IMF Working Paper

Strengthening Fiscal Frameworks and Improving the Spending Mix in Small States

by Ezequiel Cabezon, Patrizia Tumbarello, and Yiqun Wu

INTERNATIONAL MONETARY FUND

IMF Working Paper

Asia and Pacific Department

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Authorized for distribution by Hoe Ee Khor

June 2015

Abstract

Reflecting diseconomies of scale in providing public goods and services, recurrent spending in small states typically represents a large share of GDP. For some small states, this limits the fiscal space available for growth-promoting capital spending. Small states generally face greater revenue volatility than other country groups, owing to their exposure to exogenous shocks (including natural disasters) and narrow production bases. With limited buffers, revenue volatility often results in procyclical fiscal policy as the econometric analysis shows. To strengthen fiscal frameworks, small states should seek to streamline and prioritize recurrent spending to create fiscal space for capital spending. The quality of spending could also be improved through public financial management reform and multiyear budgeting.

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I. INTRODUCTION AND MAIN MESSAGES

The unique characteristics of small developing states (hereafter "small states", Annex 1) make fiscal management more challenging than elsewhere. Most importantly, the indivisibility in the provision of public goods and the public sector being the main employer introduce rigidities into the budget, tilting the composition of spending toward recurrent outlays. With limited fiscal resources, high recurrent spending can crowd out capital spending, leading to underinvestment in infrastructure and other growth-enhancing areas. At the same time, small states generally face greater revenue volatility than other country groups (IMF, 2013 and Cabezon and others, 2013), owing to their exposure to exogenous shocks and narrow production bases. This is particularly true for fragile states and commodity exporters. Small states often lack the capacity to weather revenue volatility for two reasons: they cannot finance temporary fiscal shocks because domestic banking systems are shallow; and they have limited access to international capital markets (Holden and Howell, 2009).

Despite the lumpiness (relative to their small GDP) of capital projects, fiscal frameworks are not typically designed with a multiyear perspective to allow smoothing of expenditures over the business cycle. Although foreign assistance has provided some countercyclical support during downturns to aid-dependent small states, the volatility of revenue has generally resulted in volatile spending patterns and procyclical fiscal policy. Reflecting the rigidities in recurrent spending cited above, budget pressures typically affect primarily capital spending. This means that already strained capital budgets face additional cuts in the event of external shocks, which further undermine longer-term growth prospects.

Assessing the fiscal stance in small states is complicated. Because of revenue volatility, especially in the Pacific, headline fiscal balances do not always accurately reflect the underlying fiscal position. However, data deficiencies, capacity constraints, and structural changes in the economy make it difficult to estimate meaningful cyclically adjusted or structural balances based on output gaps (IMF, 2014a). The existence of several extra budgetary funds that are not integrated in the budget presentation and the difficulties in measuring capital spending, when projects are implemented outside the central government or controlled by planning ministries using charts of accounts differing from that used by finance ministries, add challenges in evaluating the fiscal position.

Strengthening fiscal frameworks by isolating the budget from revenue volatility and shielding public spending (especially capital) could help increase small states' resilience to shocks and boost their potential growth. This means using fiscal anchors to smooth the volatility of revenue and capital expenditure over the business cycle and creating policy space for spending on infrastructure, health, and education. It also means strengthening the medium-term orientation of fiscal policy as fiscal policy should not be formulated on a year-by-year basis only (Annex II). And improving the quality of public spending through public financial management reforms is key to supporting growth.

However, policies need to be tailored to the special challenges of small states. The design of fiscal anchors should be country-specific and kept simple. Medium-term fiscal estimates could focus only on main aggregates to facilitate the adoption of a multiyear budget framework. Using such a framework could also help—from a political economy point of view—contain spending pressure, particularly acute in small states given their development needs by better sequencing the implementation of capital projects.

II. IMPROVING THE MIX OF PUBLIC SPENDING

Current spending rigidity is a key issue in small states. It results from the large share of current spending in GDP relative to other countries. In providing public services, small states face higher per capita government costs relative to other groups. This is because of the indivisibility of public goods and diseconomies of scale since broad public services must be provided despite small populations. Indeed, the relationship between the size of the country and current spending is U-shaped. Distance from key markets also raises import transportation costs. These effects are worsened in microstates. Pacific islands' challenges are also compounded by their extreme remoteness and large dispersion. These characteristics lead to an inverse relationship between the size of the country and the current government spending.

Current Government Expenditure
(In percent of GDP)

Sources: IMF, WEO; and IMF staff estimates and projections.

Current Expenditure and Population, 2003-13

Source: IMF staff estimates.

Small States: Current Government Expenditure and Size, 2003–13

Source: IMF staff estimates.

Small States[1]: Current Government Expenditure and Geographic Dispersion

1/ Includes Antigua and Barbuda, The Bahamas, Fiji, Kiribati, Marshall Islands, Micronesia, Palau, Samoa, Solomon Islands, St. Kitts and Nevis, Tonga, Trinidad and Tobago, Tuvalu, and Vanuatu.
Source: IMF staff estimates.

The spending mix is tilted toward current spending, despite infrastructure bottlenecks (Figure 1) and this could impede higher real GDP per capita growth. This underinvestment impedes sustainable growth. Despite large development and infrastructure gaps over the last ten years, capital spending in the small states accounted for less than 20 percent of government spending—well below the average of low-income countries, which is 32 percent of government spending. An exception is Cabo Verde, which in the past decade, has embarked on a large investment program, at the cost of recurrent spending.

Figure 1. Small States: Spending Mix and Infrastructure Gap

Sources: World Bank Group, World Development Indicators; and IMF staff estimates.
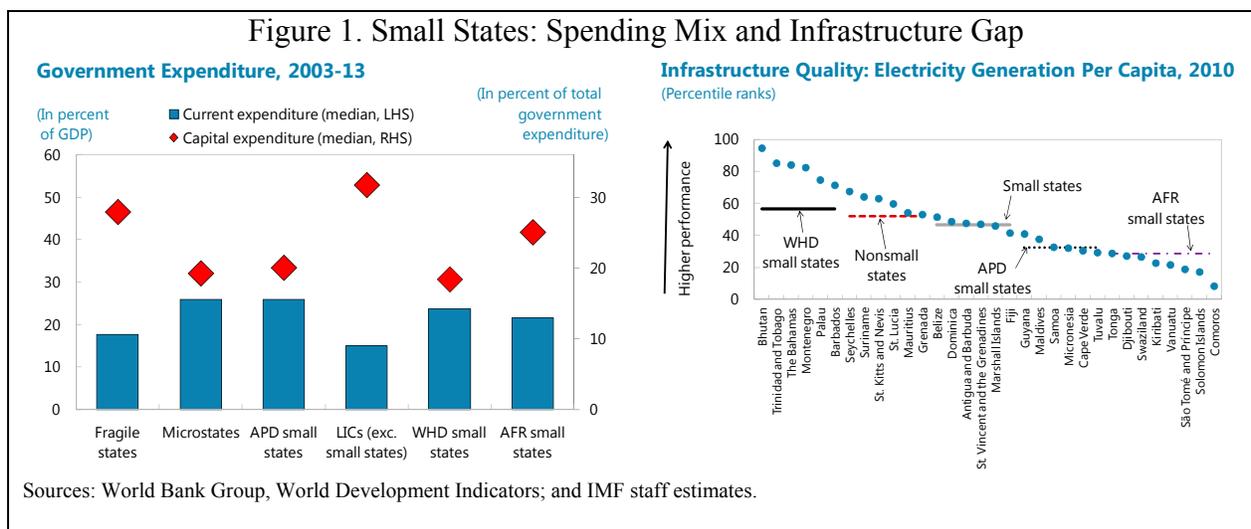
The composition of public spending matters in determining the impact of fiscal policy on growth in small states. Econometric results suggest that the higher the share of public investment for a given amount of public spending, the higher the per capita growth (Appendix, Table 1). Moreover, the impact of capital spending on growth is stronger in small states than in other country groups. The effect is even stronger in Asia and Pacific small states, consistent with their large development needs, both in terms of capital and human infrastructure. Staff analysis also suggests that increasing the share of capital investment will boost per capita growth, but expanding the deficit and increasing public debt after a certain threshold do not support growth. The threshold derived within the model, after which debt negatively affects growth, is 30 percent of GDP for the Asia and Pacific small states—well below the 50 percent threshold that applies to the full sample. This calls for building buffers (keeping the debt at manageable levels and having low fiscal deficits) and tilting the composition of spending toward capital outlays.

Staff statistical analysis presented below suggests that building buffers (that is, keeping deficits or debt low) is good for growth, even more so when spending is tilted toward capital investment. Higher capital spending is good for growth, but less so when it expands deficits too much and raises debt unduly. This calls for preserving fiscal space for growth-enhancing investment, including infrastructure spending.

Real GDP per Capita Growth
(In percent)

Notes: High (low) capital means the share of capital spending is above (below) the median. High (low) debt means public debt in percent of GDP is above (below) the median, 1990-2012.
Source: IMF staff estimates.

Real GDP per Capita Growth
(In percent)

Notes: High (low) capital means the share of capital spending is above (below) the median. High (low) deficit means the fiscal deficit in percent of GDP is above (below) the median, 1990-2012.
Source: IMF staff estimates.

Additional staff findings based on an event analysis show that, in small states, government spending expansion led by capital spending results in higher real GDP per capita, and lower public-debt-to-GDP ratios than do expansions led by current spending. In the small states, government spending expansions driven by capital lead to a minimum increment in public-debt-to-GDP ratios (about 2 percent), while during government expansions led by current spending, the public-debt-to-GDP soars by about 10 percentage points of GDP. The impact on the growth of government expansion led by capital is also much higher during and after the episode than the impact on growth led by increased current spending.[1] However, one important caveat is that event analysis does not determine causality. This is because it does not control for the endogeneity of the variables and should therefore not be interpreted as indicating a causality relationship among them. The endogeneity issues are solved within the econometric analysis

Small States: Real GDP per Capita during Episodes of Government Expenditure Expansion[1]
(Year-on-year percent change)

1/ Includes only public expenditure episodes that resulted in higher fiscal deficits, 1990-2012.
2/ Three-year average after the episode.
Source: IMF staff estimates.

Small States: Public Debt during Episodes of Government Expenditure Expansion[1]
(In percent of GDP)

1/ Includes only public expenditure episodes that resulted in higher fiscal deficits, 1990-2012.
Source: IMF staff estimates.

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[1] Specifically an episode of expenditure expansion is defined as an increment in the government expenditure-to-GDP ratio for a least two consecutive years. Government expansion is assumed led by capital expenditure if capital expenditure explains at least two-thirds of the government expenditure growth.

presented in Appendix I, Table 1 by using the generalized method of moments (GMM).[2] These results are in line with a recent IMF *World Economic Outlook* (WEO) analysis (IMF, 2014d), which found that public investment raises output in a wide range of countries. However, relative to the WEO, this chapter finds that, for small states, the impact of public investment on real GDP growth is somewhat lower than for larger states. This could be due to lower fiscal multipliers in small open economies whose capital inputs are mainly imported as well as weaker PFM frameworks that could prevent efficient public investment.

Public spending efficiency in small Pacific states is lower than in other small developing states (Figure 2). In the Pacific islands, a large share of government spending (combining both current and capital) is allocated to health and education, relative to other small states, consistent with these states' large development needs (Figure 3). However, relatively poor outcomes in terms of human development indicators can be explained by the high cost of providing these services in small remote islands. By looking at the relation between population dispersion and efficiency in public expenditure (proxied by the ratio between education and health outcomes and the share of health and education spending as a percent of GDP), we find a positive relationship between population density and efficiency indicators in public expenditure (Figure 2). High population dispersion is associated with lower efficiency education and health expenditure (that is, positive slopes) with a correlation of 0.3–0.4. While remoteness and dispersion matter, recent analysis (Haque and others, 2012) points to the need to improving the quality of public spending by accelerating public financial management reforms.

Figure 2. Measures of Efficiency of Public Spending and Population Dispersion

[1] Density computed as inhabitants per square kilometers. The variable was rescaled by taking log of the density multiplied by 1,000. [2] Efficiency measured as secondary enrollment rate divided by public education expenditure-to-GDP ratio. [3] Efficiency measured as life expectancy divided by public health expenditure-to-GDP ratio, 1990–2012.

Source: IMF staff estimates.

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[2] On the impact of public spending policies on growth, the ongoing debate shows that the growth dividend of public capital spending also hinges on the return of investment (see Box 1), the sources of financing (Gemmell and others, 2012; and Romp, and De Haan, 2007), and the quality of the investment processes in terms of project selection and implementation (Gupta and others, 2014).

Figure 3. Health, Education Expenditure, and Selected Human Development Indicators

Public Expenditure on Education and Secondary Enrollment
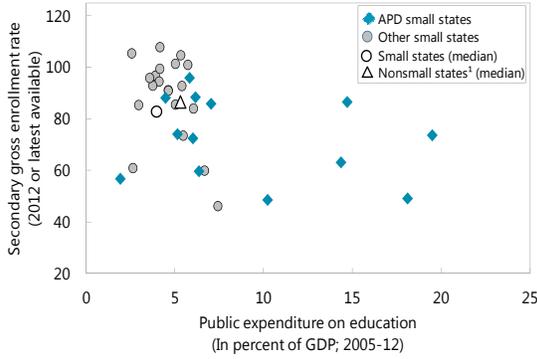
Public Expenditure on Education and Secondary Enrollment
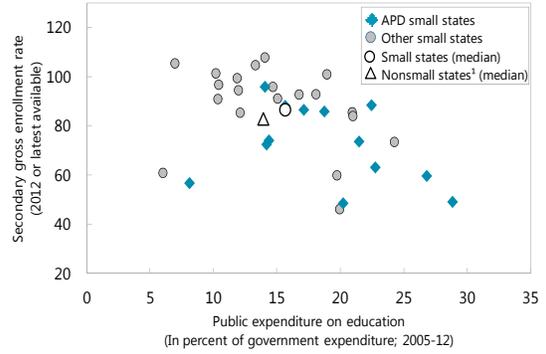
Life Expectancy and Public Health Expenditure
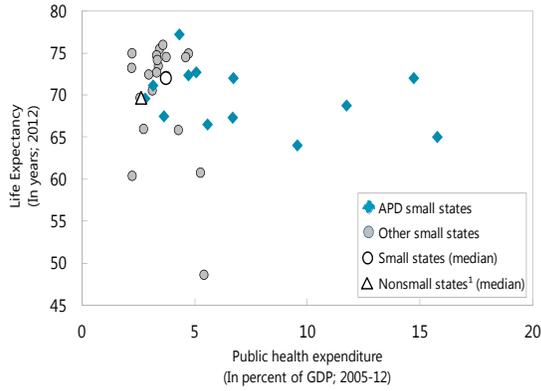
Life Expectancy and Public Health Expenditure
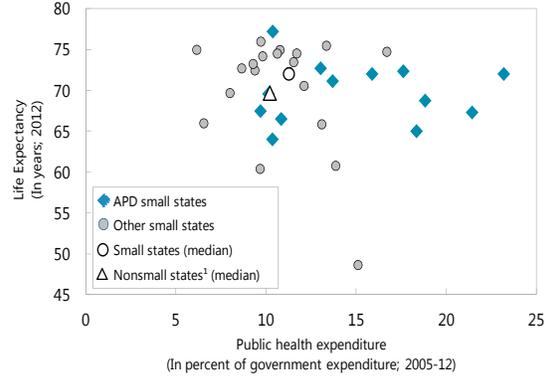
Mortality Under 5-years and Public Health Expenditure
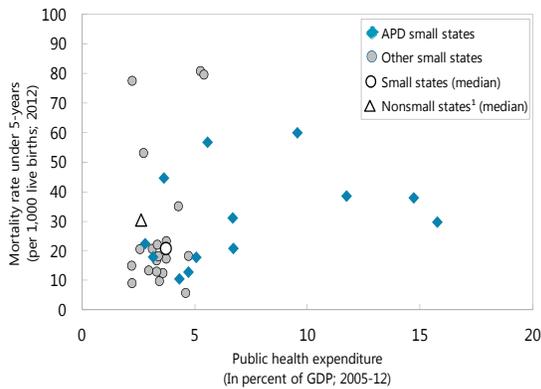
Mortality Under 5-years and Public Health Expenditure
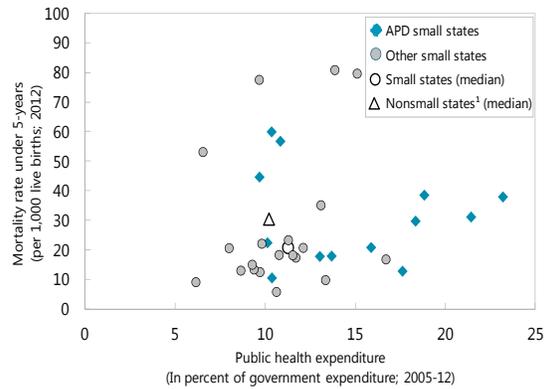
[1] Excludes advanced economies.

Sources: World Bank Group, World Development Indicators; and IMF staff estimates.

III. COPING WITH REVENUE VOLATILITY

Revenue volatility in small states is larger than in developing non- small states. The revenue base is narrow and is subject to several exogenous shocks. The volatility in revenue is expected to continue owing to the recent large drop in oil prices.

Figure 4. Small States: Sources of Revenue Volatility[1]
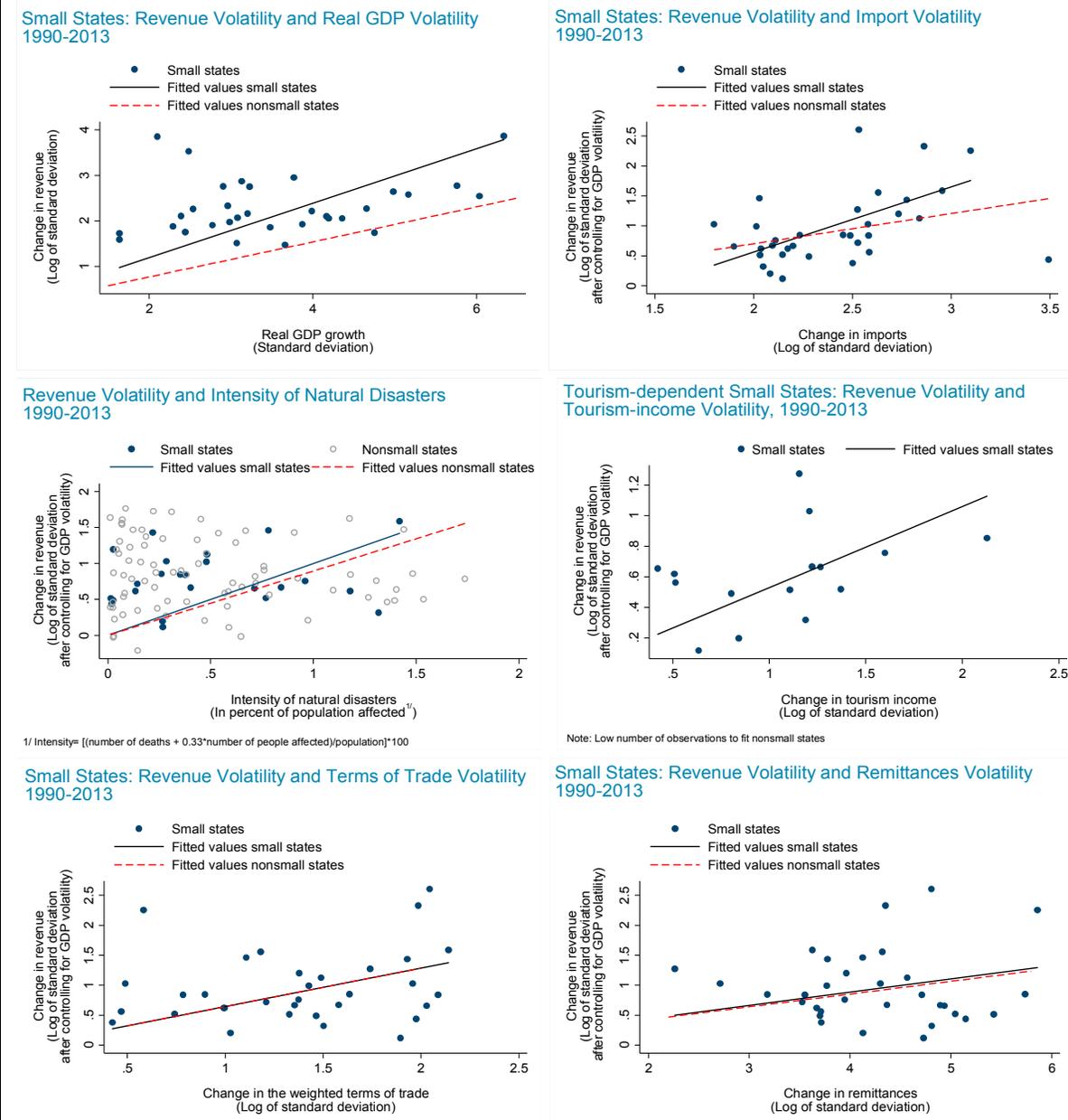
[1] Revenue excludes grants. Developing non- small states are defined as developing countries excluding small states.
Sources: IMF, WEO; and IMF staff estimates.

The sources of volatility vary across small states and depend on cyclical and noncyclical factors (Figures 4 and 5, and Appendix Table 2). On average, revenue shows strong pro-

cyclicality, especially in net commodity importers. Revenue volatility in small states is also due to terms of trade shocks attributable to a lack of economic diversification and narrow production bases. The elasticity of revenue to terms of trade, after controlling for GDP, is much higher in resource-rich small states than in other comparators. Revenue in small states also depends on their vulnerability to natural disasters. Staff analysis suggests that a natural disaster that affects 1 percent of the population causes a drop in real revenue of 0.2 percentage point. Further analysis of the small states of the Pacific points to a contraction in tax revenue of 0.2 percentage point of GDP in the year of the disaster, followed by a revenue rebound in the following year (Appendix Figure 1). After controlling for GDP, the volatility of trade flows (including tourism) and of remittances also affects revenue volatility. In Asia and Pacific small states, most of the volatility is also caused by fishing license fees, which are independent of the economic cycle.

The degree of revenue volatility differs across small states, with fragile states, commodity exporters, and microstates affected the most. The volatility of tax revenue is highest among most resource-rich countries (Solomon Islands, Trinidad and Tobago, Guyana, and Suriname) as a result of commodity price shocks as well as uncertainty regarding the size and exhaustibility of resources. The volatility of non-tax revenues is extremely high, especially in APD microstates that rely on fishing license fees (for example, Kiribati and Tuvalu—where these fees represent about 50 percent of revenues) and in such resource-rich countries as Timor-Leste, São Tomé and Príncipe, and Bhutan, owing to the volatility of royalties associated with natural resources.

The volatility of revenue is a potential source of vulnerability. High revenue volatility may lead to significant output volatility and undermine overall fiscal performance in the absence of a stabilization fund (IMF, 2012).

Addressing Procyclical Fiscal Policy

The combination of revenue volatility and current spending rigidities, compounded by small states' low access to finance, has prevented expenditure smoothing over the business cycle and has thus fostered fiscal procyclicality (that is, namely spending went up together with revenues during upturns and vice versa during recessions), (Figure 6). The volatility of revenue has generally been translated into spending volatility, especially capital spending. Staff analysis suggests that revenue shortages have resulted in cuts to capital spending. Econometric results also confirm the procyclicality of capital spending (Appendix Table 3).

Figure 5. Small States: Revenue Volatility Across Different Groups

Volatility of Revenue[1,2]
(Standard deviation of detrended revenue-to-GDP ratio; 1990-2013)
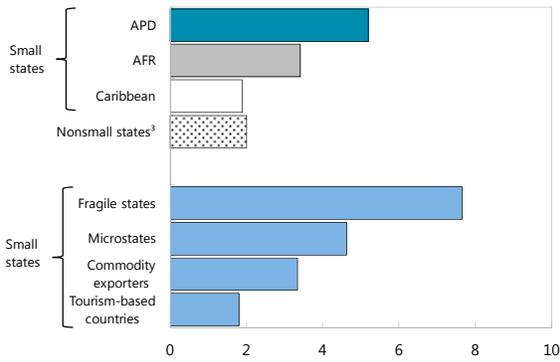
Volatility of Revenue[1,2]
(Standard deviation of detrended revenue-to-GDP ratio; 1990-2013)
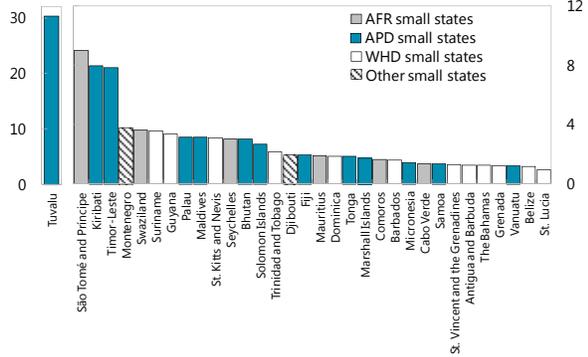
Volatility of Tax Revenue[1]
(Standard deviation of detrended tax revenue-to-GDP ratio; 1990-2013)
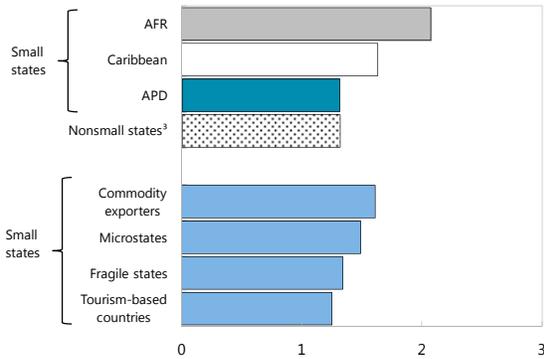
Volatility of Tax Revenue[1]
(Standard deviation of detrended tax revenue-to-GDP ratio; 1990-2013)
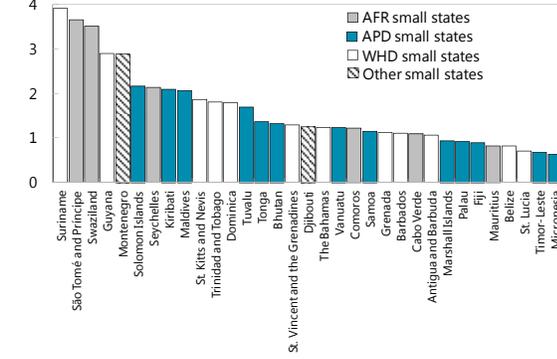
Volatility of Nontax Revenue[1,2]
(Standard deviation of detrended nontax revenue-to-GDP ratio; 1990-2013)

Volatility of Nontax Revenue[1,2]
(Standard deviation of detrended nontax revenue-to-GDP ratio; 1990-2013)

[1] Volatility after excluding time trend in the underlying ratios to remove structural factors. [2] Excluding grants. [3] Excluding advanced economies.
Sources: IMF, WEO; and IMF staff estimates.

Figure 6. Small States: Procyclical Bias in Fiscal Policy

Fiscal Impulse and Economic Cycle, 2005-12

Fiscal impulse (In percent of GDP)

Countercyclical / Procyclical / Procyclical / Countercyclical

Output gap (in percent)

Fiscal Impulse and Terms of Trade, 2005-12

Fiscal impulse (In percent of GDP)

Countercyclical / Procyclical

Change in terms of trade (in percent)

Episodes of Revenue Drops: Impact on Expenditure[1]
(Year-on-year percent change; 1990-2012)

- Real revenue: -7.6 (Small states), -5.9 (Nonsmall states)
- Real capital expenditure: -4.0 (Small states), -2.3 (Nonsmall states)
- Real current expenditure: -1.8 (Small states), -1.7 (Nonsmall states)

■ Small states
▨ Nonsmall states

1/ Bars show the change in the variables when revenue drops by at least 2 percent of GDP after removing the cyclical impact. All variables are corrected for GDP cycle.

Real Government Expenditure During Positive and Negative Output Gap Episodes[1]
(Year-on-year percent change; 1990-2012)

■ During positive output gap episodes
▨ During negative output gap episodes

Procyclical bias[2]

Small states / APD small states / WHD small states / LICs / Emerging economies

1/ Primary government spending.
2/ The procyclical bias is measured by the difference between the bars within each group. For each country output gaps are estimated using HP filters.

Sources: IMF, WEO; and IMF staff estimates.

Building Fiscal Buffers to Enhance Resilience: The Role of Fiscal Anchors

Policies that manage revenue volatility and avoid procyclical fiscal bias could foster resilience in small states. Given small states' vulnerability to shocks, enhancing resilience requires building adequate fiscal buffers for countercyclical support during rainy days and creating policy space for spending on infrastructure to boost potential output. Indeed, some small states have made progress in rebuilding fiscal buffers after the 2008–09 crisis, but more than half still have less comfortable buffers (higher debt and lower fiscal balances) than before the crisis.

Because of revenue volatility, small states' headline fiscal balances do not always reflect accurately the underlying fiscal position. The improvement in the fiscal position of small states, defined by the change in the underlying fiscal balance (see definition used below), appears to be smaller than the change in the overall balance suggests in a quarter of the small states.

Small States: Gross Public Debt
(In percent of GDP)

Sources: IMF, WEO; and IMF staff estimates.

Small States: Overall Fiscal Balance
(In percent of GDP)

Source: IMF staff estimates.
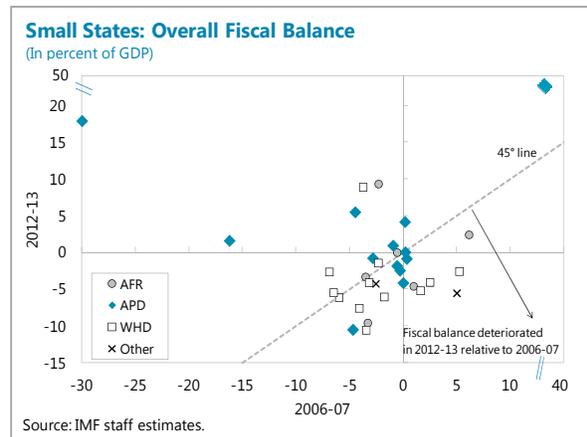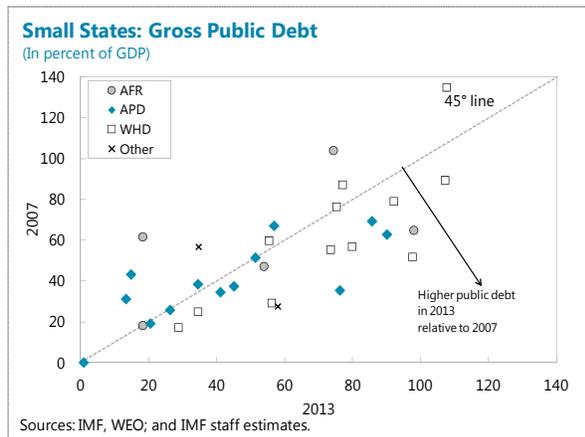
Strengthening fiscal frameworks by using fiscal anchors to insulate the budget from revenue volatility is key. A country-specific fiscal anchor could help illustrate that fiscal policy reflects both short-term cyclical and medium-term sustainability goals. It will also help properly assess a country's underlying fiscal position, which is sometimes masked by headline fiscal balances. Stronger fiscal frameworks will avoid fiscal procyclicality by saving windfall revenue during an "up" cycle

Fiscal Balance and Underlying Fiscal Balance, 2013
(Deviation from 2010-11; percentage points of GDP)

Source: IMF staff estimates.

and vice versa. The use of a fiscal anchor to smooth spending over the cycle would also go hand in hand with strengthening the medium-term orientation of fiscal policy, replacing the year-by-year formulation based on volatile and uncertain revenue.
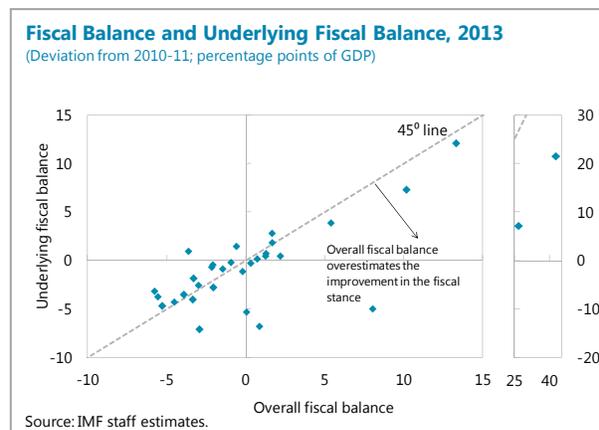
The design of fiscal frameworks by using anchors that help manage revenue volatility and ensure debt sustainability in small states should be kept simple. Moreover a fiscal rule framework should set a target on both fiscal anchor and an operational target. While the former is the final objective to preserve fiscal sustainability, the latter is an intermediate target under the direct control of the governments with a close link to the debt dynamics. As the final objective of the framework is to preserve fiscal sustainability, a natural anchor for expectations is the debt ratio, which creates an upper limit to repeated (cumulative) fiscal slippages. In addition to the anchor, the framework should also include an operational target, which would be under the direct control of governments, while also having a close link to debt dynamics.

As reported in IMF 2014c, the choice of the operational target is more difficult and controversial. Public debt cannot play this role, as factors other than policy decisions affect public debt changes, including below-the-line operations and valuation effects. Available options include a revenue rule, an expenditure rule, a nominal balance, a structural balance target—in level or in first difference—or a combination of them. De facto, capacity constraints and importantly, structural changes in the economy imply that meaningful cyclically-adjusted

balances are difficult to calculate. In this context, not only is the output gap difficult to estimate, but it is erratic in nature. This is because it depends less on the dynamics of the domestic economies and more on external and unpredictable developments (for example, trends in activity in trade partners, terms of trade, and commodity prices, including the recent drop in oil prices) given the undiversified export bases. The underlying fiscal balance could be designed using a *normal* level of revenue (that is, backward-looking averages) or for commodity exporters by removing the direct and indirect effect of commodity revenue.[3]

Fiscal anchors are not a panacea if unaccompanied by a more broadly based fiscal reform strategy. Political economy considerations suggest that moving away from a budget balance rule without strengthening fiscal institutions could create a fiscal deficit bias. While a country will find it easy to run a deficit during downturns, building fiscal buffers during upturns by saving revenue windfalls could be difficult owing to political pressures to spend in the face of large development and infrastructure needs. Reforms of fiscal frameworks need to be supported by appropriate fiscal institutions, including those that facilitate the formulation of long-term revenue forecasts, the implementation of quality public investment projects, and the sound management of rainy-day funds.

IV. POLICY REFORM OPTIONS

Small states need to strengthen their fiscal frameworks to sustain economic growth. This requires achieving the appropriate balance between building fiscal buffers for rainy days and providing space for investment in infrastructure and human capital. Strengthening the fiscal framework is important for growth because it will:

- allow enhanced resilience by minimizing fiscal risks, which are particularly high in microstates, and arise from volatile revenue and budget-spending rigidities;

- create fiscal space for growth-enhancing and poverty-reducing investment, including infrastructure spending;

- build fiscal buffers to enhance macroeconomic management and use countercyclical spending during more difficult times; and

- allow nonrenewable resource revenue in resource-rich small states to be used wisely and ensure long-term fiscal sustainability.

But strengthening fiscal frameworks is particularly challenging in small states. This is because of their budget rigidities, extreme revenue volatility, spending procyclicality, and limited capacity.

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[3] The indirect component of resource revenue is estimated by running a regression of the nonresource revenue on the resource revenue. This provides an estimation of the co-movements of the two components of revenues. The indirect effect of resource revenue is estimated by projecting the nonresource revenue based on the resource revenue.

Tackling these challenges thus requires a comprehensive macro and fiscal reform strategy, including spending and revenue reforms. This strategy should include several pillars:

- **Preserving strong fiscal fundamentals**. Over the cycle, deficits should be kept low, on average, to avoid accumulating rising debt burdens. As discussed on page 6, low deficits and moderate debt burdens are correlated with stronger GDP growth.

- **Minimizing fiscal rigidity and lowering recurrent spending to create fiscal space for capital spending**. Typical sources of rigidities are high spending on public wages, large entitlement programs for civil servants, and revenues earmarked for large capital projects. Reforms of the wage bill, public servants' benefits, and revenue administration should thus be included in the fiscal package. Countries should also seek to deliver public goods and services at the lowest possible recurrent cost, avoiding the use of public resources to support loss-making, inefficient public sector enterprises. To this end, exploring opportunities to outsource service delivery to the private sector, where possible, is warranted. This will create scope to finance growth-enhancing capital spending (see charts in the top part of page 6).

- **Improving the spending mix toward investment in human and physical capital.** This will require spending reforms in the form of spending reviews and medium-term expenditure frameworks. Their goal should be to reallocate resources toward priority spending, especially infrastructure investment, including to climate-proof infrastructure, and strengthen health and education sectors. It will also improve the business environment and attract private investors from abroad.

- **Adopting budget and investment practices that can foster high returns on capital investments**. Since resources for capital spending will remain tight, countries need to adopt investment practices that maximize value-for-money. This will involve efforts to effectively identify, prioritize, and implement public investment projects. At the same time, strengthening the medium-term orientation of fiscal policy by adopting a multiyear budget framework can help clarify which projects should be financed, and over what timeframe. Developing a multiyear budget framework should also help, from a political economy point of view, deal with spending pressures arising from large development needs. The multiyear budget framework could help build consensus on the appropriate sequencing of development projects and better calibrate the pace of development spending—taking into account capacity constraints, which is a pressing issue in small states.

- **Identifying resources to help weather revenue volatility**. These could take the form of contingency funds within the budget, sovereign wealth funds for resource-rich economies, and/or insurance policies. Contingency funds can also be used to manage shocks. Natural disaster funds or general budget contingency reserves can be used to save resources to deal with natural disasters. From a public financial management perspective, access to these funds and reporting on their use should be clearly defined and budget allocations transparent. Solomon Islands' National Transport Fund is a case in point.

- **Using fiscal anchors to help smooth spending and isolate the budget from revenue volatility**. Where resources can be identified (see above), the budget should allow for spending to be smoothed in the face of revenue shocks. In commodity-resource-rich countries, targeting the noncommodity fiscal balance and using sovereign wealth funds to enhance the management of natural resources will also ensure the long-term sustainable use of exhaustible resources. Rather than focusing on the current fiscal deficit, the budget should provide for spending in line with underlying revenues. The caveat is that countries will need to distinguish between temporary and more sustained revenue shocks. In the latter case, there may be no alternative to adjusting spending, and the focus should be on the pace of adjustment and on achieving a balanced adjustment between recurrent and capital spending.

- **Strengthening domestic revenue mobilization to support the rebuilding of policy buffers.** Mobilizing revenues by bolstering administration capacity and reforming the domestic tax system is also needed to increase fiscal space to meet critical development spending needs while improving the business environment. In practice, these reforms need to be tailored according to country circumstances. For example, realistically enforcing customs compliance in very large and scattered territories such as many Pacific islands is extremely challenging and costly. There is a need to focus on large taxpayers who account for 70–80 percent of revenue by creating a special unit to deal with them in the tax administration office, while using a simplified tax system and simplified compliance rules for medium sized and small taxpayers. Developing a proper mix of income and consumption taxation (VAT and sales tax) would raise additional revenues.[4] Lower oil prices also offer an opportunity to reform energy subsidies and taxes in both oil exporters and importers. In oil-importing small states, the saving from the removal of energy subsidies should be used to strengthen fiscal buffers or to increase public infrastructure if conditions allow.

- **Enhancing regional cooperation on nontax revenue to increase revenue mobilization.** In the small states of the Pacific, in order to compensate for geographical isolation and dispersion and create a more attractive business environment for foreign investors, regional economic, institutional, and technological networks need to be strengthened. Key sectors are fisheries and information and communication technology. Improvement of fishing sector productivity could stem from the adoption of regional agreements and cooperative sub-regional measures to strengthen the bargaining power of license-issuing countries. The Nauru Agreement, a regional agreement on fisheries among eight Pacific island countries (Kiribati, the Marshall Islands, Micronesia, Nauru, Palau, Papua New Guinea, Solomon Islands, and Tuvalu), represents a success story of how regional cooperation could mobilize more revenues (see IMF, 2014b).

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[4] Kiribati has experienced a significant improvement in tax collection with the introduction of a withholding tax at the source in March 2009. It also introduced the VAT in 2014.

These fiscal reforms need to be accompanied by measures to strengthen fiscal institutions and fiscal governance. The reform measures should aim at improving transparency (by enhancing budget planning, internal auditing on the use of public funds, and monitoring, reporting, and evaluation systems to improve accountability), cash management, and project management capacity. Developing institutional frameworks will help better identify, quantify, monitor, and mitigate fiscal risks. Finally, fiscal frameworks should be integrated with a debt management strategy to manage cash flows effectively and reduce sovereign financing risks. In this regard, a successful case is Solomon Islands that introduced in May 2012 a strategy to strengthen debt management and debt sustainability, superseding the Honiara Club Agreement that prevented the country from contracting external borrowing.

The IMF has been assisting small states through capacity development in strengthening fiscal frameworks. This involved both the work of regional technical assistance centers (RTACs) by providing technical assistance and training as well as headquarters. In this respect, the work by the Fiscal Affairs Department (FAD) could be further leveraged to reduce the pro-cyclicality of fiscal policy (for example, appropriate design of fiscal rules), create fiscal space (for example, energy subsidy reforms, and revenue enhancing measures), and strengthen revenue and public financial management systems.

Box 1. Pacific Islands: Quantifying the Opportunity Cost of Building Fiscal Buffers

Policymakers in small developing states face a key fiscal policy choice: building fiscal buffers to enhance resilience to shocks—including natural disasters—or funding development spending. When a government expands fiscal space by accumulating public savings instead of financing spending for development needs, it forgoes the rate of return on the associated public investment. The opportunity cost of building fiscal buffers can be used to assess the optimal mix between building fiscal space and capital spending.

Staff estimated the social return of public investment assuming that it equals the marginal productivity of capital. Following Caselli and Feyrer (2007), IMF staff calibrated a Cobb-Douglas production function for a group of Pacific Island economies using data on output and investment from the Penn World Table and WEO data for the period 1970–2010.

The results suggest that several Pacific islands enjoy a high rate of return to capital. Thus, they would benefit from capital spending, which is consistent with these countries' large infrastructure needs (proxied by the Human Development Index). The social return to capital in the Pacific islands is also in line with the return in low-income countries.

Staff also estimated two measures of fiscal space: one based on the IMF/WBG debt sustainability analysis (that is, a fiscal liquidity indicator is derived by measuring the average gap over the medium term between the debt-service-to-revenue ratio of public and publicly guaranteed debt and an indicative threshold after which the debt becomes unsustainable), and a second one calculated as the difference between the actual debt, relative to GDP, and an estimated sustainable debt (á la Ostry and others, 2010) implied by the each country's historical record of fiscal adjustment.

Pacific Small States: Opportunity Cost of Building Fiscal Buffers

Country	Social Return of Capital[1]	Average Interest Rate on Public Debt	Social Return of Capital Net of Interest Rate Payments
	(a)	(b)	(c)=(a)–(b)
Fiji	13.1	7.2	5.9
Kiribati	14.8	3.2	11.6
Marshall Islands	10.0	1.4	8.6
Micronesia	13.0	2.7	10.2
Palau	6.2	3.0	3.2
Samoa	13.9	3.7	10.2
Solomon Islands	13.9	1.5	12.4
Tonga	10.3	2.2	8.1
Vanuatu	11.0	3.6	7.4
PICs	12.2	3.1	9.1
Memorandum:			
LICs	14.2	...	...

1/ The share of capital in income was assumed at 0.3 and the depreciation was assumed at 0.07.

Source: IMF staff estimates.

Pacific Islands: Fiscal Space and Human Development Index
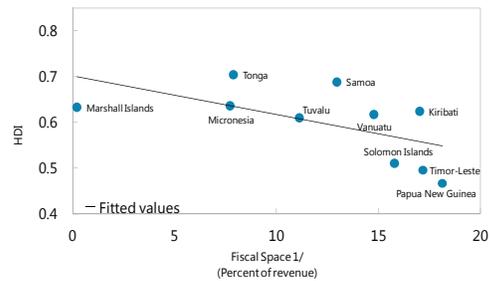
1/Fiscal space measured by the gap in the IMF/WBG DSAs between the threshold of the public and publicly guaranteed external debt service-revenue ratio and the forecasted baseline path of the same ratio.
Source: IMF staff estimates.

Pacific Islands: Opportunity Cost of Building Fiscal Buffers and Human Development Index
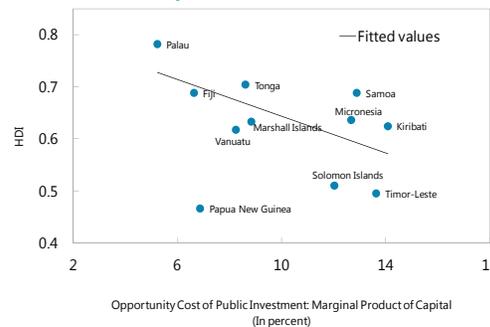
Source: IMF staff estimates.

Box 1. Pacific Islands: Quantifying the Opportunity Cost of Building Fiscal Buffers
(Concluded)

The charts shed light on the Pacific islands' room for fiscal maneuver. A plot of the estimated cost of building buffers against the Human Development Index (HDI)—a proxy for infrastructure needs—suggests that some Pacific islands stand to gain the most from increasing the share of their budget devoted to capital spending. When plotting the three different measures of fiscal space against the HDI, despite their being different, the measures provide similar ordering in terms of countries across methodologies regarding the size of the fiscal space or the opportunity costs of building buffers.

Pacific Islands: Fiscal Distress and Human Development Index

Source: IMF staff estimates.
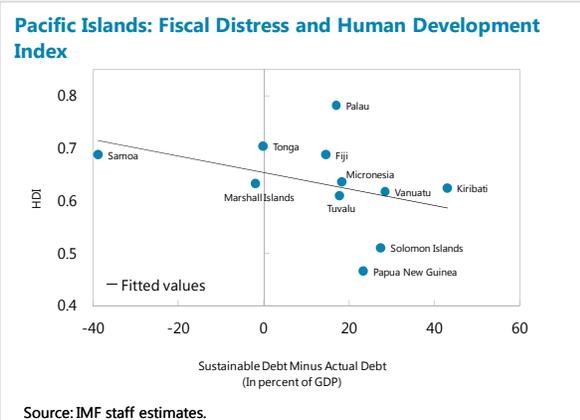
Box 2. From Best Practice to Best Fit: Lessons from Small States

Small states face extra challenges relative to other comparators in strengthening fiscal frameworks and achieving the right mix of public spending due to political economy considerations, capacity constraints, vulnerability to shocks, and data issues. However, many of them have achieved progress in handling the challenges described in this paper. Some examples are reported below:

- **Mauritius**: The new PFM Act, which is yet to be adopted, looks to alleviate some of the budget execution difficulties that have led to create the special funds. In addition, the new government has announced the intention to eliminate the special funds and incorporate the related operations fully in the budget. Regarding the fiscal rule, the authorities have adopted a rather liberal approach on its application, whereby the (in principle, legally binding) debt target could be pushed out if it becomes difficult to achieve.

- **Jamaica:** Its rule-based fiscal framework has two distinct, but complementary, components:
    - ✓ *Macro-fiscal or quantitative:* The overall fiscal balance path is calibrated over a trailing three-year window to achieve a debt ceiling of 60 percent of GDP at the end of March 2026. The path is based on projections of, for example, real GDP growth, inflation, and the interest rate. This component will become operational only after the IMF Extended Fund Facility Arrangement, but the fiscal targets under the program are aimed at achieving the same policy goal and can be seen as a de facto fiscal rule. An exceptionally large adverse shock could require a temporary deviation from the debt reduction path, and for this purpose an escape clause was built into the fiscal rule. The escape clause is limited to natural disasters, a severe economic contraction, banking or financial crises, and a state of emergency; it may only be activated if the estimated fiscal impact of such shocks exceeds 1½ percent of GDP.

    - ✓ *Institutional:* (1) Budgetary procedures have been strengthened, and in 2015 the budget will be presented to parliament before the start of the fiscal year for the first time in many years; (2) Exclusion criteria-The fiscal rule covers the public sector at large, except for the Bank of Jamaica and public entities deemed commercial; (3) Bolstering capacity at the Office of the Auditor General (OAG)-The Auditor General is responsible for monitoring compliance with the fiscal rule; thus, the office must be appropriately staffed to fulfill its expanded mandate; and (4) Sanctions regimes for infringement of the rule-The authorities have initiated a dialogue with the IMF's Legal Department on the design of an enforcement mechanism.

- **Seychelles**: The country is the top performer in Africa for health, nutrition and population outcomes, and health indicators compare favorably with some OECD countries, reflecting a longstanding government commitment to provide universal free basic healthcare and access to education, while health spending accounts for only around 3½ percent of GDP.

- **Solomon Islands**: The new PFM Act passed in December 2013 and the accompanying PFM road map (2014–17) provide a coherent platform to anchor fiscal reforms, in particular by improving the quality of spending and enhancing budget planning.

Box 2. From Best Practice to Best Fit: Lessons from Small States (Concluded)

- **Swaziland**: During the 2014 Article IV consultation, the authorities agreed with anchoring the fiscal policy with a medium-term international reserve target of 5–7 months of imports, while exploring the options of a fiscal rule or a stabilization fund to help address the high volatility of fiscal revenues.

- **Timor-Leste:** The estimated sustainable income (ESI) rule (Annex II) has worked well to minimize the effects of revenue volatility. It has also allowed Timor-Leste's Petroleum Fund to grow to be equivalent to three times GDP.

Appendix. Econometric Analysis

Determinants of real per capita GDP growth (Table 1). To assess the effects of fiscal policy on per capita output, we use dynamic panel regressions where real per capita GDP growth (that is, the dependent variable) is regressed on a fiscal balance indicator, on the share of government capital spending over total public spending, and on the ratio of public debt as in Baldacci and others (2004). The model controls for external conditions by including an indicator of trade openness. The signs and the significance of the coefficients of the model suggest that for a given amount of public spending, expanding the share of capital investment helps boost per capita growth while expanding the deficit does not. The impact of capital spending on growth is stronger in Asia and Pacific small states than in other small states, consistent with their larger development needs. The model also suggests that there is a nonlinear relationship between debt and growth in line with previous results (IMF, 2012): while low levels of debt are good for growth, high levels are not.

Table 1. Determinants of Real Per Capita GDP Growth[1]					
	APD small states	AFR small states	WHD small states	Small states	Emerging and developing [2]
Overall fiscal balance to GDP	0.201***	0.170*	0.185	0.164***	-0.0167
Ratio capital-total gov. expenditure	0.111***	0.122**	0.0753**	0.0820***	0.0305**
Debt to GDP (lagged)	0.250***	0.001	0.00520	0.00507	0.00276
Lag (debt-to-GDP ratio)^2	-0.002***	-0.0001	-0.0001	-0.0001	-0.0001*
Trade openness	0.0411***	0.0241**	0.00936	0.0199***	0.0418***
World GDP growth, in percent	0.561***	0.350	0.836***	0.633***	0.691***
Constant	-13.15***	-4.671*	-3.198*	-4.371***	-3.626***
Observations	212	88	213	532	1,437
Number of countries	13	6	12	33	104

[1] Panel regressions, 1990-2013 using the generalized method of moments (GMM) to correct for endogeneity by instrumenting with lagged explanatory variables. Asterisks indicate p-values: *** $p<0.01$, ** $p<0.05$, * $p<0.1$
[2] Excludes small states.

Determinants of real revenue (Table 2). Separate dynamic panel regressions were run for different groups (small states, Pacific island small states, LIC emerging markets, resource-rich small states, and non-resource-rich small states) to identify the variables that explain real revenue. The dependent variable (real revenue) is regressed on GDP (and its lag), weighted terms of trade (and its lag), a variable on natural disasters, lagged real revenues and fishing license fees. Revenue shows strong procyclicality, especially in small states that are net commodity importers. And revenue procyclicality is a source of revenue volatility. Coefficients on real GDP growth variables higher than 1 suggest revenue procyclicality (that is, revenue is

growing faster than GDP during upturns and slower than GDP during downturns). For small states, the sum of the coefficients on real GDP growth (current period and one-period-lagged)— a proxy for cyclical components of revenues—is equal to 1.7. After controlling for GDP, revenue depends on terms of trade shocks, especially in resource-rich small states. Natural disasters also heighten revenue volatility. Staff analysis suggests that a natural disaster that affects 1 percent of the population causes a drop in real revenue of 0.2 percentage point.

	Small states	Pacific island small states [2]	Low-Income Countries	Emerging Markets	Resource-rich small states	Non-resource-rich small states
Real GDP growth	1.093***	1.672***	1.622***	1.41***	0.933***	1.249***
Real GDP growth (lagged)	0.607*	0.568	0.236	-0.124	0.512	0.556*
Weighted terms of trade growth	0.390**	0.659**	0.468***	0.821**	1.401**	0.120**
Weighted terms of trade growth (lagged)	0.227	0.352	0.130	-0.180	0.260	0.136
Intensity of natural disasters (lagged)	-0.248**	-0.429***	0.039	-0.189	-0.294	-0.239**
Real revenue growth (lagged)	-0.410	-0.375	-0.181	0.024	-0.237	-0.545
Fishing license fees		0.206***				
Constant	0.009	-1.667	-1.223	-0.895	2.498	-0.684
Observations	591	92	730	745	100	466
Number of countries	33	6	49	49	6	27

Table 2. Determinants of Real Revenue[1]
(Year-on-year percent change)

1/ Panel regressions, 1990-2013 using the generalized method of moments (GMM) to correct for endogeneity by instrumenting with lagged explanatory variables. Combined coefficients higher than 1 on real GDP growth and lagged GDP growth imply revenue procyclicality. Asterisks indicate p-values: *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

2/ Includes countries dependent on fishing license fees.

Impact of natural disasters on tax revenue (Appendix Figure 1). Staff analysis using a panel VAR suggests that a natural disaster that affects 1 percent of the population in the small states of the Pacific leads to a contraction in tax revenue of 0.2 percentage point of GDP in the year of the disaster, followed by a revenue rebound the next year (Cabezon and others, forthcoming). The model focuses on the impact of natural disasters on real GDP and fiscal variables. The specification includes the following

Appendix. Figure 1. Pacific Island Small States: Response of Tax Revenue to Natural Disasters
(Percentage points of GDP)
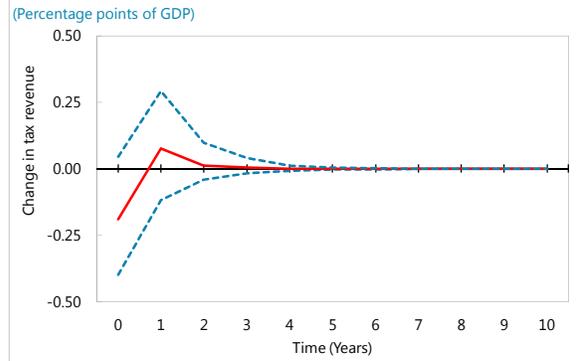
variables: natural disaster intensity, real GDP growth, change in total government expenditure as a percent of GDP, change in tax revenue as a percent of GDP, and change in the overall fiscal balance as a percent of GDP. The variable on natural disaster intensity is measured by the number of fatalities and others hurt by the disaster as a share of total population, in line with Fomby and others (2013).

Degree of spending procyclicality (Table 3). This model assesses the degree of spending procyclicality (that is, capital spending increasing during good times and declining during recessions). The change in real government spending is regressed on changes in real growth. The elasticity of real current government spending is lower than 1, suggesting that current spending is not procyclical. The elasticity of capital is much larger than 1, suggesting fiscal procyclicality.

Table 3. Degree of Spending Procyclicality[1]											
	Real current government expenditure (Year-on-year percent change)						Real capital government expenditure (Year-on-year percent change)					
	Small states	AFR small states	APD small states	WHD small states	Low-Income Countries	Emerging Markets	Small states	AFR small states	APD small states	WHD small states	Low-Income Countries	Emerging Markets
Real GDP Growth	0.523***	0.756	0.623**	0.223	0.633***	0.413***	2.346***	2.560	2.058**	2.412**	2.634***	1.476***
Constant	1.522**	0.683	0.922	2.528**	1.751	1.949**	-5.323**	-6.682	-6.921*	-3.474	-6.342	-2.120
Observations	679	126	264	253	830	1872	679	126	264	253	830	1872
Number of countries	33	6	13	12	44	101	33	6	13	12	44	101

[1] Panel regressions, 1990-2013.
Asterisks indicate p-values: *** p<0.01, ** p<0.05, * p<0.1
Spending is procyclical if the coefficient on real GDP growth is higher than 1.

Annex I. List of Small States 1/

Country	Fragile states	Microstates	Region
Antigua and Barbuda		✓	WHD
The Bahamas			WHD
Barbados			WHD
Belize			WHD
Bhutan			APD
Cabo Verde			AFR
Comoros	✓		AFR
Djibouti			MCD
Dominica		✓	WHD
Fiji			APD
Grenada		✓	WHD
Guyana			WHD
Kiribati	✓	✓	APD
Maldives			APD
Marshall Islands, Rep.	✓	✓	APD
Mauritius			AFR
Micronesia	✓	✓	APD
Montenegro			EUR
Palau		✓	APD
Samoa		✓	APD
São Tomé & Príncipe		✓	AFR
Seychelles		✓	AFR
Solomon Islands	✓		APD
St. Kitts and Nevis		✓	WHD
St. Lucia		✓	WHD
St. Vincent and the Grenadines		✓	WHD
Suriname			WHD
Swaziland			AFR
Timor-Leste	✓		APD
Tonga		✓	APD
Trinidad and Tobago			WHD
Tuvalu	✓	✓	APD
Vanuatu			APD

[1] Note: AFR = African region; APD = Asia and Pacific region; EUR = European region; MCD = Middle East and Central Asia region; and WHD = Western Hemisphere region.

Annex II Fiscal Anchors in Small States					
Region	Country	Fiscal Anchor	Comment	Statutory Base	Stability Fund/Trust Fund
AFR	Cabo Verde	Net domestic borrowing limit at 3 percent of GDP. Short-term debt limit at 60 percent of GDP. Soft benchmark of domestic debt-to-GDP ratio at 25 percent.	The domestic borrowing limit is a rule in the budgetary law. The short-term debt limit is not binding; all external debt is long term, and domestic debt is generally about 25 percent of GDP. However, the current government has submitted a new budgetary law that proposes abrogating both rules.	Statutory	No fund
AFR	Comoros		Parliament approves overall expenditure ceiling and revenue targets, but these can be amended ex post.		No fund
AFR	Mauritius	Public debt-to-GDP ratio below 50 percent	Reach debt target by 2018.	Statutory	No fund
AFR	São Tomé and Príncipe	Domestic primary balance	Domestic tax and nontax revenues minus current spending and domestically financed capital expenditure.	Political commitment	National Oil Account, where oil prospection bonuses are deposited allowing the government to use only up to 20 percent annually of the previous year's balance.
AFR	Seychelles	Debt target (debt-to-GDP ratio)	Target is to reduce the debt-to-GDP ratio below 50 percent by 2018.	Political commitment	No fund.
AFR	Swaziland	Domestic debt ceiling of 25 percent of GDP Public debt ceiling of 35 percent of GDP	The domestic debt ceiling is stipulated in a 1994 act, while the public debt ceiling will be part of debt regulations under the upcoming PFM bill.	Statutory	No fund (The authorities intend to carefully explore a fiscal rule or a stabilization fund with enhancing efforts to strengthen PFM or complete the groundwork).
APD	Bhutan	Expenditure ceiling	Meeting current expenditures and 15 percent of capital expenditure out of	Political commitment	No fund

Region	Country	Fiscal Anchor	Comment	Statutory Base	Stability Fund/Trust Fund
			domestic revenues		
APD	Fiji	Debt target of 45 percent of GDP in the medium term.	Indicative target announced, but not followed.		No fund
APD	Kiribati	Expenditure ceiling	Expenditure ceiling set annually by the parliament in the annual budget act (Appropriation Act).		Revenue Equalization Reserve Fund (RERF): Established in 1956 and capitalized using phosphate mining proceeds before phosphate deposits were exhausted in 1979. Withdrawals from the RERF are for budget purposes only and are at discretion, provided they are consistent with the annual budget act.
APD	Maldives	Debt and deficit limits	Debt and deficit limits are established under a Fiscal Responsibility Law, but are currently not met. Future amendments to the Law are likely, given fiscal slippage.	Statutory	No Fund
APD	Marshall Islands	NA	NA	International treaty	Compact Trust Fund: Set in 2004, funded by U.S. grants and Taiwan Province of China. Starting in 2024, income from revenue can be transferred to the government up to the average grant assistance in 2023. Disbursement from 2024.
APD	Micronesia	NA	NA	International treaty	Compact Trust Fund: Set in 2004 to contribute to long-term budgetary self-reliance. Funded by U.S. annual grants until 2023 and contributions from the government. Drawdown from 2024.

Annex II Fiscal Anchors in Small States

			Annex II Fiscal Anchors in Small States		
Region	**Country**	**Fiscal Anchor**	**Comment**	**Statutory Base**	**Stability Fund/Trust Fund**
APD	Palau	Law states that the current government balance should not observe a deficit.	-	International treaty	Compact Trust Fund: Since 1994 to replace grants income. The government can withdraw US$5 million a year until 2013 and then increase gradually from US$5.25 million to US$13 million in 2023. From 2024 it can withdraw US$15 million a year. The money should be used for education, health, justice, and public safety.
APD	Samoa	Net public debt at less than 50 percent of GDP. Fiscal deficit at not more than 3½ percent of GDP.	The government aims to reduce public debt to 50 percent of GDP by 2019/20 and the fiscal deficit to 2 percent of GDP over the medium term.	Political commitment	No fund
APD	Solomon Islands	Budget balance rule.		Political commitment	Contingency fund
APD	Timor-Leste	Estimate Sustainable Income(ESI): 3 percent of total petroleum wealth (Petroleum Fund balance plus net present value of future revenues), with override.	Excess withdrawals (with parliamentary approval) have been used on a temporary basis to finance development projects.	Statutory (Petroleum Fund Law, 2005)	Petroleum Fund: Set up in 2005 with IMF advice to smooth oil revenue. It is funded with all oil revenue. Withdrawals are according to the ESI.
APD	Tonga	No specific fiscal anchor, but adopted three-year budget framework	-	Statutory (Public Finance Management Act 2002).	Tonga Trust Fund: Set in 1988 to reserve funds for exceptional circumstances and for future major development projects. However, assets

			Annex II Fiscal Anchors in Small States		
Region	**Country**	**Fiscal Anchor**	**Comment**	**Statutory Base**	**Stability Fund/Trust Fund**
		described in the budget statement since 2012.			were almost depleted to about US$3 million in 2002 owing to the absence of transparency and accountability of its management and operation.
APD	Tuvalu	NA	NA	NA	Tuvalu Trust Fund: Set in 1987 to provide additional funding for budget support. Market value in excess of the maintained value, which is indexed to the Australian CPI, is transferred to the Consolidated Investment Fund (CIF) where the finance ministry can withdraw at its discretion.
APD	Vanuatu	General government debt below 40 percent of GDP. Ex ante balanced budget.	The balanced budget refers to the government's operations excluding donors.		No fund
EUR	Montenegro	Debt and deficit limits	Maastricht criteria: General Government gross debt less than 60 percent of GDP; General Government overall deficit less than 3 percent of GDP, but enforcement mechanism is weak.	Statutory (Legislation, the fiscal rule was approved in 2014.)	No fund
WHD	Antigua and Barbuda	Debt target[1]		Political commitment	No fund
WHD	The Bahamas	Fiscal balance target/debt target	Target to reduce government debt to 58.5 percent of GDP by FY 2016/17.	Political commitment	No fund
WHD	Barbados	Central government	Target to achieve the central government deficit of 6.6 percent of	Political commitment	No fund

Region	Country	Fiscal Anchor	Comment	Statutory Base	Stability Fund/Trust Fund
		balance target	GDP in FY 2014/15 (excludes balance of public enterprises, which have incurred growing deficits and continue to pose large fiscal risks).		
WHD	Belize	Fiscal balance target, debt target	Belize has adopted an indicative target of 60-65 percent of GDP. It maintains an annual primary balance target of 1 percent of GDP. Reversed in 2012/13 from a previously announced target of 2 percent of GDP.	Political commitment. No specific measures to achieve debt target.	No fund
WHD	Dominica	Debt target[1]	Dominica has its own target of a primary surplus of 2.4 percent of GDP to be achieved over the cycle.	Political commitment	No fund
WHD	Grenada	Debt target[1], expenditure rule (proposed)	Under an ECF arrangement, approved in June 2014, fiscal adjustment is anchored by a primary surplus of 3.5 percent of GDP, to be achieved by 2016. Soon-to-be-approved Fiscal Responsibility legislation proposes an expenditure rule to limit growth of real central government expenditures to 2 percent a year.	The debt target is supported by political commitment. The proposed expenditure rule will be backed by legislation.	No fund
WHD	Guyana	Debt target	Debt-to-GDP ratio less than 40 percent in NPV terms. Target is embedded in the medium-term framework of the authorities.	Political commitment	No fund
WHD	St. Kitts and Nevis	Debt target[1]	With stronger growth and ample revenues, it would appear that this target will be achieved more quickly, and the staff plans to propose that zero primary balance become the new fiscal anchor.	Political commitment	Sugar Industry Diversification Foundation: Set in 2006 as an independent foundation, funded by Citizenship-By-Investment Program. Its mandate was expanded in 2011 to support the government's efforts to

Region	Country	Fiscal Anchor	Comment	Statutory Base	Stability Fund/Trust Fund
					diversify the economy and maintain economic stability.
WHD	St. Lucia	Debt target[1]		Political commitment	No fund
WHD	St. Vincent and the Grenadines	Debt target[1]		Political commitment	No fund
WHD	Suriname	Debt rule	Public debt ceiling of 60 percent of GDP of which domestic debt ceiling of 25 percent and external debt ceiling of 35 percent.	Statutory	No fund
WHD	Trinidad and Tobago	Fiscal balance target	Improve overall fiscal balance by a minimum of 1 percent of GDP annually starting FY2013/14 to achieve a balanced budget by 2016/17. However, specific policies to achieve the target were not specified.	Political commitment	Heritage and Stabilization Fund (HSF): Established in 2007 by legislation to save and invest energy revenue in excess of budgetary projections. The saving (withdrawal) rule is triggered when actual energy revenue exceeds (falls below) budgeted energy revenue by at least 10 percent. There is also a minimum balance rule (capital floor), requiring that no withdrawal should reduce the HSF's balance below US$1 billion at inception, but it was raised to US$4 billion in 2014.

Annex II Fiscal Anchors in Small States

[1]/ An ECCU target requires reducing the public debt-to-GDP ratio to 60 percent by 2020.
Sources: Country authorities and IMF teams.

References

Baldacci, Emanuele, Arye L. Hillman, and Naoko C. Kojo, 2004, "Growth, Governance, and Fiscal Policy Transmission Channels in Low-income Countries," *European Journal of Political Economy*, Elsevier, Vol. 20, No.3, pp. 517–49.

Cabezon, E., P. Tumbarello, and Y. Wu, 2013, "Are the Asia and Pacific Small States Different from the Other Small States?" IMF Working Paper 13/123 (Washington: International Monetary Fund).

Cabezon, E., L. Hunter, P. Tumbarello, and Y. Wu, forthcoming, "Strengthening Macro-Fiscal Resilience to Natural Disasters and Climate Change in the Small States of the Pacific", IMF Working Paper.

Caselli, Francesco, and James Feyrer, 2007, "The Marginal Product of Capital," *The Quarterly Journal of Economics*, MIT Press, Vol. 122, No. 2, pp. 535–68.

Fomby, Thomas, Yuki Ikeda, and Norman V. Loayza, 2013, "The Growth Aftermath of Natural Disasters," *Journal of Applied Econometrics*, Vol. 28, No. 3, pp. 412–34.

Gemmell, N., F. Misch, and B. Moreno-Dodson, 2012, "Public Spending for Long-Run Growth: A Practitioners' View," World Bank-Economic Premise, The World Bank, Issue 99, pages 1–4, December (Washington: World Bank).

Gupta, S., A. Kangur, C. Papageorgiou, and A. Wane, 2014, "Efficiency-Adjusted Public Capital and Growth," *World Development*, Vol. 57, pp. 164–178.

Haque, Tobias, David Knight, and Dinuk Jayasuriya, 2012, "Capacity Constraints and Public Financial Management in Small Pacific Island Countries," Policy Research Working Papers No. 6297 (Washington: World Bank).

Holden, Paul and Hunt Howell, 2009, Enhancing Access to Finance in the Caribbean, Inter-American Development Bank, Private Sector Development Discussion Paper No. 4(Washington: Inter-American Development Bank).

International Monetary Fund, 2014a, Staff Guidance Note on the Fund's Engagement with Small Developing States, March (Washington).

_____, 2014b, "Leveraging Marine Fishery Resources: Implication of Fiscal Policy," Special Topic in Asia& Pacific Small States Monitor, April (Washington).

_____, 2014c, "Fiscal Governance in the Euro Area: Progress and Challenges", in Selected Issues Papers, Euro Area Policies, IMF Country Report No. 14/199 (Washington).

_____, 2014d, "Is it Time for an Infrastructure Push? The Macroeconomic Effects of Public Investment," Chapter 3 of Legacies, Clouds, Uncertainties, *World Economic Outlook*, October (Washington).

_____, 2013, "Macroeconomic Issues in Small States and Implications for Fund Engagement," February (Washington).

_____, 2012, "Macroeconomic Policy Frameworks for Resource-Rich Developing Countries," IMF Policy Paper (Washington).

Ostry, J. D., A. R. Ghosh, J. I. Kim, and M. S. Qureshi, 2010, "Fiscal Space", *IMF Staff Position Note* SPN/10/11, (Washington: International Monetary Fund).

Romp, W., and J. De Haan, 2007, "Public Capital and Economic Growth: A Critical Survey," *Perspektiven der Wirtschaftspolitik*, Vol. 8, Issue S1, pp. 6–52.