Addressing Debt Vulnerabilities in Small States: The Potential Role of New Financing Instruments

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Abstract

This paper explores two new financing mechanisms that multilateral and bilateral development agencies could consider deploying to address problems of debt sustainability in small states. These proposed financing mechanisms would allow bilateral development partners to utilize committed but undisbursed climate adaptation funds in ways that help small states reduce or manage debt servicing obligations while also supporting continued investment in climate adaptation to reduce climate vulnerabilities. Debt-for-climate adaptation swaps would see bilateral creditors pay down debt owed to multilateral creditors by small states, with small states then reallocating avoided debt repayments to climate adaptation projects and programs. Climate adaptation development policy financing would involve the provision of sector or general budget support to small states by multilateral or bilateral creditors (potentially tied to debt service or early debt repayments), conditional on implementation of policy measures to address climate vulnerability risks.

In this paper we provide an initial assessment of these proposals, informed by analysis of small state indebtedness and recent debt dynamics. Proposed financing instruments are predicated on assumptions that small states face high levels of indebtedness, and that reducing debt levels while increasing climate resilience could sustainably reduce such vulnerabilities. We find that levels of indebtedness vary widely across small states. Analysis of small state debt dynamics shows that small state debt accumulation has been driven by large primary and current account deficits and slow economic growth. Debt reduction from new mechanisms can only be expected to be sustainable, therefore, if countries simultaneously address the macroeconomic imbalances driving debt accumulation. We demonstrate that, while exposure to natural disasters is likely to have exacerbated economic management challenges in some small states, such exposures are unlikely to be the only important cause of indebtedness.

We conclude that proposed new financing instruments can potentially help reduce small state debt burdens and gain fiscal space for climate adaptation but will not present a sustainable solution to problems of small state debt risks unless they involve (or are accompanied by) macroeconomic and structural reforms to address the underlying imbalances driving rapid debt accumulation.

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1. Introduction

This paper explores the potential introduction of new financing instruments to address challenges of unsustainable debt and climate change vulnerability in small states. With the frequency and severity of natural disasters expected to increase in the coming decades as a result of climate change, small states need to ensure the availability of fiscal space to finance climate adaptation and disaster response (World Bank 2010). Many small states, however, have very high levels of public debt, with debt service obligations occupying fiscal space, and solvency concerns limiting access to new financing to meet adaptation needs (Caribbean Development Bank 2013; IMF 2013).

Small state advocates have argued that the problems of high levels of debt and vulnerability to natural disasters can be jointly addressed through the mobilization of already-pledged climate adaptation financing in ways that reduce debt vulnerabilities (Commonwealth Secretariat 2013; Fenton et al. 2014). Substantial funds have already been committed to small states to finance adaptation to climate change, and substantial additional funds may be expected over coming years. To date, however, disbursement of these funds to small states has been limited, reflecting small states’ inability to meet conditions for disbursement or navigate complex financing processes. Two mechanisms have been proposed to allow small states to access such funds in ways that reduce debt burdens, thereby increasing fiscal space for adaptation and generally improving resilience:

1. Debt-for-climate swaps. Under this mechanism, already-pledged climate funds from bilateral development partners would be used to purchase a portion of the debt of participating governments, reducing their debt levels and associated debt servicing obligations (Commonwealth Secretariat 2013 & 2013a). Governments would then be obligated to redirect funds that would have been used to service this debt to climate change adaptation activities. Crucially, debt would be purchased by bilaterals at a discount or ‘haircut’. The liabilities and cash flows associated with financing the required climate change adaptation activities would be less than the liabilities and cash flows associated with the original debt, generating new fiscal space. In this way, bilateral development partners would be able to mobilize climate adaptation commitments to small states in a single, relatively easy transaction. Recipient governments would benefit from being able to reallocate debt service payments to investments in adaptation. Because the required investment in adaptation would be less than the value of the reduction in debt servicing obligations, governments would also gain fiscal space to pursue other investment objectives or deficit reduction. Climate change adaptation funds mobilized from governments in this way could be deposited in trust funds with legal responsibility for selecting, managing, monitoring, reporting on, and evaluating supported projects (Commonwealth Secretariat 2013 & 2013a).
2. Development policy financing to address climate vulnerability and mobilize committed climate funds as budget support. Development policy financing is one of the primary financing modalities employed by the World Bank and other multilateral agencies. Under this modality, budget support is provided to assist governments in delivering their own programs contingent upon completion of policy actions that are shared priorities of government and development partners. Under the proposed model, supported policy measures would directly focus on actions to increase resilience to climate change. Supported reforms might include broad adaptation and disaster risk reduction measures such as the roll-out of national adaptation plans and programs, the adoption of adaptation strategies and policies, and institutional strengthening measures in relevant agencies, among others. Bilateral agencies could mobilize committed adaptation financing as budget support against these programs, aligned with World Bank support. Climate finance mobilized through these mechanisms could be tagged to servicing or the early repayment of more expensive outstanding debt. In this way, committed climate change adaptation funds could be used to reduce existing debt stocks.

While a small literature discusses experience with debt-for-nature swaps, there has been no attempt to evaluate these specific proposed instruments. Several policy and research papers have discussed global experiences with debt-for-nature swaps (Spergel 2014; Weary 2012; von Bechtolsheim 2004; Sheik 2010; Rei 2014; Kilbane et al. 2011). This literature is primarily descriptive in nature. Additional work has emphasized potential conservation benefits (Global Environment Facility 2009). Recent policy papers have advocated the adoption of debt-for-climate swaps and climate adaptation development policy financing on the basis of potential benefits to small countries, especially in terms of reduced indebtedness (Commonwealth Secretariat 2013 & 2013a). This paper fills a gap in the existing literature by discussing the relative benefits and drawbacks of two proposed instruments, informed by analysis of small state debt vulnerabilities and debt dynamics.

We consider policy assumptions underlying both proposed instruments, which have been presented as holding potential to resolve climate and debt challenges facing small states. Proposed new instruments are predicated on an assumption that small states face particular debt vulnerabilities. We therefore begin by assessing the extent to which small states face problems of unsustainable debt. We find that debt levels vary significantly across small states, with debt levels moderate and manageable for many small states. Some small states with relatively low levels of debt, however, are projected to face debt sustainability challenges in future. From this point, we discuss the sustainability of debt reductions achieved through proposed new financing instruments. Mechanisms that provide debt relief conditional on implementation of climate adaptation projects might deliver sustainable debt reduction if climate adaptation measures could be expected to slow future debt accumulation. Through analysis of small state debt dynamics, we find that recent small state debt accumulation has been driven by large primary and current account deficits, slow growth, and – in some cases – high financing costs. While it is difficult to disentangle the impact of natural disasters on key macroeconomic variables, we find little direct association between exposure to climate risks and indebtedness, suggesting that exposure to natural disasters and climate risks is unlikely to be the only important driver of indebtedness in many small states. We conclude that proposed new financing instruments can potentially help small states ensure an ongoing flow of resources for adaptation needs and help reduce immediate debt burdens, but will not present a sustainable solution to debt risks unless they

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1 See Appendix B for a summary of international experience with debt-for-nature swaps.
involves (or are accompanied by) macroeconomic and structural policy reforms that address the underlying imbalances driving rapid debt accumulation.

This paper is divided into three sections. In the first section we outline the extent and nature of debt vulnerabilities in small states. In the second section, we discuss the recent drivers of debt accumulation in small states. In the third section, we discuss proposed new financing instruments and the extent to which they present a potential solution to small state debt vulnerabilities.

2. Do small states face elevated debt vulnerabilities?

Proposals for new financing mechanisms for small states are partly based on the assumption that such states face particularly severe debt vulnerabilities. In this section, we outline the extent and nature of debt vulnerabilities among small states with reference to a range of debt ratios and debt risk ratings under the World Bank-IMF Debt Sustainability Analysis framework.

2.1. Small states are on average more indebted

Overall, the public debt of small states, as a proportion of GDP, is around 9 percentage points higher than the global average for larger states. Small state debt, however, varies significantly across countries, regions, and income groups. Timor-Leste, for example, has negligible public debt, while Grenada’s public debt before its recent commercial debt restructuring was 108 percent of GDP (refer to Appendix A for more details on Grenada’s debt and climate adaptation financing). Public debt levels are highest, on average, in the Caribbean small states, at 71 percent of GDP, while the levels in the Pacific small states average a relatively low 37 percent of GDP. African small states and those in the Indian Ocean have public debt levels averaging 57 percent of GDP. Higher overall levels of debt are most pronounced for countries in the upper-middle income category (Figure 1). In these more-developed economies domestic debt markets have absorbed government borrowing, with domestic debt an important factor in overall higher debt levels. On average, debt levels in small and micro states have continued to rise in recent years, while those in larger countries have declined.
Recent trends in small state debt levels vary by income category. The average public debt level of low and lower-middle income small states has declined substantially and relatively steadily over the past decade and is now close to global averages. Average debt levels among the upper-middle small states, however, have declined only marginally, and there has been no significant decline in the average public debt level of high-income small states. Debt levels for upper-middle and high income small states remain substantially above average levels for all countries at this level of income (Figure 2).

**Figure 1**
General Government Debt as % GDP and Income Group Averages

**Figure 2**
Trends in General Government Debt - Small States and Others

*Note:* Sample includes 28 small states and 159 other states.

*Source:* WEO
Declines in public and external debt have been supported by debt relief and debt restructuring efforts in a number of small states. Three small states (Comoros, Haiti, and São Tomé and Príncipe) have benefited from the HIPC and MDRI initiatives. Under HIPC, these counties received more than US$650 million of nominal debt service reduction and cancellation of substantial outstanding debt stocks to the World Bank, IMF and regional development banks. Some small states, such as Grenada and St. Kitts and Nevis in the Caribbean, have benefited from commercial debt restructuring.

Arguably, debt service indicators are a more appropriate measure of debt burdens than the overall public debt-to-GDP ratio. Debt service ratios measure the resources needed to cover the repayment of interest and principal and are thus a direct measure of the impact of public debt on the public purse. Borrowing patterns reflect access to external sources of capital and the development of domestic markets. Because of variations in portfolio composition, debt levels do not map directly to debt service burdens. So while some countries may have high debt-to-GDP ratios, their debt service burdens can be reduced by a larger proportion of concessional debt at long maturities, and vice versa (Figure 3).

The composition of debt portfolios varies widely across small states. This is illustrated by Figure 3. On the whole, low income small states with access to concessional financing provided by multilateral and some bilateral creditors have a larger proportion of their total debt with those creditors, while middle income countries with easier access to international capital markets and more developed domestic markets have more diversified portfolios with greater reliance on commercial creditors. The higher interest rates and shorter grace periods and maturities generally associated with commercial and domestic debt are reflected in a higher debt service burden in some middle and upper-middle income small states, particularly in the Caribbean (e.g. Antigua and Barbuda, Grenada), where multilateral debt only represents 10 percent of GDP and 24 percent of total public debt. Some low income countries, however, also have high debt and debt service levels with portfolios largely composed of multilateral and bilateral concessional debt (e.g. Comoros, Djibouti, and Sao Tome and Principe).
Debt sustainability ratios used in the Joint World Bank-IMF Low Income Country Debt Sustainability Framework (LIC-DSF) provide additional insights regarding the level of debt vulnerability facing some small states. The LIC-DSF compares various debt ratios against thresholds above which countries have been shown to be more likely to experience episodes of debt distress. These thresholds, however, vary across countries as a function of institutional development, given evidence that countries with stronger governance and institutions are better able to manage higher levels of debt without encountering debt crises. Through application of these measures we can compare the debt burden of some small states, in terms of both solvency and liquidity measures, against empirically estimated thresholds. From this perspective, just under half of the small states with completed Debt Sustainability Assessments (DSAs) (eight of 19) currently have total external debt that exceed their risk thresholds (Figure 5). In addition to external debt thresholds, the DSF also includes benchmarks for total public debt above which there are likely to be threats to public debt sustainability. Six of the 19 small states have levels of public debt that breach these thresholds, all but one of which are upper-middle income countries (Figure 6). Another indicator in the DSF is external debt service as a percentage of exports; this indicator reflects external liquidity risk. According to this measure, only one small state surpasses the threshold for external debt service costs. The combination of high debt levels and low external debt service ratios reflects the fact that countries with the highest levels of public debt also tend to have high domestic debt that is not reflected in the debt service ratio, and that several small states enjoy access to highly concessional external financing from multilateral and bilateral donors (Figure 7).

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2 The net present value of debt is used within this framework to take account of lower risks associated with borrowing on concessional terms from multilateral and bilateral donor agencies (with long maturities and grace periods and low interest rates) relative to commercial terms offered by the private sector.

3 The World Bank’s Country Policy and Institutional Assessment scores (assessed annually for all developing countries by World Bank staff) provide a quantitative basis for capturing the quality of governance and institutions.

4 The risk of debt distress rating is available for a subset of low and middle income countries with limited market access.
Figure 5
Present Value of Total External Debt (% GDP)

Source: International Debt Statistics, DSAs, and IMF Article IV Reports.

Figure 6
Present Value of Public and Publicly Guaranteed Debt (% GDP), 2013

Source: International Debt Statistics, DSAs, and IMF Article IV Reports.
2.2. Projections suggest growing debt risks for small states despite policy measures to address small state needs

Debt sustainability analysis under the World Bank-IMF Debt Sustainability Framework extends analysis of debt risks beyond consideration of existing debt burdens by projecting debt levels and servicing costs under several future scenarios. This leads to the assignment of risk ratings based on projected, rather than current, debt levels. Countries are assigned to one of four risk categories ranging from ‘low risk of debt distress’ to ‘in debt distress’. As shown in Figures 8 and 9, the trend is towards lower risks of debt distress for larger states while an increasing number of small states have been categorized at high risk of debt distress since 2009. The distribution of ratings for small states is now skewed towards higher risk relative to larger countries categorized under this framework. Of the small states with completed DSAs, slightly more than half are considered to be either at high risk of debt distress or in distress, double the proportion of larger countries (with completed DSAs).\(^5\)

\(^5\) Drawing conclusions regarding debt vulnerabilities of small states relative to larger states using DSA results is complicated by two factors. Firstly, results for some countries (including Kiribati, Samoa, and Vanuatu) are driven by assumptions regarding future borrowing that are unlikely to arise. As discussed below, the DSF rating is used to determine financing terms from multilateral donors, including the World Bank and regional multilaterals. The fact that these countries have been classified as at high risk of debt distress means that they now have access to financing at more concessional terms than assumed within the DSF modeling. Kiribati, for example, which is considered to be at ‘high’ risk of debt distress because of its assumed future borrowing, currently has very modest levels of external debt, and is receiving all external financing in the form of grants. Access to grants is a consequence of the high risk rating and substantially reduces actual risks, and debt levels have therefore not exceeded, and are not expected exceed, sustainable levels. Secondly, the DSF is applied in small states that have relatively high incomes because of their additional vulnerabilities and access to more-concessional financing windows. The large number of small island countries considered to be at high risk of debt distress to some extent reflects the fact that most other countries at this level of income (and with associated access to external and domestic private credit markets) are not subject to Debt Sustainability Analysis under the framework.
Small states are experiencing increased debt vulnerabilities despite policy measures providing additional access to concessional financing and grants. Specific policy measures have been put in place by multilateral agencies to reflect the higher levels of economic volatility and exposure to external shocks facing small states. Firstly, under the small states exemption, countries can maintain access to the concessional IDA financing window despite enjoying levels of income that would otherwise require them to access World Bank support on more expensive IBRD terms. Fourteen of the 31 small states have access to more-concessional resources from the World Bank due to the small-island exemption. Other multilaterals have pursued similar measures to allow small states enhanced access to concessional facilities. Secondly, the DSF is intended to avoid IDA-eligible countries from experiencing high levels of debt distress due to unsustainable borrowing from multilaterals. Under the framework, countries that are considered to be at risk of experiencing unsustainable levels of external debt gain access to IDA resources on grant, rather than credit, terms thereby reducing risks that unsustainable debt levels will eventuate.
3. **What has driven indebtedness of small states?**

Sustainably addressing small state debt vulnerabilities requires not just paying off existing debts, but also addressing the drivers of debt accumulation. In this section we identify the drivers of debt accumulation in small states over the past five years, and assess potential linkages between rapid debt accumulation and natural disaster risks.

### 3.1. Debt accumulation has been driven by persistent macroeconomic imbalances

Debt dynamics of low and middle income country small states can help explain recent trends and drives projections of increased debt risk in future. Data from World Bank-IMF DSAs of 18 small economies can be used to decompose changes in public and external debt levels across different drivers over time. Figures 11 and 12 show the positive and negative average annual contribution to public and external debt from different debt drivers for low and lower-middle income small states, upper-middle income small states, and all other countries covered under the DSF framework over the 2009-2014 period.

**Figure 11** Public debt dynamics, small states and others (2009-2014)

**Figure 12** External debt dynamics, small states and others (2009-2014)

*Source: DSAs, World Bank staff calculations*

Small states have accumulated public debt at a faster rate than larger countries. Lower-middle and upper-middle income small states accumulated public debt at an average rate of 1.3 percent of GDP and 1.8 percent of GDP per annum, respectively, over 2009-2014. This compares to slightly negative debt accumulation for other states. For lower-middle income countries, debt accumulation is driven by larger primary deficits (3.2 percent of GDP compared to 1.9 percent of GDP for larger states) and slower growth (-1.6 percent of GDP, compared to -1.8 percent for larger states). While upper-middle income small state have run smaller

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6 Data is taken from individual debt sustainability analyses of all 71 countries for which current debt sustainability analyses are available.
primary deficits than larger countries, high existing debt burdens including significant commercial debt have led to a strong contribution from real interest rates (1.6 percent of GDP per annum, compared to slightly negative contribution for larger states).

Small states have also accumulated external debt at a faster pace than larger countries. Lower-middle and upper-middle income small states accumulated debt at 1.1 percent and 2.9 percent of GDP per annum respectively, compared to debt accumulation of just 0.1 percent for larger countries. The major driver of increased debt accumulation for small states was the size of the current account deficit (11.5 percent of GDP for lower-middle income small states, 10.4 percent of GDP for upper-middle income small states, and 5.6 percent of GDP for larger states). Slower growth in smaller states also exacerbated negative external debt dynamics.

The relationship between primary deficits and the pace of public debt accumulation can be observed across most small states. As shown in Figure 13, higher average primary deficits are associated with public debt accumulation across small states. The impact of primary deficits dominates growth effects, with several small states experiencing reasonable rates of growth combined with increasing debt stocks in the presence of large primary deficits.

![Figure 13](image_url)

**Figure 13**

**Primary Deficit, Change in Public Debt, and GDP Growth (L&LMIC Small States)**

*Source:* DSAs, World Bank staff calculations

*Note:* Size of bubble denotes 5-year average GDP growth (2010-2014), clear bubbles denote negative growth.

### 3.2. Debt levels are not consistently correlated with exposure to natural disasters

Exposure to natural disasters may increase debt levels and associated vulnerabilities through several channels. Natural disasters negatively impact economic activity output, feeding into reduced revenues and exports, exacerbating fiscal deficits and external imbalances (IMF 2013; Tumarello, Cabezon and Wu 2013). Responding to disasters, implementing preparedness and risk reduction measures, and investing in climate change adaptation place significant fiscal pressures in small state contexts where fiscal space is
often limited and there are important rigidities in public spending (limits to expenditure compression due to indivisibilities and absence of scale economies, and large wage bills).

Exposure to climate and natural disaster risks varies across small states. A relatively reliable but imperfect measure of countries’ exposure to climate risks is the extent to which they have been historically impacted by natural disasters (Kreft et al. 2015). Countries facing highest historical damage are likely to be more vulnerable as extreme weather events increase. Figure 14 shows total annual average damage from natural disasters as a percentage of GDP for small states (with available data) relative to the non-small state average. While some small states face very high costs of from natural disasters, nearly half of all small states have faced costs of natural disasters below the global average as a share of GDP.

**Figure 14**

*Average annual direct losses from natural disasters as % GDP – small states*

![Diagram showing average annual direct losses from natural disasters as % GDP – small states.](image)

*Source: Kreft et al. 2015*

There is no clear association between small states’ exposure to natural disaster risks and those currently experiencing debt vulnerabilities. Figure 15 plots average annual damage from natural disasters against total public debt, both expressed as a share of GDP. Figure 16 shows the association between climate risk (as assessed by historical natural disaster losses) and debt risk (as assessed through application of the IMF-World Bank debt sustainability framework). As shown, the correlation between debt levels and climate vulnerabilities is fairly weak and uncertain (correlation coefficient of 0.47, statistically significant only at the ten percent level if Kiribati is excluded as an outlier). Several of the high debt/high vulnerability countries are Caribbean countries, including Grenada, St. Kitts, and Dominica. But Caribbean states such as Antigua and Barbuda also face high levels of indebtedness, while relatively less exposed to natural disaster risks. Some of the Pacific states, such as Kiribati, Tonga, and Fiji, by contrast, face high levels of climate vulnerability, but relatively low levels of debt. Even in Caribbean countries where high costs of debt exist alongside high natural disaster exposure, other factors also played a role in rising indebtedness, for example successive years of public enterprise borrowing and off-balance-sheet spending, including for financial sector bailouts (IMF 2013).

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7 Other important impacts of climate change are not taken into account in this measure, however, such as ground water loss or ocean acidification.

8 A Spearman’s rank correlation test is applied. Reported significance levels are based on one-tailed tests assuming a positive correlation between climate risks and macroeconomic risks. If Kiribati is included, no significant correlation can be detected. If Grenada is also excluded as an outlier, given its exceptionally high levels of debt, results again become insignificant.
There is mixed evidence of correlation between climate vulnerabilities and macroeconomic imbalances driving debt accumulation among small states. To assess whether undesirable debt dynamics among small states could be attributed to climate vulnerability, we also tested for statistical correlation between the climate vulnerability index and current account and primary deficits. A relatively strong correlation (correlation coefficient of 0.76, significant at the one-percent level) is apparent between climate vulnerability and the size of the current account deficit. No significant correlation could be detected, however, between climate vulnerability and the size of the primary deficit, which has been an important driver of debt accumulation in small states (IMF 2013). While it is clear that exposure to natural disasters presents challenges to growth and economic management in some small states, it is also clear that such exposure is not the sole determinant of indebtedness. Future research could usefully further explore relationships between macroeconomic variables and climate vulnerability in small states, including the impact of such vulnerabilities relative to policy and institutional variables.

4. Can proposed financing instruments address small state debt vulnerabilities?

New financing instruments have been proposed to address the debt vulnerabilities of small states while simultaneously mobilizing resources for climate change adaptation. In this section we describe proposed new instruments in detail before discussing the extent to which they can contribute to addressing small state debt vulnerabilities.

Both proposed mechanisms are intended to support the mobilization of adaptation funds committed to small states. Substantial funds have been pledged to address climate change impacts in developing countries.

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9 Two commodity exporters with large current account surpluses are removed from the analysis as outliers.
Bilateral donors have committed to provide new and additional resources to help meet the climate change adaptation and mitigation needs of developing countries. These pledges approached US$30 billion in the period 2010 to 2012 with additional commitments to mobilize a further US$100 billion per year to 2020. Importantly, pledged climate adaptation financing is expected to be additional to existing Overseas Development Assistance (ODA) commitments. A number of climate funds have been established over the last decade under the United Nations Framework Convention on Climate Change (UNFCCC). At the Paris Climate conference of 2015, an additional US$1.5 billion was pledged to these funds by developed countries (Nakhooda 2015). In addition, more than 40 international and regional mechanisms have been put in place. In some cases, financial commitments to support climate change adaptation are reflected in the budgets of donor countries. For instance, the UK government appropriated £2.9 billion in the 2014/15 budget to establish an international climate fund to support mitigation and adaptation activities. Although many instruments have been used to provide climate finance, direct grants and related instruments account for almost half the total (Nakhooda et al., 2013). Capacity and institutional constraints have also impeded the flow of climate funds to small states as a result of weak institutional capacity that makes it challenging to meet the often complex application and reporting requirements of various climate financing windows (Bird et al, 2013). In the context of weak national systems to access and utilize available climate financing, flows of funds have at times become fragmented, with rigid criteria and agency specific reporting requirements discouraging alignment among donors, resulting in project activities that are often not coordinated around a unifying plan.

4.1. Debt-for-climate adaptation swaps

Debt-for-climate change swaps were recently proposed by the Commonwealth Secretariat as a mechanism to reduce the debt burdens of small states. This is a variant of the debt-for-nature swap mechanism, under which creditors write off a portion of the debt stocks in exchange for commitments to invest in conservation initiatives affecting critical ecosystems. Under the proposal, already-pledged climate funds from bilateral development partners would be used to purchase a portion of the multilateral debt of participating governments, reducing their debt levels and associated debt servicing obligations. Governments would then be obligated to redirect funds that would have been used to service this debt to climate change adaptation activities. Crucially, debt to multilaterals would be purchased by bilaterals at a discount or ‘haircut’. The liabilities and cash flows associated with financing the required climate change adaptation activities would be less than the liabilities and cash flows associated with the original debt, generating new fiscal space. In this way, bilateral development partners are able to mobilize climate adaptation commitments to small states in a single, relatively easy transaction. Recipient governments benefit from being able to reallocate debt service payments to investments in adaptation. Because the required investment in adaptation is less than the value of the debt, governments also gain fiscal space to pursue other investment objectives or deficit reduction.

Climate change adaptation funds mobilized from governments in this way would be deposited in trust funds to ensure sound management. The model of Conservation Trust Funds (CTFs), commonly used to manage funds from conservation-focused debt-for-nature swaps and generally considered highly-effective, would be replicated. The Trust Fund would be established as a separate legal entity and play two main roles. Firstly, it would manage the investment of unused balances to preserve and increase the value of the fund.

10 While the Commonwealth Secretariat Proposal is targeted at multilateral debt, DFN swaps can be implemented using bilateral and commercial debt as well.
Secondly, it would oversee the design and selection of projects to be financed by the fund. Such projects would be selected and implemented in accordance with a detailed plan, developed with international technical assistance. Projects would be implemented by central government agencies, NGOs, local governments, or the private sector. Where appropriate, such trust funds could operate on a local basis (particular areas within countries) or a regional basis (across different countries). An existing trust fund that was undertaking similar work could be used, rather than a new trust fund established, in countries where such institutions already operate (Commonwealth Secretariat 2013).

**Box: Hypothetical debt-for-climate change swap**

A small country has very high levels of concessional debt to multilateral institutions and faces severe climate change vulnerabilities. A bilateral partner wishes to mobilize substantial adaptation financing, but is unable to do so because of weak implementation capacity within the Ministry for the Environment.

The bilateral purchases 20 percent of that country’s debt to a multilateral, with a face value of US$500 million, at a 20 percent discount (US$400 million). These funds (US$400 million) are transferred directly to the multilateral as an early repayment, which reduces the country’s debt obligations and cash flow invoices accordingly.

In return, the Government of the small country accepts a legal obligation to invest US$400 million over the next twenty years into a climate adaptation trust fund. The flow of funds is to be similar to the debt service profile on the cancelled debt, although only US$400 million will be invested, rather than the US$500 million of originally-scheduled debt repayments (plus the associated interest payments).

A climate change adaptation trust fund is established and the government accesses international technical assistance to review and, where necessary, improve its climate change adaptation plan. Project proposals are received from government agencies and NGOs, and assessed on their quality and consistency with the national adaptation plan. Selected projects are financed through the trust fund, monitored, and evaluated. Reports on implementation are provided to the bilateral that financed the initial debt swap. Unused balances are invested at market returns and utilized when new projects are ready for execution.

Debt-for-climate adaptation swaps could effectively secure a long-term stream of resources for much needed climate adaptation activities. The debt-for-climate adaptation swap proposal relies upon the willingness of multilateral donors to provide discounts on outstanding debt and bilateral donors’ willingness to mobilize committed climate adaptation funds to participating countries. Small states have had difficulty in sustaining the flow of significant volumes of climate adaptation resources in the past, due to their often limited and highly-variable fiscal space and difficulty in accessing international climate financing funds. These difficulties have sometimes been compounded by limited short-term political incentives for investment in environmental protection. Debt-for-climate adaptation swaps present an opportunity to unlock committed adaptation financing while incentivizing and protecting a long-term flow of resources to climate adaptation. From the perspective of bilateral agencies, the accelerated disbursement of committed climate adaptation funds may be politically attractive, and the opportunity to provide this support as a single payment to a multilateral agency would reduce transaction and administration costs.
Debt-for-nature (DFN) swaps have traditionally been successful in generating funding for environmental programs. Evaluations of experience of DFN swaps and their associated Conservation Trust Funds highlight their success in ensuring long term and predictable sources of financing for environmental purposes. DFN swaps have multiplied and extended the duration of environmental funding particularly when part of the cash flow from the swap is put into an endowment, generating flows over time that are multiples greater than the original funding that was used to buy, restructure or cancel debt. An evaluation of the results of US-supported DFN swaps under the Tropical Forest Conservation Act, one of the largest sources of financing for DFN swaps, concluded that the vast majority of these were working effectively in achieving their intended conservation purposes, including through their contributions to the setting of national environmental agendas and the promotion of participation by civil society (particularly when proceeds are channeled to a private trust fund) (Spiegel 2014).

Debt-for-climate adaptation swaps may also help reduce macroeconomic vulnerabilities of small states. A reduction in headline debt ratios and external indebtedness, even if associated with a significant stream of future financing obligations for climate adaptation investments, may reduce macroeconomic risks and improve investor confidence. The obligations for investment in climate adaptation projects would be lower than the initial debt service obligations, reducing the public debt service burden and level of public debt. The obligation to finance adaptation projects rather than service multilateral debt may also reduce pressure on foreign exchange reserves, with adaptation investments likely to include a substantial domestic currency component. The significance of these benefits would depend heavily on the scale of both existing multilateral debt levels and debt service obligations, and the amount of funds mobilized through any debt-for-climate adaptation swap. Implementation of such measures might also provide important benefits in terms of market and public perceptions. The climate change risks facing small states are well known, and such risks may currently be constraining investment. Adoption of new instruments could signal willingness to tackle climate change at a policy level. This may restore investor confidence and attract future aid flows and private philanthropic financing, if marketed appropriately.

Some important questions remain to be addressed:

- Firstly, do debt-for-climate swaps address fundamental constraints to effective climate adaptation financing? Adaptation commitments have not been fulfilled because of a lack of implementation capacity for adaptation projects in small states (World Bank 2012; Pacific Island Forum Secretariat 2015). Under debt-for-climate swaps, deposits from government into trust funds might be subject to the same disbursement constraints, especially if fiduciary and project quality standards are not loosened. Development partners may be concerned about loss of direct oversight over the use of funds, and have concerns about how quickly and effectively funds channelled through these funds could be utilized. Governments may also be concerned about the transaction costs associated with establishing the administrative arrangements for adaptation trust funds, and the possible issues for coordination with substantial resources being allocated and utilized outside of central government systems.

- Secondly, does swapping multilateral debt make sense under a debt for climate swap? Multilateral debt is contracted at preferential terms, with low interest rates, and long grace periods and maturities. Therefore the reduction of multilateral debt using DFN swaps – as presented in the Commonwealth Secretariat’s proposal – while helping to reduce debt stocks, may not have a big impact on debt servicing in most countries, where the largest debt servicing burdens are frequently associated with commercial external and domestic debt. Variants of debt-for-climate swaps could be implemented that instead target more-expensive debt, with a greater impact on debt service burdens.
Thirdly, is the proposal consistent with principles of equal burden sharing? Those providing debt relief may be concerned about principles of equal burden sharing in relation to the provision of debt relief. Under this principle all creditors are typically expected to bear an equal proportion of the costs of debt relief, which would not be possible if relief was only being provided by a single agency or group of agencies. Alternative variants of debt-for-nature swaps might involve ‘haircuts’ also being borne by private creditors or bilateral agencies, allowing these issues to be bypassed.

Fourthly, can debt-for-climate swaps be implemented at a scale significant for debt reduction? The historical impact of debt-for-nature swaps on debt levels and fiscal accounts has been modest. The volume of debt relief associated with the swaps has been small, and there is usually little new infusion of financial resources - rather a redistribution of existing ones. DFN swaps may in some cases lead to an increase the price of a country’s remaining debt if markets perceive the need to pursue such swaps as indicating higher default risks.

Debt-for-climate swaps, in themselves, are unlikely to effectively address unsustainable debt accumulation. Debt-for-climate swaps provide a means of reducing existing debt burdens. But, as currently proposed, they would not address the underlying drivers of debt accumulation. As discussed above, exposure to natural disasters is only one of several factors driving previous debt accumulation in small states. Investment in adaptation is therefore unlikely to sustainably reduce indebtedness. An adequate macroeconomic framework would be required to ensure that debt-relief did not lead to the rapid accumulation of new debt and that development gains from adaptation efforts were not undermined by broader problems of macroeconomic instability.

Box: How much fiscal space could small states gain from debt-for-climate adaptation swaps?

The amount of fiscal space that small states could gain from climate-for-adaptation swaps depends on the amount of debt forgiveness that creditors are willing to provide. If climate-for-adaptation swaps were to be applied to outstanding multilateral debt, the total amount of fiscal space that could be gained would be constrained by the amount of existing multilateral debt and associated debt service obligations.

The following figure shows the potential reductions in debt service as a percentage of GDP and as a percentage of existing total debt service for a selection of small states, under the very-optimistic assumption that half of all outstanding multilateral debt would be swapped. Gains in fiscal space range from less than 0.1 percent of GDP for Comoros to around 1 percent of GDP for Guyana. It is important to note, however, that much of this increase in fiscal space would be immediately used up in implementing new climate adaptation projects under the swap agreement. The only gain in fiscal space after implementation of new adaptation projects would be equivalent to the “haircut” absorbed by the multilateral – likely only a small proportion of the total swap.
4.2. Development policy financing for climate adaptation

The Commonwealth Secretariat has also proposed the use of policy-based adaptation financing for building climate resilience as a main focus for International Financial Institution (IFI) support to small states. Development policy financing is one of the primary financing modalities employed by the World Bank and other multilateral agencies, providing fast-disbursing budget support to assist governments in delivering their own programs. Funds are mobilized against a policy matrix listing policy actions that are shared priorities of government, the World Bank and other development partners. Under this model, the traditional focus on reforms to address macroeconomic imbalances under budget support programs would be supplemented with policy measures reflecting a broader conception of resilience and sustainability. Policy measures supported under World Bank and other IFI programs might include broad adaptation and disaster risk reduction measures such as the roll-out of national adaptation plans and programs, the adoption of adaptation strategies and policies, and institutional strengthening measures in relevant agencies, among others.

Development policy operations could be used to channel committed adaptation financing resources as budget support. It is common for bilateral development partners to provide funds in alignment with World Bank and other multilateral budget support operations, either through direct co-financing and use of multi-donor trust funds or through simple ‘aligned’ approaches where bilateral agencies provide funds through their own channels, against a joint policy matrix coordinated by the World Bank. Bilateral donors could mobilize committed climate adaptation financing as budget support through these co-financing channels. This blending of grant climate financing from bilaterals with multilateral financing would reduce financing costs, a particularly important consideration for MICs with no access to concessional IFI resources. Climate finance mobilized through these mechanisms could in some instances be tagged to servicing or the early
repayment of more expensive outstanding debt. In this way, climate resilience development policy lending could, where appropriate, replicate a core feature of the debt-for-climate adaptation swap proposal in directly using committed climate change adaptation funds to reduce existing debt stocks.

**Box: Hypothetical example of policy-based adaptation financing**

A small country faces high levels of commercial domestic and external debt and also extreme vulnerability to climate change risks. A bilateral partner wishes to mobilize substantial adaptation financing, but is unable to do so because of weak implementation capacity within the Ministry for the Environment.

A multilateral agency works with government and bilateral partners to develop a development policy operation on standard financing terms. Under this operation, government commits to implement an ambitious program of macroeconomic and climate adaptation policy and institutions reforms. Actions supported by the program are expected to have a significant impact in: i) reducing the primary deficit; ii) establishing a consistent strategic policy for addressing climate change vulnerabilities; and iii) building institutional capacity within the Ministry for the Environment to implement the new adaptation policy.

Upon completion of all policy actions, the multilateral disburses committed financing. Bilateral partners also disburse substantial funds which had been committed to adaptation financing as direct budget support. While disbursed funds help government meet financing needs associated with implementing the new adaptation program, there is no direct hypothecation. Funds are disbursed to the consolidated account and executed through government systems.

Government has increased fiscal space available to meet both adaptation and debt servicing needs. The broader macroeconomic policy reforms supported by the operation ensure that these gains are made sustainable through general fiscal consolidation and a reduction in the primary deficit.

Policy-based adaptation financing may be useful in focusing on policy and institutional aspects of adaptation. Under the policy-based financing proposal, multilateral and bilateral support would be channeled directly through government systems. Substantial resources could be mobilized quickly through government program expenditure, without the need for parallel financing systems that might be costly to establish and maintain and contribute to problems of coordination and fragmentation. Execution of committed funds would not be constrained by limited numbers of ‘shovel ready’ projects. Budget support through policy-financing could complement the traditional focus on investment projects through support for policy measures that are often necessary conditions for sustainable advances in climate adaptation and resilience-building. Policy engagement in areas related to climate change adaptation can have a strong development impact in many small states where long-term climatic risks to development outcomes are arguably as serious as those arising from macroeconomic imbalances (Connell 2013). Budget support to programmatic policy measures would be consistent with recent calls for more programmatic and aligned approaches to climate change adaptation, including the mainstreaming of adaptation considerations into broad government development and sector plans and policies (World Bank 2012).

Climate resilience development policy lending would maintain incentives to address macroeconomic imbalances. As discussed above, development gains from improved policies and programs for climate
adaptation are unlikely to be maintained if broader problems of macroeconomic sustainability remain unaddressed. Under the proposed mechanism, programmatic climate actions would be supplementary to policy measures to address macroeconomic imbalances.

Issues around fungibility and accountability would need to be carefully considered. Fungibility of budget support and weaknesses in government financial management systems may mean that efficient use of resources provided through this mechanism could not always be assured. While the resources would be mobilized against policy actions that related to climate change adaptation, a direct link to new and additional adaptation project expenditure could not be assured. Even if resources were tagged to debt servicing or early repayment of expensive debt, fungibility of government resources means that the ultimate use of new fiscal space would be determined by the government budget. If resources were directly tagged to new spending on adaptation projects and programs (which is not allowed under the operational policies governing development policy operations of most multilaterals), the constraints to rapid and efficient execution of project expenditure currently limiting the disbursement of committed climate adaptation financing would continue to bind.

4.3. Sustainably reducing small state relies on improved macroeconomic performance and management

Both debt-for-climate swaps and development policy lending for adaptation can reduce small state headline debt levels. Both proposed mechanisms present opportunities to mobilize committed climate financing in ways that provide small states with relief from immediate debt challenges. By reducing headline debt levels and debt service burdens, these mechanisms can help small states regain some fiscal space for dealing with climate adaptation challenges while allowing development partners to mobilize committed funds.

Debt vulnerabilities of small states can only be sustainably reduced by addressing the drivers of debt accumulation. An important component of previous debt relief initiatives, such as HIPC, was the requirement that benefiting countries implement measures that prevent the accumulation of new debt following debt relief. Countries receiving HIPC relief, for example, are required to address the underlying imbalances that could cause rapid debt accumulation before reaching eligibility for Decision and Completion Points. Without addressing the causes of debt accumulation, there is a risk that reduction in existing debt burdens will be quickly offset by new borrowing. This risk is particularly pronounced if debt reduction involves the creation of a future stream of liabilities (in the form of adaptation financing commitments) that occupy fiscal space.

Climate adaptation is not, in itself, likely to prevent debt accumulation in many small states. There is no strong association between debt vulnerabilities and exposure to natural disasters among small states. While exposure to natural disasters may have exacerbated macroeconomic management challenges in some small states, it is clear that additional factors have also driven debt accumulation. Proposed new financing instruments are therefore unlikely to sustainably mitigate small state debt vulnerabilities unless combined with measures that address additional macroeconomic drivers of debt accumulation.

Both instruments could include or be combined with measures to address macroeconomic imbalances. Development policy lending for climate adaptation operations could include policy actions to address both

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11 Evidence to date suggests that most post-HIPC countries have managed to avoid rapid re-accumulation of debt following the clearance of large portions of their outstanding debt stocks illustrating the effectiveness of a dual focus on addressing both debt stocks and the structural macroeconomic factors leading to unsustainable financing needs and debt acquisition (Merotto, Stucka, and Thomas 2015).
underlying macroeconomic imbalances and climate vulnerabilities. The existence of a sustainable macroeconomic framework is a prerequisite for most World Bank development policy lending, and this prerequisite could usefully be applied in the case of development policy operations for climate adaptation. Development partners could prioritize the implementation of debt-for-climate swaps in countries where macroeconomic imbalances were being credibly addressed through policy reforms supported by additional instruments or programs. Taking account of underlying drivers of debt accumulation is likely to be vital for both instruments if any gains in reducing debt risks are to be sustained.

5. Conclusion

This paper explores the feasibility of two instruments that could be used to address challenges of unsustainable debt among small states. These instruments have been proposed on the basis that small states face particular debt vulnerabilities, and that these vulnerabilities can be addressed by using committed climate adaptation financing to reduce existing debt burdens.

There is significant variance in debt levels across small states. Overall, the public debt of small states, as a proportion of GDP, is around 9 percentage points higher than the global average for larger states. Small state debt, however, varies significantly across countries, regions, and income groups. The average public debt level of low and lower-middle income small states has declined substantially and relatively steadily over the past decade and is now close to global averages. Average debt levels among the upper-middle small states, however, have declined only marginally, and there has been no significant decline in the average public debt level of high-income small states. Debt levels for upper-middle and high income small states remain substantially above average levels for all countries at this level of income.

The number of small states categorized as at ‘high’ risk of debt distress has been increasing. The World Bank-IMF Debt Sustainability Framework extends analysis of debt risks beyond consideration of existing debt burdens by projecting debt levels and servicing costs under several future scenarios. Over the past five years, an increasing number of small states have been categorized at high risk of debt distress since 2009. The distribution of ratings for small states is now skewed towards higher risk relative to larger countries categorized under this framework. Of the small states with completed DSAs, slightly more than half are considered to be either at high risk of debt distress or in distress, double the proportion of larger countries (with completed DSAs).

Both debt-for-climate swaps and development policy lending for climate adaptation have a potentially positive role to play. Both proposed mechanisms present opportunities to mobilize committed climate financing in ways that allowing development partners to mobilize committed funds and ensure a sustained commitment to climate adaptation project financing or climate-related reforms. Such mechanisms, if taken to scale, may also provide small states with some relief from immediate debt challenges. In the case of debt-for-nature swaps, gains are likely to be maximized if recipient countries have sufficient implementation capacity for effective use of resources channeled through adaptation trust funds and if required ‘haircuts’ are borne by creditors holding the most expensive debt. In the case of development policy lending for climate adaptation, it will be important that government public financial management systems are adequate to ensure that resources channeled through government budgets can be effectively mobilized to support adaptation measures. Both instruments can provide an effective signal to the international community that recipient governments are serious about addressing the twin challenges of debt vulnerability and climate change, thus supporting prospects for local and foreign investment.
Sustainability of debt reduction gains from potential new financing instruments is contingent on broader macroeconomic reforms. Small states have been accumulating public and external debt at a faster rate than other countries due to a combination of: i) higher primary deficits; ii) higher current account deficits; iii) slower economic growth; and iv) higher interest costs among upper-middle income small states. While it is difficult to disentangle the direct impact of natural disasters on small state debt vulnerabilities (which can manifest in terms of reduced exports, slower growth, and higher primary deficits) there is little clear correlation between higher economic costs of natural disasters and higher levels of debt of debt risk. While some states face both high natural disaster and debt risks, some small states have accumulated high levels of debt while facing economic costs of natural disasters well below the global average. Some of the states facing the greatest exposure to natural disasters have maintained debt at prudent levels. Addressing climate vulnerabilities is therefore an incomplete solution to debt vulnerability. Macroeconomic and structural reforms to reduce underlying imbalances (i.e. large primary and current account deficits) should complement policies that would improve preparedness for natural disaster impacts.

Both climate swaps and development policy lending for adaptation could include or be combined with measures to address macroeconomic imbalances. Development policy lending for climate adaptation operations could include policy actions to address both underlying macroeconomic imbalances and climate vulnerabilities. Development partners could prioritize the implementation of debt-for-climate swaps in countries where macroeconomic imbalances were being credibly addressed through policy reforms. Taking account of underling drivers of debt accumulation is likely to be vital for both instruments if any gains in reducing debt risks are to be sustained.
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Appendix A: High Debt and Vulnerability – The Cases of Grenada and Jamaica

Both Grenada and Jamaica face risks resulting from a high debt burden and climate related vulnerability, and can usefully deploy DFN swaps to address these risks simultaneously.

Grenada has one of the highest public debt-to-GDP ratios among small states. As of end-2014, public external debt stood at 70 percent of GDP while public domestic debt accounted for another 35 percent of GDP. Approximately 40 percent of public external debt is owed to multilateral institutions, with another 43 percent obtained under commercial terms, and the remaining 17 percent owed to bilateral donors (of which more than 85 percent are owed to non-Paris Club members). Overall, most of the debt is owed to external creditors (about half of which are loans from the Caribbean Development Bank) while treasury bills and restructured bonds account for the bulk of domestic debt. The combination of high debt levels and limited fiscal space has led to a classification of ‘in debt distress’ within the latest Debt Sustainability Analysis by the IMF.

In November 2005, Grenada undertook a successful debt restructuring after the devastating Hurricane Ivan which cost the country almost 200 percent of GDP. Grenada restructured external bonds for US$237 million (or about 40% of total public debt). There was no reduction of principal and past-due interest was fully capitalized. In May 2006, the Paris Club agreed to reduce Grenada’s debt service to its creditors by more than 90% for the duration of an IMF PRGF arrangement. Despite these restructurings, the burden of debt remained high, and Grenada concluded a second debt restructuring in 2015, this time receiving a 50 percent nominal haircut on the principal while agreeing to share receipts from its citizenship-by-investment program.

Grenada has scope to benefit from a DFN swap given its large holding of other debt, including bilateral debt to non-Paris Club members of approximately 9.8 percent of GDP. Among Grenada’s official bilateral creditors, Trinidad and Tobago holds the largest portion of debt with 3.8 percent of GDP, followed by Taiwan, Province of China and Kuwait with 2.2 and 2.1 percent of GDP, respectively, at end-2014. On January 7, 2015, the government of Grenada announced a restructuring agreement with the Export-Import Bank of Taiwan, resulting in an immediate principal reduction of 47 percent on Grenada’s liabilities of US$36.5 million (2 percent of GDP) to Eximbank.

Perhaps contributing to the country’s high indebtedness, Grenada is also highly vulnerable to natural disasters. According to EM-DAT data, Grenada is within the top 25 countries that incur the most annual natural disaster damage, with single-event damage reaching as high as US$889 million. Within think-tank Germanwatch’s climate risk index, Grenada ranks as the highest country in the list of extreme weather-related losses between 1994 and 2013, with losses per unit of GDP at 10.8 percent, on average. SOPAC rates Grenada as ‘highly vulnerable’ at a score of 316 in its environmental vulnerability index, falling within the 60th percentile.

Grenada has relevant past experience with climate adaptability financing. At approximately US$300 pc, the country is the second highest recipient of per capita climate change financing among small island states (Nakhooda et al., 2013). The OECS Disaster Vulnerability Reduction Program was approved in 2011, resulting in US$26.2 million on grants and zero-interest loans towards climate resilience projects in the country, with an additional US$8.8 million approved in June 2015. Grenada is also a CCRIF member, although no payouts have been issued to the country from its insurance facility. Additionally, Grenada is one of the beneficiaries of the Caribbean Biodiversity Fund (CBF), a trust fund set up in 2012 with an
endowment of US$40 million, and is one of 21 small states which already have a local conservation trust fund for receiving and managing climate change funds.

<table>
<thead>
<tr>
<th>Table 1: Grenada - Select Macroeconomic Indicators</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014 E</th>
<th>2015 F</th>
</tr>
</thead>
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<tr>
<td>GDP growth (annual %)</td>
<td>0.8</td>
<td>-1.1</td>
<td>2.4</td>
<td>3.0</td>
<td>1.2</td>
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<tr>
<td>Overall fiscal balance (% of GDP)</td>
<td>-5.2</td>
<td>-5.9</td>
<td>-7.3</td>
<td>-4.9</td>
<td>-2.4</td>
</tr>
<tr>
<td>Primary fiscal balance (% of GDP)</td>
<td>-2.7</td>
<td>-2.5</td>
<td>-4.0</td>
<td>-1.2</td>
<td>1.3</td>
</tr>
<tr>
<td>Total public debt (% of GDP)</td>
<td>100.7</td>
<td>103.3</td>
<td>107.5</td>
<td>104.9</td>
<td>96.9</td>
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<tr>
<td>External public debt, total (% of GDP)</td>
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<td>77.0</td>
<td>72.6</td>
<td>69.9</td>
<td>65.5</td>
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<tr>
<td>Multilateral debt (% of total external debt)</td>
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<td>32.0</td>
<td>32.9</td>
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<tr>
<td>Debt service ratio (% of exports goods and services)</td>
<td>12.6</td>
<td>7.2</td>
<td>16.5</td>
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</tr>
</tbody>
</table>

Source: World Bank Staff estimates. Notes: E = estimate, F = forecast

With a population of 2.7 million, Jamaica is technically not a small state. However, as an island state in the Caribbean it faces similar issues of indebtedness and climate related vulnerability as many other small states.

Jamaica debt is among the highest in the world at 136.9 percent of GDP as of end-March, 2015, 50 percent of which is held domestically, 42 percent externally and 8 percent is guaranteed by the Government. Most of the debt is in the form of bonds (both domestic and external), which account for 85 percent of GDP. Multilaterals and bilateral debt account for half of the remaining 55 percent of GDP, with multilateral adding to 20 percent of GDP and bilateral 6 percent of GDP. The large debt burden naturally translates into high interest and amortization payments, which although have been decreasing, remain high. Interest payments, were 30 percent of total revenue in FY2014/15 and are expected to decrease to 20 percent of revenue by FY2020/21. Amortization payments for FY2014/15 were 18 percent of total revenue, however it is not representative of typical payments as few bonds matured in FY2014/15. Between FY2015/16 and FY2020/21 amortization payments will be large as many bonds from the debt exchanges mature, payments will range between 30-40 percent of total revenues.

Similarly, the country also ranks highly on measures of climate related vulnerability. EM-DAT estimates Jamaica suffers an average of US$95 million in damages per tropical storm event. Germanwatch’s climate risk index rates Jamaica as the 29th country (out of 181) in the list of extreme weather-related losses between 1994 and 2013, averaging 0.8 percent in losses per unit of GDP. Moreover, Jamaica scores 381 points in SOPAC’s environmental vulnerability index, falling within the 90th percentile of the distribution and earning a rating of ‘extremely vulnerable’.

Previous experiences with climate adaptation financing include the implementation of debt for nature swaps, under which the US Government cancelled US$ [37.5 million] of its bilateral debt with Jamaica under the Tropical Forest Conservation Act (TFCA). Like other Caribbean countries, Jamaica has made a number of commitments on climate change adaptation, including those under the “Caribbean Challenge Initiative” under which it has committed to place 30 percent of its near-shore area under protection by 2020.

While Jamaica’s enormous debt burden can in no way be dealt with conclusively using a DFN swap, there is potential to use these swaps for active debt management, retiring some expensive debt while continuing to implement initiatives on climate adaptation to which Jamaica has pre-committed, in some instances.
<table>
<thead>
<tr>
<th></th>
<th>FY2011/12</th>
<th>FY2012/13</th>
<th>FY2013/14</th>
<th>FY2014/15 E</th>
<th>FY2015/16 F</th>
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<td>GDP growth (annual %)</td>
<td>0.9</td>
<td>-0.7</td>
<td>0.9</td>
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<td>1.9</td>
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<tr>
<td>Overall fiscal balance (% of GDP)</td>
<td>-6.4</td>
<td>-4.1</td>
<td>0.1</td>
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<td>-0.3</td>
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<td>Primary fiscal balance (% of GDP)</td>
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<td>7.7</td>
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<td>22.7</td>
<td>26.9</td>
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<tr>
<td>Debt service ratio (% of exports goods)</td>
<td>85.5</td>
<td>73.6</td>
<td>66.9</td>
<td>76.1</td>
<td>74.2</td>
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</table>

Source: World Bank Staff estimates. Notes: E = estimate, F = forecast
Appendix B: Experience with Debt for Nature Swaps

Within the last three decades, debt-for-nature swaps have been used in many countries as a source of both debt reduction and climate adaptability funding. While the instrument’s impact on debt reduction has been somewhat modest, they have generated significant additional funds for nature conservation and disaster adaptability, which are usually underfunded in many developing countries’ budgets. The brief examples that follow serve to illustrate some of these experiences.

Different Paris Club creditor countries have different policies, and levels of engagement regarding bilateral debt swaps. Through its Tropical Forest Conservation Act, the U.S. has contributed over US$1 billion in bilateral debt reduction, and has funded conservation activities in 16 countries worth another US$500 million. Through similar enterprises, Canada funded a number of debt swaps in Latin America in the 1990s but has not made use of the mechanism since 2000. Other donors limit debt-for-nature swaps to pre-approved countries only. Among small states, Germany has only engaged with Timor-Leste, Sweden has provided funds for commercial debt-for-nature swaps exclusively to Costa Rica, and France targets its swaps mostly at non-small states African nations. Japan, China and the U.K. have never made use of debt-for-nature swaps.

As for the debtors’ perspective, Poland has been one of the major beneficiaries of debt-for-nature swaps. Throughout the 1990s, the US, France, Italy, Switzerland and Norway restructured bilateral debt owed to them, generating over $473 million in local currency for environmental projects. The US was the primary benefactor, swapping 10% of Poland’s debt to generate $367 million aimed at funding pollution mitigation projects.

Another major beneficiary, Costa Rica, has engaged in debt reduction through debt-for-nature swaps both directly with bilateral creditors as well as through third-party financiers/NGOs. Between 1987 and 2010, Costa Rica reduced its external debt stock by an estimated 5 percentage points through the instrument, including a transaction in which the Netherlands paid US$5 million in 1988 to purchase Costa Rican commercial debt on secondary markets with face value of US$33 million. Funds freed through the swap were then used in conjunction local bond issuance to finance reforestation and other activities by local environmental NGOs.

In 2001, Italy signed a US$149 million debt-for-development agreement with Egypt, to be conducted over five years. The agreement focused not only on environmental protection, but also on human development and poverty reduction. Although there was no debt reduction element to the agreement, debt service was redirected into a trust fund managed by the Bank of Egypt, designated for mutually agreed development projects.

Regarding third parties financing debt-for-nature swaps, The Nature Conservancy (TNC) and the Puerto Rican Conservation Trust (PRCT) have been active participants in Latin America and the Caribbean since the late 1980s. In 1993 TNC and the World Wildlife Fund brokered a US$11.5 million cancelling of Bolivian debt that generated nearly US$3 million in additional funds towards environmental conservation. TNC and PRCT also purchased US$582 thousand of Dominican Republic’s debt (i.e. less than 0.5 percent of external debt) in 1990 for a cost of US$116 thousand. Guatemala generated US$90 thousand to finance environmental projects after TNC bought US$100 thousand of its external debt at a 25% discount. Other benefitting countries include Brazil with US$2.2 million of external debt purchased by TNC, and Jamaica with nearly US$0.5 million of its debt purchased by TNC and PRCT.
Some additional experiences with debt-for-nature swaps are summarized in the table below.

<table>
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<th>Country</th>
<th>3rd-party</th>
<th>U.S.</th>
<th>Other</th>
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<td>12.0</td>
<td>63.6</td>
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