Background paper on:

Climate Change and Debt Sustainability in the Caribbean: Trouble in Paradise?

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Climate Change and Debt Sustainability in the Caribbean: Trouble in Paradise?

The devastating impact of the 2017 Hurricane season in the Caribbean region has placed in the spotlight the wide-ranging consequences of environmental vulnerability and climate change for developing countries. Rather than being an exception, climate change is expected to make this type of events more frequent and intense. This situation calls for a concerted effort by national authorities in environmentally vulnerable countries and the international community to increase the amount of resources available for climate change adaptation and mitigation efforts. International initiatives to tackle this issue must start by acknowledging the type of structural obstacles faced by environmentally vulnerable developing countries. These include dependence on external financing, limited capacity to mobilize domestic resources and, of critical importance, high levels of public debt. Taken together these structural limitations create conditions under which, left to their own devices, environmentally vulnerable developing countries are unable to adequately invest in climate change adaptation and mitigation efforts. This leaves them in a position in which large scale natural disasters put at risk their long-term environmental, economic and social viability. As such, a review of the tools available to address catastrophic risks is required. Such review must start by considering the structural limitations faced by developing countries – with a special emphasis on high levels of public debt - and make them an integral component of an international effort to support climate change adaptation and mitigation efforts.

This background paper analyzes the interplay of environmental vulnerabilities, natural disasters and high levels of public debt for the mobilization of resources towards climate change adaptation and mitigation efforts in the Caribbean region. Countries in the region represent an interesting case study given their characteristics. First, countries in the Caribbean share a series of structural features which renders them vulnerable to external shocks beyond their control. These include, high degrees of economic specialization, natural resource-based economies, limited economic resources, and high transportation costs[2]. Second, while natural disasters associated with climate change are expected to have impact across countries of all income levels, tropical storms have a disproportionally large impact over countries in the Caribbean. The destruction wrought by the recent wave of hurricanes highlights the high degree of environmental vulnerability faced by countries in the region and the importance of developing an effective policy framework to tackle

[2] ECLAC. (2011). Study on the vulnerability and resilience of Caribbean Small Island Developing States (SIDS). Retrieved from https://www.cepal.org/publicaciones/xml/4/45364/LCARL.354.pdf

these vulnerabilities. Third, the long term environmental challenges of countries in the Caribbean are compounded by high levels of public debt. Taken together, these factors combine to create a vicious economic cycle. Countries in the region recurrently use public debt to absorb the impact of external shocks and natural disasters. In turn, higher levels of public debt constrain their capacity to effectively address their vulnerabilities. As a result, each new wave of shocks and disasters simultaneously amplifies these vulnerabilities while weakening domestic response capacity. Thus, an effective framework for climate change adaptation and mitigation in the Caribbean must consider measures to address debt vulnerabilities of countries in the region and provide them with the policy space required for a sustainable development policy.

The background paper is structured as follows: the first section provides a brief overview of the economic characteristic of countries in the Caribbean. Section 2 discusses the impact of climate change and natural disasters for countries in the region. Section 3 analyzes the challenges posed by high levels of public debt and their implications for the mobilization of resources towards climate change adaptation and mitigation efforts. Section 4 provides an overview of available complementary financing and climate change insurance mechanisms for the region, discussing their benefits and limitations. Section 5 concludes with a discussion on policy recommendations to simultaneously address environmental and debt vulnerabilities in the Caribbean.

1. Economic overview of the Caribbean region

The challenges of countries in the Caribbean are apparent from their key demographic and economic characteristics as shown on Table 1. First, although Haiti and the Dominican Republic have populations greater than 10 million, 11 of the 15 countries in the Caribbean have populations of under a million inhabitants. Population size is an important element to consider when discussing the environmental and financial challenges of the region. On the one hand, small but highly concentrated populations make these countries highly susceptible to damage caused by natural disasters. On the other hand, their individual size limits their ability to structure investment projects of the scale required to attract, among others, institutional investors or investors following Environmental Social and Governance (ESG) criteria.

A second characteristic relates to income levels of countries in the region in terms of GNI per capita. Based on this measure, most of countries in the region are part of the upper middle-

income group as defined by the UN, with GNI per capita levels above USD 4,036. The sole exception is Haiti, which under this criterion, is defined as a low-income country. This is an important element from a policy perspective, as the income level of most of the countries in the Caribbean precludes the possibility of accessing funding in concessional terms or receiving additional Official Development Aid (ODA).

Third, the average economic growth of countries in the region between 2008 and 2017, reached 1.4% per cent per year (Table 1). This represents a significant slowdown from historical growth trends, where growth in the region reached 3.6% in the 1980s, 3.0% in the 1990s and 2.8% in the 2000s[3]. Weak economic performance is associated with dependence on cyclical and volatile activities such as tourism and financial services. Both sectors were affected by the 2008 financial crisis, which undermined economic performance. In turn, this is reflected in a tendency for large current account deficits.

For the Caribbean region, current account deficits averaged 8.7% of GDP during the last decade. The structural current account deficit makes them highly dependent on, and vulnerable to, variation in external financing.

Most of the countries in the region also tend to show a weak fiscal position with sustained primary deficits throughout the period. These are a result of the central role of public spending as external shock absorber, in addition to other issues such as public enterprise borrowing, off-balance sheet spending associated to financial sector bailouts and the cost of natural disasters[4].

2. Climate change and natural disasters in the Caribbean

According to the IPCC, without changes in the current patterns of Green House Gases (GHG), global surface temperatures are likely to increase above 2°C by the end of the century. Despite the pledges by UN member states to reduce GHG emissions at the 2015 UN Climate Change Conference in Paris, these have continued to increase unabated. It is estimated that GHG released into earth's atmosphere reached a historical high in 2017. As a result, global carbon dioxide

[3] Moody's. (2016). Caribbean Sovereigns: The Silent Debt Crisis.

[4] Acevedo, S., Cebotari, A., Turner-Jones, T., Lindow, G., Li, X., & Cheasty, A. (2013). Caribbean Small States: Challenges Of High Debt And Low Growth. IMF Report on Caribbean Small States. Retrieved from https://www.imf.org/external/np/pp/eng/2013/022013b.pdf

concentration for last year was estimated to be the highest modern atmospheric record (based on ice records going back as far as 800.000 years)[5]. Moreover, 2017 was the second hottest year in the world since 1880, when modern record-keeping began, reflecting a broader trend with 18 of the 19 warmest years occurring since 2000[6].

Against this background of rising GHG emissions and global temperatures, the risks of extreme weather events, such as floods, droughts, heat waves and cyclones, are set to increase[7]. Of special concern for countries in the Caribbean is the link between climate change and the frequency and intensity of tropical storms. The expected likelihood of disasters, such as tropical cyclones, is set to increase considerably over the next century[8]. Furthermore, in the case of tropical storms in the Caribbean, warmer sea surface temperatures, associated to climate change, increase the average intensity of the storm[9]. Even though there is an ongoing scientific debate regarding exactly how the characteristics of tropical storms will change in a warmer climate, models indicate an increase in the mean intensity of tropical cyclones of 2 to 11 percent with climate change[10].

In this regard, the 2017 Atlantic hurricane season appears to corroborate the link between climate change and intensity of tropical storms. In historical terms, the season has been the third most active to date in the Atlantic basin after those of 1933 and 2004. In terms of the Accumulated Cyclone Energy (ACE), which measures the combined strength and duration of tropical storms and hurricanes, September 2017 was the most active month on record[11]. A total of 6 major hurricanes – defined as Category 3 or higher - of which 3 made landfall causing widespread damage in the

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[5] Blunden, J., Arndt, D., & Hartfield, G., Eds., (2018). State of the Climate in 2017. Bulletin of American Meteorological Society, 99 (8) Retrieved from https://www.ametsoc.net/sotc2017/StateoftheClimate2017_lowres.pdf

[6] The Global Commission on the Economy and Climate. (2018). Unlocking The Inclusive Growth Story Of The 21st Century: Accelerating Climate Action In Urgent Times. Retrieved from https://newclimateeconomy.report/2018/wp-content/uploads/sites/6/2018/09/NCE_2018_FULL-REPORT.pdf

[7] IPCC. (2014). Climate Change 2014 Synthesis Report Summary for Policymakers. Retrieved from https://www.ipcc.ch/pdf/assessment-report/ar5/syr/AR5_SYR_FINAL_SPM.pdf

[8] Acevedo, S. (2016). Gone with the Wind: Estimating Hurricane and Climate Change Costs in the Caribbean. IMF WP/16/199. Retrieved from https://www.imf.org/external/pubs/ft/wp/2016/wp16199.pdf

[9] Acevedo, S. (2016). Gone with the Wind: Estimating Hurricane and Climate Change Costs in the Caribbean. IMF WP/16/199. Retrieved from https://www.imf.org/external/pubs/ft/wp/2016/wp16199.pdf

[10] Knutson, T. R., McBride, J. L., Chan, J., et al. (2010). Tropical cyclones and climate change. Nature Geoscience, 3(3), 157–163.

[11] US National Hurricane Center. (2017). Monthly Atlantic Tropical Weather Summary – October 2017. Retrieved October 12, 2017, from http://www.nhc.noaa.gov/text/MIATWSAT.shtml

Caribbean. Recent research suggests that a key factor in explaining the increase in major hurricanes was the unusually high sea surface temperatures present in the Atlantic. Without changes in the patterns of GHG emissions and expected trends of rising sea temperatures, by the end of the century there could be an average of five to eight major tropical storms per year in the region[12].

The damage inflicted by extreme weather events in 2017caused USD 320 billion in losses around the world. The costs of the 2017 Atlantic hurricane season proved particularly amounted to USD 215 billion[13]. In absolute terms, most of the damage took place in the United States, with hurricanes Harvey and Maria estimated to have caused a total of USD 175 billion in damages in that country alone[14]. Relative to the size of their respective economies, countries in the Caribbean were the most affected by hurricanes. After being hit by hurricane Maria, Dominica suffered damage and losses in the order of USD 1.1 billion, equivalent to 250% of GDP. According to the UN Office for the Coordination of Humanitarian Affairs (OCHA), 92% of the population of Dominica was left in a situation of need as the hurricane destroyed 15% of the houses and heavily damaged an additional 65% of the housing stock of the country[15]. In the case of Antigua & Barbuda, hurricane Irma had a devastating impact on the island of Barbuda. It is estimated that 95% of all properties (public and private) in the island were destroyed, causing damage and losses for a total of USD 155 million (11% of GDP). In the meantime, the British and French overseas territories of Anguilla, British Virgin Islands, Saint Marteen and Turks & Caicos Islands, suffered losses and damages for an estimated USD 6 billion, equivalent on average to 196% of local GDP.

The 2017 season comes within a historical pattern: over the period 1980 and 2015, it is estimated that natural disasters have caused a total of USD 31.5 billion in damage in the region. Small islands tend to suffer the largest degree of damage relative to the size of the domestic economy. Of the five countries that have suffered the most as a share of GDP, four are islands with a population of around 100 thousand inhabitants. These are St. Kitts and Nevis, Grenada, Antigua

[12] Murakami, H., Levin, E., Delworth, T. L., Gudgel, R., & Hsu, P.-C. (2018). Dominant effect of relative tropical Atlantic warming on major hurricane occurrence. Science. Retrieved from https://goo.gl/4gwVrw

[13] Munich Re. (2018). Hurricanes cause record losses in 2017 - The year in figures. Retrieved from https://www.munichre.com/topics-online/en/climate-change-and-natural-disasters/natural-disasters/2017-year-in-figures.html

[14] National Hurricane Center. (2018). Costliest U.S. tropical cyclones tables updates. Retrieved from https://www.nhc.noaa.gov/pdf/nws-nhc-6.pdf

[15] OCHA. (2018). Impact of Hurricanes Irma and Maria Conference Supporting Document. Retrieved from https://goo.gl/z185yj

& Barbuda and Dominica. The damage has been particularly high in the cases of St. Kitts and Nevis and Grenada, as well as Haiti, with the cumulative loss being equivalent to more than one year of economic activity. This is attributed to the concentration of physical assets and economic activity on a small geographical area hit by a natural disaster.

For the entire region, average costs of damage per year caused by natural disasters as a share of GDP between 1980 and 2015 amounted to two thirds of the rate of the combined economic growth of the countries in the region (2,1% vs 3,2% - Table 2). This presumably indicates that the growth could be considerably higher if the countries were not in a storm zone. The damage burden also inhibits Caribbean countries from effectively developing resilient infrastructure designed to adapt to climate change. This is especially so for where the costs of the damage has exceeded GDP growth, such as in the case of St. Kitts and Nevis, Haiti, Grenada and Jamaica. In these countries the natural disasters have undermined the fruits of earlier economic growth.

3. Implications of public debt vulnerabilities in the Caribbean

The impact of natural disasters represents a key link between environmental and public debt vulnerabilities in the Caribbean. As the effect of natural disasters increases, both the environmental and reconstruction costs rise in tandem. Large tropical storms can dramatically alter ecosystems on water and land, threatening the livelihood of local communities as well as increasing the risks of floods and landslides, among others. Moreover, large scale destruction of physical infrastructure and economic losses influence the public deficit and the debt levels of a country. Figure 1 shows the Environmental Vulnerability Index (EVI), developed jointly by the South Pacific Applied Geoscience Commission (SOPAC) and UN Environment Programme (UNEP), and public debt levels for 15 countries in the region. The EVI measures the degree of vulnerability based on the assessment of 50 indicators, such as weather & climate, among others[16]. The index ranks countries in 5 categories ranging from “Resilient” to “Extreme Vulnerability”. Based on this assessment, at least ten countries in the region are considered highly or extremely environmentally vulnerable. For the group of highly vulnerable countries, which includes Dominica, St. Vincent & the Grenadines, Grenada, St. Kitts and Nevis, the Dominican Republic and Haiti, general government debt levels range from 31% to 88% of GDP. For the group of extremely vulnerable countries, which includes Barbados, Jamaica,

[16] SOPAC. (2004). Manual: How to Use the Environmental Vulnerability Index (EVI). Retrieved from http://www.vulnerabilityindex.net/wp-content/uploads/2015/05/EVI Manual.pdf

St. Lucia and Trinidad & Tobago, general government debt levels range from 41% to 133% of GDP. The overlap between environmental and financial vulnerabilities in the Caribbean is significant: 7 out of the 10 countries that are in a situation of high or extreme environmental vulnerability are also above the 60% public debt to GDP ratio threshold used by IMF's Debt Sustainability Analysis (DSA) to identify signs of financial stress in Emerging Markets[17].

Public debt levels of countries in the Caribbean appear to be high when compared to other countries in the developing world with similar income levels. Figure 2 provides an overview of the public debt levels of the most indebted upper middle-income countries in the world. Out of the top 15 countries, 8 countries belong to the Caribbean region. Taken together, high levels of public debt, combined with the elevated degree of environmental and external vulnerability, helps to explain the scale of sovereign risk assessed by credit rating agencies (Table 3). Of the countries in the sample, only Trinidad & Tobago retain investment grade while the rest of the countries are considered non-investment grade[18].

Non-investment grade ratings, or their complete absence, lock countries in the region in a vicious financial cycle where funding is only accessible at steep interest rates and the possibility of attracting institutional investors is precluded, as fiduciary rules prevent them from investing in financial instruments that lack high credit ratings. This is a key issue, as institutional investors can provide long term funding at competitive rates where investment grade ratings are achieved. Instead, Caribbean countries are left to rely on short term investment instruments rated as either speculative or highly speculative by rating firms. Short term investment is associated with higher interest rates and is prone to sudden shifts as risk assessments change, leaving countries vulnerable to sudden stops and capital flight.

High levels of public debt are not a new phenomenon in the region. However, a key factor that helped to stabilize public debt in the 80s and 90s was the high share of concessional bilateral

[17] This refers to the risk benchmarks used in the IMF Market Access Country (MAC) DSA. Furthermore, its important to note that despite their income levels Dominica, Grenada, St. Lucia and St. Vincent and the Grenadines are covered by the IMF DSA for Low Income Countries which follows a different set of benchmarks.
[18] It's worth highlighting the situation of Barbados, which after the decision by the Prime Minister Mia Mottley to suspend payments and arrange a program with the IMF, was downgraded to "Selective Default" in June of 2018.

and multilateral loans in total public debt. Low interest rates and long periods of amortization helped countries in the Caribbean carry levels of debt which under market conditions would have proved challenging. During the last two decades, this funding structure has transformed - resulting in additional challenges. Aid from western donors has dwindled as assistance has been directed instead towards low-income or post-conflict countries. Countries which received favorable ratings by rating agencies in the 2000's, such as Belize and Barbados, experienced a rapid increase in the share of their debt owed to private creditors. Other countries continued to rely on bilateral lending, but from different sources such as China and Venezuela. Only a few countries, affected by natural disasters and debt restructuring episodes, such as St. Lucia, Dominica or Jamaica, retained a high share of participation of concessional lending by multilateral lenders[19].

Figure 3 provides snapshot of the current structure of public debt (domestic and external) for 15 countries in the Caribbean region. For the entire region, domestic and external public debt represent almost equal parts of their debt structure: while the former is 47% of the total, the later corresponds to the remaining 53%. However, this even distribution at the regional level masks a diversity at the national level. For a first group countries with debt levels below 60% of GDP, which includes Dominican Republic, Haiti, Guyana, Suriname and Trinidad & Tobago, external debt represents 60% of the total. For the remaining countries, with debt levels above 60% of GDP, there is no clear trend. For a second group of five countries, which include, St. Kitts and Nevis, the Bahamas, St. Lucia, Antigua & Barbuda and Barbados, domestic debt accounts for most public debt, representing on average 65% of the total. For a third group of five countries, which include, St. Vincent and the Grenadines, Grenada, Dominica, Belize and Jamaica, external debt represents the largest share of public debt, averaging 65% of the total. For this last group of countries, the combination of high debt levels and reliance on external funding renders them highly vulnerable to external financial shocks.

Figure 4 provides a further breakdown of external debt by type of lender for each of these three groups. For the first group of countries, for which public debt represents less than 60% of GDP, the main source of external funding comes from official sources. For three countries in this group, Haiti, Guyana and Suriname, official creditors represent the only source of external funding,

[19] Caribbean Development Bank. (2013). Public Sector Debt in the Caribbean: An Agenda for Reduction and Sustainability.

while the Dominican Republic and Trinidad & Tobago present a slightly more diversified creditor base. For the second group of countries, with debt levels above 60% of GDP and a high share of domestic public debt, there is a similar pattern - the majority of the debt of Antigua & Barbuda is held by official creditors, while both the Bahamas and Barbados present a more diversified creditor base, with a high participation of bond creditors. For the third group of countries, with debt levels above 60% of GDP and a high share of external public debt, official creditors hold 64% of the claims on the entire group. However, private creditors still play an important role in the creditor base of Grenada, Belize and Jamaica, despite their high debt levels and external vulnerabilities.

Figure 5 shows the breakdown of domestic debt by type of lender. For almost all the countries in the region - for which data is available - the largest share of this public debt takes the form of bonds issued in domestic markets. The exceptions to this pattern are Antigua & Barbuda, Suriname and Haiti, where loans from domestic banks represent the most important source of domestic funding. Furthermore, for at least five countries, Barbados, Antigua & Barbuda, The Bahamas, Trinidad and Tobago and Jamaica, domestic debt represents levels close or above 50% of GDP. Given the higher average cost of domestic debt, when compared to external debt, this debt load can represent a significant burden on local budgets. It is important to note that in most countries in the region, both local financial institutions and social security schemes have a large degree of exposure to government bonds. In a context in which some of those financial systems are already under pressure as a result of high rate of non-performing loans, any measure to address the domestic burden must consider the systemic impact of such approach[20].

The structure of public debt influences debt sustainability, as reflected in financial fragility and debt burden for the different countries in the region. In Table 4 these concepts are proxied by Gross Financing Needs (GFN) as a share of GDP, interest payments as a share of total government revenues and public debt as a share of GDP. The first indicator, GFN, refers to the short-term financing needs of a government that result from the primary government deficit, debt amortization and interest payments. A large GFN, say above 10% of GDP, is used by the IMF to indicate vulnerability roll-over risk, that leaves the country highly exposed to short term changes in funding

[20] Acevedo, S., Cebotari, A., Turner-Jones, T., Lindow, G., Li, X., & Cheasty, A. (2013). Caribbean Small States: Challenges of High Debt And Low Growth. IMF Report on Caribbean Small States. Retrieved from https://www.imf.org/external/np/pp/eng/2013/022013b.pdf

conditions. In terms of this indicator, at least seven countries in the Caribbean region, which include Grenada, St. Vincent & the Grenadines, Barbados, St. Lucia, St. Kitts and Nevis, Trinidad & Tobago and Suriname are vulnerable. The share of interest payments in total revenues serves to estimate the burden of debt on public resources and potential vulnerabilities associated to increases in borrowing costs. For six countries, which include Barbados, Jamaica, Antigua & Barbuda, Belize, Grenada and St. Lucia, interest payments represent at least 10% of government revenues.

Going forward, prospects for debt sustainability in the Caribbean show a concerning picture (Table 5). The latest Debt Sustainability Analysis (DSA) conducted by the IMF shows that public debt is set to increase in coming years for Barbados, Dominica, St. Lucia, Trinidad and Tobago, Haiti and Dominican Republic. Seven of the countries show a significant degree of vulnerability in terms of their public debt levels once different types of shocks are included in the simulation and five countries show a significant degree of vulnerability in terms of their GFN. In the case of vulnerabilities associated to the debt profile, only one country shows a significant degree of vulnerability, while most of the countries in the region show some minor signs of vulnerability. For the rest of the countries for which only an overall assessment is provided, only Guyana is facing moderate risks to the sustainability of its public debt, while the rest are considered to face either high risks (Dominica, St. Vincent & the Grenadines and Haiti) or are already in a situation of debt distress (Grenada).

Given this situation, most cases countries in the Caribbean are expected by the IMF to consolidate their public finances to stabilize debt levels. However, the track record of the region in terms of fiscal consolidation is not encouraging. During the last decades, there has been a trend of widening fiscal deficits. While the average fiscal deficit for the region was 1.7% of GDP in the 1990's, this increased to 3.3% in the 2000's and reached 3.4% in this decade so far.

There is very limited history of sustained decline in debt-to-GDP ratios since 1990 that cannot be attributed to a period of a sovereign default and restructuring. Only one country in the Caribbean, Trinidad and Tobago, has successfully reduced its debt without defaulting[21]. Since 2000, eight countries in the region have gone through 14 debt restructurings processes (Table 6). Eight debt restructurings have been conducted on a pre-emptive basis, while the remaining six have taken

[21] Moody's. (2016). Caribbean Sovereigns: The Silent Debt Crisis.

place after default[22]. The conditions which lead to default are characterized by high levels of debt and servicing costs. Defaults in the region since 2000 have taken place, on average, with ratios of debt to GDP of 92%, interest payments to government revenue of 19% and foreign currency debt to total public debt of 68%[23].

The combination of high debt levels, low growth prospects, external and environmental vulnerability, as well as high exposure of domestic financial institutions to government debt, create a complex environment to undertake successful debt restructurings. A review of the recent experience of the Caribbean countries exhibit the symptoms associated to the "too little, too late" problem in debt restructuring. Measures to tackle debt overhangs have taken place either after a considerable amount of time has passed since debt was no longer considered sustainable, and once a debt restructuring is conducted, it has been insufficient to credibly restore debt sustainability[24]. As table 6 shows, most of the debt restructurings in the Caribbean have focused on the provision of Net Present Value (NPV) relief through extension of maturities. Even though this type of operation can provide short term budget relief, it can only contribute to long run debt sustainability if the future rate of real economic growth is expected to be higher than the real rate of interest. This in turn leaves the assessment highly sensitive to the robustness of the growth and interest rate assumptions[25]. Given the large exposure of the region to external and environmental shocks, and the projections mentioned above for further expected disaster, it becomes clear why such an approach may be considered heroic in addressing the problems of debt sustainability.

There are several examples that serve to illustrate this situation during the last decade. In three cases (Grenada, Jamaica, and Belize) an initial debt restructuring focused on extension of maturities and provision of NPV relief, has required an additional debt restructuring operation after a few years. As the initial debt restructuring proved unable to restore debt sustainability with high

[22] Asonuma, T., Li, X., Papaioannou, M. G., Thomas, S., & Togo, E. (2017). Sovereign Debt Restructurings in Grenada : Causes, Processes, Outcomes, and Lessons Learned. IMF Working Paper No. 17/171. Retrieved from https://www.imf.org/en/Publications/WP/Issues/2017/07/24/Sovereign-Debt-Restructurings-in-Grenada-Causes-Processes-Outcomes-and-Lessons-Learned-45101

[23] Moody's. (2016). Caribbean Sovereigns: The Silent Debt Crisis.

[24] IMF. (2013). Sovereign Debt Restructuring—Recent Developments And Implications For The Fund's Legal And Policy Framework. Retrieved from https://www.imf.org/external/np/pp/eng/2013/042613.pdf

[25] Asonuma, T., Li, X., Papaioannou, M. G., Thomas, S., & Togo, E. (2017). Sovereign Debt Restructurings in Grenada : Causes, Processes, Outcomes, and Lessons Learned. IMF Working Paper No. 17/171. Retrieved from https://www.imf.org/en/Publications/WP/Issues/2017/07/24/Sovereign-Debt-Restructurings-in-Grenada-Causes-Processes-Outcomes-and-Lessons-Learned-45101

probability, these countries were left in a vulnerable position to external shocks which eventually forced a second round of restructuring. This approach can be explained, in part, by the large degree of exposure of domestic financial institutions to government debt. Because of the potential systemic impact of large debt write-downs on domestic financial stability, this effectively limited the scope of loses imposed on private investors. Furthermore, the inclusion of step-up interest rates as part of the contracts, which provided for a steady increase of interest rates through time - assuming an improvement in economic performance - ended up creating adverse debt dynamics for the countries involved. In the cases of Belize and Grenada, as growth failed to materialize, the increase in interest rates proved to be unsustainable[26].

4. Addressing environmental and public debt vulnerabilities in the Caribbean

Countries in the Caribbean require substantial external support to simultaneously address their environmental and debt vulnerabilities. This calls for a fresh look at several interconnected issues. Beyond effective mobilization and use of domestic resources, these include regional prioritization of climate change funding, assessment of the current criteria used to assign Official Development Aid (ODA) and concessional lending, relevance of existing of special lending and insurance instruments provided by multilateral organizations, as well as alternative innovative mechanisms for development and climate finance. Even though an in-depth analysis of each one of these topics is beyond the scope of this background paper, it is nonetheless useful to provide a summary of the main issues.

In the case of domestic mobilization of resources, countries in the region tend to show relatively high levels of government revenues averaging 26.8 % of GDP in 2016. Domestic tax remains as the main component of these revenues, representing 81% of the total. Even though external grants play an important role in supporting public finances, on average they still account for less than 10% of total revenues[27]. Despite this performance on the revenue side, there are significant problems with the rigid structure of expenditure. In a context characterized by significant socio-

[26] Durant, I. (2013). Recent Restructuring Of Sovereign Commercial Debt In The Caricom Region: Some Outcomes And Lessons. Retrieved from http://www.caribank.org/uploads/2014/02/Debt_Restructuring_Caribbean_Ian-Durant.pdf

[27] Schipke, A., Cebotari, A., & Thacker, N. (2013). The Eastern Caribbean Economic and Currency Union Macroeconomics and Financial Systems. (IMF, Ed.). Washington D.C. Retrieved from http://www.elibrary.imf.org/doc/IMF071/12381-9781616352653/12381-9781616352653/Other_formats/Source_PDF/12381-9781475577693.pdf

economic challenges, such as high rates of informality, unemployment and poverty, as well as adverse long run demographic trends, governments in the region have relied on increased public spending to address socio-economic pressures. As a result, central government spending in the Caribbean increased from an average of 25% of GDP in 1990 to 33% in 2009[28]. The main concern in this regard is that given the high degree of debt vulnerability present in most of the region, the capacity to continue relying on increased public expenditure to absorb shocks seems limited. The IMF has two main recommendations for countries in the Caribbean: To advance fiscal consolidation through expenditure adjustments in the range of 3% to 5% of GDP, and to incorporate budget provisions that cover the average annual impact of natural disasters. Based on its assessment of damages, the IMF recommends an increase on average primary surpluses of 1% of GDP to save the resources required to address environmental shocks[29]. From the perspective of establishing a robust medium term fiscal framework, the actual capacity of countries in the region to successfully implement the IMF proposals seems limited.

Assistance from the international community in the provision of funds to support mitigation and adaptation to climate change should be a critical component of an agenda to address environmental and debt sustainability in the Caribbean. The most important initiative in this regard is the establishment of the Green Climate Fund (GFC) as part of the United Nations Framework Convention on Climate Change (UNFCCC). The GFC is expected to be able to mobilize USD 100 billion per year by 2020 to invest across the world on climate change mitigation and adaptation projects. Countries in the Caribbean ought to receive special consideration in order to access the resources to be provided by the GFC. An initial step could be the provision of technical assistance and training to local officials that ensures adequate preparation of National Strategic Frameworks (NSF) and grant applications, which constitute the gateway through which it will be possible to access GFC resources[30].

[28] Ibid.

[29] IMF. (2016). Eastern Caribbean Currency Union: 2016 Discussion on Common Policies of Member Countries. IMF Country Report 16/333. Retrieved from https://www.imf.org/external/pubs/ft/scr/2016/cr16333.pdf

[30] GFC. (2014). The Green Climate Fund: Great Expectations. Héla Cheikhrouhou, Executive Director, Green Climate Fund Secretariat The 15th William G. Demas Memorial Lecture, Caribbean Development Bank Georgetown, Guyana 27 May 2014. Retrieved from http://www.caribank.org/uploads/2014/05/Héla-Cheikhrouhou-15th-William-Demas-Memorial-Lecture.pdf

Furthermore, the issue on how the GFC will prioritize the allocation of resources highlights the more general shortfalls of the current approach for the allocation of Official Development Aid (ODA) and concessional lending. In both cases, Gross National Income (GNI) per capita levels are the key determinant for country classification and eligibility. Even foregoing the broader goals of the 2030 Agenda, and just focusing on the issue of climate change and environmental vulnerability, such a narrow approach to eligibility is outdated. Neither the OECD, nor the IMF, explicitly include environmental concerns or vulnerabilities in their prioritization schemes[31]. Thus, as the impact of climate change becomes widespread, the need to develop more accurate criteria to target vulnerable groups is urgent. One solution would be to involve the inclusion of the EVI index as part of the process of resource allocation.

A review of the link between ODA and environmental vulnerability shows that while external aid devoted to climate change adaptation projects targets vulnerable countries, it may not include the most vulnerable. Its estimated that in 2012, countries categorized by the EVI as environmentally vulnerable received 23% of the USD 12 billion ODA adaptation commitments, whereas extremely and highly vulnerable countries received 15% of the total budget[32]. Only USD 415 million were allocated to middle-income and upper middle-income groups and countries in the Caribbean were largely bypassed. Giving environmental vulnerability concerns, an explicit role in the allocation process could lead not only to better targeting of resources generally, but would raise awareness of and enable support for the Caribbean region.

In the case of concessional lending, both the IMF and World Bank have facilities designed to support countries in the Caribbean. In the aftermath of recent hurricanes, the IMF has deployed both its Rapid Credit Facility (RCF) and Rapid Financing Instrument (RFI) to provide financial support. The most important of the two is the RCF, a concessional lending facility that provides lending at 0% interest rates with an extended grace period of 5 and half years and a maturity of 10 years. During the last 5 years, Haiti, Dominica and St. Vincent & the Grenadines have borrowed a total of USD 53.5 million from the IMF using this facility. Even though the RCF plays a useful role in providing liquidity support in the aftermath of a natural disaster, its overall relevance for countries in the

[31] OECD. (2015). "The where" of development finance: Towards better targeting of concessional finance. Retrieved from http://www.oecd.org/dac/financing-sustainable-development/Where paper.pdf

[32] UNDESA. (2015). Improving ODA allocation for a post-2015 world. Retrieved from http://www.un.org/en/ecosoc/newfunct/pdf15/un_improving_oda_allocation_for_post-2015_world.pdf

Caribbean remains limited. The three main reasons involve country eligibility, available resources and the debt vulnerabilities faced by the region. In the first case, according to the IMF eligibility criteria only six countries in the region (Dominica, Grenada, Guyana, Haiti, St. Lucia and St. Vincent & the Grenadines) can access the RCF facility[33]. If required, the remaining countries could only access the RFI. However, the latter does not possess the elements of concessionality included in the RCF. In the second case, even where a natural disaster causes damage of more than 20% of GDP, the amounts available remain limited to a maximum of 60% of country quota with the IMF. In the third case, both the RCF and the RFI are designed as instruments to provide liquidity but not solvency relief. As the intensity and frequency of tropical storms is set to increase in coming years is necessary to reconsider how these facilities can address the underlying vulnerabilities associated with high public debt levels faced by countries in the Caribbean.

The main initiative of the World Bank to address the impact of natural disasters in the region is the Caribbean Catastrophe Risk Insurance Facility (CCRIF). This initiative was set up in 2007 as a regional catastrophe fund to limit the financial impact of devastating hurricanes and earthquakes by quickly providing financial liquidity when a policy is triggered. The CCRIF operates as a mutual insurance company for 16 countries in the Caribbean. Each country pays an annual premium directly related to the risk faced by them. In return, the countries receive insurance coverage for up to USD 100 million for each insurance hazard (tropical storms, earthquakes and excess rainfall events) [34]. The main advantage of this type of scheme is that it significantly reduces individual insurance premiums by diversifying risk. Since 2007, the CCRIF has distributed a total of USD 123 million. Of this amount, USD 54 million, nearly half of the total, corresponds to disbursements in response to the 2017 hurricane season[35]. As in the case of the IMF facilities, even though this insurance mechanism can play an important supportive role at a time of crisis, its capacity to address catastrophic damage remains limited. For example, in the aftermath of Hurricane Maria, Dominica received a disbursement from the CCRIF for USD 19 million. However, the latest reports by local

[33] IMF. (2017). Eligibility to Use the Fund's Facilities for Concessional Financing for 2017. Retrieved October 25, 2017, from https://www.imf.org/en/Publications/Policy-Papers/Issues/2017/05/23/pp052317-eligibility-to-use-the-fund-facilities-for-concessional-financing-for-2017

[34] World Bank. (2015). Understanding CCRIF: A collection of questions and answers. Retrieved from http://www.ccrif.org/sites/default/files/publications/Understanding_CCRIF_March_2015.pdf

[35] World Bank. (2017). A Summary of the CCRIF SPC. Retrieved October 25, 2017, from http://www.ccrif.org/content/about-us

officials put the reconstruction costs in the order of hundreds of millions of dollars[36]. In this context, it would be important for donor countries which support the CCRIF to evaluate options to expand the financial capacity of the fund to provide enhanced coverage to islands in the Caribbean.

It's important to note that the facilities established by the IMF and World Bank are designed to deal with liquidity issues in the aftermath of natural disasters. However, for countries in the Caribbean region is equally important to systematically invest in adaptation and mitigation of climate change. In a context characterized by high debt levels and fiscal restrictions, their capacity to successfully mobilize resources for this purpose remains constrained. Acknowledging this situation, ECLAC recently proposed a multilateral debt swap mechanism to promote climate change adaptation investments in the Caribbean. The proposed menu has several components. First, multilateral institutions would gradually write off 100% of the multilateral concessional debt stock, contingent on approval from donors and on the condition that the States involved place the equivalent amount of the annual servicing of existing multilateral concessional debt, in local currency, in a trust fund over a period of 10 years. ECLAC also proposes the establishment of a Caribbean Resilience Fund (CRF), which would be used principally for funding climate change adaptation and mitigation. Second, in the case of countries which owe a sizable percentage of public external debt to private creditors, a debt buy-back scheme is proposed to reduce both service payments and the debt stock. Such a scheme would be pursued on the basis of deep discount in the secondary markets and new loan agreements by creditors at lower costs, having regard to continuing borrowing requirements[37]. In the case of the first proposal, it would have a significant impact for highly indebted countries in the region for which external multilateral debt represents an important share of their debt. This group includes Belize, Grenada, St. Vincent & the Grenadines and Antigua & Barbuda. Even other countries with lower overall debt levels, such as Suriname, Guyana and Haiti would stand to benefit from it. In the meantime, the second proposal would help to address vulnerabilities faced by countries like Belize, Jamaica, Grenada and Barbados, where private creditors represent a significant share of total liabilities.

[36] The Guardian. (2017). Dominica in tatters weeks after Maria: "We saw everything totally destroyed." Retrieved October 25, 2017, from https://www.theguardian.com/world/2017/oct/03/hurricane-maria-dominica-recovery

[37] ECLAC. (2016). Horizons 2030: Equality at the center of sustainable development. Retrieved from http://repositorio.cepal.org/bitstream/handle/11362/40160/4/S1600652_en.pdf

In addition to these multilateral initiatives, there is an increasing number of private financing mechanisms design to deal both with the need to mobilize resources for climate change adaptation and provide financial relief in the aftermath of a natural disaster. In the case of Fiji, a Green bond was issued[38], while in the case of Seychelles a debt swap was arranged [39]. Even though countries in the Caribbean are yet to issue either of these instruments, they represent options worth exploring for countries in the region. These would allow for countries to tap into a new source of funding while at the same time establishing an endogenous mechanism to prioritize investment in climate change adaptation and mitigation.

The areas in which Caribbean countries are at the forefront of financial innovation are those related to the expansion of the Catastrophe bond market, as well as the establishment of catastrophe bond clauses. Catastrophe bonds refer to instruments issued by insurance and reinsurance companies to transfer the risk associated to catastrophic events. This mechanism allows to reduce the cost premia of insurance services thus facilitating an increase in the market for insurance against large scale natural disasters. From the perspective of investors, these instruments offer attractive returns compared to other investments in the current environment of low interest rates. However, if an insured event takes place, investors are expected to absorb significant write-downs on the principal of the bonds. The market for this type of instrument has experienced significant growth in recent years, reaching USD 30 billion in 2017[40]. In the case of the Caribbean region, the CCRIF issued for the first time USD 30 million catastrophe bond as part of its risk transfer strategy[41]. Despite the overall interest in this type of financial instrument, the 2017 hurricane season represented the first serious test for the market in terms of its capacity to deal with large scale disasters. As the actual

[38] In 2017, Fiji recently became the first developing country to issue a Green Bond for USD 50 million. The proceeds of the bond are to be used in projects relating to climate change adaptation and mitigation. Source: World Bank. (2017). Fiji Issues First Developing Country Green Bond, Raising $50 Million for Climate Resilience. Retrieved from http://www.worldbank.org/en/news/press-release/2017/10/17/fiji-issues-first-developing-country-green-bond-raising-50-million-for-climate-resilience?CID=CCG_TT_climatechange_EN_EXT

[39] In 2016, the country agreed on a debt swap of USD 30 million with the Paris Club and the Government of South Africa. The swap allows the Seychelles to redirect part of their current debt payments to fund investments on climate change adaptation. Source: TNC. (2016). Seychelles: Investing for resiliency. Retrieved from http://glispa.org/images/SeychellesDebtSwap.pdf

[40] IMF. (2017). World Economic Outlook, October 2017: Seeking Sustainable Growth: Short-Term Recovery, Long-Term Challenges. Retrieved from https://www.imf.org/en/Publications/WEO/Issues/2017/09/19/world-economic-outlook-october-2017

[41] World Bank. (2014). Facilitating Catastrophe Risk Transfer. Retrieved from http://treasury.worldbank.org/bdm/pdf/Case_Study/CCRIF_CatBond_2015.pdf

claims arising from the hurricanes will take time to process, it will be important to monitor price and issuance dynamics to assess the viability of these instruments going forward[42].

In the case of the catastrophe clauses, Grenada became the first country to include a clause that enables changes to its debt servicing schedule in the event of a natural disaster as part of its debt restructuring in 2015. The clause can be triggered up to a total of three times, with a maximum relief of 2.6 % of GDP per event. It's important to note that this instrument is specifically designed as a liquidity relief instrument. Once a natural disaster takes places, the clause allows the country to automatically suspend debt service for two years, resuming payments after this period. In theory, this allows the country to redirect debt service payments into reconstruction costs and economic recovery. In this regard, is worth pointing out that despite their benefits, these instruments are not meant to handle very large catastrophic events, where damage amounts to 5% or more of GDP[43].

5. Policy recommendations

While it's clear that important steps are being taken to provide short term financial relief and support in case on a natural disaster, countries in the Caribbean are still left in a situation of vulnerability to the type of extreme events that are bound to occur more frequently with climate change. In this context, high debt levels represent a dual problem for countries in the region. On the one hand, debt servicing costs add to the budget inflexibilities on the face of natural disasters. On the other, macroeconomic vulnerabilities associated to this situation take away the focus from the risks faced by the region as a consequence of climate change. Thus, given the large environmental and economic costs that are being imposed on the region by climate change, its key for the international community to acknowledge the need to simultaneously tackle the issues of investment in adaptation and mitigation of climate change and debt sustainability in the Caribbean in a decisive way. Otherwise, an approach based on domestic mobilization of resources and external insurance mechanisms leaves countries in the Caribbean in a situation in which they are prone to systematically under-invest in their climate change adaptation needs. As a result, the long-term costs of dealing

[42] FT. (2017, September 15). Hurricane Irma tests the catastrophe bond market. Retrieved from https://www.ft.com/content/5f5d34d6-985c-11e7-b83c-9588e51488a0

[43] Asonuma, T., Li, X., Papaioannou, M. G., Thomas, S., & Togo, E. (2017). Sovereign Debt Restructurings in Grenada : Causes, Processes, Outcomes, and Lessons Learned. IMF Working Paper No. 17/171. Retrieved from https://www.imf.org/en/Publications/WP/Issues/2017/07/24/Sovereign-Debt-Restructurings-in-Grenada-Causes-Processes-Outcomes-and-Lessons-Learned-45101

with natural disasters in the region are bound to increase beyond what these countries can humanly, economically and socially support. Measures to avoid this type of scenario ought to include:

1. A joint evaluation by multilateral agencies of the criteria used to target ODA and concessional lending facilities to move beyond a narrow approach based on GNI per capita considerations. As a first step, environmental vulnerability considerations included in the EVI developed by SOPAC and UNEP, could be considered. An improvement in this area would lead to an increase in resources available to environmentally vulnerable countries to address their climate change adaptation and mitigation needs.
2. A joint review by multilateral agencies and donor countries of the insurance mechanisms available to environmentally vulnerable countries. The focus should be placed on options to provide countries with effective protection against catastrophic risks associated to climate change. These include support from multilateral agencies and donors to develop readily available insurance mechanisms, both at the regional and local levels, as well as direct subsidies aimed at reducing the costs and increasing the coverage of climate change insurance schemes.
3. Develop specific measures to address the debt vulnerabilities in the Caribbean. This ought to include debt relief proposals which ensure debt sustainability in scenarios that explicitly account for climate change adaptation needs and the impact of natural disasters. A proposal has been made by ECLAC, involving the creation of an official debt swap mechanism. This initiative would involve the total of multilateral debt owed by countries in the Caribbean on condition that the states involved place the equivalent amount of the annual servicing of the debt into a trust fund dedicated to climate change related investments[44].
4. In addition of accelerating the process of establishment of the GFC, move forward towards the establishment of a Global Disaster Mechanism (GDM) under the auspices of the United Nations. The GDM would bring together and scale up in a more holistic manner the existing fragmented resources available for large-scale disaster relief. This mechanism would complement the resources provided by the GFC, by helping to prioritize countries identified as highly environmentally vulnerable. With an initial endowment of USD 10 billion, the GDM would support ex ante investments in climate change adaptation and disaster preparedness, as well disaster relief. Subject to a series of pre-defined triggers, based on considerations such as share of

[44] ECLAC. (2016). Horizons 2030: Equality at the center of sustainable development. Retrieved from http://repositorio.cepal.org/bitstream/handle/11362/40160/4/S1600652_en.pdf

affected population and economic impact, countries could receive disbursements for up to 25% of damages. Funds for the GDM would be based on assessed contributions, with developed countries contributing relatively more than developing ones[45].

[45] UNDESA. (2008). World Economic and Social Survey 2008: Overcoming Economic Insecurity. Retrieved from http://www.un.org/en/development/desa/policy/wess/wess_archive/2008wess.pdf

Table 1 – Economic overview of the Caribbean region

Country	Population (Thousands)	GNI Per Capita (USD)	Average (2008-2017) GDP Growth	Primary Balance	Current Account
Antigua and Barbuda	101	14'170	0.0	-1.2	-9.6
The Bahamas	391	29'170	-0.1	-1.9	-11.6
Barbados	285	15'540	0.2	5.2	-6.8
Belize	367	4'390	2.2	0.6	-6.2
Dominica	74	6'990	0.5	0.8	-13.6
Dominican Republic	10'649	6'630	4.9	-0.9	-4.6
Grenada	107	9'650	1.7	-0.4	-18.9
Guyana	773	4'460	3.8	-2.3	-10.2
Haiti	10'847	760	1.8	-2.9	-3.9
Jamaica	2'881	4'750	-0.2	6.1	-9.1
St. Kitts & Nevis	55	16'030	2.3	7.1	-14.6
St. Lucia	178	8'780	1.6	-0.7	-8.9
St. Vincent & Grenadines	110	6'990	1.0	-0.7	-26.2
Suriname	558	6'020	1.6	-3.7	0.7
Trinidad & Tobago	1'365	15'350	-0.3	-2.0	13.8
Regional Average	-	9'979	1.4	0.2	-8.7

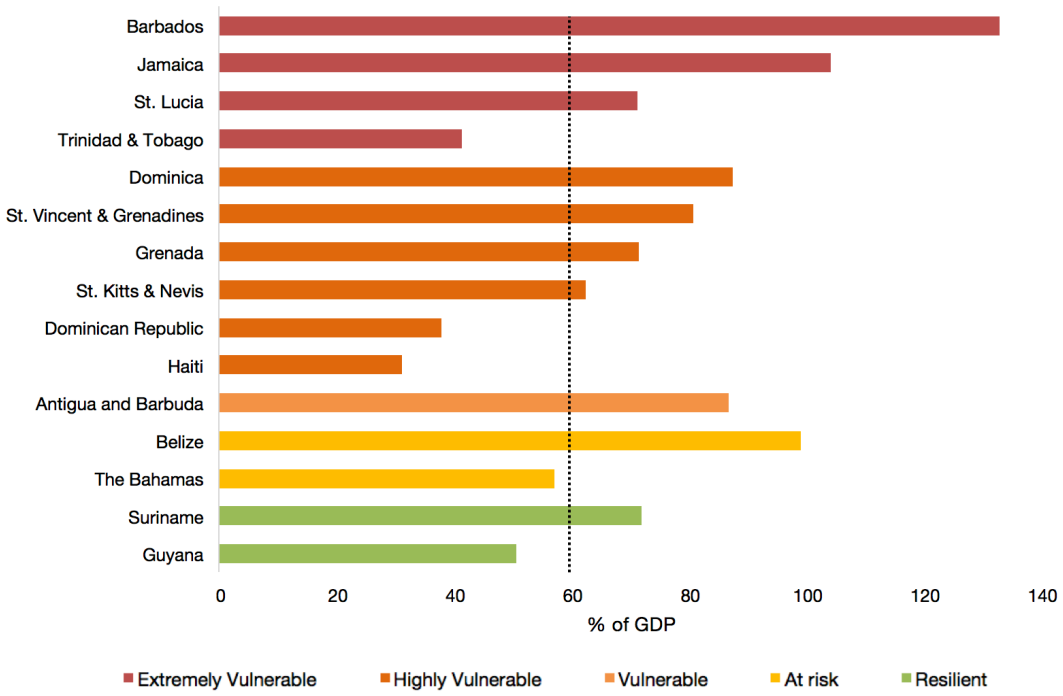
Source: IMF World Economic Outlook (2018); World Bank WDI (2018).

Table 2 – Cost of natural disasters in the Caribbean 1980-2015

Country	Cumulative Damage (% of GDP)	Cumulative Damage (USD Millions)*	Total Ocurrence (Count)	Average GDP Growth (1980-2015)	Average Damage Per Year (% of GDP)	GDP Growth to Damage Differential
St. Kitts and Nevis	213.2	685	7	3.9	5.9	-2.0
Haiti	171.5	9,078	90	0.7	4.8	-4.1
Grenada	157.0	900	6	3.3	4.4	-1.1
Antigua and Barbuda	92.9	543	9	3.5	2.6	0.9
Dominica	88.3	237	10	3.0	2.5	0.5
Belize	65.0	557	13	4.3	1.8	2.5
St. Lucia	63.8	130	16	3.6	1.8	1.8
Jamaica	53.6	2,766	31	0.5	1.5	-1.0
St. Vincent and the Grenadines	51.3	176	12	3.6	1.4	2.2
Bahamas	41.2	2,635	17	1.9	1.1	0.8
Cuba	24.3	11,106	62	4.2	1.2	3.0
Dominican Republic	11.5	2,640	59	5.0	0.3	4.7
Barbados	6.9	107	9	1.6	0.2	1.4
Trinidad and Tobago	0.7	26	10	4.7	0.0	4.7
Suriname	n.a.	n.a.	2	3.9	n.a.	n.a.
Regional Average	74.4	31'585*		3.2	2.1	1.0

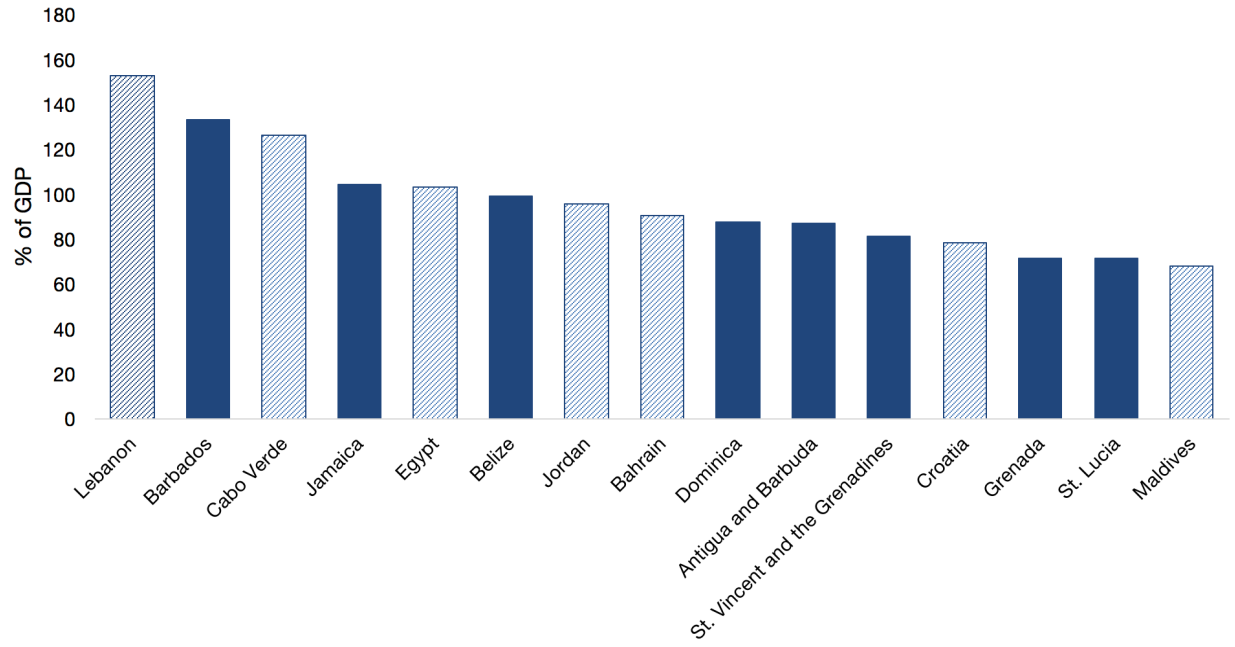
*Regional average refers to total cumulative damage for the entire group of countries
Source: Moody's (2016)

Figure 1 – General government debt as % of GDP and Environmental Vulnerability Index (EVI) - 2017



Source: World Bank WDI (2018), UN Environmental Vulnerability Index (2015)

Figure 2 – General government debt as % of GDP, upper middle-income countries – 2017



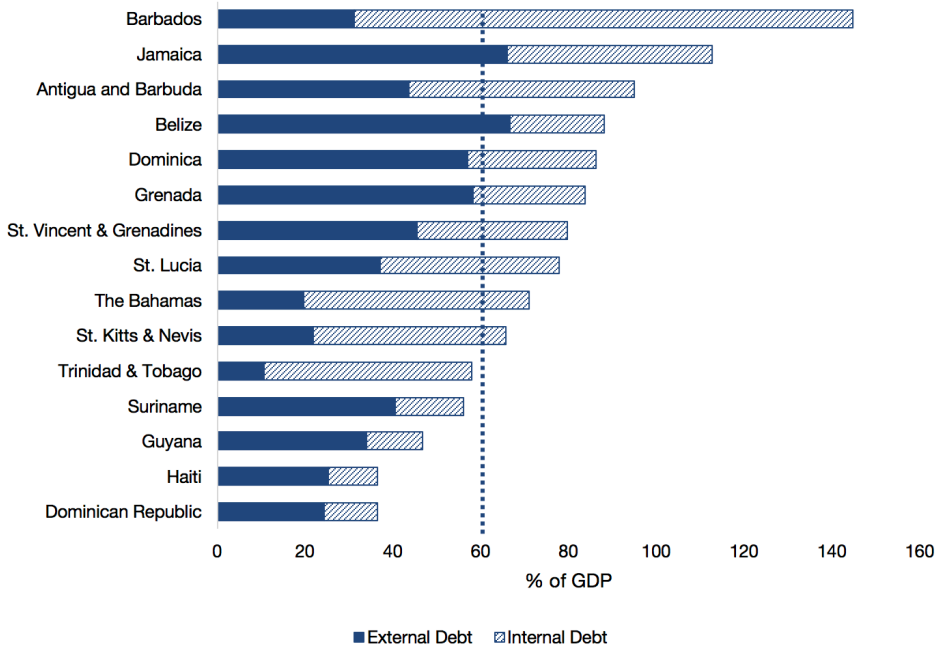
Source: World Bank WDI (2018).

Table 3 – Sovereign debt risk ratings - 2018

Country	S&P Short Term	S&P Long Term
Antigua and Barbuda	-	-
The Bahamas	B	BB+
Barbados	SD	SD
Belize	B	B-
Dominica	-	-
Dominican Republic	B	BB-
Grenada	NR	NR
Guyana	-	-
Haiti	-	-
Jamaica	B	B
St. Kitts & Nevis	-	-
St. Lucia	-	-
St. Vincent & Grenadines		B3
Suriname	B	B
Trinidad & Tobago	A-2	BBB+

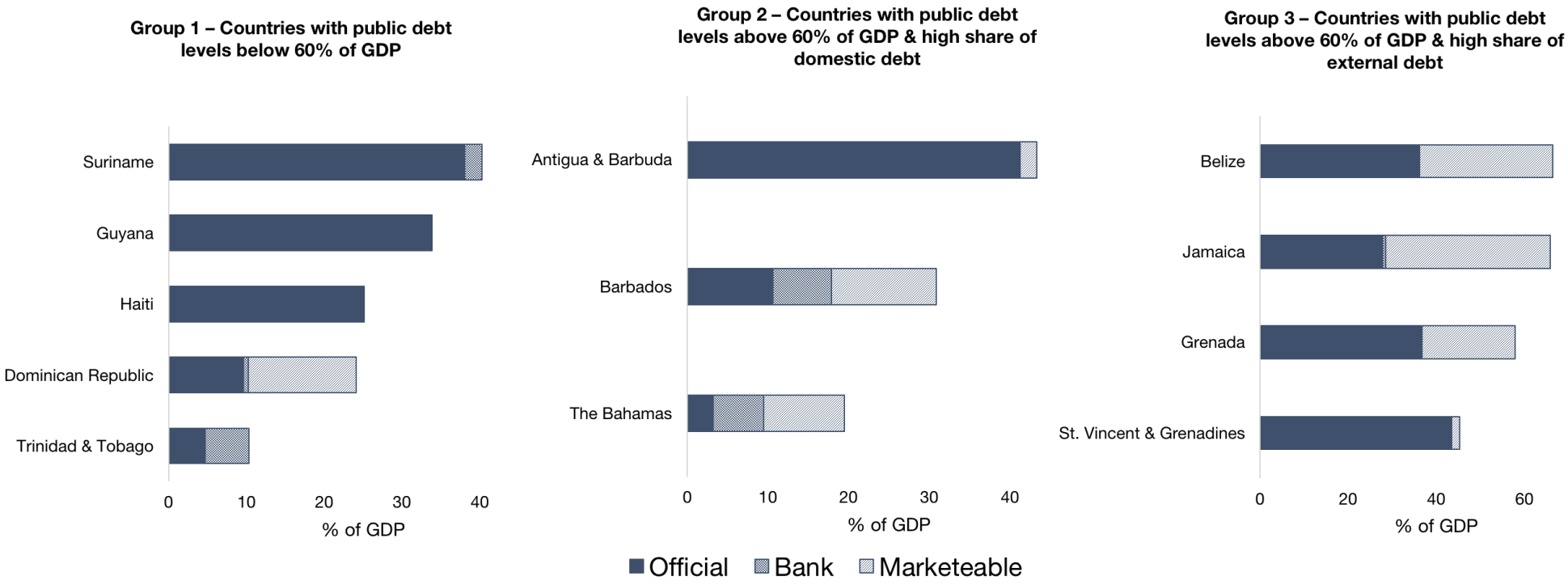
Source: Thomson Reuters

Figure 3 – Central government debt as % of GDP – 2016



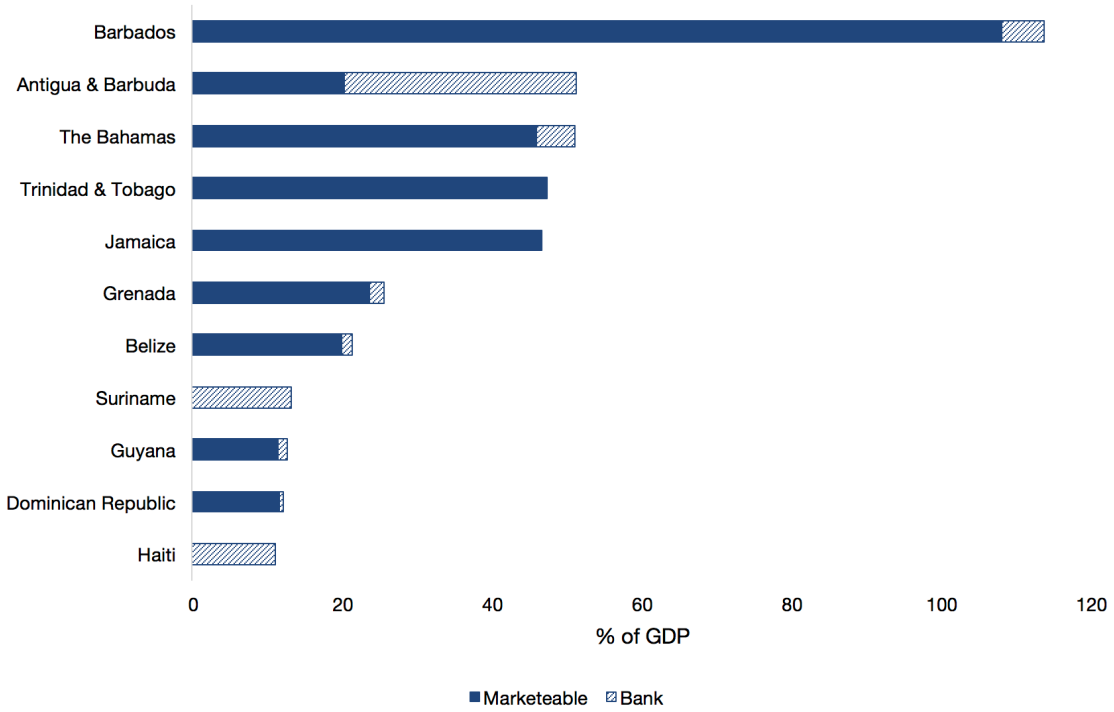
Data for St. Kitts & Nevis for 2015; St. Vincent & Grenadines for 2014; St. Lucia for 2015; Grenada for 2013; Dominica for 2015; Antigua & Barbuda for 2013.
Source: IADB (2017); IMF Article IV Staff Reports.

Figure 4 – Composition of external central government debt as % of GDP – 2016



Source: IADB (2017); IMF Article IV Staff Reports.

Figure 5 – Composition of domestic central government debt as % of GDP – 2016



Source: IADB (2017); IMF Article IV Staff Reports.

Table 4 – Selected debt burden indicators – 2016

Country	Gross Financing Needs (% of GDP)	Interest (% of Revenues)	Public Debt (% of GDP)
St. Kitts & Nevis	20.3	5.6	62.4
Grenada	15.8	10.8	71.4
Suriname	14.6	8.8	72.1
St. Lucia	13.7	17.2	71.3
Trinidad & Tobago	11.2	1.9	41.3
Barbados	10.8	10.3	132.9
St. Vincent & Grenadines	10.5	7.9	80.8
Jamaica	8.1	26.6	104.1
Antigua and Barbuda	7.5	13.9	86.8
The Bahamas	7.0	6.5	57.2
Belize	6.6	10.3	99.0
Dominica	6.6	6.6	87.6
Guyana	5.5	2.7	50.7
Dominican Republic	2.8	8.7	37.7
Haiti	1.8	0.5	31.1

Source: IADB (2018); IMF WEO (2018); IMF Article IV Staff Reports.

Table 5 – IMF country reports identified debt vulnerabilities

Country	Baseline Scenario	Debt level*	Gross Financing Needs*	Debt Profile*	IMF Program
Antigua and Barbuda	Decrease	5	5	2	-
Barbados	Increase	4	4	2	-
Belize	Decrease	5	0	4	-
Dominica	Increase		High		-
Dominican Republic	Increase	0	0	1	-
Grenada	Decrease		Debt distress		Extended Credit Facility
Guyana	Decrease		Moderate		-
Haiti	Increase		High		Staff Monitoring Program
Jamaica	Decrease	5	0	1	Stand By Arrangement
St. Kitts & Nevis	Decrease	0	4	1	-
St. Lucia	Increase	4	4	1	-
St. Vincent & Grenadin	Decrease		High		-
Suriname	Decrease	0	0	2	Stand By Arrangement
The Bahamas	Stabilization	5	0	0	-
Trinidad & Tobago	Increase	4	4	0	-

*For those countries for which a detailed breakdown is provided, the figure refers to the number of benchmarks, out a of maximum of 5, for which the DSA simulation shows that the country value exceeds the upper risk benchmark. For the rest, it refers to the overall assessment provided by the IMF with regards to public debt.

Source: IMF Country Reports (latest available).

Table 6 – Recent debt restructuring episodes in the Caribbean

	Period of Restructuring	Type of debt		Debt Exchanged (USD Billions)	Cut in Face Value	NPV Haircut	Participation rate	Holdouts
		Breakdown	Type					
Dominca	July 2003 to June 2004	Domestic / External	Bonds	0.1	15%	54%	72%	Yes
Dominican Republic	April 2004 to May 2005	External	Bonds	1.1	0%	4.7%	94%	Yes
Dominican Republic	April 2004 to October 2005	External	Loans	0.18	0%	11%	n.a.	n.a.
Grenada	October 2004 to November 2005	Domestic / External	Bonds / Loans	0.21	0%	33.9%	91%	Yes
Belize	August 2006 to February 2007	External	Bonds / Loans	0.52	0%	24%	98%	Yes
Antigua and Barbuda	December 2008 to December 2009	Domestic	Loans	0.01	0%	-2.7%	n.a.	n.a.
Antigua and Barbuda	December 2008 to March 2012	External	Loans	0.03	100%	100%	n.a.	n.a.
Antigua and Barbuda	January 2010 to May 2010	Domestic	Loans	0.02	0%	13.0%	n.a.	n.a.
Jamaica	January 2010 to February 2010	Domestic	Bonds	7.8	0%	n.a.	n.a.	n.a.
St. Kitts and Nevis	June 2011 to April 2012	Domestic / External	Bonds / Loans	0.14	32%	68.4%	100%	No
Belize	August 2012 to March 2013	External	Bonds	0.55	10%	29%	100%	No
Jamaica	February 2013 to February 2013	Domestic	Bonds	8.9	0%	24.2%	n.a.	n.a.
Grenada	March 2013 to November 2015	Domestic / External	Bonds	0.26	44%	50%	100%	No
Barbados*	June 2018	Domestic / External	Bonds	n.a.	n.a.	n.a.	n.a.	n.a.

*Announcement by the government to default on its external debt
Source: Asonuma et al. (2017)