



MALDIVES

STAFF REPORT FOR THE 2016 ARTICLE IV CONSULTATION— DEBT SUSTAINABILITY ANALYSIS

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This Debt Sustainability Analysis (DSA) updates the March 2015 DSA. Maldives' external risk rating has been elevated to a high risk of debt distress, based on an assessment of public external debt in the context of large prospective increases in capital spending. The assessment of the overall risk of debt distress is also high and is reinforced by significant vulnerabilities related to domestic debt. The 2016 Budget, included in the baseline, projects a substantial increase in capital spending financed wholly by external debt (with no offsetting fiscal measures) which will add to both debt and foreign currency risk and would markedly change the composition of Maldives debt. The execution rate of the capital projects is highly uncertain—and under-execution is likely—but after factoring this in debt still rises sharply (and there could be cost overruns). The authorities' 2016 Budget entails a large increase in external debt which would breach the PV of external debt to GDP threshold.¹

Fiscal policy mistakes and shocks to tourism exports or foreign direct investment are key risks that could trigger debt distress. To stabilize and then reduce public debt ratios, staff proposes greater prioritization of capital expenditures, additional fiscal revenue and expenditure measures and public financial management reforms. Adjustment measures – as illustrated by the staff's illustrative scenario (Figures 4 and 5)—are needed to reduce the probability of debt distress while accommodating an increase in capital expenditure.

¹ Maldives continues to be classified as a medium performer in terms of policies and institutions by the World Bank's Country Policy and Institutional Assessment (CPIA), averaging 3.25 over 2012–14.

RECENT DEBT DEVELOPMENTS

Total public debt has risen rapidly since the 2004 tsunami and is above the 60 percent limit in the Fiscal Responsibility Law as of end-2015 at around 73.1 percent of GDP (Table 3).²³ The increase initially reflected additional expenditure needs in the aftermath of the tsunami but more recently additional recurrent spending on wages, social welfare, and subsidies and capital spending on infrastructure scale up. Under the baseline scenario, public debt would remain on a rising path over the medium term.

Public debt is held mainly by domestic banks, pension funds, the Maldives Monetary Authority (MMA) and official multilateral and bilateral creditors (text figure).

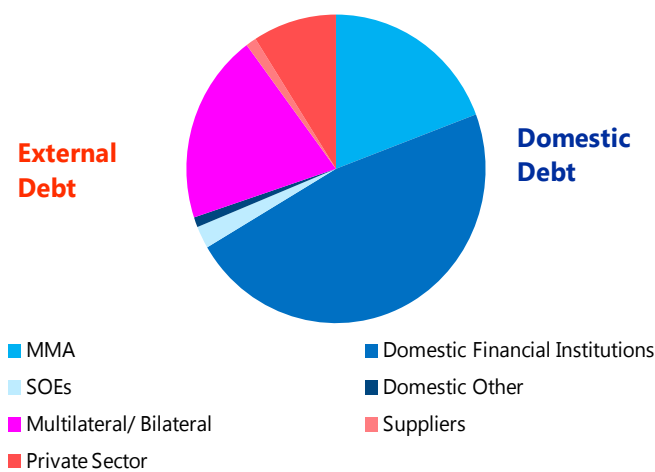
The economy has relied heavily on the issuance of treasury bills and monetization as well as external borrowing to finance deficits.

Domestic arrears are likely to have declined significantly in 2015 (aided by better revenue performance) and the DSA baseline assumes these are cleared over a period of three years.

The external debt ratio has declined since the global financial crisis. Between 2010 and 2015, net repayments of external public and publicly guaranteed external debt and private external debt reduced the external debt (Table 1 and 3). With an open capital account and little reporting, private sector external debt data are subject to large errors and there are likely to be further revisions to debt estimates.

Taken together private external debt and total public debt are estimated at about \$ 2.6 bn (82.3 percent of GDP) in 2015.

Public Debt Holdings by Sector
(Percent distribution)



² The fiscal year for Maldives is January to December.

³ Public debt is defined as the debt of the non-financial public sector comprising central government, including loans on-lent to State Owned Enterprises. It does not include publicly guaranteed debt and domestic arrears. The Ministry of Finance and Treasury (MoFT) is currently undertaking a process to gather and record all data and information regarding government guarantees. Once the process is completed, guaranteed debt might be included in the analysis.

Box 1. PRGT Eligibility for the Maldives

The PRGT eligibility framework reviewed on a two-year cycle was last reviewed in June 2015. Maldives continues to be PRGT eligible to date. The criteria for PRGT eligibility – income and market access criterion – are closely linked with the PRGT’s key objectives that access should be reserved for members with low per capita income levels who do not have durable and substantial access to international financial markets. Even though Maldives meets the income criterion by a large margin, its short term macroeconomic vulnerabilities particularly a risk of income decline and loss of market access from elevated debt kept it from graduating from PRGT eligibility. Broad alignment with IDA practices was also an important element in defining its PRGT-eligibility as it still remains an IDA-only country based on the small island economy exception, receiving most of its assistance from IDA on grant terms.

With medium term risks like the planned investment scale up, the slowdown in China (its largest tourism market) and the possible costs from climate change, concessional financing will continue to be a key source of external financing in the Maldives given the existing level of very high debt.

MACROECONOMIC ASSUMPTIONS

The baseline scenario is built on current policies, including staff’s assessment of the Authorities’ 2016 Budget. The budget projects unrealistically low current expenditures which does not match staff’s assessment of commitments and an unprecedentedly large rise in capital spending. Managing these projects could strain implementation capacity if they are wholly financed through debt with no offsetting fiscal measures making debt unsustainable even with financing on semi concessional terms. The actual execution of these projects is highly uncertain, depending on the availability of financing (many projects are not yet under contract). Staff’s baseline does not include estimates for revenues from the Special Economic Zones (SEZs). It also does not include any compensation amount from the arbitration ruling over the airport concession.⁴

Key assumptions: Overall, the baseline macroeconomic assumptions are a little weaker in the next few years than in the previous DSA but are stronger in the medium term when the growth impact of the airport and other infrastructure development comes through.⁵

- *Real GDP growth.* Growth remains subdued in 2016 and 2017 and averages 4.4 percent over 2021–35 which is a slower pace than the average of the past ten years (around 6.5 percent) that included the initial rapid development of the tourism sector. Staff factor in a ½ percent of GDP per year increase in medium-term potential growth from the tourism development—this assessment is consistent with public investment efficiency being in line with the average of less developed economies, more positive growth outcomes could be achieved with higher public investment efficiency

⁴ In 2012 the authorities cancelled the airport concession contract with GMR and Malaysia Airports Berhad to upgrade and operate Malé airport. Arbitration ruled in favor of GMR. Maldives Airport Company Limited (MACL) paid \$4mn in immediate costs. Agreement on a final settlement has yet to be reached.

⁵ The baseline scenario in the DSA assumes that the stabilized exchange rate regime holds although reserve cover dwindles by 2034.

- *Inflation.* GDP deflator inflation remains low over the next two years reflecting lower oil prices and generally weaker global commodity prices partly offset by higher import duties and then rises to around 3.2 percent—close to its long run average.
- *The current account.* The non interest current account deficit balloons from 2016 reflecting higher imports for infrastructure projects. The deficit narrows once the large projects are completed but the deficit is higher than before at 7.5 percent of GDP on average over 2020–2035. Over the longer term financing pressure from maturing infrastructure loan result in reserves levels dwindling to be negligible in terms of import cover by the end of the forecast.

Text Table 1. Change in Macro Assumptions

| | Average | | | |
|---------------------------------------|---------------|---------|---------------|---------|
| | (2014 - 2020) | | (2021 - 2034) | |
| | Previous | Current | Previous | Current |
| GDP Deflator | 3.0 | 2.3 | 3.5 | 3.2 |
| Non interest current account deficit | 4.3 | 9.7 | 4.1 | 7.5 |
| Primary deficit | 3.6 | 9.7 | 2.4 | 4.7 |
| Real GDP growth (in percent) | 4.6 | 4.3 | 4.5 | 4.4 |
| Growth of exports of G&S (in percent) | 8.5 | 5.4 | 7.9 | 7.5 |
| Growth of imports of G&S (in percent) | 8.1 | 6.1 | 8.2 | 7.4 |

- *The fiscal deficit.* The primary deficit (under the baseline), widens substantially from 2015 to 2016 due to capital projects and social welfare spending and once capital projects are completed the primary deficit remains well above that which would stabilize debt.
- *Financing.* In the recent past, the bulk of the deficit financing has been met from domestic sources, in particular through the domestic banking system and the pension fund. Interest rates had risen sharply in the primary market for T-bills in 2012 and 2013. But, from mid-2014 the government replaced the auction system with a 'tap system' (of administered interest rates) and has successively lowered the rate recently halving them to a range of 3.5–4.6 percent across maturities. This temporarily stabilized interest cost on domestic debt. So far demand for T-bills has been sustained by the banking sector. However, as debt rises, lower yields may not be sustained and with global interest rates expected to rise, staff assume that Maldives yields are high and rise over the forecast horizon. External infrastructure loans are assumed to be on semi-concessional terms.
- *New debt.* The new infrastructure projects are included in the 2016 Budget. The DSA assumes external disbursements totaling US\$ 1.1 billion which includes the infrastructure projects (see Box 2) and undisbursed loans signed in 2015. The loans contracted in 2015 are semi-concessional loans (a positive grant element below 35 percent) and may affect future financing for the Maldives for two reasons. First, Maldives receives grant funding from IDA and is therefore subject to a continuous criterion under IDA's non-concessional borrowing policy

(NCBP).⁶ In the absence of an IMF program and its associated borrowing limits, IDA still has its NCBP in place and therefore a breach will entail requesting a waiver to the policy. Waivers are considered based on country- and loan-specific criteria. Second, financing from other multilateral institutions including IDA and the ADB are affected by the outcome of the debt sustainability assessment given that these institutions use the results of the DSA to determine eligibility requirements for future financing.⁷

- *Sovereign guarantees to the private sector.* Since the guarantee scheme has not yet been approved, staff has not included any amounts for potential guarantees under the scheme in the DSA.
- *Non debt creating financial flows.* With limited lending opportunities, Maldives banks have paid down debt and increased assets abroad. These outflows are expected to continue.

Box 2. Scaling up and new borrowing

The planned infrastructure scale up in the 2016 Budget is unprecedented for Maldives. This includes Ibrahim Nasir International Airport development (cost estimate: US\$828 million), a road bridge connecting the airport to the capital (cost estimate: US\$189 million), continued investment in new housing developments along with the relocation and expansion of the port. Of these mega projects, the authorities have signed an agreement for US\$ 373 million with China's Exim Bank (runway and fuel farm) and have also received commitments for some of the other costs related to the airport development. An implementation agreement with China's Exim Bank for the road bridge project has also been signed. In addition, the authorities have signed three other external loans in 2015 – US\$ 80 million with Saudi Funds (housing development), US\$ 6 million with Abu Dhabi (waste management) and US\$ 50 million with OPEC Fund (water and sewerage project). While not fully concessional, with low interest rates (2 to 5 percent) and longer maturities (close to 20 years or more) these loans are semi-concessional with grant elements close to 30 percent. It is expected that the authorities will continue to negotiate terms similar to these and therefore this has been assumed for future disbursements included in the DSA. The total external disbursements are estimated to be US\$ 1.1 billion (including the undisbursed loans signed in 2015) and are front loaded until 2019 to meet the timeline set for the completion of the mega projects pipeline.

STAFF'S ILLUSTRATIVE SCENARIO

To stabilize debt and place the fiscal position on a sounder footing staff are proposing the following measures.

- **Capital projects.** Greater prioritization saving around 2.5 pps of GDP compared to the baseline
- **Revenue raising.** Staff suggested charging user fees for key infrastructure including a bridge toll (commercial and leisure) and an increase in airport departure tax. Broadening the base of business profits tax and increasing rates on some taxes should be feasible as the business profits tax rate is

⁶ For more information, please visit <http://www.worldbank.org/ida/non-concessional-borrowing.html>

⁷ Maldives is a group A (ADF only) country in the ADB and an IDA eligible country under the small island exception. The proportion of grant financing for both these institutions is contingent on the country's risk of debt distress. This is determined by the outcome of a forward-looking Debt Sustainability Analysis. For more information, please visit <http://www.adb.org/site/adf/faqs> and <http://www.worldbank.org/ida/financing.html>.

low compared to the Asia Pacific region and the tourism goods and services tax is not out of line with other competitor economies.

- **Expenditure saving.** The authorities focus on the public sector wage bill is welcome. Staff suggested that the public service review should be restarted taking time to plan and implement it, while ensuring key functions are preserved. A baseline costs review of healthcare would help identify emerging pressures and scope for savings. Plans to better target social welfare and food subsidies through means testing and to eliminate the electricity subsidy (the latter currently delayed) are welcome. SOE transparency and oversight should be strengthened. Savings in other areas could also be made, including through greater use of renewable energy.
- **Public financial management.** These measures would be accompanied by strengthened public financial management, development of a debt strategy and public investment framework.
- **Growth dividend.** In Staff's view improving the efficiency of public investment and stabilizing debt would help to generate longer term growth dividends. In the medium term growth could be around 0.5 pps per year higher than in the baseline, falling back to 0.3pps by 2030–2034.

EXTERNAL AND PUBLIC DEBT SUSTAINABILITY

External debt sustainability. The main cause for concern in the Maldives is the PV of debt-to-GDP ratio. Under the baseline scenario, the nominal PPG external debt rises to 56.9 percent of GDP in 2035 while the PV of PPG external debt to GDP is just under the threshold around 2020 necessitating further analysis under the probability approach. Under the probability approach (Figure 3), the threshold for the PV of external PPG debt-to-GDP ratio is breached in the baseline mainly driven by capital spending.⁸ Furthermore, the external debt path is not only vulnerable to all the standard shocks in the DSA but especially to a one time depreciation shock and an exports shock. Taking this into consideration, staff is of the view that the debt distress in Maldives has deteriorated from a moderate to a high risk of debt distress.⁹

Public debt sustainability. Public debt ratios continue to rise. Under the baseline, the PV of public debt rises from 66.6 percent of GDP in 2014 to 161.1 percent of GDP in 2035. Domestic debt is also highly vulnerable to shocks to the primary balance, to growth and data in line with historical averages.

ASSESSMENT

Without fiscal adjustment and careful management of the infrastructure investment program, current policies would lead to large domestic and external financing requirements and adjustment would be needed. Such high financing needs are unlikely to be met on a sustained basis and problems could magnify as repayments of infrastructure loans become due in the medium term.

⁸ The probability approach methodology focuses on the evolution of the probability of debt distress over time, rather than on the evolution of debt burden indicators. This approach provides complementary, country specific information to help decide cases where a country's risk rating is on the border between two categories – in this case, a ± 5 percent range is nearly breached for the present value of debt to GDP ratio in the baseline scenario.

⁹ Note given a strong revenue performance (with revenue well above developing country levels) and a large tourism sector (gross exports of goods and services over 100 percent of GDP), the thresholds for revenues and exports are not breached.

This may lead to financing problems, the need for abrupt fiscal consolidation and pressure on the exchange rate. The DSA therefore points to the need for additional fiscal consolidation measures in the near term together with greater prioritization of overall capital expenditures and improved public financial management.

Fiscal measures are needed to stabilize the debt ratio and place it on a downward path and this should entail tighter expenditure control and public financial management reforms.

Even with a sustained fiscal consolidation effort, Maldives has a high level of public debt and would remain vulnerable for a number of years. A deterioration of public finances, or external shocks to tourism earnings and foreign direct investment, or a dent to confidence against a backdrop of rising fiscal pressure are all important risks.

CONCLUSION

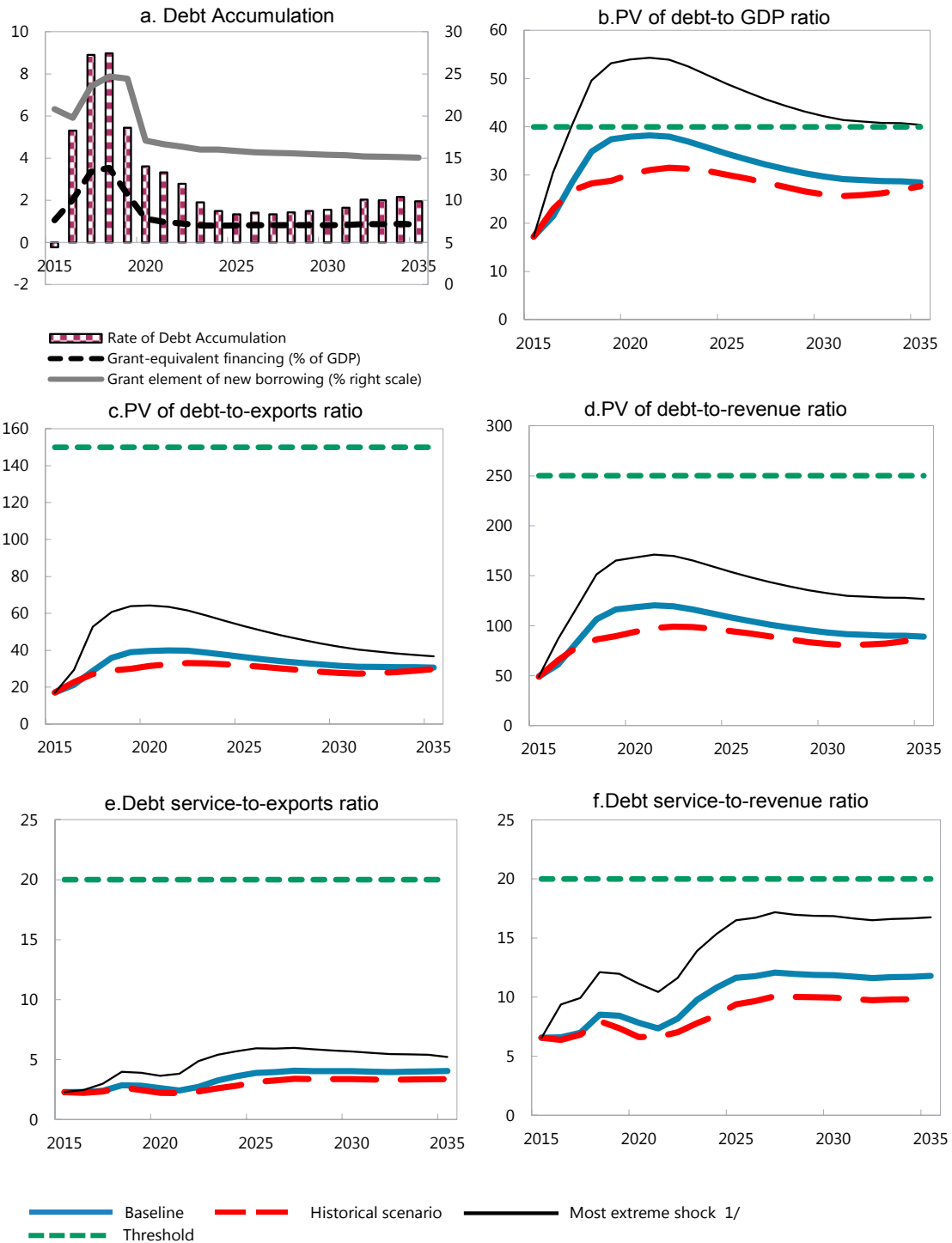
Risk rating. Maldives' debt distress has deteriorated and it currently faces a high risk of external debt distress. The assessment of the overall risk of debt distress is also high risk and is reinforced by significant vulnerabilities related to domestic debt.

To lower the risks staff, suggest policy measures described in the staff's illustrative scenario above. A more careful scale up of overall capital expenditure together with offsetting fiscal measures, can help boost the growth impact of infrastructure spending (this is also supported by an alternative model looking at public investment debt and growth dynamics), and would help limit the rise in both public and external debt.

Authorities' Views

The authorities are of the view that the substantial increase in external borrowing is needed to finance infrastructure investment. This is required to ensure that Maldives remains an attractive tourism destination and to address climate change challenges. The authorities are seeking long term loans on the best terms available. They are mindful of the risks and are seeking to contain current expenditures, while undertaking the scale up. Over the longer run, the authorities believe that the infrastructure investment will add substantially more to growth than suggested by staff and that the payoffs should be sufficient to enable debt reduction. They concur with staff that the Paris COP21 agreement opens up new opportunities to finance climate change adaptation on concessional terms and they plan a strategic approach to such investments going forward. They noted the change in the external risk rating from moderate to high risk of debt distress and disagreed with the change, given the conservative assumption of growth used by the IMF. They expect that the infrastructure scale up would enable a shift in the production frontier to a higher growth path.

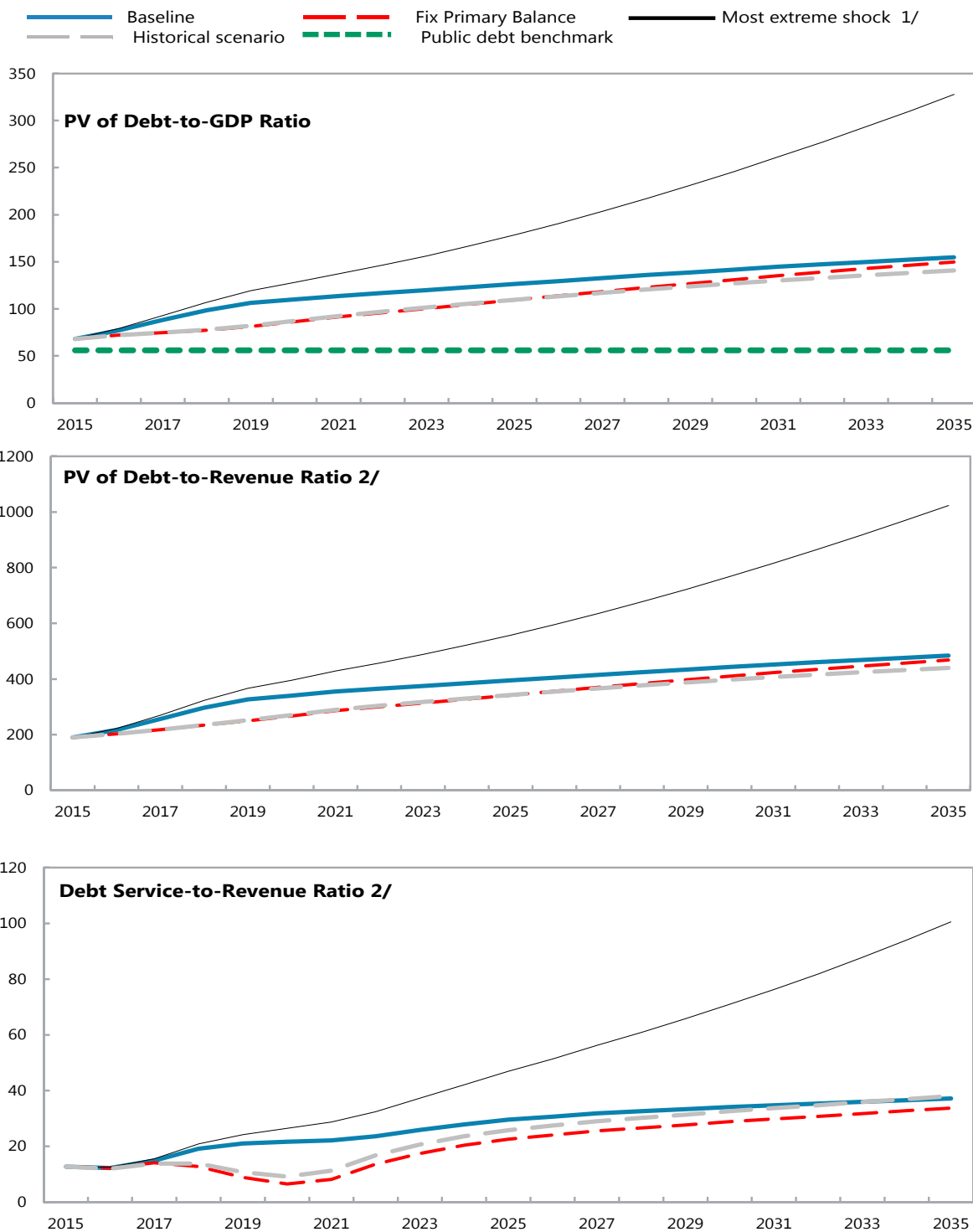
Figure 1. Maldives Baseline Scenario: Indicators of Public and Publicly Guaranteed External Debt Under Alternative Scenarios, 2015–2035 1/



Sources: Country authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio on or before 2025. In figure b. it corresponds to a One-time depreciation shock; in c. to a Exports shock; in d. to a One-time depreciation shock; in e. to a Exports shock and in figure f. to a One-time depreciation shock

Figure 2. Maldives Baseline Scenario: Indicators of Public Debt Under Alternative Scenarios, 2015–2035 1/



Sources: Country authorities; and staff estimates and projections.
 1/ The most extreme stress test is the test that yields the highest ratio on or before 2025.
 2/ Revenues are defined inclusive of grants.

Table 1. Maldives: External Debt Sustainability Framework, Baseline Scenario, 2010–35 1/
(In percent of GDP, unless otherwise indicated)

| | Actual | | | | | Historical Average | Standard Deviation | Projections | | | | | | | | 2015-2020 Average | 2025 | 2035 | 2021-2035 Average |
|---|-------------|--------------|-------------|--------------|--------------|-----------------------|-----------------------|--------------|--------------|--------------|--------------|--------------|--------------|------|--------------|----------------------|------|------|----------------------|
| | 2010 | 2011 | 2012 | 2013 | 2014 | | | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | | | | | | |
| External debt (nominal) 1/ | 46.1 | 43.5 | 35.2 | 31.8 | 33.4 | | | 31.3 | 35.7 | 45.4 | 55.0 | 59.3 | 60.2 | | 58.1 | 56.9 | | | |
| <i>of which: public and publicly guaranteed (PPG)</i> | 27.8 | 30.4 | 29.4 | 27.3 | 22.9 | | | 22.1 | 27.4 | 36.8 | 45.4 | 48.6 | 48.6 | | 41.9 | 34.8 | | | |
| Change in external debt | -3.2 | -2.6 | -8.2 | -3.5 | 1.6 | | | -2.0 | 4.4 | 9.7 | 9.5 | 4.3 | 0.9 | | -0.9 | 0.2 | | | |
| Identified net debt-creating flows | -4.9 | -1.3 | -5.0 | -12.1 | -10.9 | | | -3.2 | -3.3 | 2.5 | 4.6 | 1.0 | -2.2 | | -1.4 | -1.9 | | | |
| Non-interest current account deficit | 6.6 | 15.6 | 6.5 | 3.6 | 3.2 | 10.3 | 8.6 | 6.8 | 6.7 | 13.5 | 15.8 | 12.5 | 9.1 | | 7.9 | 5.9 | 7.4 | | |
| Deficit in balance of goods and services | -13.8 | -6.8 | -14.0 | -19.3 | -18.6 | | | -14.8 | -15.9 | -8.8 | -6.2 | -9.9 | -13.6 | | -14.2 | -14.6 | | | |
| Exports | 86.6 | 105.8 | 99.2 | 105.0 | 108.7 | | | 100.6 | 100.9 | 99.1 | 97.3 | 96.1 | 95.7 | | 94.8 | 92.9 | | | |
| Imports | 72.8 | 99.0 | 85.3 | 85.8 | 90.1 | | | 85.8 | 85.0 | 90.3 | 91.2 | 86.3 | 82.1 | | 80.6 | 78.3 | | | |
| Net current transfers (negative = inflow) | 8.6 | 10.4 | 10.3 | 10.3 | 10.6 | 9.8 | 0.9 | 11.4 | 11.8 | 11.8 | 11.9 | 11.9 | 11.9 | | 12.0 | 12.0 | 12.0 | | |
| <i>of which: official</i> | -0.5 | -2.0 | -0.9 | -0.3 | -1.3 | | | -1.0 | -0.6 | -0.4 | -0.3 | -0.3 | -0.3 | | -0.2 | -0.1 | | | |
| Other current account flows (negative = net inflow) | 11.8 | 11.9 | 10.2 | 12.6 | 11.3 | | | 10.2 | 10.9 | 10.4 | 10.1 | 10.4 | 10.8 | | 10.1 | 8.5 | | | |
| Net FDI (negative = inflow) | -9.3 | -18.2 | -9.1 | -12.9 | -12.1 | -11.1 | 3.7 | -10.6 | -10.0 | -10.9 | -10.8 | -10.7 | -10.5 | | -9.0 | -7.8 | -8.5 | | |
| Endogenous debt dynamics 2/ | -2.1 | 1.4 | -2.4 | -2.8 | -2.0 | | | 0.6 | -0.1 | -0.1 | -0.5 | -0.7 | -0.9 | | -0.3 | 0.0 | | | |
| Contribution from nominal interest rate | 1.6 | 1.3 | 0.9 | 0.6 | 0.8 | | | 1.2 | 1.0 | 1.2 | 1.5 | 1.6 | 1.8 | | 2.0 | 2.3 | | | |
| Contribution from real GDP growth | -3.3 | -4.0 | -1.0 | -1.5 | -1.9 | | | -0.6 | -1.1 | -1.3 | -1.9 | -2.4 | -2.6 | | -2.4 | -2.3 | | | |
| Contribution from price and exchange rate changes | -0.4 | 4.1 | -2.4 | -1.9 | -0.9 | | | ... | ... | ... | ... | ... | ... | | ... | ... | | | |
| Residual (3-4) 3/ | 1.7 | -1.4 | -3.2 | 8.7 | 12.5 | | | 1.2 | 7.7 | 7.3 | 5.0 | 3.3 | 3.2 | | 0.5 | 2.1 | | | |
| <i>of which: exceptional financing</i> | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | | |
| PV of external debt 4/ | ... | ... | ... | ... | 28.3 | | | 26.4 | 29.8 | 37.2 | 44.5 | 48.1 | 49.6 | | 50.6 | 50.6 | | | |
| In percent of exports | ... | ... | ... | ... | 26.0 | | | 26.2 | 29.5 | 37.5 | 45.7 | 50.0 | 51.9 | | 53.4 | 54.5 | | | |
| PV of PPG external debt | ... | ... | ... | ... | 17.8 | | | 17.2 | 21.5 | 28.5 | 34.9 | 37.4 | 38.0 | | 34.4 | 28.4 | | | |
| In percent of exports | ... | ... | ... | ... | 16.4 | | | 17.1 | 21.3 | 28.8 | 35.8 | 38.9 | 39.7 | | 36.3 | 30.6 | | | |
| In percent of government revenues | ... | ... | ... | ... | 56.2 | | | 49.0 | 61.1 | 83.8 | 106.4 | 116.2 | 118.3 | | 108.1 | 89.1 | | | |
| Debt service-to-exports ratio (in percent) | 10.7 | 8.8 | 8.4 | 6.9 | 6.0 | | | 7.7 | 7.1 | 7.0 | 6.8 | 7.0 | 6.9 | | 9.0 | 10.3 | | | |
| PPG debt service-to-exports ratio (in percent) | 2.9 | 3.1 | 3.0 | 2.7 | 2.5 | | | 2.3 | 2.3 | 2.4 | 2.9 | 2.8 | 2.6 | | 3.9 | 4.1 | | | |
| PPG debt service-to-revenue ratio (in percent) | 11.8 | 12.6 | 11.8 | 10.4 | 8.6 | | | 6.6 | 6.6 | 7.0 | 8.5 | 8.4 | 7.8 | | 11.6 | 11.8 | | | |
| Total gross financing need (Millions of U.S. dollars) | 353.0 | 319.0 | 267.1 | 10.9 | -17.8 | | | 236.0 | 226.7 | 422.7 | 537.6 | 449.7 | 358.9 | | 749.6 | 1836.0 | | | |
| Non-interest current account deficit that stabilizes debt ratio | 9.8 | 18.2 | 14.7 | 7.1 | 1.6 | | | 8.9 | 2.3 | 3.8 | 6.3 | 8.1 | 8.2 | | 8.9 | 5.7 | | | |
| Key macroeconomic assumptions | | | | | | | | | | | | | | | | | | | |
| Real GDP growth (in percent) | 7.2 | 8.7 | 2.5 | 4.7 | 6.5 | 5.3 | 5.7 | 1.9 | 3.5 | 3.9 | 4.6 | 4.7 | 4.8 | 3.9 | 4.4 | 4.5 | 4.4 | | |
| GDP deflator in US dollar terms (change in percent) | 0.9 | -8.1 | 5.8 | 5.8 | 3.0 | 3.2 | 5.5 | 0.4 | 1.3 | 2.5 | 2.8 | 3.0 | 3.2 | 2.2 | 3.2 | 3.2 | 3.2 | | |
| Effective interest rate (percent) 5/ | 3.4 | 2.9 | 2.3 | 2.0 | 2.9 | 2.7 | 0.5 | 3.6 | 3.3 | 3.5 | 3.4 | 3.2 | 3.2 | 3.4 | 3.7 | 4.4 | 4.0 | | |
| Growth of exports of G&S (US dollar terms, in percent) | 17.3 | 22.0 | 1.8 | 17.3 | 13.6 | 9.7 | 12.0 | -5.4 | 5.2 | 4.6 | 5.5 | 6.4 | 7.6 | 4.0 | 7.4 | 7.6 | 7.5 | | |
| Growth of imports of G&S (US dollar terms, in percent) | 13.6 | 35.9 | -6.6 | 11.5 | 15.2 | 9.7 | 21.4 | -2.7 | 3.9 | 13.2 | 8.5 | 2.0 | 2.8 | 4.6 | 7.3 | 7.4 | 7.4 | | |
| Grant element of new public sector borrowing (in percent) | ... | ... | ... | ... | ... | ... | ... | 20.8 | 19.8 | 23.5 | 24.7 | 24.5 | 17.1 | 21.7 | 15.9 | 15.1 | 15.6 | | |
| Government revenues (excluding grants, in percent of GDP) | 21.5 | 25.6 | 25.3 | 27.4 | 31.8 | | | 35.1 | 35.1 | 34.0 | 32.8 | 32.2 | 32.1 | | 31.8 | 31.9 | 31.8 | | |
| Aid flows (in Millions of US dollars) 7/ | 69.9 | 87.6 | 52.0 | -12.6 | -51.5 | | | 25.1 | 21.8 | 20.7 | 20.1 | 21.0 | 21.9 | | 23.6 | 29.9 | | | |
| <i>of which: Grants</i> | 12.1 | 47.5 | 23.9 | 7.6 | 10.7 | | | 24.1 | 14.0 | 13.2 | 11.8 | 11.8 | 11.8 | | 11.8 | 11.8 | | | |
| <i>of which: Concessional loans</i> | 57.8 | 40.1 | 28.1 | -20.2 | -62.2 | | | 1.0 | 7.8 | 7.6 | 8.2 | 9.1 | 10.1 | | 11.7 | 18.0 | | | |
| Grant-equivalent financing (in percent of GDP) 8/ | ... | ... | ... | ... | ... | | | 1.1 | 2.0 | 3.4 | 3.5 | 2.3 | 1.1 | | 0.8 | 0.8 | 0.8 | | |
| Grant-equivalent financing (in percent of external financing) 8/ | ... | ... | ... | ... | ... | | | 48.9 | 23.8 | 25.7 | 26.5 | 27.1 | 21.4 | | 19.7 | 16.5 | 18.6 | | |
| Memorandum items: | | | | | | | | | | | | | | | | | | | |
| Nominal GDP (Millions of US dollars) | 2323.4 | 2321.1 | 2517.4 | 2789.1 | 3059.9 | | | 3130.4 | 3282.4 | 3495.8 | 3756.7 | 4049.2 | 4376.8 | | 6394.7 | 13357.4 | | | |
| Nominal dollar GDP growth | 8.1 | -0.1 | 8.5 | 10.8 | 9.7 | | | 2.3 | 4.9 | 6.5 | 7.5 | 7.8 | 8.1 | 6.2 | 7.7 | 7.8 | 7.7 | | |
| PV of PPG external debt (in Millions of US dollars) | ... | ... | ... | ... | 545.7 | | | 538.7 | 704.9 | 997.3 | 1311.1 | 1515.8 | 1662.2 | | 2198.3 | 3797.7 | | | |
| (Pvt-Pvt-1)/GDPt-1 (in percent) | ... | ... | ... | ... | ... | | | -0.2 | 5.3 | 8.9 | 9.0 | 5.4 | 3.6 | 5.3 | 1.3 | 2.0 | 1.9 | | |
| Gross workers' remittances (Millions of US dollars) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | | |
| PV of PPG external debt (in percent of GDP + remittances) | ... | ... | ... | ... | 17.8 | | | 17.2 | 21.5 | 28.5 | 34.9 | 37.4 | 38.0 | | 34.4 | 28.4 | | | |
| PV of PPG external debt (in percent of exports + remittances) | ... | ... | ... | ... | 16.4 | | | 17.1 | 21.3 | 28.8 | 35.8 | 38.9 | 39.7 | | 36.3 | 30.6 | | | |
| Debt service of PPG external debt (in percent of exports + remittances) | ... | ... | ... | ... | 2.5 | | | 2.3 | 2.3 | 2.4 | 2.9 | 2.8 | 2.6 | | 3.9 | 4.1 | | | |

Sources: Country authorities; and staff estimates and projections.

1/ Includes both public and private sector external debt.

2/ Derived as $[r - g - p(1+g)] / (1+g+p+gp)$ times previous period debt ratio, with r = nominal interest rate; g = real GDP growth rate, and p = growth rate of GDP deflator in U.S. dollar terms.

3/2014 Balance of Payments is a preliminary estimate and includes errors and omissions, change in assets and valuation effects and over the projection period banks pay down debt abroad/ increase asset position abroad

4/ Assumes that PV of private sector debt is equivalent to its face value.

5/ Current-year interest payments divided by previous period debt stock.

6/ Historical averages and standard deviations are generally derived over the past 10 years, subject to data availability.

7/ Defined as grants, concessional loans, and debt relief.

8/ Grant-equivalent financing includes grants provided directly to the government and through new borrowing (difference between the face value and the PV of new debt).

Table 2. Maldives: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2015–35
(In percent)

| | Projections | | | | | | | 2035 |
|--|-------------|------|------|------|------|------|------------|------|
| | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2025 | |
| PV of debt-to GDP ratio | | | | | | | | |
| Baseline | 17 | 21 | 29 | 35 | 37 | 38 | 34 | 28 |
| A. Alternative Scenarios | | | | | | | | |
| A1. Key variables at their historical averages in 2015-2035 1/ | 17 | 23 | 27 | 28 | 29 | 30 | 30 | 28 |
| A2. New public sector loans on less favorable terms in 2015-2035 2 | 17 | 23 | 33 | 42 | 46 | 47 | 46 | 47 |
| B. Bound Tests | | | | | | | | |
| B1. Real GDP growth at historical average minus one standard deviation in 2016-2017 | 17 | 22 | 31 | 38 | 41 | 41 | 37 | 31 |
| B2. Export value growth at historical average minus one standard deviation in 2016-2017 3/ | 17 | 27 | 45 | 51 | 53 | 53 | 44 | 30 |
| B3. US dollar GDP deflator at historical average minus one standard deviation in 2016-2017 | 17 | 22 | 31 | 38 | 41 | 41 | 37 | 31 |
| B4. Net non-debt creating flows at historical average minus one standard deviation in 2016-2017 4/ | 17 | 23 | 32 | 38 | 41 | 41 | 36 | 29 |
| B5. Combination of B1-B4 using one-half standard deviation shocks | 17 | 22 | 33 | 39 | 42 | 42 | 38 | 30 |
| B6. One-time 30 percent nominal depreciation relative to the baseline in 2016 5/ | 17 | 31 | 41 | 50 | 53 | 54 | 49 | 40 |
| PV of debt-to-exports ratio | | | | | | | | |
| Baseline | 17 | 21 | 29 | 36 | 39 | 40 | 36 | 31 |
| A. Alternative Scenarios | | | | | | | | |
| A1. Key variables at their historical averages in 2015-2035 1/ | 17 | 23 | 27 | 29 | 30 | 31 | 32 | 30 |
| A2. New public sector loans on less favorable terms in 2015-2035 2 | 17 | 23 | 33 | 43 | 48 | 49 | 49 | 50 |
| B. Bound Tests | | | | | | | | |
| B1. Real GDP growth at historical average minus one standard deviation in 2016-2017 | 17 | 21 | 29 | 36 | 39 | 40 | 36 | 31 |
| B2. Export value growth at historical average minus one standard deviation in 2016-2017 3/ | 17 | 29 | 53 | 61 | 64 | 64 | 53 | 37 |
| B3. US dollar GDP deflator at historical average minus one standard deviation in 2016-2017 | 17 | 21 | 29 | 36 | 39 | 40 | 36 | 31 |
| B4. Net non-debt creating flows at historical average minus one standard deviation in 2016-2017 4/ | 17 | 23 | 32 | 39 | 42 | 43 | 38 | 31 |
| B5. Combination of B1-B4 using one-half standard deviation shocks | 17 | 22 | 32 | 39 | 42 | 43 | 39 | 32 |
| B6. One-time 30 percent nominal depreciation relative to the baseline in 2016 5/ | 17 | 21 | 29 | 36 | 39 | 40 | 36 | 31 |
| PV of debt-to-revenue ratio | | | | | | | | |
| Baseline | 49 | 61 | 84 | 106 | 116 | 118 | 108 | 89 |
| A. Alternative Scenarios | | | | | | | | |
| A1. Key variables at their historical averages in 2015-2035 1/ | 49 | 65 | 79 | 86 | 89 | 94 | 94 | 87 |
| A2. New public sector loans on less favorable terms in 2015-2035 2 | 49 | 66 | 96 | 127 | 142 | 147 | 146 | 146 |
| B. Bound Tests | | | | | | | | |
| B1. Real GDP growth at historical average minus one standard deviation in 2016-2017 | 49 | 64 | 91 | 115 | 126 | 128 | 117 | 97 |
| B2. Export value growth at historical average minus one standard deviation in 2016-2017 3/ | 49 | 78 | 133 | 156 | 165 | 166 | 137 | 93 |
| B3. US dollar GDP deflator at historical average minus one standard deviation in 2016-2017 | 49 | 63 | 91 | 116 | 126 | 129 | 118 | 97 |
| B4. Net non-debt creating flows at historical average minus one standard deviation in 2016-2017 4/ | 49 | 65 | 94 | 116 | 126 | 128 | 114 | 90 |
| B5. Combination of B1-B4 using one-half standard deviation shocks | 49 | 64 | 96 | 120 | 130 | 132 | 119 | 95 |
| B6. One-time 30 percent nominal depreciation relative to the baseline in 2016 5/ | 49 | 87 | 119 | 151 | 165 | 168 | 154 | 127 |

Table 2. Maldives: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2015–35 (continued)
(In percent)

| Debt service-to-exports ratio | | | | | | | | | |
|--|----|----|----|----|----|----|----|----|--|
| Baseline | 2 | 2 | 2 | 3 | 3 | 3 | 4 | 4 | |
| A. Alternative Scenarios | | | | | | | | | |
| A1. Key variables at their historical averages in 2015-2035 1/ | 2 | 2 | 2 | 3 | 2 | 2 | 3 | 3 | |
| A2. New public sector loans on less favorable terms in 2015-2035 2 | 2 | 2 | 2 | 3 | 3 | 3 | 5 | 7 | |
| B. Bound Tests | | | | | | | | | |
| B1. Real GDP growth at historical average minus one standard deviation in 2016-2017 | 2 | 2 | 2 | 3 | 3 | 3 | 4 | 4 | |
| B2. Export value growth at historical average minus one standard deviation in 2016-2017 3/ | 2 | 2 | 3 | 4 | 4 | 4 | 6 | 5 | |
| B3. US dollar GDP deflator at historical average minus one standard deviation in 2016-2017 | 2 | 2 | 2 | 3 | 3 | 3 | 4 | 4 | |
| B4. Net non-debt creating flows at historical average minus one standard deviation in 2016-2017 4/ | 2 | 2 | 2 | 3 | 3 | 3 | 4 | 4 | |
| B5. Combination of B1-B4 using one-half standard deviation shocks | 2 | 2 | 2 | 3 | 3 | 3 | 4 | 4 | |
| B6. One-time 30 percent nominal depreciation relative to the baseline in 2016 5/ | 2 | 2 | 2 | 3 | 3 | 3 | 4 | 4 | |
| Debt service-to-revenue ratio | | | | | | | | | |
| Baseline | 7 | 7 | 7 | 9 | 8 | 8 | 12 | 12 | |
| A. Alternative Scenarios | | | | | | | | | |
| A1. Key variables at their historical averages in 2015-2035 1/ | 7 | 6 | 7 | 8 | 7 | 7 | 9 | 10 | |
| A2. New public sector loans on less favorable terms in 2015-2035 2 | 7 | 7 | 7 | 8 | 9 | 10 | 15 | 19 | |
| B. Bound Tests | | | | | | | | | |
| B1. Real GDP growth at historical average minus one standard deviation in 2016-2017 | 7 | 7 | 8 | 9 | 9 | 8 | 13 | 13 | |
| B2. Export value growth at historical average minus one standard deviation in 2016-2017 3/ | 7 | 7 | 8 | 10 | 10 | 9 | 15 | 13 | |
| B3. US dollar GDP deflator at historical average minus one standard deviation in 2016-2017 | 7 | 7 | 8 | 9 | 9 | 9 | 13 | 13 | |
| B4. Net non-debt creating flows at historical average minus one standard deviation in 2016-2017 4/ | 7 | 7 | 7 | 9 | 9 | 8 | 12 | 12 | |
| B5. Combination of B1-B4 using one-half standard deviation shocks | 7 | 7 | 7 | 9 | 9 | 9 | 13 | 13 | |
| B6. One-time 30 percent nominal depreciation relative to the baseline in 2016 5/ | 7 | 9 | 10 | 12 | 12 | 11 | 17 | 17 | |
| <i>Memorandum item:</i> | | | | | | | | | |
| Grant element assumed on residual financing (i.e., financing required above baseline) 6/ | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | |

Sources: Country authorities; and staff estimates and projections.

1/ Variables include real GDP growth, growth of GDP deflator (in U.S. dollar terms), non-interest current account in percent of GDP, and non-debt creating flows.

2/ Assumes that the interest rate on new borrowing is by 2 percentage points higher than in the baseline, while grace and maturity periods are the same as in the baseline.

3/ Exports values are assumed to remain permanently at the lower level, but the current account as a share of GDP is assumed to return to its baseline level after the shock (implicitly assuming an offsetting adjustment in import levels).

4/ Includes official and private transfers and FDI.

5/ Depreciation is defined as percentage decline in dollar/local currency rate, such that it never exceeds 100 percent.

6/ Applies to all stress scenarios except for A2 (less favorable financing) in which the terms on all new financing are as specified in footnote 2.

Table 3. Maldives: Public Sector Debt Sustainability Framework, Baseline Scenario, 2012–35
(In percent of GDP, unless otherwise indicated)

| | Actual | | | Average ^{5/} | Standard Deviation ^{5/} | Estimate | | | | | Projections | | | |
|--|--------|------|-------|-----------------------|----------------------------------|----------|-------|-------|-------|-------|-------------|--------------------|-------|------|
| | 2012 | 2013 | 2014 | | | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2015-20 Average | 2025 | 2035 |
| Public sector debt 1/ | 63.9 | 64.8 | 66.6 | | | 73.1 | 83.1 | 96.5 | 109.0 | 117.5 | 120.8 | 133.9 | 161.1 | |
| <i>of which: foreign-currency denominated</i> | 30.7 | 27.9 | 22.9 | | | 22.1 | 27.4 | 36.8 | 45.4 | 48.6 | 48.6 | 41.9 | 34.8 | |
| Change in public sector debt | 2.2 | 0.9 | 1.8 | | | 6.5 | 10.0 | 13.4 | 12.5 | 8.6 | 3.3 | 2.7 | 2.4 | |
| Identified debt-creating flows | 2.9 | 1.2 | 3.3 | | | 6.9 | 9.9 | 13.1 | 12.2 | 8.0 | 2.1 | 2.3 | 2.3 | |
| Primary deficit | 4.8 | 4.9 | 6.3 | 7.0 | 4.5 | 5.5 | 10.8 | 14.7 | 14.4 | 10.7 | 5.3 | 10.2 | 4.8 | 4.7 |
| Revenue and grants | 26.2 | 27.7 | 32.1 | | | 35.9 | 35.6 | 34.4 | 33.1 | 32.5 | 32.4 | 32.0 | 32.0 | |
| <i>of which: grants</i> | 0.9 | 0.3 | 0.4 | | | 0.8 | 0.4 | 0.4 | 0.3 | 0.3 | 0.3 | 0.2 | 0.1 | |
| Primary (noninterest) expenditure | 31.0 | 32.6 | 38.4 | | | 41.4 | 46.4 | 49.1 | 47.5 | 43.2 | 37.6 | 36.8 | 36.6 | |
| Automatic debt dynamics | -1.9 | -3.7 | -2.9 | | | 1.3 | -0.9 | -1.6 | -2.3 | -2.7 | -3.2 | -2.5 | -2.3 | |
| Contribution from interest rate/growth differential | -0.6 | -2.5 | -2.5 | | | 1.1 | -1.0 | -1.5 | -2.0 | -2.3 | -2.7 | -2.0 | -1.9 | |
| <i>of which: contribution from average real interest rate</i> | 0.9 | 0.3 | 1.4 | | | 2.3 | 1.5 | 1.6 | 2.2 | 2.6 | 2.7 | 3.5 | 4.9 | |
| <i>of which: contribution from real GDP growth</i> | -1.5 | -2.9 | -3.9 | | | -1.2 | -2.5 | -3.1 | -4.2 | -4.8 | -5.4 | -5.5 | -6.8 | |
| Contribution from real exchange rate depreciation | -1.2 | -1.2 | -0.4 | | | 0.3 | 0.1 | -0.1 | -0.3 | -0.4 | -0.5 | ... | ... | |
| Other identified debt-creating flows | 0.0 | 0.0 | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Privatization receipts (negative) | 0.0 | 0.0 | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Recognition of implicit or contingent liabilities | 0.0 | 0.0 | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Debt relief (HIPC and other) | 0.0 | 0.0 | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Other (specify, e.g. bank recapitalization) | 0.0 | 0.0 | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Residual, including asset changes | -0.7 | -0.3 | -1.6 | | | -0.4 | 0.1 | 0.3 | 0.3 | 0.6 | 1.2 | 0.4 | 0.1 | |
| Other Sustainability Indicators | | | | | | | | | | | | | | |
| PV of public sector debt | ... | ... | 61.5 | | | 68.1 | 77.1 | 88.2 | 98.5 | 106.4 | 110.2 | 126.4 | 154.8 | |
| <i>of which: foreign-currency denominated</i> | ... | ... | 17.8 | | | 17.2 | 21.5 | 28.5 | 34.9 | 37.4 | 38.0 | 34.4 | 28.4 | |
| <i>of which: external</i> | ... | ... | 17.8 | | | 17.2 | 21.5 | 28.5 | 34.9 | 37.4 | 38.0 | 34.4 | 28.4 | |
| PV of contingent liabilities (not included in public sector debt) | ... | ... | ... | | | ... | ... | ... | ... | ... | ... | ... | ... | |
| Gross financing need 2/ | 39.9 | 41.7 | 45.9 | | | 52.9 | 63.8 | 72.1 | 76.3 | 76.5 | 76.0 | 95.5 | 131.3 | |
| PV of public sector debt-to-revenue and grants ratio (in percent) | ... | ... | 191.6 | | | 189.9 | 217.0 | 256.4 | 297.5 | 327.2 | 340.6 | 395.0 | 483.8 | |
| PV of public sector debt-to-revenue ratio (in percent) | ... | ... | 193.8 | | | 194.1 | 219.6 | 259.2 | 300.4 | 330.2 | 343.5 | 397.3 | 485.1 | |
| <i>of which: external 3/</i> | ... | ... | 56.2 | | | 49.0 | 61.1 | 83.8 | 106.4 | 116.2 | 118.3 | 108.1 | 89.1 | |
| Debt service-to-revenue and grants ratio (in percent) 4/ | 20.8 | 18.2 | 16.0 | | | 12.7 | 12.2 | 14.9 | 19.1 | 21.0 | 21.6 | 29.5 | 37.2 | |
| Debt service-to-revenue ratio (in percent) 4/ | 21.6 | 18.4 | 16.1 | | | 12.9 | 12.4 | 15.0 | 19.3 | 21.2 | 21.8 | 29.7 | 37.3 | |
| Primary deficit that stabilizes the debt-to-GDP ratio | 2.6 | 4.1 | 4.5 | | | -1.0 | 0.8 | 1.3 | 1.9 | 2.1 | 2.0 | 2.1 | 2.2 | |
| Key macroeconomic and fiscal assumptions | | | | | | | | | | | | | | |
| Real GDP growth (in percent) | 2.5 | 4.7 | 6.5 | 5.9 | 8.2 | 1.9 | 3.5 | 3.9 | 4.6 | 4.7 | 4.8 | 3.9 | 4.4 | 4.5 |
| Average nominal interest rate on forex debt (in percent) | 1.4 | 1.2 | 1.6 | 2.0 | 0.8 | 2.7 | 2.2 | 2.7 | 2.7 | 2.5 | 2.5 | 2.6 | 2.8 | 3.3 |
| Average nominal interest rate on domestic debt (in percent) | 9.1 | 7.3 | 7.1 | 6.1 | 2.3 | 5.2 | 4.2 | 5.2 | 6.3 | 7.0 | 7.0 | 5.8 | 7.1 | 7.1 |
| Average real interest rate (in percent) | 1.4 | 0.5 | 2.4 | 0.2 | 1.9 | 3.6 | 2.1 | 2.0 | 2.4 | 2.5 | 2.4 | 2.5 | 2.8 | 3.2 |
| Average real interest rate on foreign-currency debt (in percent) | -1.6 | -1.4 | -1.3 | -2.0 | 0.8 | -1.4 | -1.7 | -1.9 | -1.9 | -1.9 | -1.9 | -1.8 | -1.9 | -1.9 |
| Average real interest rate on domestic debt (in percent) | 3.4 | 1.2 | 4.0 | 0.2 | 4.1 | 4.8 | 2.9 | 2.7 | 3.5 | 3.8 | 3.7 | 3.6 | 3.8 | 3.8 |
| Exchange rate (LC per US dollar) | 15.4 | 15.4 | 15.4 | 13.8 | 1.3 | 15.4 | 15.4 | 15.4 | 15.4 | 15.4 | 15.4 | 15.4 | 15.4 | 15.4 |
| Nominal depreciation of local currency (percentage change in LC per dollar) | -0.3 | 0.2 | 0.0 | 2.0 | 6.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Exchange rate (US dollar per LC) | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Nominal appreciation (increase in US dollar value of local currency, in percent) | 0.3 | -0.2 | 0.0 | -1.7 | 5.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Real exchange rate depreciation (in percent, + indicates depreciation) | -3.9 | -4.1 | -1.6 | -1.7 | 5.3 | 1.1 | ... | ... | ... | ... | ... | ... | ... | ... |
| Inflation rate (GDP deflator, in percent) | 5.5 | 6.0 | 3.0 | 6.0 | 3.3 | 0.4 | 1.3 | 2.5 | 2.8 | 3.0 | 3.2 | 2.2 | 3.2 | 3.2 |
| Growth of real primary spending (deflated by GDP deflator, in percent) | -1.4 | 10.1 | 25.2 | 3.5 | 8.3 | 10.1 | 15.9 | 10.0 | 1.2 | -4.8 | -8.7 | 3.9 | 4.2 | 4.5 |
| Grant element of new external borrowing (in percent) | ... | ... | ... | ... | ... | 20.8 | 19.8 | 23.5 | 24.7 | 24.5 | 17.1 | 21.7 | 15.9 | 15.1 |

Sources: Country authorities; and staff estimates and projections.

1/ Public debt is defined as the debt of the non-financial public sector comprising central government, including loans on-lent to State Owned Enterprises. It does not include publicly guaranteed debt and domestic arrears. The Ministry of Finance and Treasury (MoFT) is currently undertaking a process to gather and record all data and information regarding government guarantees. Once the process is completed, guaranteed debt might be included in the analysis.

2/ Gross financing need is defined as the primary deficit plus debt service plus the stock of short-term debt at the end of the last period.

3/ Revenues excluding grants.

4/ Debt service is defined as the sum of interest and amortization of medium and long-term debt.

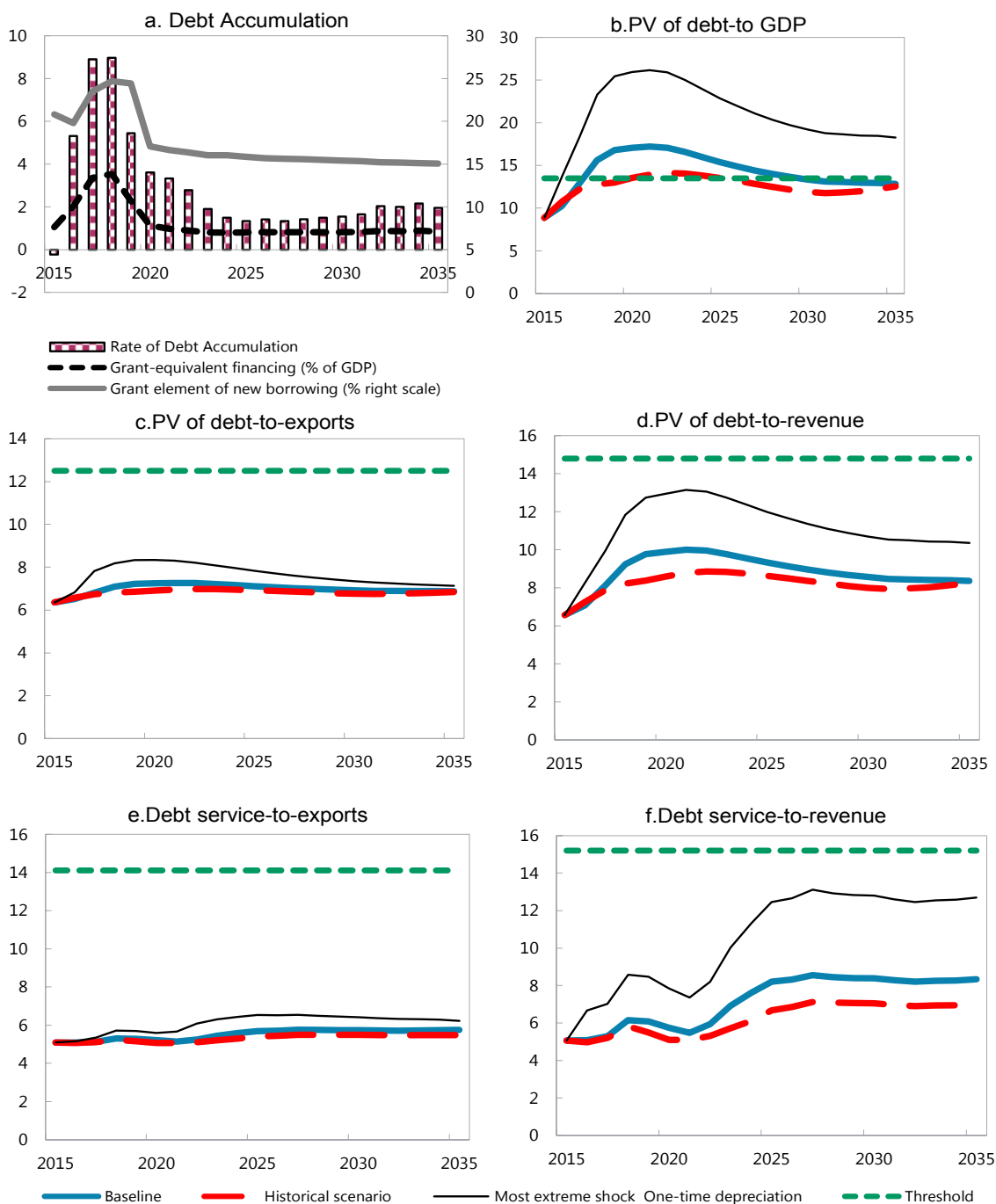
5/ Historical averages and standard deviations are generally derived over the past 10 years, subject to data availability.

Table 4. Maldives: Sensitivity Analysis for Key Indicators of Public Debt, Baseline Scenario, 2015–35

| | Projections | | | | | | | |
|---|-------------|------|------|------|------|------|------|------|
| | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2025 | 2035 |
| PV of Debt-to-GDP Ratio | | | | | | | | |
| Baseline | 68 | 77 | 88 | 98 | 106 | 110 | 126 | 155 |
| A. Alternative scenarios | | | | | | | | |
| A1. Real GDP growth and primary balance are at historical averages | 68 | 72 | 75 | 78 | 82 | 87 | 110 | 141 |
| A2. Primary balance is unchanged from 2015 | 68 | 72 | 75 | 77 | 81 | 86 | 109 | 150 |
| A3. Permanently lower GDP growth 1/ | 68 | 79 | 93 | 107 | 119 | 128 | 179 | 328 |
| B. Bound tests | | | | | | | | |
| B1. Real GDP growth is at historical average minus one standard deviations in 2016-2017 | 68 | 84 | 106 | 121 | 133 | 141 | 174 | 229 |
| B2. Primary balance is at historical average minus one standard deviations in 2016-2017 | 68 | 78 | 86 | 96 | 104 | 108 | 125 | 153 |
| B3. Combination of B1-B2 using one half standard deviation shocks | 68 | 77 | 84 | 96 | 106 | 111 | 134 | 172 |
| B4. One-time 30 percent real depreciation in 2016 | 68 | 84 | 94 | 103 | 110 | 114 | 132 | 163 |
| B5. 10 percent of GDP increase in other debt-creating flows in 2016 | 68 | 86 | 97 | 107 | 115 | 118 | 133 | 159 |
| PV of Debt-to-Revenue Ratio 2/ | | | | | | | | |
| Baseline | 190 | 217 | 256 | 298 | 327 | 341 | 395 | 484 |
| A. Alternative scenarios | | | | | | | | |
| A1. Real GDP growth and primary balance are at historical averages | 190 | 203 | 218 | 235 | 253 | 270 | 343 | 440 |
| A2. Primary balance is unchanged from 2015 | 190 | 203 | 218 | 234 | 250 | 267 | 342 | 469 |
| A3. Permanently lower GDP growth 1/ | 190 | 222 | 270 | 323 | 367 | 396 | 558 | 1024 |
| B. Bound tests | | | | | | | | |
| B1. Real GDP growth is at historical average minus one standard deviations in 2016-2017 | 190 | 235 | 306 | 364 | 409 | 434 | 542 | 715 |
| B2. Primary balance is at historical average minus one standard deviations in 2016-2017 | 190 | 219 | 249 | 290 | 320 | 334 | 389 | 480 |
| B3. Combination of B1-B2 using one half standard deviation shocks | 190 | 216 | 245 | 291 | 326 | 344 | 418 | 539 |
| B4. One-time 30 percent real depreciation in 2016 | 190 | 236 | 272 | 310 | 339 | 353 | 412 | 508 |
| B5. 10 percent of GDP increase in other debt-creating flows in 2016 | 190 | 243 | 283 | 324 | 353 | 365 | 416 | 499 |
| Debt Service-to-Revenue Ratio 2/ | | | | | | | | |
| Baseline | 13 | 12 | 15 | 19 | 21 | 22 | 30 | 37 |
| A. Alternative scenarios | | | | | | | | |
| A1. Real GDP growth and primary balance are at historical averages | 13 | 12 | 14 | 14 | 11 | 9 | 26 | 38 |
| A2. Primary balance is unchanged from 2015 | 13 | 12 | 14 | 13 | 9 | 6 | 23 | 34 |
| A3. Permanently lower GDP growth 1/ | 13 | 12 | 15 | 21 | 24 | 26 | 47 | 101 |
| B. Bound tests | | | | | | | | |
| B1. Real GDP growth is at historical average minus one standard deviations in 2016-2017 | 13 | 13 | 17 | 24 | 29 | 32 | 47 | 67 |
| B2. Primary balance is at historical average minus one standard deviations in 2016-2017 | 13 | 12 | 15 | 19 | 18 | 21 | 29 | 36 |
| B3. Combination of B1-B2 using one half standard deviation shocks | 13 | 12 | 15 | 17 | 16 | 21 | 32 | 44 |
| B4. One-time 30 percent real depreciation in 2016 | 13 | 14 | 18 | 23 | 26 | 27 | 38 | 51 |
| B5. 10 percent of GDP increase in other debt-creating flows in 2016 | 13 | 12 | 16 | 28 | 25 | 26 | 32 | 40 |

Sources: Country authorities; and staff estimates and projections.
1/ Assumes that real GDP growth is at baseline minus one standard deviation divided by the square root of the length of the projection period.
2/ Revenues are defined inclusive of grants.

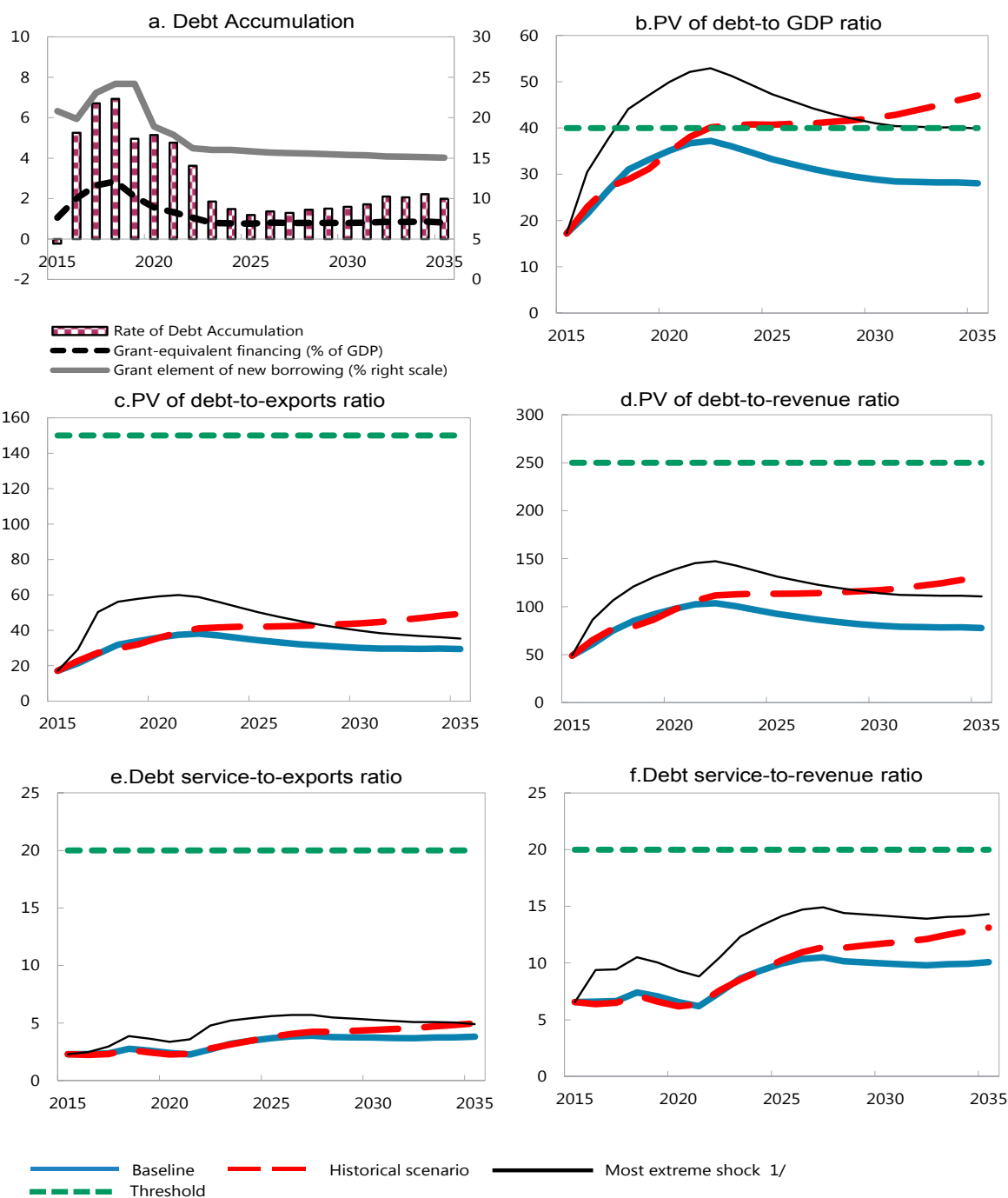
Figure 3. Probability of Debt Distress of Public and Publicly Guaranteed External Debt under Alternative Scenarios, 2015–2035 1/



Sources: Country authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio on or before 2025. In figure b, it corresponds to a One-time depreciation shock; in c, to a Exports shock; in d, to a One-time depreciation shock; in e, to a Exports shock and in figure f, to a One-time depreciation shock

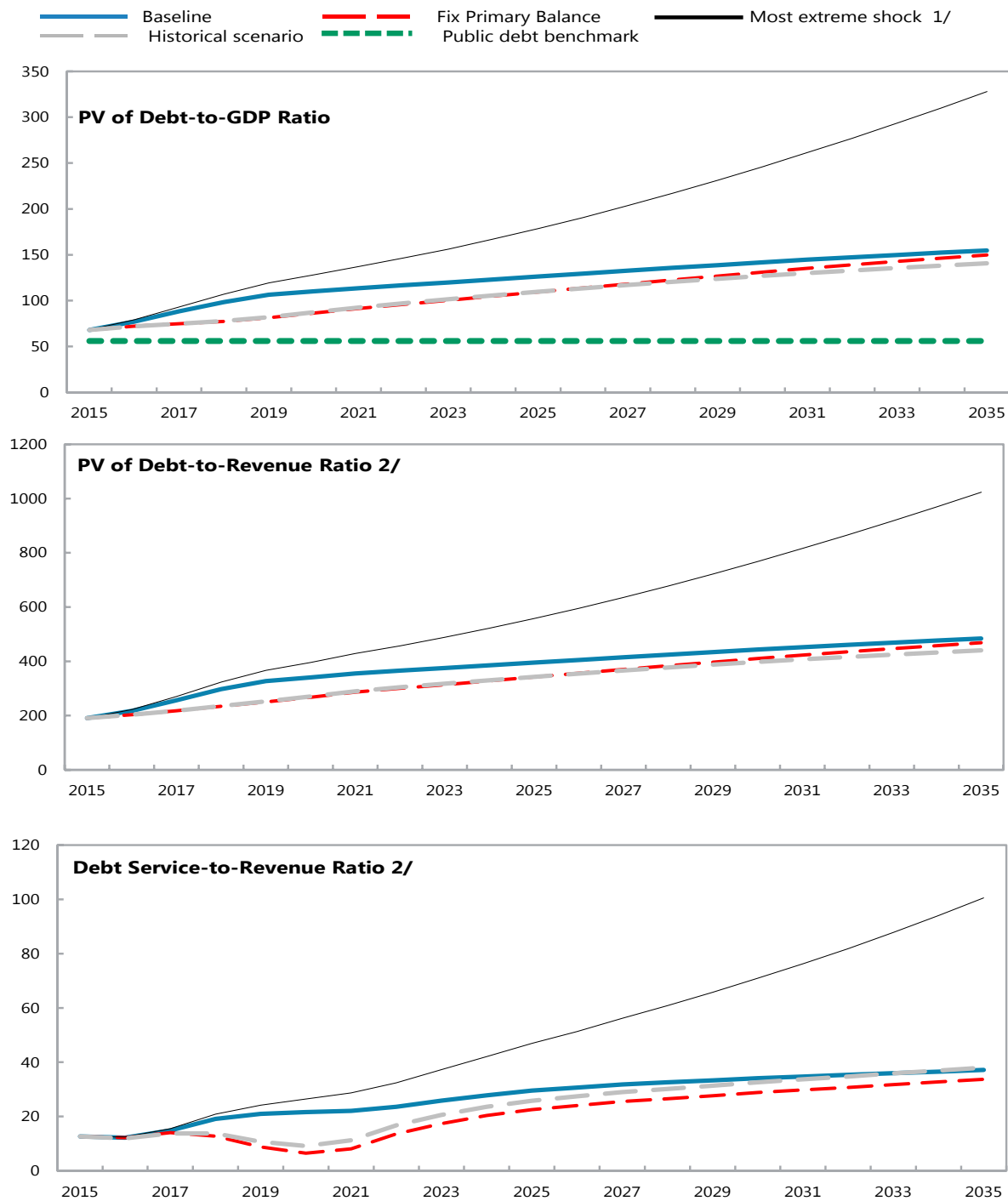
Figure 4. Staff's Illustrative Scenario: Indicators of Public and Publicly Guaranteed External Debt under Alternative Scenarios, 2015–2035 1/



Sources: Country authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio on or before 2025. In figure b, it corresponds to a One-time depreciation shock; in c, to a Exports shock; in d, to a One-time depreciation shock; in e, to a Exports shock and in figure f, to a One-time depreciation shock

Figure 5. Staff's Illustrative Scenario: Indicators of Public Debt Under Alternative Scenarios, 2015–2035 1/



Sources: Country authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio on or before 2025.

2/ Revenues are defined inclusive of grants.