSE). Chart 1 shows that the average debt-to-GDP ratio for the Caribbean (Caribbean 6 [C6] and Organisation of Eastern Caribbean States [OECS]) relative to the average of ROSE is higher than that of ROSE. It also shows that the difference has increased over time such that by 2011, for Caribbean Six it was 1.8 times and for OECS it was 2.1 times the average for ROSE.

**Chart 1: Public Debt-to-GDP Ratios**
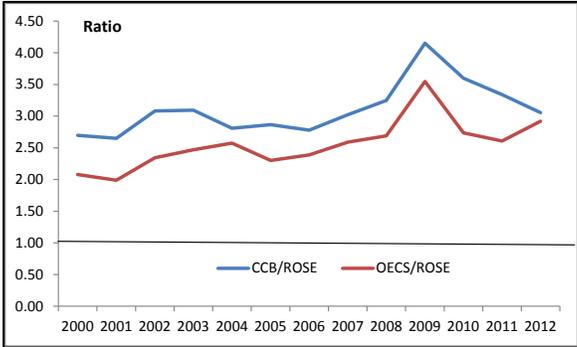


*Source:* International Monetary Fund Financial Statistics

However, not all levels of debt are bad for a country. The fact that the Caribbean has a higher level of debt relative to comparators (i.e., ROSE) or that debt has risen recently, itself does not imply that there is a problematic level of debt.

The relation between debt-to-GDP ratio and economic growth is not simple. Nonetheless, there is growing consensus that the relation is an inverted U curve (i.e., at a certain low level of the debt-to-GDP ratio, an increase has a positive marginal and average effect on economic growth). However, at a certain level (turning point on the inverted U curve), any further increase has a negative marginal effect, and at even higher levels, the impact (marginal and average) becomes negative .

Estimations of the relation for the Caribbean (see Greenidge et al., 2012) indicate that when the ratio is less than 30 percent, there is a positive marginal and average effect on growth. When the debt-to-GDP ratio remains greater than 30 percent but less than 60 percent, the average effect remains positive and the marginal effect becomes negative. Ratios greater than 60 percent imply a negative marginal and average effect on economic growth.

Chart 2 shows the ratios in 2011. In that year, 17 small countries had debt-to-GDP ratios above 60 percent, of those 8 are in the Caribbean: St. Vincent & Grenadines; St. Lucia; Dominica; Antigua & Barbuda; Barbados; Grenada; Jamaica; and St Kitts & Nevis.

## Chart 2: Debt-to-GDP and Economic Growth
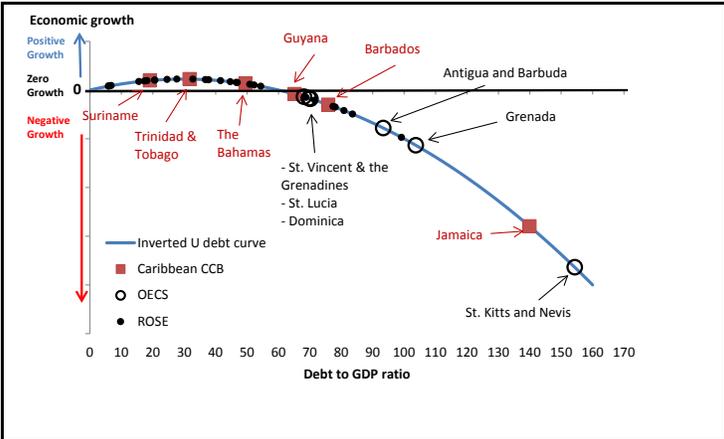


*Source:* Authors' calculations

Being on the dark side of the debt-to-growth relation (i.e., debt-to-GDP ratios above 60 percent) and assuming that the direction of causality goes from debt to economic growth, has meant a loss of economic growth. Table 1 shows estimation, by Greenidge et al. (2012), of the percentage point loss, annual and cumulative, in real GDP growth since 1980, taking into

account the historical trajectories of the public debt ratios of individual countries and the estimated curve. The largest percentage point cumulative loss has been for Guyana (519), followed by Suriname (312), and then Jamaica (162).

### Table 1: Public Debt: Induced Loss of GDP Growth

| | Annual percentage point loss in real GDP growth | Cumulated loss since 1980 in percentage points of real GDP growth |
|---|---|---|
| Antigua and Barbuda | 3.31 | 102.59 |
| The Bahamas | n/a | n/a |
| Barbados | 1.65 | 32.98 |
| Dominica | 1.12 | 23.38 |
| Grenada | 1.59 | 25.37 |
| Guyana | 16.76 | 519.70 |
| Jamaica | 5.22 | 161.97 |
| St. Kitts and Nevis | 5.46 | 76.46 |
| St. Lucia | 0.51 | 4.62 |
| St. Vincent | 0.37 | 5.50 |
| Suriname | 53.74 | 322.43 |
| Trinidad and Tobago | 0.42 | 6.26 |

*Source:* Greenidge et al (2012)

Many points can be taken from the aforementioned discussion. The relation shows how misplaced is the oft-remarked request, "Don't talk to me about debt; talk to me about growth," because both are related. One could quibble that the number is not 60 percent but higher. The value 90 percent is often invoked (see Reinhart et al., 2010), although it is an average that includes large, developed countries. Furthermore, the precision of the estimate, as Greenidge et al. (2012) recognized, is low (see Egert, 2012, for the problems in estimating this relation).

## Fiscal Space

Excessively high public debt and associated interest payments could also imply a reduced fiscal space, hence a lower ability for countercyclical fiscal policy and lower level of investment expenditure, as well as vulnerability to explosive debt dynamics.

**Chart 3: Ratio Between Public Debt
Interest Payments and Revenue**
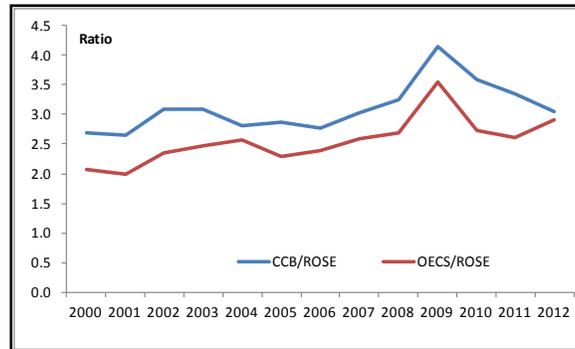


*Source:* International Monetary Fund Financial
Statistics

Chart 3 shows the ratios between relative interest payments and revenue. For CCB[1] and OECS countries, there is a positive relative trend (i.e., for the Caribbean, an increasing amount of revenue is used to pay interest on debt relative to ROSE). By 2012, the percentages had reached 13.7 percent for C6 and 10.1 percent for OECS, compared with 4 percent for ROSE. The ratio for C6 had reached 3.3 times the average for ROSE, and the ratio for OECS had reached 2.6 times the average for ROSE.

Fiscal space and stable versus explosive debt dynamics can be discussed using Chart 4, which shows the estimation of the primary balance reaction curve and the growth-adjusted interest payment curve for CCB and ROSE as one group. Following Padoan et al. (2012) and Zendi et al. (2011), these two curves determine the debt limit. If a country's debt-to-GDP ratio lies between E and L in Chart 4, its primary balance is greater than the required interest payment (the primary balance curve lies above the interest payment curve). In this case, policymakers use the primary surplus over interest payment to pay down debt; hence, debt falls back to E, the steady-state equilibrium of the debt-to-GDP ratio. However, if a country's debt-to-GDP ratio is so high that it lies to the right of L, it is on a path toward insolvency. From L onward, the primary balance curve is everywhere below the interest payment curve, and there is a vicious debt-financing cycle. To avoid default, the government is required to issue more debt to make up

---

[1] "CCB" includes Bahamas, Barbados, Guyana, Jamaica, Suriname, and Trinidad and Tobago.

the gap in debt servicing, thereby increasing interest payments and so on. Thus, this policy option only postpones the inevitable because it enlarges the difference between the required and actual primary balance.

**Chart 4. Primary Balance
Reaction Function**
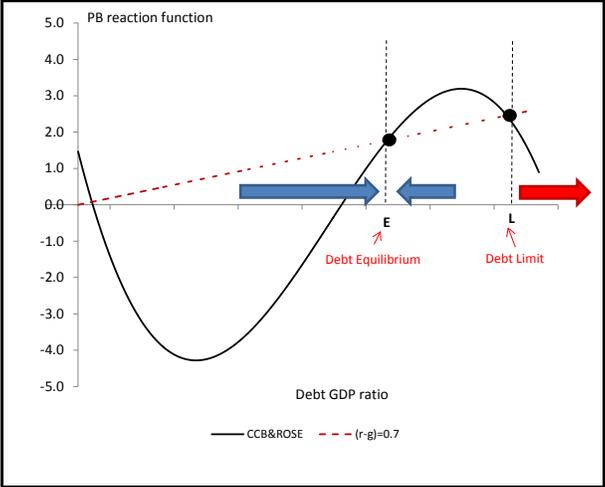


*Source:* Authors' elaboration

Chart 5 illustrates how in countries that are vulnerable to external shocks, such as those in the Caribbean, fiscal space can disappear overnight. An increase in international risk aversion (and consequently higher interest rates) and/or an economic downturn push the interest rate curve upwards, and if the shock is big enough, the primary balance reaction curve might end up lying below it, with a debt ratio rising out of control.

## Chart 5. Primary Balance Reaction Function Pre- and Postshock
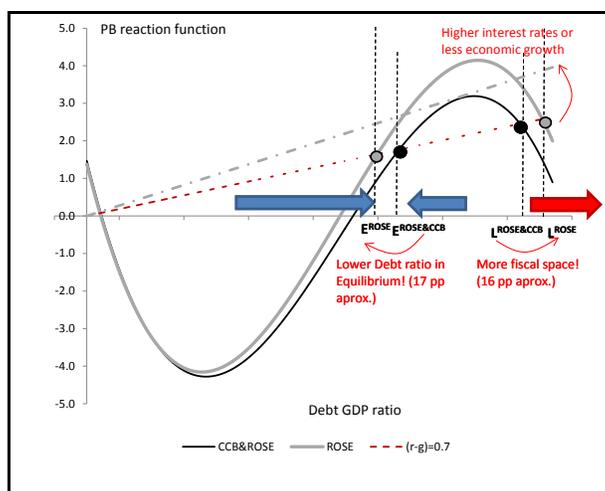


*Source:* Authors' calculations

## Policy Implications

For the countries with a debt-to-GDP ratio of above 60 percent or with a recent steep increase in the debt-to-GDP ratio (Bahamas, Trinidad & Tobago, and Guyana), the typical policy recommendation includes fiscal adjustment, perhaps with debt restructuring in part to build up policy buffers and to increase the country's steady-state growth.

However, it is not so simple. The policy dilemmas that policymakers face can be illustrated by a number of interrelated tradeoffs. If nothing is done, the debt ratio may continue to increase. The tradeoff between the required primary fiscal surplus for different debt-to-GDP targets over a given time period is that the required primary surplus is greater where the targeted decrease in the debt-ratio is larger and the time to achieve the target is smaller. For a given debt target and time period to achieve it, the tradeoff between a debt haircut and required primary fiscal surplus is that where the haircut is larger, the required primary fiscal surplus is smaller. The tradeoff between economic growth or inflation and required primary surplus is that the higher the economic growth or inflation, the smaller the required primary fiscal surplus.

The tradeoffs can be illustrated by a synthetic Caribbean country that has the following characteristics (averages, in 2011, for the three Caribbean tourism-dependent countries, Bahamas, Barbados, and Jamaica, for the past 10 years): GDP growth: 0.7 percent; deflator growth: 4.7 percent; debt ratio: 90.4 percent; interest rate: 7.9 percent; and a primary surplus: 1.4 percent. We further assume that the exchange rate is fixed and that there are no secondary effects—for example, fiscal adjustment to growth and visa versa.

We first look at the do-nothing option. The do-nothing option for the synthetic country implies an increasing debt-to-GDP ratio. For example, by 2015, the debt-to-GDP ratio would have increased from 90.4 percent to 99 percent (see Chart 6).

## Chart 6. The Doing Nothing Option
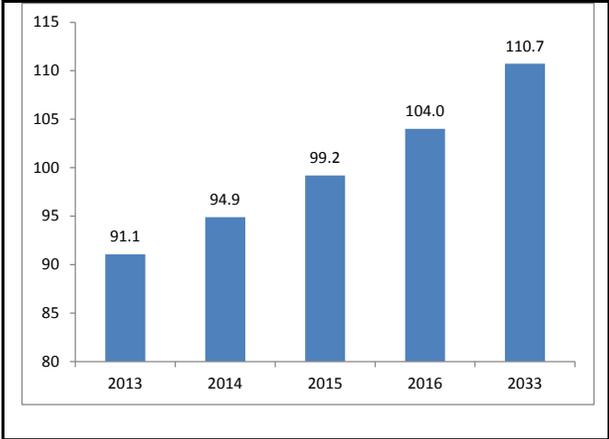


*Source:* Author's calculations

One choice is to determine the degree of the reduction in debt and the time to reach that target. Chart 7 shows the tradeoff between the required primary fiscal surpluses for different debt-to-GDP targets over different time periods. For example, the required annual primary surplus to reduce debt to 60 percent over 10 years is 4.8 percent; in 5 years, it is 7.8 percent.

8

**Chart 7. Required Primary Balances
with Different Time Frames**
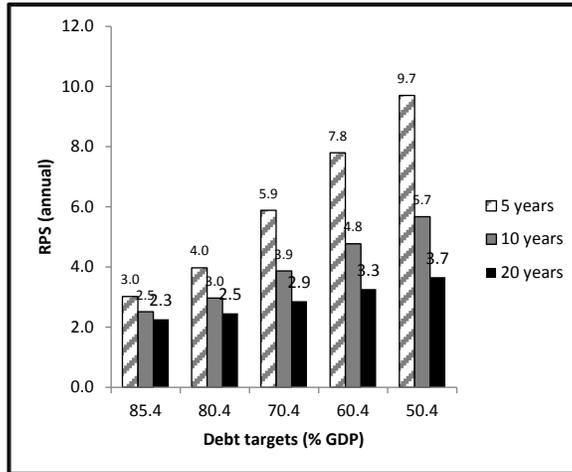


*Source:* Authors' calculations


One option is to reduce the stock of existing debt through debt restructuring. The required primary surplus to haircuts is given in Chart 8. For a debt target of 60 percent within 10 years with haircuts of 5, 10, 20, and 30 percentage points, the required primary fiscal surplus falls from 4.8 to 4.2, 3.7, 2.5, and 1.4 percent, respectively.


**Chart 8: Haircuts and Required
Primary Fiscal Balance**
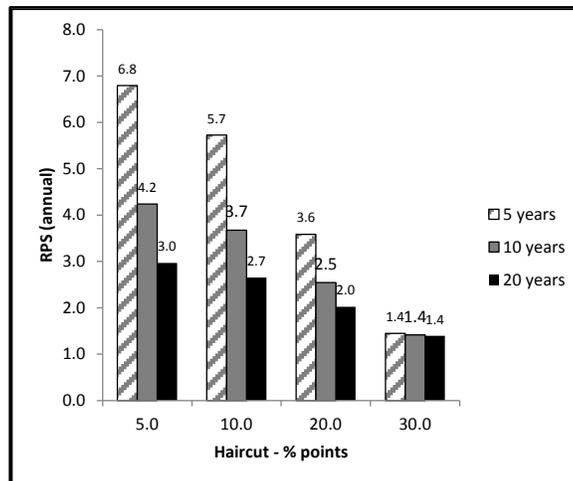


*Source:* Authors' calculations

An option that is frequently discussed is the acceleration of economic growth, thereby reducing the required fiscal adjustment. The tradeoff between economic growth and required primary surplus is shown in Chart 9.

## Chart 9: Required Primary Balance and Growth Rates
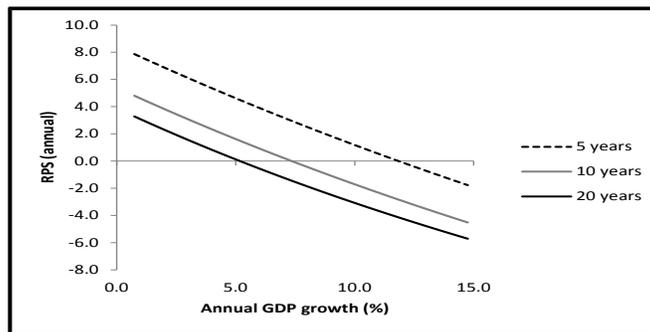
For the same target and time period, the required primary surplus falls from 4.7 to 3.6, 3.2, 2.2, 1.4 percent for economic growth rates of 2 percent, 3 percent, 4 percent, and 5 percent. A zero balance is required at economic growth rates of 7.2 percent.

A historically popular option is to inflate away the debt problem. The tradeoff between required primary balance and inflation is given in Chart 10. For the recent average rate of inflation the target of 60 percent within ten years requires a primary balance of 4.7 percent of GDP. In doubling the inflation rate the required primary balance falls to 1.2 percent of GDP.

**Chart 10: Required Primary Balance
and Inflation**
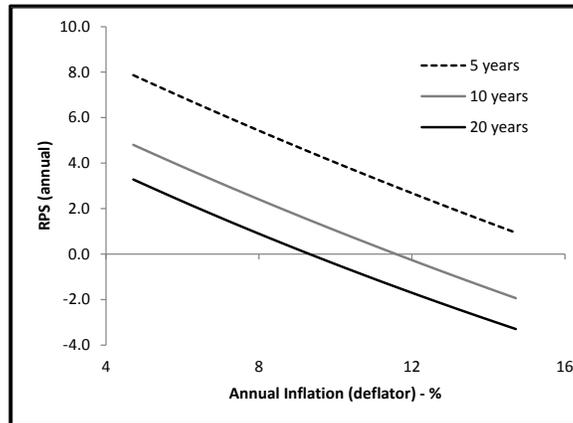


*Source:* Authors' calculations

## Unintended Effects

The aforementioned baseline tradeoff calculations usually provided in Article IV documents of the International Monetary Fund should not be taken literally; they are illustrative rather than firm numbers. Furthermore, caution has to be taken because they do not give the full picture of the policy dilemmas.

The haircut-required primary surplus tradeoff is relevant where public debt is so large that moving out of the dark side implies an overly large—politically and economically--primary fiscal surplus. A haircut, part of sovereign debt restructuring, typically involves swapping old debt for new. A haircut is usually measured as the difference between the present value of the new debt with the full face value amount of the old outstanding debt, although there are other definitions (see Cruzes and Tresbesch, 2010, 2012).

In such a restructuring, there are two possibly conflicting objectives. First, a sufficiency criterion, that is, the haircut has to be large enough so that the country is not forced back to restructuring after a few years. Second, a solvency criterion, that is, the haircut cannot be so large that the soundness of the in-shore banking system is endangered. This requires conducting

11

stress tests on the banking system to determine the level haircut above which such soundness could be endangered. There may be a zero intersection set that satisfies both criteria.

The share of government debt held by domestic residents, typically commercial banks, is generally higher in the Caribbean than in emerging economies. This means that a consequence of a large haircut may be a strain on, or the failure of, a large part of the domestic banking system; whereas the consequence of too small a haircut, on the basis of stress tests, is that it avoids a strain on the  domestic banking system but does not decrease debt sufficiently to reduce the required fiscal adjustment.

## Chart 11. Composition of Debt (2011)
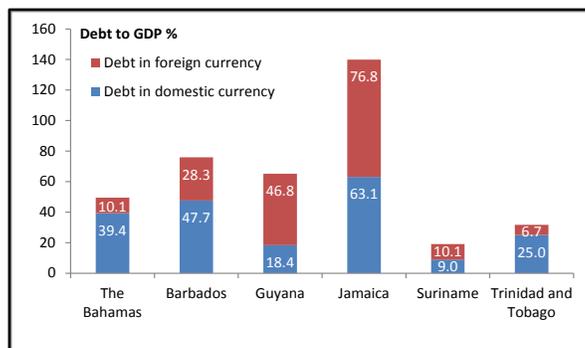


*Source:* International Monetary Fund statistics

Concerns about banking systems may have put off sovereign debt restructuring. Current regulation of commercial banks does not require banks to hold capital against their government bond holdings. Therefore, a restructuring of government debt implying a haircut for creditors would create a capital shortfall in the banks. As banks leverage their capital, this would result— ceteris paribus—in a reduction in the amount of credit being available to the economy. Borensztein and Panizza (2009) and Gennaioli, Martin, and Rossi (2012) found that public debt defaults are followed by a large systematic fall in aggregate financial activity, and that  such a postdefault credit crunch is stronger in countries where banks hold more government debt.

Furthermore, the domestic political cost of a default may well be greater than those stemming from fiscal adjustment.  The political costs include the following: a 16 percent decrease in support of the ruling party in the first election after a default, a 50 percent increase in

the probability of replacing the head of the executive branch of government, and a 33 percent increase in the probability of replacing the finance minister or the central bank governor.

However, the macroeconomic gains are typically positive (International Monetary Fund 2012). Restructuring periods are characterized by a significant drop in total public debt to GDP by 15 percentage points; real growth was around 1.5 percent three years before the restructuring but remained consistently above 4 percent during the 3 years following the exchange, that is, an increase of 2.5 percentage points; a return to market access is within 1 or 2 years after a crisis (Gelos, Sandleris, & Sahay, 2011); defaults affect risk spreads only in the first and second year after restructuring (Borensztein & Panizza, 2009), although Cruces and Trebesch (2011) showed that greater haircuts are coupled with much larger postrestructuring bond spreads, but with the effect decreasing over time but still significant in year 6 after the restructuring.

That the tradeoffs should not be taken too literally can also be illustrated by the debt target-required primary surplus tradeoff. It assumes that fiscal adjustment has no effect on economic growth. This runs counter to a policy concern that the fiscal adjustment required to meet that debt target would push the economy into a recession, at least in the short run. This concern is often dismissed. Underlying such a dismissal is the idea of an expansionary effect of a fiscal contraction (see Alesina & Perotti,1995; Broadbent & Daly,2010; Tsibouris et al., (2006); Von Hagen & Strauch, 2001). A key assertion of this viewpoint is that fiscal adjustments tend to be expansionary particularly when they rely primarily on spending cuts. There are four conditions (see Johnson, 2011) for fiscal contractions to have an expansionary effect. First, if there is high perceived sovereign default risk, then fiscal contraction could lower long-term interest rates. Second, spending cuts could directly boost confidence among households or firms so they could compensate for the fiscal contraction. Third, if monetary policy becomes more expansionary this can partially offset the negative short-run effects of spending cuts on the economy. Fourth, tighter fiscal policy with easier monetary policy, coupled with a devaluation of the currency, can increase exports that could mitigate the fiscal contraction.

However, with the prevailing realities of a political commitment to a fixed exchange rate, a constrained monetary policy option combined with weak monetary transmission mechanisms, and high uncertainty of the sign of the confidence effect, the aforementioned conditions probably do not hold for the Caribbean. Furthermore, empirical evidence suggests that the expansionary

fiscal contraction is not supported in general. The International Monetary Fund (WEO, 2010) found that fiscal consolidation equal to 1 percent of GDP typically reduces GDP by about 0.5 percent within 2 years and raises the unemployment rate by about a 0.3 percentage point. Domestic demand—consumption and investment—falls by about 1 percent. In addition, International Monetary Fund (2010) found that fiscal consolidation hurt wage earners disproportionately more than profit earners and rent earners. Thus, the recessionary concern of Caribbean policymakers and unions is legitimate.

The fiscal multipliers in the Caribbean are generally positive (i.e., a fiscal retrenchment will be recessionary, although given that there values are less than one, the effect will be relatively small). This is based on an estimation of the multipliers (following the methodology of Ilzetzki & Vegh, 2008) for the Caribbean, given in Table 2.

## Table 2. Fiscal Expenditure Multipliers

| | Period | Fiscal multiplier (φ) | | | Fiscal stance (β) | | |
|---|---|---|---|---|---|---|---|
| | | C | I | C + I | C | I | C + I |
| Bahamas | 1990-2011 | 0.76 (0.000) | 0.27 (0.000) | 0.82 (0.000) | 1.31 (0.000) | 3.76 (0.000) | 1.21 (0.000) |
| Jamaica | 1990-2011 | 0.13 (0.002) | 0.04 (0.194) | 0.13 (0.031) | 7.71 (0.005) | 17.99 (0.262) | 7.73 (0.052) |
| Suriname | 2001-2011 | 0.15 (0.055) | 0.07 (0.000) | 0.23 (0.005) | 2.95 (0.039) | 13.96 (0.000) | 3.43 (0.002) |
| T&T | 1990-2011 | 0.41 (0.001) | 0.15 (0.000) | 0.32 (0.000) | 2.37 (0.004) | 6.55 (0.000) | 3.11 (0.000) |
| Barbados | 1990-2011 | -0.34 (0.000) | 0.13 (0.002) | -0.77 (0.244) | -2.90 (0.000) | 7.67 (0.001) | -1.25 (0.019) |
| Guyana | 2000-2011 | 0.86 (0.024) | -0.10 (0.017) | -0.28 (0.039) | 0.96 (0.005) | -4.45 (0.018) | -1.38 (0.040) |
| P-values in parenthesis | | | | | | | |

*Source:* Authors' calculations.
*Note:* "C" stands for current expenditures, "I" for investment expenditures and "C+I" for both.

Excluding Barbados and Guyana, these results show that the fiscal multipliers are positive but weak (less than one); nevertheless they are statistically significant. Investment has a smaller effect than does public consumption (probably because of the short-run framework of this model). Barbados and Guyana yield mixed results, but they are still statistically significant. For Barbados, consumption is contractive and used as a countercyclical tool, whereas investment is expansionary and procyclical. For Guyana, consumption is expansionary and procyclical, whereas investment is contractive and countercyclical.

14

The past attempts at fiscal adjustment cautions against optimism. Ammo-Yartey et al. (2012) reviewed past experiences in the Caribbean from 1980 to 2011. They defined fiscal consolidation year or episode as one in which the cyclically adjusted primary surplus to potential GDP ratio (CAPS) improves by 1 percentage point in 1 or 2 years and an episode ends when changes in CAPS becomes zero or negative. Success is defined if the debt-to-GDP is reduced by 5 percentage points after 4 years. The experiences (number, years, success in red italic) by country are as follows:

Bahamas (5): 1992, 1994, *1996*, 1998, and 2003–2004; Barbados (8): 1988, 1991–1992, *1994*, *1997*–1998, 2003, and 2011; Guyana (6): *1999*, *2002*, *2004*, and *2007*–2008, 2010–2011 and Jamaica (9): *1984–1986*, *1988–1989*, 1998–2000, and *2003*.

The analysis shows the low level of success and the frequency of required fiscal action even after "success". The average success rate is 52 percent for the Caribbean Six. This average ranges from low success of Barbados (20 percent) and Bahamas (25 percent); to middle success of Jamaica (56 percent) and Trinidad and Tobago (57 percent) to high success cases of Guyana (67 percent) and Suriname (86 percent).

Chart 12: Fiscal Adjustment:
Number of Attempts and Successes
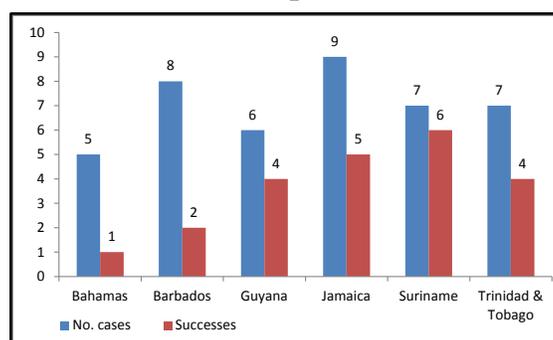


*Source:* Ammo-Yartey et al., 2012.

This suggests a policy option for countries to adopt some kind of fiscal rule as they engage in fiscal adjustment (see Schaechter et al., 2012). The central aim of fiscal rules is to provide a credible medium-term anchor to fiscal policy by making the policy framework

apolitical (Kopits, 2001). That is, it is a tool to counter the myopic priorities of politicians and voters by binding the hands of government.

A fiscal rule is a legislated numerical limit on budgetary aggregates of expenditures, revenues, or deficits and debt. The rule may include limits on disaggregated components, for example tax expenditures. To avoid governments being constrained from responding to extraordinary events such as natural disasters or external shocks, aggregate limits may have escape clauses and/or include stabilization funds with its own explicit saving and spending rules. Although not a panacea, a fiscal rule adopted at the same time as an adjustment may reduce the need to return to fiscal adjustment after a few years.

But what about growing out of or inflating away the debt problem? The denominator of the debt ratio is real output, and prices therefore increasing either economic growth or accelerating inflation could be an option. The arithmetic of debt suggested a high payoff, in terms of reducing the required primary fiscal balance for given debt target in a given time frame.

However, historical evidence casts doubt on the feasibility of the pure growth option. Reinhart and Rogoff (2009) identified 53 debt reversals over the period 1970–2000. Debt-reversal episodes were those in which debt-to-GDP fell by 25 percentage points or more within a 3-year period. They then classified the episodes into whether the decline was due to the numerator, denominator, or both. They found only one country, Swaziland (in 1985), where the fall was due exclusively to economic growth. In another three countries (Morocco, Panama, and the Philippines), economic growth was the principle factor but in the context of debt default or restructuring.

This is not to deny that structural reform to enhance steady state growth is desirable, but such reforms take time to yield results while the contractionary effect of fiscal adjustments is almost immediate. If, as shown, the required primary surplus to reduce debt is highly sensitive to the level of economic growth, the puzzle is, why have governments not already engaged in structural reforms to increase steady-state growth?

In the past, a popular option has been inflation. This option is of "default" through debasement of that part of the debt denominated in the local currency. Although domestic debt obligations are still met, the value of goods and services that can be purchased by creditors is

16

lower than expected when the loan was first extended to the government. If interest rates are negative or lower than the economic growth rate, the debt-to-GDP ratio falls.

A variant of this option is financial repression. Financial repression refers to a situation in which governments force domestic lenders to borrow at negative real interest rates (approximately wherein inflation is higher than the nominal interest rate). Ceteris paribus, negative interest rates imply a falling debt-to-GDP ratio over time. That is a transfer from creditors to borrowers (in this case, the government). Examples of such policies is when central governments force other public entities, including pension funds, to hold bonds paying negative real interest rates and/or imposing capital controls to prevent capital outflows, thereby creating a domestic captive market for such bonds.

However, in small open economies, such as those of the Caribbean, the unintended consequences of attempting to reduce debt through inflating away or with financial repression probably outweigh the intended benefits of debt reduction. The downsides of accelerating inflation are well known. It has to be a surprise; otherwise, investors will price in the risk of accelerating inflation through higher interest rates. It will raise government borrowing costs. Once started, such acceleration in inflation may be difficult to tame. It will erode savings, overvalue the real exchange rate, and so forth. Financial repression reduces government borrowing costs. It also deprives savers and pensioners of interest income and prevents capital formation. By preventing capital formation, financial repression short-circuits the engine of new business creation and employment creation.

## Conclusions

There is a sunny and dark side of the relation between debt and economic growth. Evidence suggests that for the Caribbean, it is about 60 percent of GDP, above which the dark side begins. For countries in the dark side, fiscal adjustment implies a large primary surplus to reduce debt. Restructuring the debt such that there is a sufficiently large haircut eases the required fiscal adjustment.  So does higher economic growth and inflation. However, a large haircut when debt is predominately domestic may endanger the soundness of the domestic banking system. Growth-promoting policies need time to take effect while inflation's downsides outweigh the benifits of debt reduction. However, required fiscal retrenchment implies an immediate fiscal

contraction; no gain without pain. Gain without pain is possible if the creation of the small economies' Middle Income Debt Relief Fund is successful. But that is another story.

# References

Alesina, A., and R. Perotti. 1997. "Fiscal Adjustments in OECD Countries: Composition and Macroeconomic Effects." *International Monetary Fund Staff Papers*, *44*(2): 210–248.

Yartey, C. A., M. Narita, G. Peron Nicholls, and J. Chiedu Okwuokei. 2012. "The Challenges of Fiscal Consolidation and Debt Reduction in the Caribbean." IMF Working Paper WP/12/276, International Monetary Fund, Washington, DC.

Broadbent, B., and K. Daly. 2010. "Limiting the Fall-Out from Fiscal Adjustment." Goldman Sachs Global Economics Paper No. 195. New York: Goldman Sachs.

Cruces, J. N., and C. Trebesch. 2012. "Sovereign Defaults: The Price of Haircuts." CESifo Working Paper, No. 3604.

Das, U. S., M. Papaioannou, and C. Trebesch. 2012. "Sovereign Debt Restructurings 1950–2010: Literature Survey, Data, and Stylized Facts." IMF Working Papers 12/203, International Monetary Fund.

Das, U. S., M. Papaioannou, and C. Trebesch. 2010. "Sovereign Default Risk and Private Sector Access to Capital in Emerging Markets." IMF Working Papers 10/10, International Monetary Fund.

Eduardo, B., and U. Panizza. "The Costs of Sovereign Default." 2008. IMF Working Paper, WP/08/238, International Monetary Fund, Washington, DC.

Egert, B. 2012. "Public Debt, Economic Growth and Nonlinear Effects: Myth or Reality?" OECD Economics Department Working Paper No. 993, Organisation for Economic Co-operation and Development Publishing.

Gelos, G. R., G. Sandleris, and R. Sahay. 2011. "Sovereign Borrowing by Developing Countries: What Determines Market Access?" *Journal of International Economics 83*(2): 243–254.

Greenidge, K., G. R. Craigwell, C. Thomas, and L. Drakes. 2012. "Threshold Effects of Sovereign Debt: Evidence From the Caribbean." IMF Working Paper, WP/12/157, International Monetary Fund, Washington, DC.

Ilzetzki, E., and C. A. Végh. 2008. "Procyclical Fiscal Policy in Developing Countries: Truth or Fiction?" National Bureau of Economic Research Working Paper No. 14191.

International Monetary Fund. 2010. "Will It Hurt? Macroeconomic Effects of Fiscal Consolidation." Economic Outlook, Chapter 3.

International Monetary Fund. 2012. "A Survey of Experiences With Emerging Market Sovereign Debt Restructurings." International Monetary Fund, Washington, DC.

Johnson S. "Spend Less, Owe Less, Grow the Economy." 2011. Testimony submitted to the Joint Economic Committee of Congress.

Kopits, G. 2001. "Fiscal Rules: Useful Policy Framework or Unnecessary Ornament?" IMF Working Paper No. 01/145, September, International Monetary Fund, Washington, DC.

Mauro A., G. Sandleris, and A. Van Der Ghote. "Sovereign Defaults and the Political Economy of Market Reaccess." 2011. Business School Working Papers 2011-08, Universidad Torcuato Di Tella.

Nicola G., A. Martin, and S. Rossi. "Sovereign Default, Domestic Banks, and Financial Institutions." 2013. Working Papers 622, Barcelona Graduate School of Economics.

Padoan P., U. Sila, and P. van den Noord. 2012. "Avoiding Debt Traps: Financial Backstops and Structural Reforms." Organisation for Economic Co-operation and Development Economics Department Working Paper No. 976.

Reinhart C., and K. Rogoff. 2009. "This Time It Is Different: Eight Centuries of Financial Folly." Princeton University Press.

Reinhart C., and K. Rogoff. 2010. "Growth in a Time of Debt." *American Economic Review*: *Paper and Proceedings*. *100*(2).

Sandleris, G. "The Costs of Sovereign Defaults: Theory and Empirical Evidence." 2012. Business School Working Papers 2012-02, Universidad Torcuato Di Tella.

Schaechter, A., T. Kinda, N. Budina, and A. Weber. 2012. "Fiscal Rules in Response to the Crisis –Toward the "Next Generation" Rules. A New Dataset." IMF Working Paper WP/12/187. International Monetary Fund.

Zendi, M, X. Cheng, and T. Packard. 2011. "Fiscal Space, Special Report." Moody's Analytics.

## Previous Caribbean Policy Briefs

*Does Size Matter? Yes, If You are Caribbean!* (IDB-PB-201)