INTERNATIONAL DEVELOPMENT ASSOCIATION AND
INTERNATIONAL MONETARY FUND

UGANDA

Joint World Bank/IMF Debt Sustainability Analysis Update

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UGANDA: DEBT SUSTAINABILITY ANALYSIS[1]

Based on the joint Low-Income Country Debt Sustainability Framework of the World Bank and the IMF, Uganda continues to be assessed as a low risk of debt distress. While the authorities will continue to rely primarily on highly concessional financing to fund their infrastructure investment needs, they are planning to rely on non-concessional financing for a number of critical infrastructure projects. The DSA update incorporates an increase in the non-concessional borrowing ceiling to US$ 800 million over the next three years from US$ 500 million to help finance large infrastructural projects critical for growth.

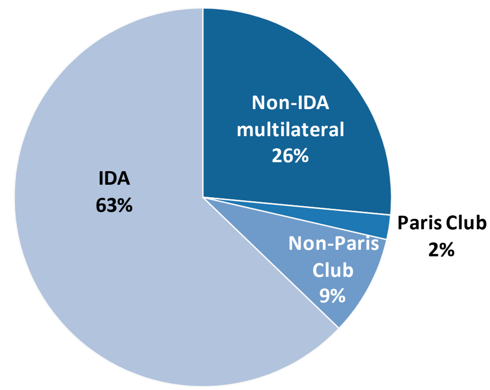
However, it does not include the macroeconomic consequences of the oil discoveries given the uncertainties about revenue sharing, production modalities, and export potential. Under these baseline assumptions, external debt is expected to remain well below the thresholds over the medium and long term, and public debt exhibits stable debt dynamics. The sensitivity of Uganda's debt indicators to a growth shock suggests that careful selection of public investment projects have a key role to play in the maintenance of debt sustainability over the near and medium term, requiring continued attention from the Ugandan authorities to improving investment planning processes and strengthening implementation capacity.

[1] As Uganda is an IDA only country, the DSA is prepared jointly by the IMF and World Bank staff in consultation with the African Development Bank (AfDB) under the IMF-WB DSA framework for Low-Income Countries. The fiscal year of Uganda starts from July 1st.

I. Background

1. **Uganda has maintained a sustainable debt position, thanks to the sound macroeconomic policies and cautious public borrowing following debt relief**. HIPC (in 1999/2000) and MDRI (in 2005/06 and 2006/07) debt relief reduced Uganda's debt burden sharply, with all debt indicators declining to levels well below their policy-dependent thresholds.[2] Prudent fiscal management and modest public sector deficits further strengthened the debt position. Debt management has remained cautious since debt relief (Box 1). New external borrowing was mainly financing productive sectors, particularly transport, energy and agriculture and was contracted on highly concessional terms, mostly from IDA and the AfDB. In line with the revised IMF/IDA's Nonconcessional Borrowing Policy (NCBP)[3], Uganda borrowed US$ 100 million on nonconcessional terms, although the ceiling under the PSI was up to US$ 500 million. Nonetheless, public and publically guaranteed external debt has remained low as a percent of GDP, and is mostly owed to multilaterals (IDA accounts for 63 percent of total debt – Figure 1). Domestic debt is low, at about 8 percent of GDP.

Figure 1. Breakdown of the stock of external debt (end FY09/10)



[2] The World Bank's Country Policy and Institutional Assessment (CPIA) ranks Uganda as a "strong performer." Debt burden thresholds for strong performers are NPV of debt to GDP ratio of 50 percent, NPV of debt-to-exports ratio of 200 percent, NPV of debt-to-revenue ratio of 300 percent, debt-service-to-exports ratio of 25 percent, and debt-service-to-revenue ratio of 35 percent.

[3] The 2010 adjustments to implementation of the IDA/IMF Non-concessional Borrowing Policy enhanced flexibility by allowing debt limits to be set based on a country's macroeconomic and public financial management capacity (now commonly referred to as "capacity") and their debt vulnerability. Uganda is classified as a "low debt vulnerability and low capacity" country, and hence eligible for increased flexibility in setting annual non-zero non concessional debt limits.

Box 1. Changes in Debt Indicators since the Last DSA

- **Public and publicly guaranteed external debt** increased from US$ 2.0 billion (15.3 percent of GDP) to US$ 2.3 billion (16.8 percent of GDP) between 2008/09 and 2009/10.
- The d**ebt service to exports ratio**, increased from a revised 0.6 percent to 3 percent over this period, partly on account of a statistical correction in the export data.[4]
- Domestic debt declined from 8.4 percent of GDP to 8.1 in 2009/10 (mostly on account of high growth), but **total public and publically guaranteed debt** increased to 24.9 percent of GDP, from 23.7 percent recorded in 2008/09.
- The **debt-service-to-revenue ratio** declined from 28.3 to 27.9 percent over this period on the back of stagnated revenue performance.

2. **The authorities are stepping up their plans to implement large-scale critical infrastructure projects with a view to removing persistent growth bottlenecks.** In line with its National Development Plan, Uganda's main medium-term priorities are in the energy sector, in particular the realization of the Karuma hydropower plant, of which construction is expected to commence in 2012/13, as well as the further development of roads infrastructure. Financing is expected to come from a combination of domestic and external sources.

3. **The authorities are committed to raise domestic revenue over the medium term, partly to make up for the expected decline in aid.** While a large share of their financing needs will continue to be filled by concessional borrowing, the government also intends to use limited amounts of nonconcessional borrowing, notably for infrastructure projects. Consequently, the authorities have requested for a raise in the ceiling on non-concessional borrowing to US $ 800 million over the next 3 years of the PSI.

II. Assumptions

4. **Long-term assumptions are consistent with the recent performance of the Ugandan economy and only slightly different from those in the previous DSA.** In 2010/11 and 2011/12 growth is projected to be around 6-6.5 percent, slightly below historical averages partly on account of the secondary effects of the global economic slowdown as well as consecutive exogenous shocks, particularly the increased oil prices and the adverse effects of weather. Growth would rebound to 7 percent, slightly above the historical average of the past ten years thereafter, as public investments in roads and energy[5] start to unlock additional growth potential. A sound monetary policy would help keep inflation around 5 percent in the medium term, as exogenous inflationary pressures relate. The public sector deficit (including

[4] The trade data between Southern Sudan and Uganda were revised due to better survey data becoming available in 2010. This led to a downwards revision of total export receipts.

[5] Bujagali hydropower plant is expected to be commissioned in 2011/12.

grants) increases in the near term on account of the public investment drive before stabilizing at about 3 percent of GDP. Compared with the 2009 Joint IMF-World Bank DSA, the current baseline scenario assumes a less ambitious growth path over the medium term, reflecting the back-loading of infrastructure investment in light of the authorities' wish to carefully assess and select their projects before implementing them (Box 2).

Box 2: Ex post analysis of the 2009 DSA

- **Exports have under-performed compared to the last DSA**, following statistical correction that led to downward revision of informal cross-border trade (in particular) with Southern Sudan.
- **Slower growth than initially envisaged has led to lower imports**. Assumptions on the behavior of exports and imports over the long term are similar to the 2009 DSA, and the trade and current account balances are therefore similar.
- **The current baseline scenario includes slightly less external borrowing** compared to the 2009 DSA, in line with the smoother public expenditure path.
- **On the fiscal side, both public revenue and expenditure have not performed as well as envisaged in the 2009 DSA**. They are assumed to grow smoothly over the projection period, as improved tax policy increases fiscal resources and implementation and absorption capacity constraints are addressed.

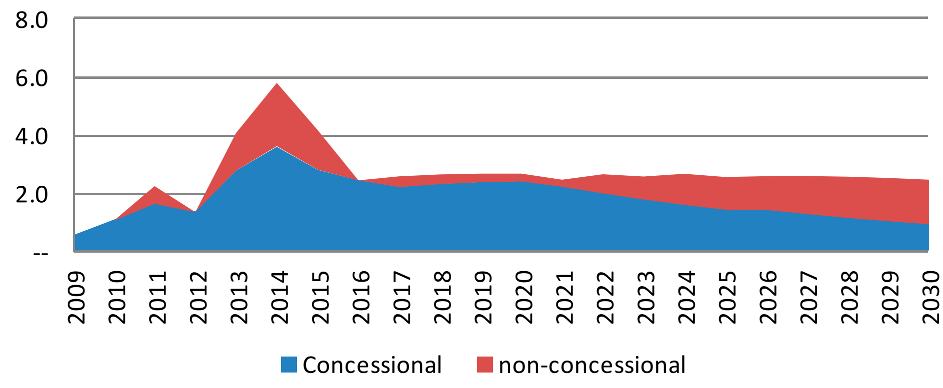
5. **The external position over the long run is adequate.** The medium term trade balance deficit, which reflects the high import content of infrastructure investments as well as solid domestic growth, stabilizes over the long term at about 7 percent of GDP. , while the current account deficit stabilizes around 3 percent of GDP. Total transfers are assumed to decline slightly over time, from 6 to 4 percent of GDP, reflecting the gradual transition of Uganda away from aid dependency, with the current account deficit stabilizing at around 3 percent of GDP. Remittances are assumed to stabilize just below 4 percent of GDP over the long term, with a slowly declining trend. Non-oil FDI stabilizes at about 4 percent of GDP.

6. **Concessional donor inflows are projected to continue to contribute to budget financing but gradually taper off.** As concessional assistance decline, the use of nonconcessional resources grows to provide about half the new external financing at the end of the projection period (Figure 2)[6], in spite of the fact that Uganda is not expected to graduate from IDA in the medium term. The overall grant element of new public borrowing declines over time, from over 40 percent to about 10 percent by the end of the projection

[6] Nonconcessional borrowing is assumed to be contracted on IBRD-like terms, with 4.9 pc rates (about 400 bp above LIBOR), 10 years of grace and 20 years of repayment.

period. Public domestic debt grows in line with GDP, hovering over 5-6 percent of GDP. Financing projections are somewhat below those of the previous DSA, reflecting the lower base on which projections are based.

Figure 2. New concessional and non-concessional borrowing in the baseline scenario (in percent of GDP)



III. External Debt Sustainability Analysis

7. **The authorities agreed with the results of the DSA, which were in line with the results of their own DSA.** The authorities intend to rely primarily on highly concessional borrowing, and based their DSA on more conservative assumptions regarding nonconcessional borrowing. They were however well aware that the nonconcessional borrowing envisaged over the medium term was likely to continue in the longer term and agreed that such a borrowing would remain consistent with the NCB policies of the World Bank and Fund so as to ensure that debt remains debt sustainable.

8. **Public and publicly guaranteed external debt is expected to remain sustainable over the next 20 years** (Table 1 and Figures 1a). All five debt-burden indicators remain well below their policy-dependent thresholds throughout the period. The PV of debt-to-GDP ratio is expected to rise in the first part of the period (from 8 percent in 2009/10 to 17 percent in 2014/15) in line with the public investment drive; it then stabilizes to about 20 percent in the outer years. The PV of debt-to-exports is expected to peak at 86 percent of GDP in 2020/21 before going down gradually to 76 percent at the end of the projection period. The debt service-to-exports ratio remains very low, reflecting the continued large share of highly concessional borrowing in the debt stock.

9. **External debt is expected to remain resilient to all standardized shocks** (Figure 1a, Tables 1 and 3). The stress tests point to a low risk of debt distress. Under all standardized stress tests, the debt-to-GDP, debt-to-exports, and debt service-to-exports indicators of public and publicly guaranteed external debt remain below their indicative threshold values throughout the next twenty years.

10. **Historical scenarios reflect to a large extent Uganda's performance over the last ten years**, notably with respect to GDP and export growth, inflation, transfers, and FDI inflows. However, there is a need to remain vigilant as reserves have fallen to 3 months of import cover and would need to be rebuild to the more comfortable historical levels of 4-5 months of import cover to provide sufficient cushion in event of foreign financing shocks.

11. **Uganda is due to become significant oil producer**. Due to paucity of data and uncertainties regarding the expected policy framework, this DSA update does not include the macroeconomic consequences of the anticipated oil exploration. Fund and World Bank staff are, however, assisting in collaboration with other development partners the government of Uganda to ensure that Uganda can harness the windfall from its oil. Staffs anticipate that these uncertainties will be resolved over the coming twelve months and therefore the next DSA will include the macroeconomic consequences of oil exploration on Uganda's debt sustainability.

IV. FISCAL DEBT SUSTAINABILITY ANALYSIS

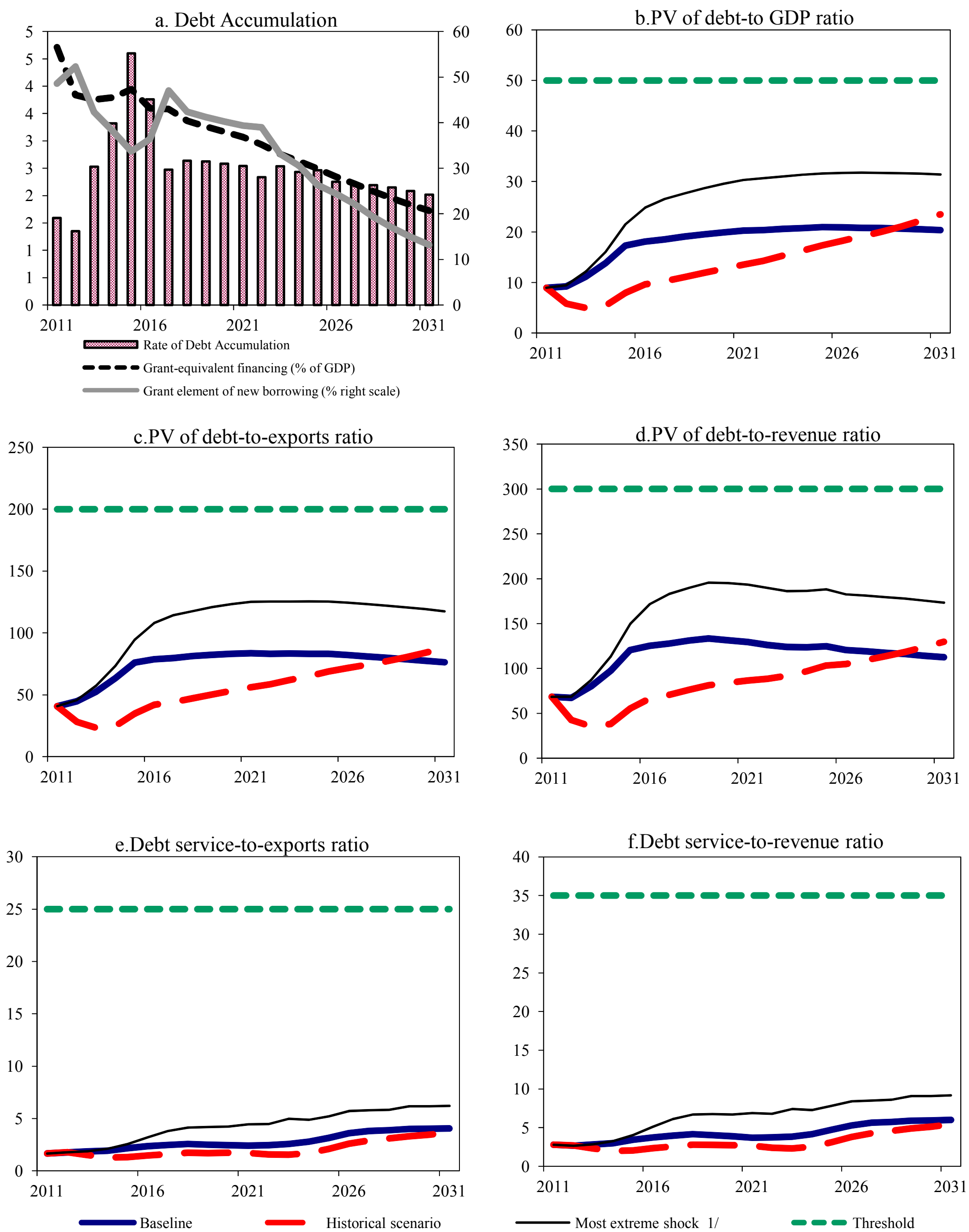
12. **The path of total public debt, which includes external debt and domestic public debt, is sustainable under all stress tests.** (Tables 2 and 4, and Figure 1b). Under the baseline, the PV of public debt to GDP and revenue increases slightly in the medium term, and both remain at sustainable levels over the long term. Debt service is broadly stable as a share of revenue.

13**. Of all bound tests, a permanent shock to growth stands out as bearing the strongest impact on debt indicators** by increasing the PV of debt to GDP ratio to 35 percent**.** The PV of debt to GDP is relatively unaffected by other bound tests, and remains below 30 percent and close to the baseline under all scenarios. The PV of debt to revenue is relatively robust to most shocks, but is significantly affected by a shock to growth. Finally, a permanent shock to growth would raise the PV of the debt service-to-revenue ratio close to 20 percent and would constrain fiscal spending significantly. This reveals how critical public investment selection and its effective implementation is to ensure long-term debt sustainability.

V. Conclusion

14. **Uganda's public and external debt are expected to remain sustainable under the baseline scenario as well as under alternative shock scenarios**, owing to a cautious strategy that combines reliance to concessional borrowing, cautious selection of nonconcessionally financed infrastructure projects and a conservative fiscal stance. Uganda's public debt indicators are however sensitive to a protracted adverse growth shock. This highlights the importance of ensuring that a shift towards nonconcessional borrowing is combined with medium-term improvements in project selection, investment planning processes and implementation capacity.

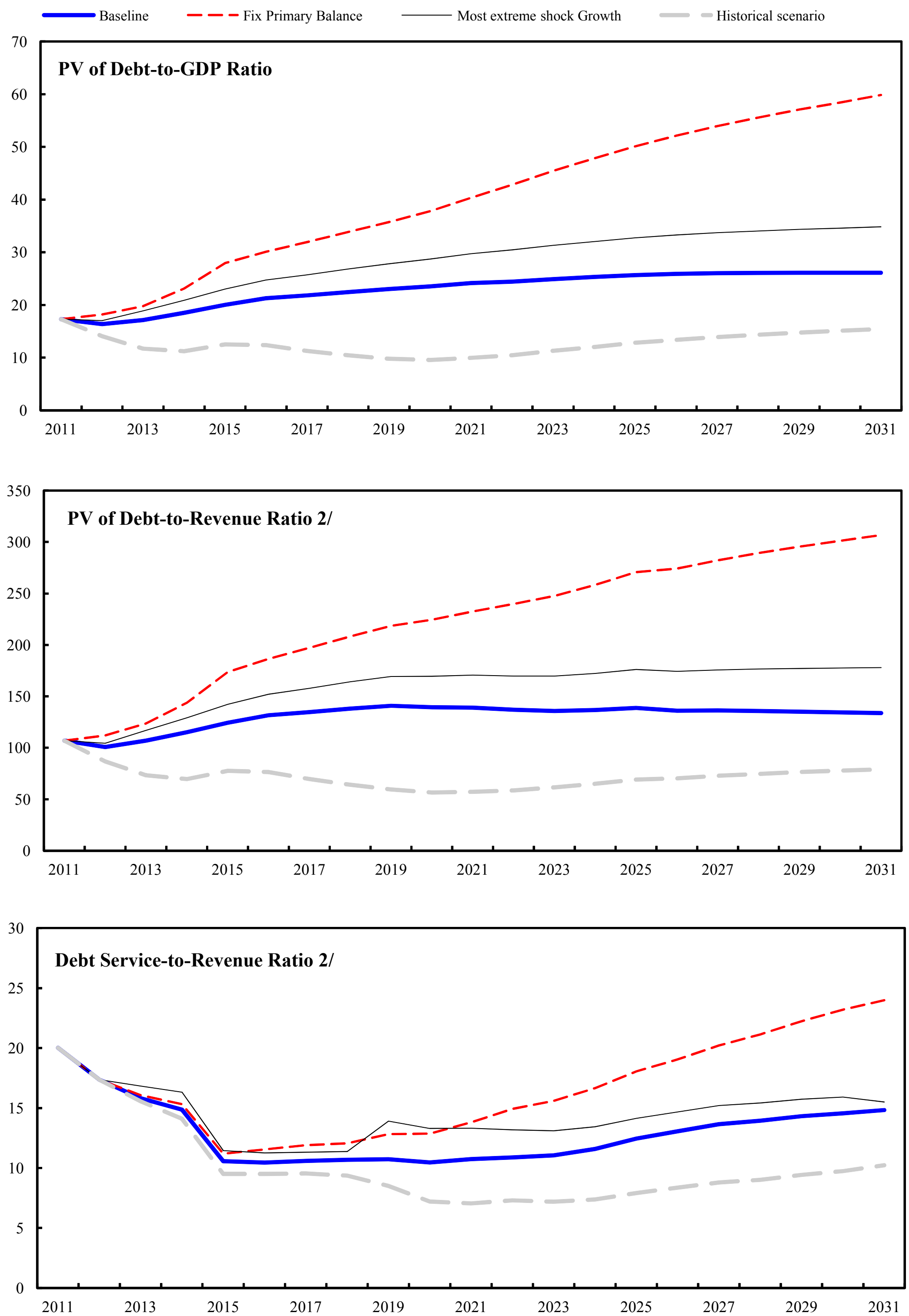
Figure 1a. Uganda: Indicators of Public and Publicly Guaranteed External Debt under Alternatives Scenarios, 2011-2031 1/



Sources: Country authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio in 2021. In figure b. it corresponds to a Terms shock; in c. to a Terms shock; in d. to a Terms shock; in e. to a Terms shock and in figure f. to a Terms shock

Figure 1b.Uganda: Indicators of Public Debt Under Alternative Scenarios, 2011-2031 1/



Sources: Country authorities; and staff estimates and projections.
1/ The most extreme stress test is the test that yields the highest ratio in 2021.
2/ Revenues are defined inclusive of grants.

Table 1. External Debt Sustainability Framework, Baseline Scenario, 2008-2031 1/
(In percent of GDP, unless otherwise indicated)

	Actual			Historical Average 6/	Standard Deviation 6/	Projections									
	2008	2009	2010			2011	2012	2013	2014	2015	2016	2011-2016 Average	2021	2031	2017-2031 Average
External debt (nominal) 1/	**18.1**	**22.7**	**24.7**			**26.7**	**26.3**	**28.8**	**32.3**	**29.2**	**37.2**		**39.6**	**36.5**	
o/w public and publicly guaranteed (PPG)	11.8	15.3	16.8			18.6	19.0	21.9	25.8	22.9	30.8		32.9	27.0	
Change in external debt	-0.4	4.6	2.0			2.0	-0.3	2.5	3.5	-3.1	8.0		0.1	0.4	
Identified net debt-creating flows	-5.0	2.1	3.0			-2.1	1.9	1.6	0.7	-0.9	-1.2		-2.5	-4.0	
Non-interest current account deficit	**2.4**	**6.9**	**8.1**	**3.0**	**2.8**	**3.9**	**9.3**	**8.8**	**8.6**	**6.8**	**5.2**		**4.1**	**1.5**	3.4
Deficit in balance of goods and services	10.0	14.5	13.3			16.0	14.9	13.9	13.6	12.3	11.5		9.8	6.3	
Exports	22.1	19.6	20.3			22.0	20.7	21.3	21.9	22.7	23.0		24.2	26.7	
Imports	32.1	34.1	33.7			37.9	35.6	35.2	35.5	35.0	34.5		34.0	33.0	
Net current transfers (negative = inflow)	-8.8	-8.4	-6.3	-10.2	2.0	-13.1	-6.6	-6.2	-6.2	-6.0	-5.9		-5.1	-4.1	-4.7
o/w official	-3.0	-2.5	-2.5			-8.6	-2.5	-2.0	-1.9	-1.7	-1.7		-1.7	-1.4	
Other current account flows (negative = net inflow)	1.2	0.9	1.1			1.1	1.1	1.0	1.1	0.5	-0.5		-0.5	-0.7	
Net FDI (negative = inflow)	**-4.8**	**-4.2**	**-4.2**	**-3.7**	**1.4**	**-4.7**	**-6.0**	**-5.8**	**-6.3**	**-6.0**	**-5.0**		**-4.8**	**-4.3**	-4.6
Endogenous debt dynamics 2/	**-2.6**	**-0.7**	**-0.9**			**-1.4**	**-1.3**	**-1.4**	**-1.6**	**-1.7**	**-1.4**		**-1.9**	**-1.3**	
Contribution from nominal interest rate	0.7	0.9	0.7			0.3	0.3	0.3	0.3	0.4	0.4		0.5	0.7	
Contribution from real GDP growth	-0.2	-1.2	-1.1			-1.6	-1.6	-1.7	-1.9	-2.1	-1.8		-2.4	-2.0	
Contribution from price and exchange rate changes	-3.1	-0.4	-0.5			…	…	…	…	…	…		…	…	
Residual (3-4) 3/	**4.6**	**2.5**	**-1.0**			**4.1**	**-2.3**	**0.9**	**2.9**	**-2.2**	**9.2**		**2.6**	**4.4**	
o/w exceptional financing	0.2	0.1	0.1			0.0	0.1	0.1	0.0	0.0	0.0		0.0	0.0	
PV of external debt 4/	...	...	15.8			17.1	16.6	18.1	20.4	19.4	24.5		27.0	29.8	
In percent of exports	...	...	77.6			77.8	79.9	84.9	93.4	85.4	106.7		111.4	111.6	
PV of PPG external debt	**...**	**...**	**7.9**			**9.0**	**9.3**	**11.2**	**13.9**	**13.1**	**18.1**		**20.3**	**20.4**	
In percent of exports	**...**	**...**	**38.9**			**40.8**	**44.7**	**52.5**	**63.4**	**57.5**	**78.8**		**83.6**	**76.3**	
In percent of government revenues	**...**	**...**	**64.0**			**68.5**	**67.4**	**79.9**	**97.5**	**91.1**	**125.3**		**129.4**	**112.6**	
Debt service-to-exports ratio (in percent)	**6.0**	**8.0**	**7.4**			**3.5**	**4.0**	**4.1**	**4.2**	**4.3**	**4.8**		**4.6**	**6.7**	
PPG debt service-to-exports ratio (in percent)	**2.4**	**3.0**	**2.9**			**1.7**	**1.8**	**1.9**	**1.9**	**2.2**	**2.4**		**2.4**	**4.1**	
PPG debt service-to-revenue ratio (in percent)	**4.1**	**4.8**	**4.7**			**2.8**	**2.7**	**2.8**	**3.0**	**3.4**	**3.7**		**3.7**	**6.0**	
Total gross financing need (Billions of U.S. dollars)	-0.2	0.7	0.9			0.0	0.8	0.8	0.7	0.4	0.3		0.2	0.0	
Non-interest current account deficit that stabilizes debt ratio	2.9	2.4	6.1			2.0	9.6	6.3	5.0	9.9	-2.8		4.0	1.2	
Key macroeconomic assumptions															
Real GDP growth (in percent)	1.1	7.2	5.2	6.6	2.6	6.4	6.6	7.0	7.0	7.0	7.0	6.8	6.7	6.2	6.6
GDP deflator in US dollar terms (change in percent)	19.9	2.0	2.3	3.9	10.0	-7.9	5.3	0.3	-0.4	-0.6	3.8	0.1	4.0	4.4	4.1
Effective interest rate (percent) 5/	4.4	5.3	3.3	2.6	1.3	1.0	1.1	1.1	1.2	1.4	1.5	1.2	1.5	2.1	1.7
Growth of exports of G&S (US dollar terms, in percent)	58.7	-2.7	11.6	19.3	18.6	5.7	6.1	10.1	9.5	10.5	12.2	9.0	12.1	11.9	12.1
Growth of imports of G&S (US dollar terms, in percent)	39.3	16.3	6.4	15.9	11.7	10.3	5.4	6.1	7.5	4.8	9.4	7.3	10.6	10.5	10.6
Grant element of new public sector borrowing (in percent)	...	...	...	...	...	48.6	52.3	42.3	38.1	33.7	36.4	41.9	39.4	13.2	30.0
Government revenues (excluding grants, in percent of GDP)	12.8	12.5	12.4			13.1	13.8	14.0	14.2	14.4	14.5		15.7	18.1	16.5
Aid flows (in Billions of US dollars) 7/	0.7	0.8	0.9			1.0	0.9	1.0	1.2	1.4	1.3		1.6	2.4	
o/w Grants	0.4	0.4	0.4			0.5	0.5	0.4	0.4	0.4	0.4		0.7	1.7	
o/w Concessional loans	0.3	0.4	0.5			0.5	0.5	0.6	0.8	1.0	0.9		0.8	0.7	
Grant-equivalent financing (in percent of GDP) 8/	...	...	...			4.7	3.8	3.8	3.8	3.9	3.6		3.1	1.7	2.6
Grant-equivalent financing (in percent of external financing) 8/	...	...	...			73.7	75.7	61.1	54.9	47.7	52.0		59.2	44.3	54.1
Memorandum items:															
Nominal GDP (Billions of US dollars)	14.4	15.8	17.0			16.7	18.7	20.1	21.4	22.7	25.2		42.5	119.7	
Nominal dollar GDP growth	21.3	9.4	7.6			-2.0	12.2	7.3	6.5	6.3	11.0	6.9	11.0	10.9	10.9
PV of PPG external debt (in Billions of US dollars)			1.1			1.4	1.6	2.1	2.7	3.7	4.6		8.6	24.3	
(PVt-PVt-1)/GDPt-1 (in percent)						1.6	1.3	2.5	3.3	4.6	3.8	2.9	2.5	2.0	2.4
Gross workers' remittances (Billions of US dollars)	0.8	0.9	0.6			0.8	0.8	0.8	0.9	1.0	1.1		1.7	4.3	
PV of PPG external debt (in percent of GDP + remittances)	...	...	7.6			8.6	8.9	10.7	13.3	12.5	17.4		19.5	19.7	
PV of PPG external debt (in percent of exports + remittances)	...	...	32.8			33.8	37.3	43.9	53.0	48.5	66.6		71.8	67.2	
Debt service of PPG external debt (in percent of exports + remittances)	...	...	2.4			1.4	1.5	1.6	1.6	1.8	2.0		2.1	3.6	

Sources: Country authorities; and staff estimates and projections.

1/ Includes both public and private sector external debt.

2/ 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.

3/ 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.

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.Uganda: Public Sector Debt Sustainability Framework, Baseline Scenario, 2008-2031
(In percent of GDP, unless otherwise indicated)

	Actual					Estimate	Projections								
	2008	2009	2010	Average 5/	Standard Deviation 5/	2011	2012	2013	2014	2015	2016	2011-16 Average	2021	2031	2017-31 Average
Public sector debt 1/	22.5	23.7	24.9			26.9	26.1	27.8	30.4	25.6	34.4		37.2	33.2	
o/w foreign-currency denominated	11.8	15.3	16.8			18.6	19.0	21.9	25.8	22.9	30.8		32.9	27.0	
Change in public sector debt	-1.1	1.2	1.2			2.0	-0.8	1.7	2.6	-4.8	8.8		0.4	-0.6	
Identified debt-creating flows	-1.0	2.0	3.1			5.0	1.7	4.0	3.0	-5.6	7.5		0.0	-0.2	
Primary deficit	1.1	1.1	3.8	1.3	1.5	6.5	4.2	5.4	3.9	2.0	4.1	4.4	2.8	1.8	2.5
Revenue and grants	15.5	15.1	14.9			16.2	16.2	16.0	16.1	16.1	16.1		17.3	19.5	
of which: grants	2.7	2.6	2.5			3.1	2.5	2.0	1.9	1.7	1.7		1.7	1.4	
Primary (noninterest) expenditure	16.6	16.2	18.7			22.7	20.4	21.4	20.0	18.1	20.3		20.1	21.3	
Automatic debt dynamics	-2.1	0.9	-0.7			-1.5	-2.5	-1.4	-1.0	-7.6	3.4		-2.7	-2.0	
Contribution from interest rate/growth differential	-0.7	-1.8	-0.8			-1.0	-1.8	-1.6	-1.4	-1.8	-1.5		-2.1	-1.5	
of which: contribution from average real interest rate	-0.5	-0.3	0.4			0.5	-0.2	0.1	0.4	0.2	0.2		0.2	0.5	
of which: contribution from real GDP growth	-0.3	-1.5	-1.2			-1.5	-1.7	-1.7	-1.8	-2.0	-1.7		-2.3	-2.0	
Contribution from real exchange rate depreciation	-1.3	2.7	0.0			-0.5	-0.7	0.3	0.5	-5.8	4.9		...	...	
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	-0.1	-0.8	-1.9			-3.1	-2.5	-2.3	-0.4	0.8	1.3		0.3	-0.4	
Other Sustainability Indicators															
PV of public sector debt	...	...	16.0			17.3	16.4	17.1	18.5	15.8	21.7		24.6	26.5	
o/w foreign-currency denominated	...	...	7.9			9.0	9.3	11.2	13.9	13.1	18.1		20.3	20.4	
o/w external	...	...	7.9			9.0	9.3	11.2	13.9	13.1	18.1		20.3	20.4	
PV of contingent liabilities (not included in public sector debt)	...	...	...			...	...	...	...	...	...		...	...	
Gross financing need 2/	10.8	9.1	11.0			13.5	10.6	11.1	9.0	5.9	7.1		6.8	7.5	
PV of public sector debt-to-revenue and grants ratio (in percent)	…	…	107.7			106.9	100.8	107.0	115.1	98.1	134.4		141.5	136.1	
PV of public sector debt-to-revenue ratio (in percent)	…	…	129.5			132.4	119.0	122.3	130.2	110.1	150.1		156.8	146.5	
o/w external 3/	…	…	64.0			68.5	67.4	79.9	97.5	91.1	125.3		129.4	112.6	
Debt service-to-revenue and grants ratio (in percent) 4/	27.3	23.4	23.2			20.0	17.4	15.8	14.9	10.6	10.7		11.0	15.1	
Debt service-to-revenue ratio (in percent) 4/	33.0	28.3	27.9			24.8	20.5	18.1	16.8	11.9	12.0		12.2	16.2	
Primary deficit that stabilizes the debt-to-GDP ratio	2.1	-0.1	2.6			4.5	5.0	3.7	1.4	6.8	-4.7		2.4	2.4	
Key macroeconomic and fiscal assumptions															
Real GDP growth (in percent)	1.1	7.2	5.2	6.6	2.6	6.4	6.6	7.0	7.0	7.0	7.0	6.8	6.7	6.2	6.6
Average nominal interest rate on forex debt (in percent)	1.7	1.6	1.6	1.0	0.4	0.7	0.7	0.8	1.0	1.3	1.4	1.0	1.3	6.1	1.8
Average real interest rate on domestic debt (in percent)	-3.3	-3.7	3.0	4.7	5.5	6.0	-0.3	4.4	10.3	8.0	11.5	6.6	9.7	-9.8	7.4
Real exchange rate depreciation (in percent, + indicates depreciation)	-11.9	24.2	0.2	1.1	12.6	-2.8	...	...	...	...	...	...	...	...	...
Inflation rate (GDP deflator, in percent)	14.3	14.6	9.1	6.7	5.0	5.4	10.7	6.4	5.0	5.0	2.8	5.9	3.2	4.0	3.5
Growth of real primary spending (deflated by GDP deflator, in percent)	0.0	0.0	0.2	0.1	0.1	0.3	0.0	0.1	0.0	0.0	0.2	0.1	0.1	0.1	0.1
Grant element of new external borrowing (in percent)	...	...	...	…	…	48.6	52.3	42.3	38.1	33.7	36.4	41.9	39.4	13.2	...

Sources: Country authorities; and staff estimates and projections.
1/ [Indicate coverage of public sector, e.g., general government or nonfinancial public sector. Also whether net or 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 3.Uganda: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2011-2031
(In percent)

	Projections							
	2011	2012	2013	2014	2015	2016	**2021**	2031
PV of debt-to GDP ratio								
Baseline	9	9	11	14	17	18	**20**	20
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2011-2031 1/	9	6	5	5	8	10	**14**	23
A2. New public sector loans on less favorable terms in 2011-2031 2	9	9	12	16	21	25	**30**	31
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2012-2013	9	9	11	13	17	19	**21**	21
B2. Export value growth at historical average minus one standard deviation in 2012-2013 3/	9	9	13	15	19	20	**22**	21
B3. US dollar GDP deflator at historical average minus one standard deviation in 2012-2013	9	10	12	15	20	22	**24**	24
B4. Net non-debt creating flows at historical average minus one standard deviation in 2012-2013 4/	9	10	13	15	19	20	**22**	21
B5. Combination of B1-B4 using one-half standard deviation shocks	9	10	12	15	19	20	**23**	23
B6. One-time 30 percent nominal depreciation relative to the baseline in 2012 5/	9	12	14	18	23	25	**28**	28
PV of debt-to-exports ratio								
Baseline	41	45	53	63	76	79	**84**	76
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2011-2031 1/	41	28	23	25	35	42	**56**	88
A2. New public sector loans on less favorable terms in 2011-2031 2	41	46	57	73	95	108	**125**	117
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2012-2013	41	41	48	58	72	79	**83**	76
B2. Export value growth at historical average minus one standard deviation in 2012-2013 3/	41	47	70	81	95	102	**104**	90
B3. US dollar GDP deflator at historical average minus one standard deviation in 2012-2013	41	41	48	58	72	79	**83**	76
B4. Net non-debt creating flows at historical average minus one standard deviation in 2012-2013 4/	41	48	60	69	82	88	**89**	78
B5. Combination of B1-B4 using one-half standard deviation shocks	41	41	49	58	71	78	**82**	74
B6. One-time 30 percent nominal depreciation relative to the baseline in 2012 5/	41	41	48	58	72	79	**83**	76
PV of debt-to-revenue ratio								
Baseline	68	67	80	98	121	125	**129**	113
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2011-2031 1/	68	43	36	38	55	67	**87**	130
A2. New public sector loans on less favorable terms in 2011-2031 2	68	69	87	113	150	172	**193**	173
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2012-2013	68	63	77	94	120	131	**136**	118
B2. Export value growth at historical average minus one standard deviation in 2012-2013 3/	68	67	92	108	131	141	**139**	115
B3. US dollar GDP deflator at historical average minus one standard deviation in 2012-2013	68	69	88	107	136	149	**155**	134
B4. Net non-debt creating flows at historical average minus one standard deviation in 2012-2013 4/	68	73	91	106	129	139	**138**	114
B5. Combination of B1-B4 using one-half standard deviation shocks	68	70	85	103	129	142	**145**	125
B6. One-time 30 percent nominal depreciation relative to the baseline in 2012 5/	68	87	103	125	159	175	**181**	157

Table 3.Uganda: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2011-2031 (continued)
(In percent)

Debt service-to-exports ratio

Baseline	2	2	2	2	2	2	**2**	4
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2011-2031 1/	2	2	2	1	1	1	**2**	4
A2. New public sector loans on less favorable terms in 2011-2031 2	2	2	2	2	3	3	**4**	6
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2012-2013	2	2	2	2	2	2	**2**	4
B2. Export value growth at historical average minus one standard deviation in 2012-2013 3/	2	2	2	3	3	3	**3**	5
B3. US dollar GDP deflator at historical average minus one standard deviation in 2012-2013	2	2	2	2	2	2	**2**	4
B4. Net non-debt creating flows at historical average minus one standard deviation in 2012-2013 4/	2	2	2	2	2	3	**3**	4
B5. Combination of B1-B4 using one-half standard deviation shocks	2	2	2	2	2	2	**2**	4
B6. One-time 30 percent nominal depreciation relative to the baseline in 2012 5/	2	2	2	2	2	2	**2**	4

Debt service-to-revenue ratio

Baseline	3	3	3	3	3	4	**4**	6
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2011-2031 1/	3	3	2	2	2	2	**3**	5
A2. New public sector loans on less favorable terms in 2011-2031 2	3	3	3	3	4	5	**7**	9
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2012-2013	3	3	3	3	4	4	**4**	6
B2. Export value growth at historical average minus one standard deviation in 2012-2013 3/	3	3	3	3	4	4	**4**	6
B3. US dollar GDP deflator at historical average minus one standard deviation in 2012-2013	3	3	3	4	4	4	**4**	7
B4. Net non-debt creating flows at historical average minus one standard deviation in 2012-2013 4/	3	3	3	3	4	4	**4**	6
B5. Combination of B1-B4 using one-half standard deviation shocks	3	3	3	3	4	4	**4**	7
B6. One-time 30 percent nominal depreciation relative to the baseline in 2012 5/	3	4	4	4	5	5	**5**	8
Memorandum item:								
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	31	31	31	31	31	31	**31**	31

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 4.Uganda: Sensitivity Analysis for Key Indicators of Public Debt 2011-2031

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
		Projections																			
PV of Debt-to-GDP Ratio																					
Baseline	17	16	17	19	20	21	22	22	23	24	24	24	25	25	26	26	26	26	26	26	26
A. Alternative scenarios																					
A1. Real GDP growth and primary balance are at historical averages	17	14	12	11	13	12	11	10	10	10	10	10	11	12	13	13	14	14	15	15	15
A2. Primary balance is unchanged from 2011	17	18	20	23	28	30	32	34	36	38	40	43	45	48	50	52	54	56	57	58	60
A3. Permanently lower GDP growth 1/	17	17	17	19	21	23	24	25	26	27	28	29	31	32	33	34	35	36	38	39	40
B. Bound tests																					
B1. Real GDP growth is at historical average minus one standard deviations in 2012-2013	17	17	19	21	23	25	26	27	28	29	30	30	31	32	33	33	34	34	34	35	35
B2. Primary balance is at historical average minus one standard deviations in 2012-2013	17	15	14	16	17	19	19	20	21	22	22	23	23	24	24	25	25	25	25	25	25
B3. Combination of B1-B2 using one half standard deviation shocks	17	15	13	15	17	19	20	21	22	23	24	25	26	27	27	28	28	29	29	29	29
B4. One-time 30 percent real depreciation in 2012	17	20	19	20	21	21	21	21	21	21	22	22	23	23	23	24	24	24	25	25	26
B5. 10 percent of GDP increase in other debt-creating flows in 2012	17	24	25	26	27	27	28	28	28	28	28	28	28	28	29	29	28	28	28	28	28
PV of Debt-to-Revenue Ratio 2/																					
Baseline	107	101	107	115	124	132	135	138	141	140	139	137	136	137	139	136	136	136	135	134	134
A. Alternative scenarios																					
A1. Real GDP growth and primary balance are at historical averages	107	87	73	70	78	77	69	64	60	57	57	58	61	65	69	70	73	75	76	78	79
A2. Primary balance is unchanged from 2011	107	112	124	144	174	186	197	208	218	224	232	240	248	258	271	274	282	289	296	301	307
A3. Permanently lower GDP growth 1/	107	102	109	119	130	140	145	152	158	160	162	164	166	171	178	179	184	188	193	197	202
B. Bound tests																					
B1. Real GDP growth is at historical average minus one standard deviations in 2012-2013	107	104	117	129	142	152	158	164	169	170	171	170	170	172	176	174	176	176	177	177	178
B2. Primary balance is at historical average minus one standard deviations in 2012-2013	107	94	88	97	107	116	120	125	129	129	129	128	128	130	132	130	131	131	131	131	130
B3. Combination of B1-B2 using one half standard deviation shocks	107	91	82	93	106	118	124	130	136	138	140	140	141	144	148	147	148	149	150	150	151
B4. One-time 30 percent real depreciation in 2012	107	120	121	125	129	129	128	129	129	127	126	123	123	124	127	125	126	127	128	128	131
B5. 10 percent of GDP increase in other debt-creating flows in 2012	107	149	154	161	168	170	170	171	171	166	163	158	155	154	155	150	149	147	146	144	143
Debt Service-to-Revenue Ratio 2/																					
Baseline	20	17	16	15	11	10	11	11	11	10	11	11	11	12	12	13	14	14	14	15	15
A. Alternative scenarios																					
A1. Real GDP growth and primary balance are at historical averages	20	17	16	14	10	10	10	9	9	7	7	7	7	7	8	8	9	9	9	10	10
A2. Primary balance is unchanged from 2011	20	17	16	15	11	12	12	12	13	13	14	15	16	17	18	19	20	21	22	23	24
A3. Permanently lower GDP growth 1/	20	17	16	15	11	11	11	11	11	11	12	12	12	13	14	15	16	17	17	18	19
B. Bound tests																					
B1. Real GDP growth is at historical average minus one standard deviations in 2012-2013	20	18	17	16	11	11	11	12	12	12	12	12	13	13	14	15	16	16	17	17	18
B2. Primary balance is at historical average minus one standard deviations in 2012-2013	20	17	16	14	10	10	10	10	10	9	10	10	10	11	12	12	13	13	14	14	14
B3. Combination of B1-B2 using one half standard deviation shocks	20	18	16	15	10	10	11	11	10	9	10	10	11	11	12	13	14	14	15	15	16
B4. One-time 30 percent real depreciation in 2012	20	18	17	16	12	12	12	13	13	12	13	13	13	14	15	16	17	17	18	18	21
B5. 10 percent of GDP increase in other debt-creating flows in 2012	20	17	17	16	11	11	11	11	14	13	13	13	13	13	14	15	15	15	16	16	16

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.