INTERNATIONAL MONETARY FUND AND
INTERNATIONAL DEVELOPMENT ASSOCIATION

MALDIVES

Joint IMF/World Bank Debt Sustainability Analysis Under the Debt Sustainability Framework for Low Income Countries[1]

Prepared by the staffs of the International Monetary Fund and
the International Development Association

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Under the baseline scenario, reflecting current policies, public debt is expected to rise steadily, reaching a present value of 306 percent of GDP by 2030.[2] *While privatization proceeds have provided some temporary financing relief, the debt path is unsustainable. As a result, Maldives' risk of public external debt distress has increased from moderate to high since the 2009 debt sustainability analysis (DSA).*[3] *Key risks are shocks to exports and additional fiscal policy slippages. The continuing need for financing the large current account deficit will put further pressure on the total debt burden, including private external debt. The DSA illustrates that current policies would lead to extremely large domestic and external financing requirements that cannot realistically be met, and therefore calls for additional fiscal consolidation measures in the near term.*[4]

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[1] This DSA was prepared jointly by the staffs of the IMF and the World Bank. The debt data underlying this exercise were provided by the Maldivian authorities. The fiscal year for Maldives is January–December.

[2] The baseline in this DSA depicts the outcome of the current policy stance on debt sustainability, and clearly illustrates the need for additional fiscal consolidation measures in Maldives. While the standard approach is to reflect such adjustment in the baseline scenario, the timing, nature and scope of the inevitable additional fiscal adjustment is difficult to predict at this stage, and it is therefore shown in an illustrative alternative scenario (which reflects the impact of minimum adjustment policies on the debt trajectory).

[3] 2009 Joint IMF/World Bank Debt Sustainability Analysis under the Debt Sustainability Framework for Low Income Countries (IMF Country Report No. 10/28; IDA/SecM2010-0020).

[4] Maldives is classified a "medium performer" in terms of policies and institutions by the World Bank's Country Policy and Institutional Assessment (CPIA), averaging 3.45 over 2007–2009. The relevant indicative thresholds for medium performers are: 40 percent for the present value (PV) of the debt-to-GDP ratio, 150 percent for the PV of the debt-to-exports ratio, 250 percent for the PV of the debt-to-revenue ratio, 20 percent for the debt service-to-exports ratio, and 30 percent for the debt service-to-revenue ratio. These thresholds are applicable to public and publicly guaranteed (PPG) external debt only (not to total PPG debt).

I. Recent Debt Developments

1. **Total public debt has increased rapidly since the 2004 tsunami, from 55 percent of GDP in 2004 to an estimated 89 percent of GDP in 2010** (Figure 1 and Table 1)**.**[5] The increase has been driven by an expansionary fiscal policy in the aftermath of the tsunami (public expenditure rose from Rf 3.5 billion in 2004 to Rf 10.9 billion in 2009) combined, more recently, with a global crisis-induced shortfall in fiscal revenue (from Rf 7.4 billion in 2008 to Rf 6.1 billion in 2009).

- After the tsunami, public external debt rose in dollar terms (although it has not really increased as a share of GDP) as donor funds flowed into the country for reconstruction needs. As tsunami-related flows waned, and with external financing limited as a result of the global crisis, the build-up in public external debt in 2009–10 was less dramatic. Maldives received financial assistance from India totaling US$200 million over that period. Recently, the government contracted a non-concessional $74 million loan from China, followed by concessional borrowing from the Saudi Fund of $8 million. The authorities expect additional non-concessional external borrowing through end-2013.[6]

- A ballooning fiscal deficit since 2008, coupled with the fall in external financing, led to a rapid accumulation of public domestic debt over the last three years. In 2008 and the first half of 2009, most domestic financing for the deficit came from the Maldives Monetary Authority (MMA). The debt with the MMA came to represent 46 percent of the central government's domestic debt in 2009. However, deficit monetization was halted in September 2009 and has since been replaced by sales of T-bills and bonds, mainly to commercial banks, while the outstanding debt stock with the MMA was converted into negotiable bonds.

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[5] Public debt refers here to central government debt and central government guaranteed debt. The government has granted guarantees to state-owned enterprises (SOEs). Non-guaranteed SOE debt is excluded, in line with the program's definition of public debt. There is significant uncertainty surrounding the measurement of the PPG debt stock, and in particular over government-guaranteed debt held by SOEs. A revision of this led to a reduction of the 2009 public debt stock by about 8 percent of GDP. However, a historical series for this component of debt is not available and therefore the data for previous years may be overestimated.

[6] Consideration is being given to a currency swap or trade finance deal of $100 million with Sri Lanka to boost international reserves, as well loans from other sources for infrastructure and development projects.

Table 1. Maldives: Total Public and Publicly Guaranteed (PPG) Debt by Creditor
(In percent of GDP)

	2004	2005	2006	2007	2008	2009	2010
						Est.	Proj.
Total PPG debt	55.2	64.9	62.9	66.3	68.6	85.6	88.7
PPG external	40.1	41.3	39.6	39.8	37.4	41.8	41.8
Multilateral	23.5	24.2	24.8	25.8	22.5	23.7	23.7
Bilateral	3.9	5.2	4.8	4.3	4.7	7.5	7.5
Private creditor	12.8	11.9	10.0	9.7	10.2	10.6	10.7
PPG domestic	15.1	23.6	23.4	26.4	31.2	43.9	46.9
MMA	8.4	13.3	8.3	6.7	16.4	20.3	14.5
Commercial banks	2.6	5.1	7.7	11.6	13.5	21.5	26.4
Others	4.0	5.2	7.4	8.1	1.4	2.0	5.9
Total PPG debt service	7.9	7.1	7.3	7.3	10.9	10.9	13.1

Source: Maldivian authorities, and staff estimates and projections.

2. **The stock of private external debt has also been increasing rapidly over the last six years** (Figure 1)**.**[7] Private external debt is estimated to be almost 43 percent of GDP in 2010, a small increase over 2008 as financing for resort development dried up in 2009 and did not fully recover in 2010. About a third of the stock is short-term. The magnitude and maturity structure of private external debt raises liquidity concerns. A mitigating factor, however, is that much of this debt is likely owed to resort head offices (although the data on this is not available), which would reduce the risk of sudden stops of external financing.

3. **Taken together, private external debt and total public debt are estimated at about 132 percent of GDP.** Of this, external debt (PPG and private) accounts for 85 percent of GDP, and has risen to represent about 150 percent of goods and services exports in 2010 (Table 2). By end-2010, gross reserves were sufficient to cover short-term debt, but reserves have been on an underlying downward trend, and have been only boosted temporarily by external financing injections, including $74 million in November 2010 from the privatization of the Male airport. Total PPG debt, in turn, has risen to 2.5 times total central government revenue, from under 1.2 times three years ago (Table 2). The DSA below documents in more detail the nature of public and external debt vulnerabilities.

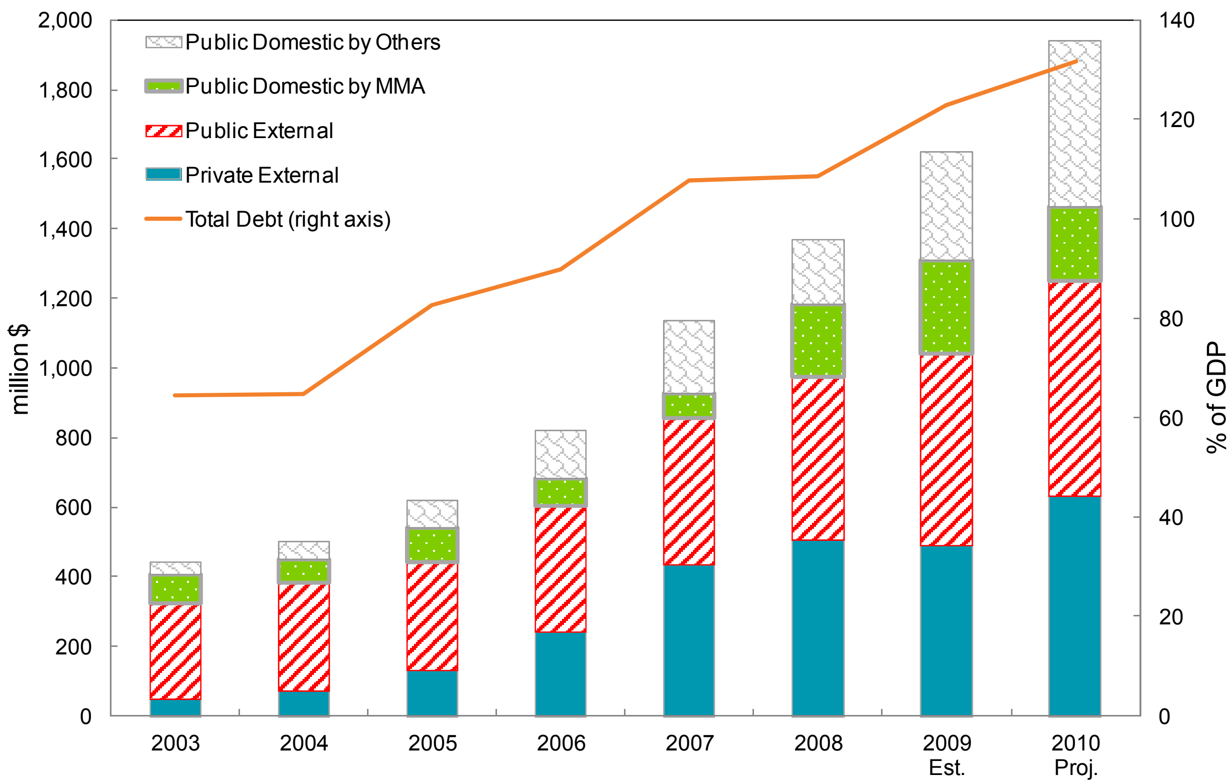
[7] There is, as in the case of the PPG debt stock, considerable uncertainty in the measurement of private external debt. A reclassification of external flows to the private sector yielded larger debt-creating flows for 2009, but the historical stock is yet to be revised and may be underestimated.

Table 2. Maldives: Selected Vulnerability Indicators, 2007-10
(In millions of US$)

	2007	2008	2009	2010
Total external debt (PPG + private) in percent of GNFS domestic exports 1/	113.3	115.2	141.3	149.6
Total external debt (PPG + private) in percent of Total Revenue 2/	145.7	168.5	219.9	239.3
Total short-term external debt (PPG + private) in percent of gross reserves	60.8	89.9	69.2	63.2
Total PPG debt in percent of GNFS domestic exports	92.3	102.1	153.4	156.2
Total PPG debt in percent of total revenue	118.7	149.2	238.8	249.9

1/ GNFS = Goods and nonfactor services.
2/ total revenue includes grants.
Source: Maldivian authorities, and staff estimates and projections.

Figure1. Maldives: Composition of Total Debt



Source: Maldivian authorities, and staff estimates and projections.

II. Context and Macroeconomic Assumptions

4. **Maldives continues to face severe fiscal and external imbalances.** The global economic downturn in 2008–09 had a significant negative impact on exports and tourism receipts, external financing, and government revenue. Combined with excessive government spending, this led to an unsustainable fiscal deficit. In the second half of 2009, the authorities put together a comprehensive adjustment program, supported by Fund and Bank resources.

Despite some decisive initial actions under the program, including cuts in central government nominal wages, cessation of deficit monetization and introduction of active open market operations to tighten liquidity, as well as increases in electricity tariffs, significant policy slippages have undermined the restoration of sustainability (see discussion in the accompanying Article IV staff report). As a result, the fiscal and current account deficits continue to be very large, and dollar shortages remain.

5. **The baseline scenario in this DSA is built on current policies,** including the authorities' current tax reforms plans as well as the slippages observed since the 2009 DSA. These policies imply that the fiscal deficit will stay high in 2011–13 and will rise steadily thereafter (see Box 1 for more details on fiscal and other assumptions).

6. **The baseline scenario clearly illustrates that the current stance of fiscal policies is unsustainable.** These policies would lead to financing needs over the long run that cannot plausibly be met by donors or supported by domestic or international markets, particularly considering the deteriorating debt dynamics, and public debt service would absorb an increasing and unrealistically large share of government revenues (76 percent by 2030). Moreover, in addition to the large external debt, under the baseline scenario gross reserves would be depleted by 2013 and become very large and negative thereafter, implying an external financing gap (which is not reflected in the external debt path) that reaches 131 percent of GDP by 2030 (Box 1). The baseline scenario does not attempt to forecast developments in the future, but to assess whether current policies can be sustained in the long run given reasonable assumptions.

7. **This scenario differs significantly from the baseline scenario in the 2009 DSA**, which was predicated on the strong medium-term fiscal consolidation expected under the program. This led to a moderate rating for the risk of external public debt distress in the 2009 DSA. However, a difficult political environment at all levels has prevented the authorities from carrying out the plans for reducing the wage bill as expected under the program: there has been no progress on public sector employment restructuring, and the wage cuts undertaken in September 2009 will be reversed much earlier than expected. There have also been delays in the entry into effect of key taxes. All of this has left the fiscal deficit on an unsustainable path. Other macroeconomic assumptions for key variables have largely been as expected (in fact, the growth outlook is now somewhat better than at the time of the 2009 DSA), but the much worse medium- and long-term fiscal deficit path is the overarching factor driving the differences between the current and the previous DSA.

Box 1: Main Assumptions for the Debt Sustainability Analysis (2010–2030) under the Baseline Scenario

- **Real GDP growth** in 2010–15 is projected to average around 4.4 percent a year compared with an average of 5.7 percent over the previous six years. After contracting by 2.3 percent in 2009, growth is expected to recover, as global and domestic conditions improve, aided in part by tourism growth from new markets in Asia. Resort development is expected to take place at a slower but more sustainable pace than that observed since the tsunami, and a continued decline in the fish catch is expected to hold back the fisheries sector. Growth is expected to average 4.5 percent from 2016.

- **Inflation** is projected to average around 4 percent a year in 2010–15, compared with an average of about 6 percent over the previous six years, due to a moderation in the growth rate of global commodity prices over the medium term and reflecting a tighter monetary policy. Inflation is expected to stay at 3 percent from 2016, in line with trading partners' rates.

- **Interest rates** on public debt are assumed to increase to 7.3 percent by 2016 (compared with an average of 3.4 percent over the previous six years), reflecting tighter domestic liquidity and an increase in the sovereign risk premium. They are assumed to stay at that level thereafter.

- **The external current account deficit** (including grants) is projected to average about 36.4 percent of GDP per year in 2010–15, and to rise systematically thereafter, reaching about 55 percent of GDP in 2030. The widening external imbalances reflect ballooning fiscal deficits, only partially offset by crowding out of private demand. Gross reserves are assumed to be fully depleted by 2013 under the baseline and become negative and large thereafter, implying an unmet financing gap that would reach 131 percent of GDP (cumulatively) by 2030.

- **The fiscal deficit** (including grants) is projected to decline to 17.9 percent of GDP in 2010 from 29 percent in 2009, reflecting policy adjustments and the cyclical recovery. However, despite the entry into effect of the goods and services tax (GST) on tourism from January 2011 and of the business profit tax from July 2011, and the expected entry into effect of the general GST from January 2013, the deficit would remain elevated through 2013 given high spending on current policies. Moreover, the fiscal deficit would rise slowly thereafter, reaching about 38 percent of GDP in 2030. This reflects the expiration from 2013 of resort lease period extension payments and from 2014 of the $8/bed/night tourism tax, as well as increasing interest payments from the deteriorating debt dynamics.

- As a result of widening fiscal and external imbalances, there would be an implausibly large increase in public **financing needs and debt service**. It is assumed that, through 2016, domestic financing acts as residual; from 2017, domestic borrowing is kept constant at 8 percent of GDP per year, and external financing acts as residual. New annual PPG external borrowing would average over 26 percent of GDP from 2017-2030, despite averaging only 4 percent from 1998-2009. Similarly, the domestic debt stock would double from 2010–2030. The debt service on public sector debt would rise from 18 percent of government revenues (and grants) in 2010 to 76 percent by 2030.

III. EXTERNAL DEBT SUSTAINABILITY[8]

Baseline Scenario

8. **Under the baseline scenario, the PPG external debt path is projected to worsen systematically through 2030, breaching all external debt stock burden thresholds along the way.** The present value (PV) of external debt to GDP breaches already its threshold in 2010 (Figure 2), while the ratios of debt to exports and debt to revenue would breach their respective thresholds in the future. Although the debt service ratios are rising, they would remain below their thresholds. The absence of liquidity concerns reflects in part the rescheduling of one of the India loans. [9]

Stress Tests and Alternative Scenarios

9. **Stress tests indicate extreme vulnerability to a combination of shocks, less favorable external financing terms, and to an export shock.** For the PV of the debt-to-GDP and debt-to-revenue ratios, the combination shock (a one standard deviation shock to growth, exports, the GDP deflator, and non-debt flows) has the largest impact in the short term (the greatest factor being the shock to export receipts), while the interest rate shock—a 2 percentage points increase in the interest rate on new borrowing, relative to the baseline—has the largest impact on long-term debt ratios. For the debt-to-exports and debt service-to-exports ratios, the export shock (export value growth at historical average minus one standard deviation in 2011–2012) yields the most extreme impact. For the debt service-to-revenue ratio, the most extreme stress test is the combination shock. The stress tests highlight the vulnerability of the debt dynamics to shocks to tourism receipts (which account for the bulk of exports) and to external financing costs, which are of course sensitive to expectations about the fiscal path.

10. **Debt dynamics are somewhat more benign under the historical scenario.** When key macroeconomic variables are set to their historical averages, the PV of external PPG debt-to-GDP ratio breaches the threshold only in the long run, while for all other indicators the path is upward-sloping but remains well below the respective thresholds.

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[8] External debt sustainability analysis is focused on PPG external debt, to which thresholds are applicable. Private external debt is not considered for the purpose of IDA grant allocations.

[9] A credit of US$100 million was made available to the government of Maldives by the government of India in early 2009, and repayments of US$50 million in two tranches, initially expected to be made in 2010 and 2011, have been extended to 2019 and 2020. Also, the Male branch of the State Bank of India (SBI) contracted a US$100 million two-year non-concessional loan (subject to fifty percent rollover) from its parent at end 2009 and early 2010, to on-lend it to the government of Maldives in exchange for foreign currency-denominated domestic bonds. This loan is being rolled over by one year.

11. **Private external debt may increase the risks to debt sustainability.** Private external debt accounts for over one half of the total external debt-to-GDP ratio. Much of this debt is at maturities of less than 10 years, at market interest rates, and denominated in U.S. dollars. To the extent that private external debt may increase liquidity and re-financing risks for the country as a whole, and could thereby put pressure on the exchange rate, the risks to debt sustainability could be higher than an analysis of external PPG data alone may suggest. Moreover, the private external debt stock may be underestimated: non-FDI external inflows to the non-financial private sector—which comprise mainly financing for privatization and tourism projects—were treated as non-debt creating historically. While the flows have been reclassified for 2009 into debt and non-debt creating, the historical stock is yet to be modified.

12. **In the staff's view, the risk of public external debt distress for Maldives is high on current policies (baseline scenario).** Four of the five external debt burden indicators breached the thresholds. Staff judges this to be a function of the severe fiscal and current account imbalances, in part due to exogenous shocks faced over the past years, but more recently exacerbated by the expansionary fiscal stance and insufficient fiscal adjustment measures.

13. **Under an illustrative fiscal adjustment scenario, the risk of debt distress falls significantly.** Staff's adjustment scenario is based on baseline policies, plus the following additional fiscal adjustment measures: significant public sector redundancies; a tightening of capital and operating expenditures over 2011–13; introduction by July 2011 of excises on a number of goods; and a revision to the Tourism Goods and Services Tax so that the tax rate rises to 6 percent when the tourism bed tax expires at end-2013.[10] This scenario is meant to illustrate the magnitude of adjustment that would be required as a minimum to put public debt on a downward path. Under this scenario, external debt burden indicators decline steadily under the adjustment scenario, and would only temporarily breach the PV of debt-to-GDP ratio (Figure 3). However, stress tests illustrate that the debt path would still be vulnerable to a combination shock or a shock to exports.

IV. Public Debt Sustainability

Baseline Scenario

14. **Total public debt is unsustainable on current policies (baseline scenario).** The PV of the public debt-to-GDP ratio is projected to increase sharply, from 88 percent in 2010 to 306 percent by 2030, owing to the steadily rising overall fiscal deficit (Table 2a). The PV of the public debt-to-revenue (including grants) ratio would rise from 248 percent in 2010 to

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[10] For details, see the IMF's staff report for the 2010 Article IV Consultation with Maldives.

794 percent by 2030. The public debt service-to-revenue ratio would increase from 19 percent in 2010 to 76 percent by 2030 (Figure 4 and Table 2a).

Stress Tests and Alternative Scenarios

15. **Maldives' public debt is highly vulnerable to exogenous shocks under the baseline scenario.** The stress tests indicate that the debt path is particularly vulnerable to shocks to long term growth. If real GDP growth drops permanently by a one standard deviation, the debt ratio would reach 501 percent of GDP by 2030. Under the illustrative adjustment scenario (see paragraph 13), public debt would fall steadily at a slow pace. However, it would still remain vulnerable to shocks, particularly to growth shocks (Figure 5).

V. Conclusion

16. **On current policies, Maldives' public debt would become unsustainable and the country faces a high risk of external public debt distress.** Four of the five external debt burden indicators breached the thresholds in the baseline scenario. The analysis highlights the country's vulnerability to shocks to the tourism sector (which is critical for growth), and to less favorable financing terms. This suggests the need to diversify the structure of the economy to the extent possible within the country's geographical constraints. Private external debt, which is likely to be underestimated, adds to debt vulnerabilities by increasing liquidity and refinancing risks for the country as a whole. In addition, public external debt is highly vulnerable to shocks to the primary balance. This underscores the need for further fiscal adjustment: in the absence of strong fiscal consolidation measures in the near term, both public and external debt will remain on an unsustainable trajectory, leading to financing needs over the long-run that cannot plausibly be met.

17. **Authorities' views.** The authorities are more optimistic than staff about the outlook for fiscal revenue, including the expected yield from the tourism GST and the business profit tax, and are confident that they can keep expenditure subdued. In addition, they have noted that a rebasing of national accounts, which is at a very advanced stage, will likely lead to a significant upward revision in GDP. Nonetheless, the authorities agree with staff that the current fiscal and debt trajectories are unsustainable. They have committed to further discussions with staff aimed at exploring ways to bring the fiscal deficit back to a sustainable path.

Table 1a.: External Debt Sustainability Framework, Baseline Scenario, 2007-2030 1/
(In percent of GDP, unless otherwise indicated)

	Actual			Historical Average	Standard Deviation	Projections									
	2007	2008	2009			2010	2011	2012	2013	2014	2015	2010-2015 Average	2020	2030	2016-2030 Average
External debt (nominal) 1/	**81.3**	**77.4**	**78.9**			**84.9**	**92.3**	**97.1**	**108.1**	**117.6**	**125.8**		**184.8**	**324.0**	
o/w public and publicly guaranteed (PPG)	39.8	37.4	41.8			41.8	44.9	46.4	51.2	54.5	57.1		111.9	259.7	
a. Change in external debt	15.0	-3.9	1.4			6.1	7.4	4.7	11.0	9.5	8.1		12.5	16.5	
b. Identified net debt-creating flows	25.1	28.1	19.5			18.1	24.5	25.7	26.3	28.3	29.2		29.3	35.0	
Non-interest current account deficit	**37.3**	**48.9**	**29.0**	**21.9**	**16.1**	**29.7**	**33.5**	**31.6**	**31.5**	**33.0**	**33.7**		**35.7**	**45.6**	38.6
Deficit in balance of goods and services	33.9	41.3	23.4			23.9	27.8	23.4	22.1	23.7	24.4		23.5	28.3	
Exports	83.2	83.4	62.8			64.8	66.6	68.2	68.9	69.6	69.9		77.0	77.7	
Imports	117.0	124.7	86.3			88.7	94.4	91.6	91.0	93.3	94.3		100.5	105.9	
Net current transfers (negative = inflow)	1.3	5.0	4.3	1.9	7.7	4.7	3.0	5.1	5.1	5.1	5.2		5.5	5.5	5.5
o/w official	-7.7	-3.2	-4.5			-2.7	-0.7	-0.6	-0.6	-0.7	-0.6		-0.4	-0.4	
Other current account flows (negative = net inflow)	2.2	2.6	1.3			1.1	2.8	3.0	4.3	4.3	4.2		6.7	11.9	
Net FDI (negative = inflow) 2/	**-8.6**	**-10.7**	**-8.5**	**-6.3**	**2.7**	**-11.4**	**-10.1**	**-6.9**	**-6.2**	**-6.0**	**-6.0**		**-6.0**	**-6.0**	-6.0
Endogenous debt dynamics 3/	**-3.7**	**-10.1**	**-1.0**			**-0.2**	**1.1**	**1.1**	**1.1**	**1.3**	**1.4**		**-0.4**	**-4.6**	
Contribution from nominal interest rate	5.1	3.2	2.4			3.2	4.1	4.5	5.2	5.8	6.3		6.8	8.3	
Contribution from real GDP growth	-4.2	-4.2	1.7			-3.4	-3.1	-3.4	-4.1	-4.6	-4.9		-7.2	-12.9	
Contribution from price and exchange rate changes	-4.6	-9.1	-5.1			…	…	…	…	…	…		…	…	
Residual (a-b) 4/	**-10.0**	**-32.0**	**-18.1**			**-12.0**	**-17.1**	**-21.0**	**-15.3**	**-18.8**	**-21.0**		**-16.8**	**-18.5**	
o/w exceptional financing	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 5/	...	...	79.3			84.1	89.6	93.1	102.0	109.6	115.9		158.7	265.3	
In percent of exports	...	...	126.1			129.7	134.4	136.5	148.2	157.4	165.8		206.2	341.6	
PV of PPG external debt	**...**	**...**	**42.1**			**41.0**	**42.1**	**42.4**	**45.1**	**46.5**	**47.3**		**85.7**	**201.0**	
In percent of exports	**...**	**...**	**67.1**			**63.2**	**63.2**	**62.2**	**65.5**	**66.8**	**67.6**		**111.4**	**258.8**	
In percent of government revenues	**...**	**...**	**134.2**			**125.1**	**108.9**	**102.1**	**109.7**	**122.9**	**126.2**		**224.7**	**526.9**	
Debt service-to-exports ratio (in percent)	**10.8**	**10.2**	**13.3**			**13.4**	**15.6**	**14.9**	**14.6**	**13.8**	**15.2**		**11.8**	**21.3**	
PPG debt service-to-exports ratio (in percent)	**4.5**	**4.7**	**6.1**			**5.7**	**7.5**	**7.0**	**6.6**	**8.0**	**8.9**		**6.3**	**16.5**	
PPG debt service-to-revenue ratio (in percent)	**7.8**	**9.2**	**12.1**			**11.3**	**12.9**	**11.4**	**11.0**	**14.6**	**16.7**		**12.8**	**33.6**	
Total gross financing need (Millions of U.S. dollars)	503.4	777.8	597.6			577.8	768.3	880.4	981.8	1127.3	1282.4		1881.3	4927.5	
Non-interest current account deficit that stabilizes debt ratio	22.3	52.9	27.6			23.6	26.1	26.9	20.5	23.5	25.6		23.2	29.1	
Key macroeconomic assumptions															
Real GDP growth (in percent)	7.2	6.2	-2.3	5.7	6.3	4.8	4.0	4.1	4.5	4.6	4.5	4.4	4.5	4.5	4.5
GDP deflator in US dollar terms (change in percent)	7.4	12.6	7.1	2.8	5.1	6.5	5.5	4.8	3.3	3.0	3.0	4.3	3.0	3.0	3.0
Effective interest rate (percent) 6/	8.8	4.6	3.3	4.2	2.0	4.5	5.3	5.3	5.7	5.8	5.8	5.4	4.3	2.9	4.0
Growth of exports of G&S (US dollar terms, in percent)	12.9	19.9	-21.2	9.2	24.5	15.1	12.7	11.6	9.0	8.9	8.0	10.9	7.9	7.8	8.4
Growth of imports of G&S (US dollar terms, in percent)	17.9	27.4	-27.6	10.9	18.3	14.7	16.7	5.9	7.1	10.5	8.7	10.6	8.1	8.2	8.5
Grant element of new public sector borrowing (in percent)	...	...	...	...	...	28.5	24.7	22.6	24.6	24.6	24.6	25.0	24.6	24.6	24.6
Government revenues (excluding grants, in percent of GDP)	48.1	42.8	31.4			32.8	38.7	41.6	41.1	37.8	37.5		38.1	38.1	38.1
Aid flows (in Millions of US dollars) 8/	128.6	64.4	58.9			40.2	11.2	11.2	11.3	14.3	13.2		12.7	26.5	
o/w Grants	81.6	40.4	58.9			40.2	11.2	11.2	11.3	14.3	13.2		12.7	26.5	
o/w Concessional loans	47.1	24.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Grant-equivalent financing (in percent of GDP) 9/	...	...	...			4.8	3.4	2.7	3.4	3.5	3.4		6.0	11.0	7.5
Grant-equivalent financing (in percent of external financing) 9/	...	...	...			47.9	29.2	27.6	28.3	29.0	28.4		25.9	25.3	25.8
Memorandum items:															
Nominal GDP (Millions of US dollars)	1054.4	1260.2	1318.7			1471.5	1613.8	1759.2	1898.7	2044.7	2200.9		3179.5	6635.8	
Nominal dollar GDP growth	15.2	19.5	4.6			11.6	9.7	9.0	7.9	7.7	7.6	8.9	7.6	7.6	7.6
PV of PPG external debt (in Millions of US dollars)			555.8			602.8	679.5	746.8	856.6	950.9	1040.0		2725.9	13338.4	
(PVt-PVt-1)/GDPt-1 (in percent)						3.6	**5.2**	4.2	**6.2**	5.0	4.4	4.8	**16.3**	**28.7**	**19.4**
Gross 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	
PV of PPG external debt (in percent of GDP + remittances)	...	...	42.1			41.0	42.1	42.4	45.1	46.5	47.3		85.7	201.0	
PV of PPG external debt (in percent of exports + remittances)	...	...	67.1			63.2	63.2	62.2	65.5	66.8	67.6		111.4	258.8	
Debt service of PPG external debt (in percent of exports + remittances)	...	...	6.1			5.7	7.5	7.0	6.6	8.0	8.9		6.3	16.5	

Sources: Maldivian authorities; and staff estimates and projections.

1/ Includes both public and private sector external debt.
2/ Includes other non-debt creating flows.
3/ Derived as [r - g - ρ(1+g)]/(1+g+ρ+gρ) times previous period debt ratio, with r = nominal interest rate; g = real GDP growth rate, and ρ = growth rate of GDP deflator in U.S. dollar terms.
4/ Includes exceptional financing (i.e., changes in arrears and debt relief); changes in gross foreign assets; and valuation adjustments. For projections also includes contribution from price and exchange rate changes.
Large residuals reflect the baseline projection of positive balance of payments' errors and omissions through 2016, in line with historical patterns. In addition, from 2013, gross international reserves are projected to be depleted and become negative, impying an external financing gap.
5/ Assumes that PV of private sector debt is equivalent to its face value.
6/ Current-year interest payments divided by previous period debt stock.
7/ Historical averages and standard deviations are generally derived over the past 10 years, subject to data availability.
8/ Defined as grants, concessional loans, and debt relief.
9/ 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 1b.Maldives: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2010-2030
(In percent)

	Projections							
	2010	2011	2012	2013	2014	2015	**2020**	2030
				PV of debt-to GDP ratio				
Baseline	41	42	42	45	47	47	**86**	201
A. Alternative Scenarios								
A1. New public sector loans on less favorable terms in 2010-2030 1/	41	44	46	51	55	59	**119**	297
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2011-2012	41	43	45	47	48	48	**87**	213
B2. Export value growth at historical average minus one standard deviation in 2011-2012 2/	41	55	77	77	76	75	**100**	200
B3. US dollar GDP deflator at historical average minus one standard deviation in 2011-2012	41	45	48	50	51	51	**92**	225
B4. Net non-debt creating flows at historical average minus one standard deviation in 2011-2012 3/	41	52	57	59	59	58	**88**	197
B5. Combination of B1-B4 using one-half standard deviation shocks	41	59	79	80	79	78	**108**	225
B6. One-time 30 percent nominal depreciation relative to the baseline in 2011 4/	41	58	58	60	61	61	**111**	272
				PV of debt-to-exports ratio				
Baseline	63	63	62	66	67	68	**111**	259
A. Alternative Scenarios								
A1. New public sector loans on less favorable terms in 2010-2030 1/	63	67	68	75	79	84	**154**	382
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2011-2012	63	62	61	63	63	63	**103**	251
B2. Export value growth at historical average minus one standard deviation in 2011-2012 2/	63	109	197	197	193	189	**228**	452
B3. US dollar GDP deflator at historical average minus one standard deviation in 2011-2012	63	62	61	63	63	63	**103**	251
B4. Net non-debt creating flows at historical average minus one standard deviation in 2011-2012 3/	63	78	84	85	84	83	**115**	254
B5. Combination of B1-B4 using one-half standard deviation shocks	63	96	137	137	135	132	**167**	343
B6. One-time 30 percent nominal depreciation relative to the baseline in 2011 4/	63	62	61	63	63	63	**103**	251
				PV of debt-to-revenue ratio				
Baseline	125	109	102	110	123	126	**225**	527
A. Alternative Scenarios								
A1. New public sector loans on less favorable terms in 2010-2030 1/	125	115	111	125	146	156	**311**	777
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2011-2012	125	112	109	115	127	128	**227**	558
B2. Export value growth at historical average minus one standard deviation in 2011-2012 2/	125	141	184	188	202	201	**262**	524
B3. US dollar GDP deflator at historical average minus one standard deviation in 2011-2012	125	116	115	122	134	135	**240**	590
B4. Net non-debt creating flows at historical average minus one standard deviation in 2011-2012 3/	125	134	138	142	155	155	**232**	516
B5. Combination of B1-B4 using one-half standard deviation shocks	125	152	189	194	209	208	**284**	589
B6. One-time 30 percent nominal depreciation relative to the baseline in 2011 4/	125	150	139	147	162	163	**290**	713

Table 1b.Maldives: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2010-2030 (continued)
(In percent)

Debt service-to-exports ratio

Baseline	6	7	7	7	8	9	**6**	17
A. Alternative Scenarios								
A1. New public sector loans on less favorable terms in 2010-2030 1/	6	7	7	6	7	7	**7**	24
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2011-2012	6	7	7	7	8	9	**6**	16
B2. Export value growth at historical average minus one standard deviation in 2011-2012 2/	6	10	13	14	16	17	**15**	30
B3. US dollar GDP deflator at historical average minus one standard deviation in 2011-2012	6	7	7	7	8	9	**6**	16
B4. Net non-debt creating flows at historical average minus one standard deviation in 2011-2012 3/	6	7	7	7	8	9	**7**	16
B5. Combination of B1-B4 using one-half standard deviation shocks	6	9	10	10	12	13	**11**	23
B6. One-time 30 percent nominal depreciation relative to the baseline in 2011 4/	6	7	7	7	8	9	**6**	16

Debt service-to-revenue ratio

Baseline	11	13	11	11	15	17	**13**	34
A. Alternative Scenarios								
A1. New public sector loans on less favorable terms in 2010-2030 1/	11	13	11	10	12	13	**15**	49
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2011-2012	11	13	12	12	16	18	**13**	35
B2. Export value growth at historical average minus one standard deviation in 2011-2012 2/	11	13	12	13	17	18	**17**	35
B3. US dollar GDP deflator at historical average minus one standard deviation in 2011-2012	11	14	13	13	17	19	**14**	37
B4. Net non-debt creating flows at historical average minus one standard deviation in 2011-2012 3/	11	13	12	12	15	17	**14**	34
B5. Combination of B1-B4 using one-half standard deviation shocks	11	14	14	14	18	20	**18**	39
B6. One-time 30 percent nominal depreciation relative to the baseline in 2011 4/	11	18	16	15	20	23	**17**	45
Memorandum item:								
Grant element assumed on residual financing (i.e., financing required above baseline) 5/	22	22	22	22	22	22	**22**	22

Sources: Maldivian authorities; and staff estimates and projections.

1/ Assumes that the interest rate on new borrowing is 2 percentage points higher than in the baseline, while grace and maturity periods are the same as in the baseline.
2/ 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).
3/ Includes official and private transfers and FDI.
4/ Depreciation is defined as percentage decline in dollar/local currency rate, such that it never exceeds 100 percent.
5/ Applies to all stress scenarios except for A1 (less favorable financing) in which the terms on all new financing are as specified in footnote 2.

Table 2a.Maldives: Public Sector Debt Sustainability Framework, Baseline Scenario, 2007-2030
(In percent of GDP, unless otherwise indicated)

	Actual					Estimate	Projections								
	2007	2008	2009	Average	Standard Deviation	2010	2011	2012	2013	2014	2015	2010-15 Average	2020	2030	2016-30 Average
Public sector debt 1/	66.3	68.6	85.6			88.7	95.6	106.8	115.2	125.7	137.0		207.2	364.9	
o/w foreign-currency denominated	39.8	37.4	45.6			47.9	48.6	48.7	52.2	54.5	57.1		111.9	259.7	
Change in public sector debt	3.3	2.3	17.1			3.0	6.9	11.3	8.4	10.5	11.3		14.1	17.8	
Identified debt-creating flows	-3.0	6.0	23.0			2.4	4.0	9.6	8.6	11.6	12.1		13.2	13.2	
Primary deficit	3.8	15.4	25.4	7.2	7.7	14.3	17.6	14.5	11.5	13.2	12.5	13.9	14.7	17.5	15.4
Revenue and grants	55.8	46.0	35.9			35.5	39.4	42.2	41.7	38.5	38.1		38.5	38.5	
of which: grants	7.7	3.2	4.5			2.7	0.7	0.6	0.6	0.7	0.6		0.4	0.4	
Primary (noninterest) expenditure	59.6	61.3	61.2			49.8	57.0	56.7	53.2	51.8	50.6		53.2	56.0	
Automatic debt dynamics	-6.6	-9.1	0.6			-5.2	-4.0	-3.5	-2.7	-1.6	-0.5		-1.5	-4.3	
Contribution from interest rate/growth differential	-5.1	-5.7	2.6			-3.4	-2.5	-2.3	-2.1	-1.1	0.1		-0.5	-1.8	
of which: contribution from average real interest rate	-0.9	-1.9	1.0			0.5	0.9	1.5	2.5	3.9	5.5		7.8	13.1	
of which: contribution from real GDP growth	-4.3	-3.8	1.6			-3.9	-3.4	-3.7	-4.6	-5.0	-5.4		-8.3	-14.9	
Contribution from real exchange rate depreciation	-1.5	-3.4	-2.0			-1.9	-1.6	-1.3	-0.6	-0.5	-0.6		...	...	
Other identified debt-creating flows	-0.3	-0.3	-3.0			-6.6	-9.6	-1.3	-0.2	0.0	0.0		0.0	0.0	
Privatization receipts (negative)	-0.3	-0.3	-3.0			-6.6	-9.6	-1.3	-0.2	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	6.4	-3.7	-5.9			0.6	2.9	1.6	-0.2	-1.1	-0.7		1.0	4.6	
Other Sustainability Indicators															
PV of public sector debt	26.4	31.2	86.0			87.8	92.8	102.9	109.2	117.7	127.2		181.1	306.2	
o/w foreign-currency denominated	0.0	0.0	45.9			47.1	45.8	44.7	46.2	46.5	47.3		85.7	201.0	
o/w external	...	...	42.1			41.0	42.1	42.4	45.1	46.5	47.3		85.7	201.0	
PV of contingent liabilities (not included in public sector debt)	...	...	...			...	...	...	...	...	...		...	...	
Gross financing need 2/	28.6	42.0	61.9			60.2	68.3	69.2	76.0	83.6	92.0		117.2	143.7	
PV of public sector debt-to-revenue and grants ratio (in percent)	47.4	67.9	239.9			247.5	235.7	243.7	261.6	305.3	334.1		469.7	794.3	
PV of public sector debt-to-revenue ratio (in percent)	55.0	73.0	274.0			268.1	239.9	247.5	265.4	311.0	339.5		474.6	802.6	
o/w external 3/	…	…	134.2			125.1	108.9	102.1	109.7	122.9	126.2		224.7	526.9	
Debt service-to-revenue and grants ratio (in percent) 4/	8.0	9.7	18.6			18.7	20.2	19.5	20.5	28.1	35.0		39.7	75.6	
Debt service-to-revenue ratio (in percent) 4/	9.3	10.5	21.2			20.3	20.6	19.8	20.8	28.7	35.5		40.1	76.4	
Primary deficit that stabilizes the debt-to-GDP ratio	0.5	13.1	8.3			11.2	10.7	3.2	3.1	2.8	1.2		0.6	-0.3	
Key macroeconomic and fiscal assumptions															
Real GDP growth (in percent)	7.2	6.2	-2.3	5.7	6.3	4.8	4.0	4.1	4.5	4.6	4.5	4.4	4.5	4.5	4.5
Average nominal interest rate on forex debt (in percent)	2.9	3.6	2.2	2.6	0.4	1.7	1.8	2.0	2.4	2.6	2.7	2.2	1.9	1.8	2.0
Average real interest rate on domestic debt (in percent)	-3.4	-9.0	2.3	0.9	4.1	1.6	2.4	3.1	4.1	5.9	7.5	4.1	8.7	13.4	10.1
Real exchange rate depreciation (in percent, + indicates depreciation)	-4.0	-8.9	-5.1	-0.2	5.2	-4.3	...	...	...	...	...	...	...	...	...
Inflation rate (GDP deflator, in percent)	7.4	12.6	7.1	3.6	4.1	6.5	5.5	4.8	3.3	3.0	3.0	4.3	3.0	3.0	3.0
Growth of real primary spending (deflated by GDP deflator, in percent)	0.1	0.1	0.0	0.1	0.2	-0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
Grant element of new external borrowing (in percent)	...	...	...	…	…	28.5	24.7	22.6	24.6	24.6	24.6	25.0	24.6	24.6	...

Sources: Maldivian authorities; and staff estimates and projections.

1/ Public debt refers here to the debt of the non-finacial public sector, comprising the central government and state-owned enterprises and public guaranteed debt. Gross debt is used.

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 2b.Maldives: Sensitivity Analysis for Key Indicators of Public Debt 2010-2030

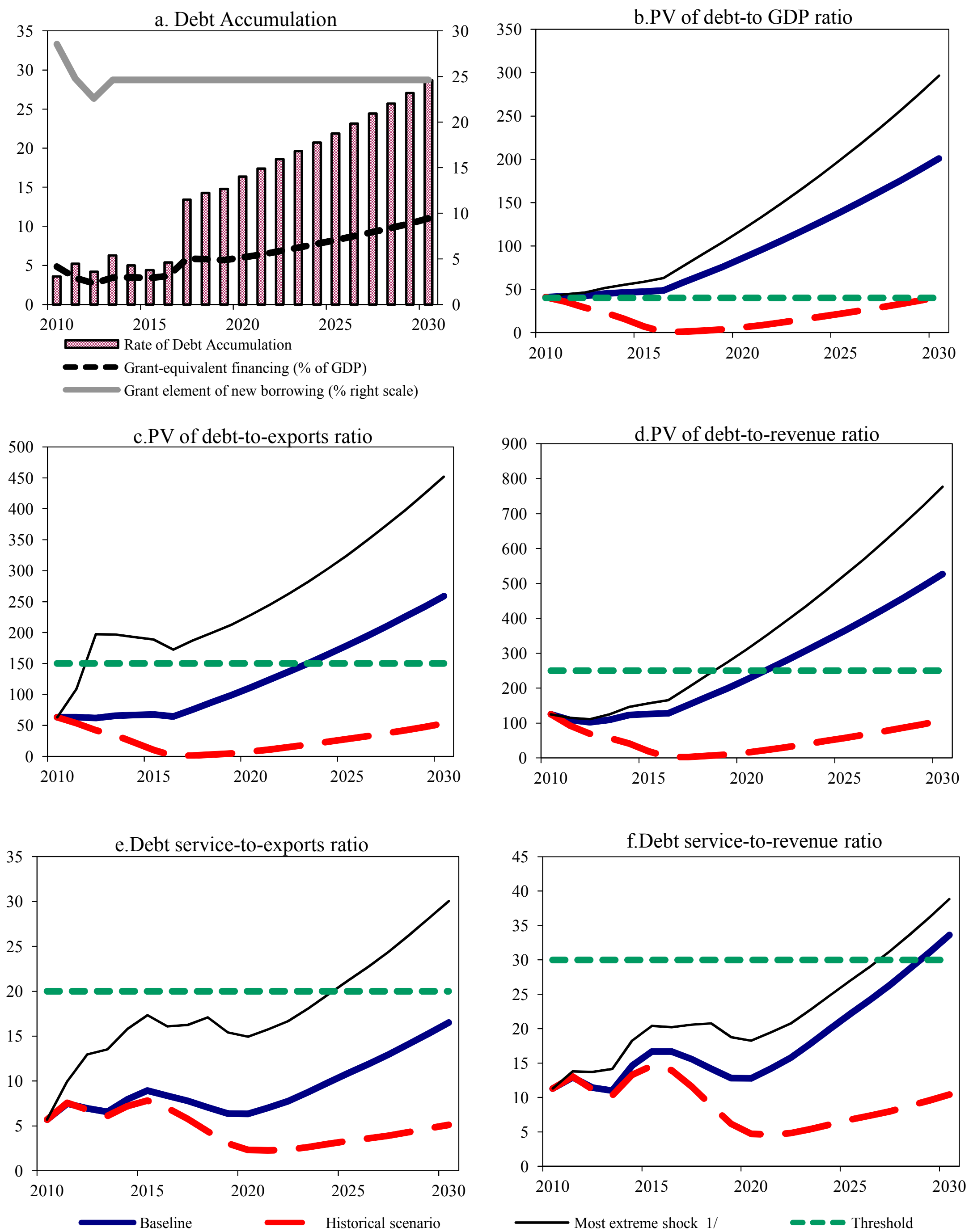
	Projections							
	2010	2011	2012	2013	2014	2015	2020	2030
PV of Debt-to-GDP Ratio								
Baseline	88	93	103	109	118	127	181	306
A. Alternative scenarios								
A1. Primary balance is unchanged from 2010	88	89	99	109	118	129	185	291
A2. Permanently lower GDP growth 1/	88	95	107	117	129	144	234	501
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2011-2012	88	99	118	129	141	155	228	387
B2. Primary balance is at historical average minus one standard deviations in 2011-2012	88	90	101	107	116	125	179	305
B3. Combination of B1-B2 using one half standard deviation shocks	88	87	95	103	113	124	186	324
B4. One-time 30 percent real depreciation in 2011	88	111	119	124	131	140	187	307
B5. 10 percent of GDP increase in other debt-creating flows in 2011	88	103	112	118	127	136	188	311
PV of Debt-to-Revenue Ratio 2/								
Baseline	247	236	244	262	305	334	470	794
A. Alternative scenarios								
A1. Primary balance is unchanged from 2010	247	227	236	260	307	340	479	756
A2. Permanently lower GDP growth 1/	247	240	254	280	335	377	606	1295
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2011-2012	247	251	280	308	366	406	590	1002
B2. Primary balance is at historical average minus one standard deviations in 2011-2012	247	229	239	257	300	329	465	791
B3. Combination of B1-B2 using one half standard deviation shocks	247	222	226	248	294	327	482	839
B4. One-time 30 percent real depreciation in 2011	247	282	283	297	340	367	484	797
B5. 10 percent of GDP increase in other debt-creating flows in 2011	247	261	266	284	328	357	488	808
Debt Service-to-Revenue Ratio 2/								
Baseline	19	20	19	21	28	35	40	76
A. Alternative scenarios								
A1. Primary balance is unchanged from 2010	19	20	19	20	28	35	40	75
A2. Permanently lower GDP growth 1/	19	21	20	21	30	38	48	110
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2011-2012	19	21	21	23	32	40	46	91
B2. Primary balance is at historical average minus one standard deviations in 2011-2012	19	20	19	20	28	35	40	75
B3. Combination of B1-B2 using one half standard deviation shocks	19	21	19	20	28	35	41	78
B4. One-time 30 percent real depreciation in 2011	19	23	24	25	35	43	47	96
B5. 10 percent of GDP increase in other debt-creating flows in 2011	19	20	20	22	29	36	40	77

Sources: Maldivian 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.

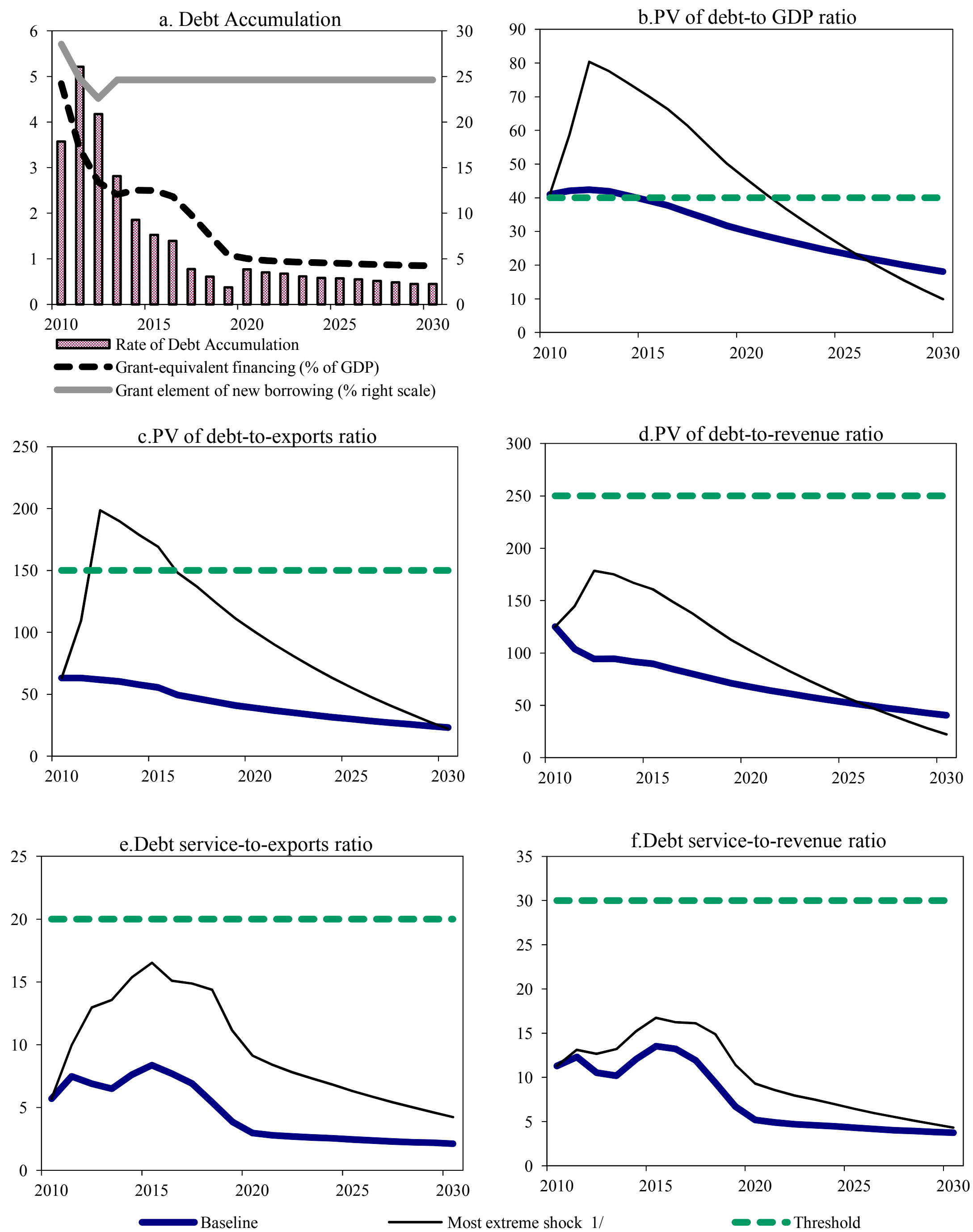
Figure 2. Maldives: Indicators of Public and Publicly Guaranteed External Debt under Alternatives Scenarios, 2010-2030 1/



Sources: Maldivian authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio in 2020. In figure b. it corresponds to an interest rate shock; in c. to an export shock; in d. to an interest rate shock; in e. to an export shock and in figure f. to a combination shock

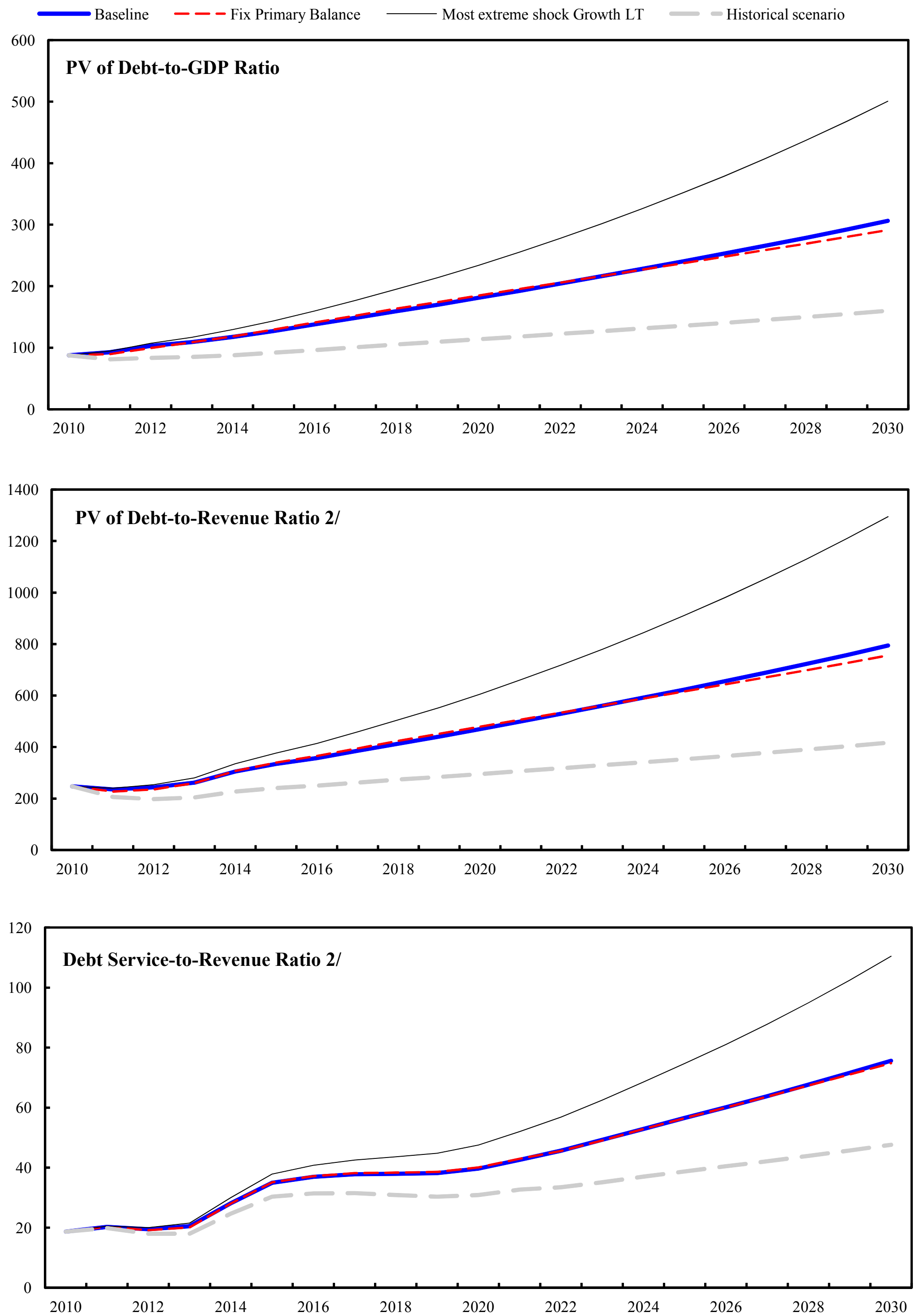
Figure 3. Maldives (Adjustment Scenario): Indicators of Public and Publicly Guaranteed External Debt under Alternatives Scenarios, 2010-2030 1/



Sources: Maldivian authorities; and staff estimates and projections.

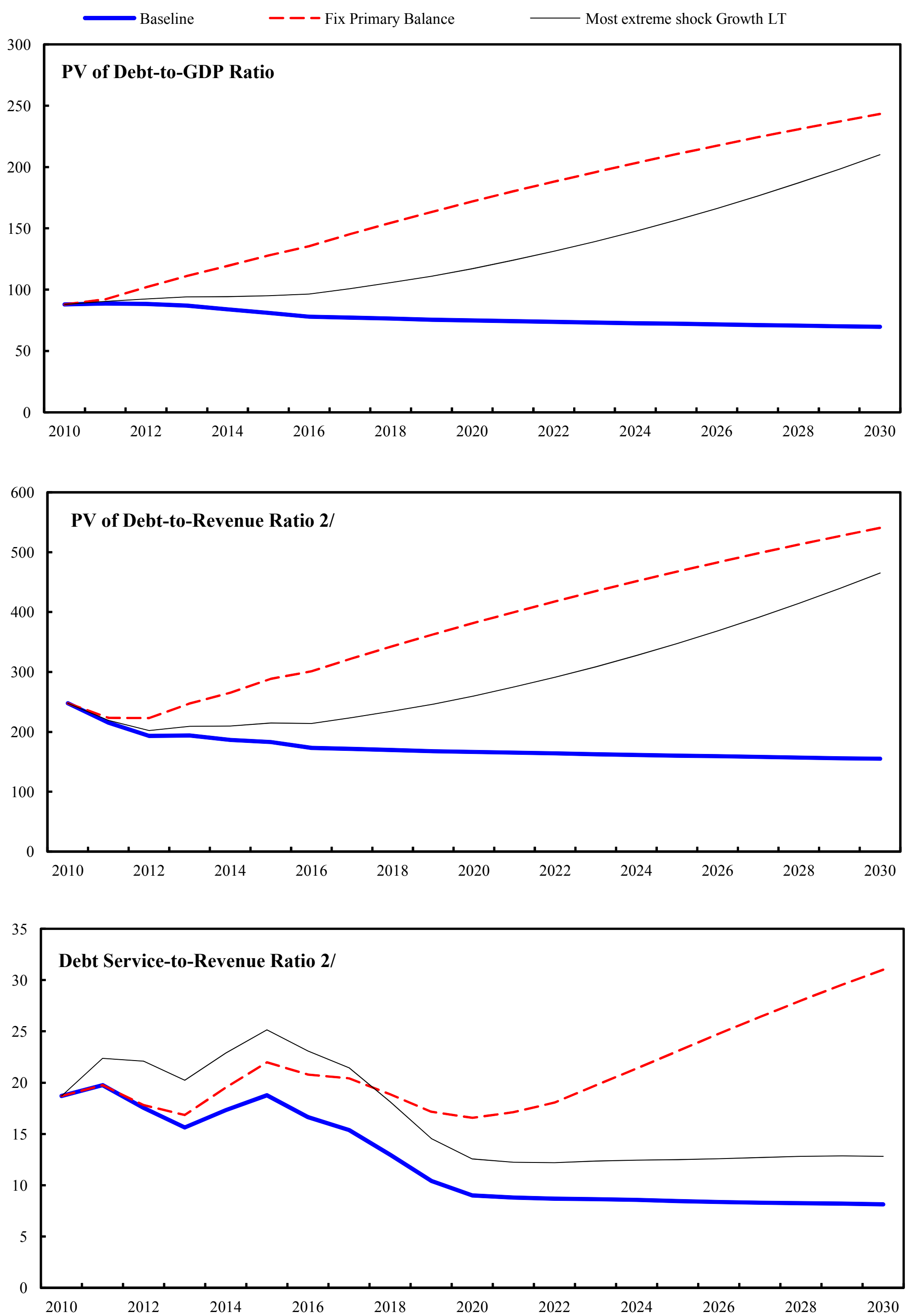
1/ The most extreme stress test is the test that yields the highest ratio in 2020. In figure b. it corresponds to a combination shock; in c. to an exports shock; in d. to a combination shock; in e. to an exports shock and in figure f. to a combination shock

Figure 4.Maldives: Indicators of Public Debt Under Alternative Scenarios, 2010-2030 1/



Sources: Maldivian authorities; and staff estimates and projections.
1/ The most extreme stress test is the test that yields the highest ratio in 2020.
2/ Revenues are defined inclusive of grants.

Figure 5.Maldives (Adjustment Scenario): Indicators of Public Debt
Under Alternative Scenarios, 2010-2030 1/



Sources: Maldivian authorities; and staff estimates and projections.
1/ The most extreme stress test is the test that yields the highest ratio in 2020.
2/ Revenues are defined inclusive of grants.