UGANDA

December 16, 2016

SEVENTH REVIEW UNDER THE POLICY SUPPORT INSTRUMENT—DEBT SUSTAINABILITY ANALYSIS

Approved By
Roger Nord (IMF, AFR), Zuzana Murgasova (IMF, SPR), and Paloma Anos Casero (IDA)

Prepared by the staff of the International Monetary Fund (IMF) and the International Development Association (IDA)

Risk of external debt distress:	**Low**
Augmented by significant risks stemming from domestic public and/or private external debt?	**No**

The Debt Sustainability Analysis (DSA) update indicates that Uganda remains at low risk of debt distress.[1] *The Ugandan authorities are in a phase of scaling up public investment in infrastructure to support high and sustainable growth over the medium- and long-term. As a result, debt is projected to continue increasing until these projects are completed and the expected growth dividend kicks in. Strong project selection and implementation frameworks will be key to the success of the authorities' strategy, as well as fiscal consolidation once large infrastructure projects are completed, including by boosting domestic revenue mobilization. Weak exports, exposure to exchange rate depreciation, and low revenues as well as the short maturity of domestic debt pose risks to debt prospects.*

[1] The last Debt Sustainability Analysis (DSA) update was conducted in November 2015 (IMF Country Report No. 15/321), while the last full DSA was conducted in June 2015 (IMF Country Report No. 15/175). Under the Country Policy and Institutional Assessment (CPIA), Uganda is classified as a medium policy performer, with a CPIA score of 3.73 (3-year average, 2013–15). All data refer to fiscal years running from July to June (e.g., FY2016 covers July 2015 to June 2016, abbreviated as 2016 in the figures and tables). External debt is defined as foreign-currency denominated debt for purposes of the DSA.

BACKGOUND AND RECENT DEVELOPMENTS

1. **Uganda is in a phase of scaled up public investment to lay the foundation for future growth.** The authorities seek to improve the quality of basic infrastructure (including roads and electricity transmissions), increase the capacity for electricity production through two major hydro-power projects (Karuma and Isimba), develop a new oil sector (8 production licenses were recently awarded, a pipeline to Tanga, Tanzania and a domestic refinery are in the planning phase), and build a standard gauge railway to the Kenyan border, ultimately connecting Kampala to Mombasa. Strong project selection and implementation frameworks that safeguard a high quality of spending will be key to realizing the envisaged growth dividend. Investment in human capital is needed in parallel.

2. **Uganda's economic performance remains strong, but has moderated in recent years.** The average growth rate declined from close to 8 percent in the five years to FY2011 to 4½ percent in the last five years. Similarly, the average current account deficit widened from 6 percent of GDP to 7¼ percent of GDP in the same period, reflecting slower growth in exports of goods and services which declined from an average of 20 percent to an average of 4 percent. At the same time, the pace of exchange rate depreciation picked up from 5¼ percent to 8½ percent on average per annum, resulting in lower nominal GDP growth in U.S. dollars (down from 12½ percent to 4½ percent average annual growth). Looking forward, growth is projected to recover to about 6 percent over the medium-term, in the context of a muted global recovery and spillovers from neighboring countries. Exports of goods and services have stagnated in recent years, owing to falling commodity prices and weak demand from trading partners, including adverse spillovers from the conflict in South Sudan.

3. **Government finances remain on a sound footing, though expenditure composition can be of concern.** Notwithstanding some recent slippages, the authorities' medium-term fiscal strategy remains prudent. Starting from a low base, revenue collection has been significantly strengthened over the last few years, and the authorities target an annual improvement of the tax revenue take by ½ percent of GDP. On the expenditure side, the authorities aim to reprioritize away from current to social and capital spending, although this has been challenging in recent years. The average maturity of domestic debt remains short—securities with maturities lower than one-year constitute close to 40 percent of the total as of mid-September 2016—reflecting structural market inefficiencies. Since debt relief was granted in 2006, Uganda has gradually accumulated external public debt to finance infrastructure projects mainly on energy and transportation (Chart 1). Public and publicly guaranteed (PPG) debt is mostly concessional multilateral debt, although the share of non-Paris Club creditors has increased to 19 percent of the total, reflecting higher borrowing from China (Chart 2).[2]

[2] Uganda owes a small amount in pre-HIPC Initiative arrears to non-Paris Club debtors, which continue to be deemed away under the revised arrears policy for official creditors, as the underlying Paris Club agreement was adequately representative and the authorities continue to make best efforts to resolve the arrears.

Chart 1. Public Debt
(Percent of GDP, fiscal year)

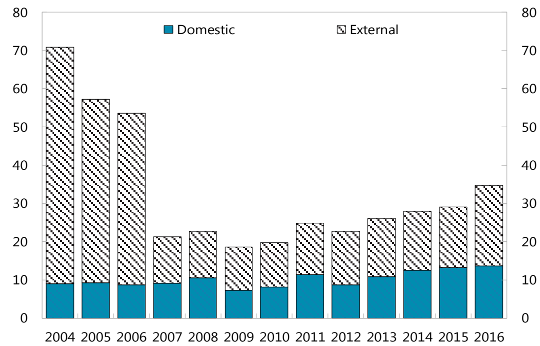
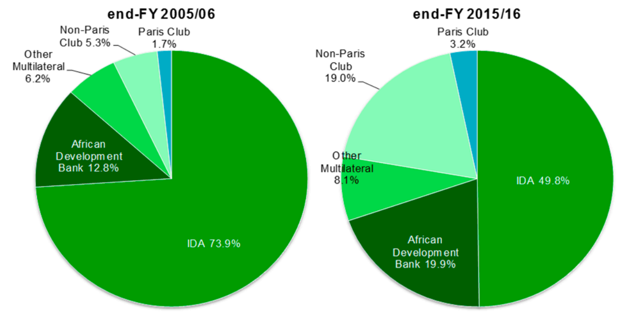


Chart 2. Composition of PPG External Debt
(Percent of total)



Sources: Ugandan authorities and IMF staff calculations.

Changes in the Underlying Macroeconomic Assumptions

4. **The macroeconomic assumptions used in this DSA are aligned with the authorities' framework supported by the PSI.** The baseline scenario assumes implementation of the authorities' economic policies and structural reforms. The main assumptions and changes compared to the previous DSA are (Text Table 1):

- *Growth* is projected at about 6½ percent on average over the medium term (1 percentage point lower than in the previous DSA), reflecting a weaker global environment, a lower execution rate for externally financed projects, and a one-year delay in the start of oil production compared to the previous DSA. Oil production is projected to raise real GDP growth by one percentage point on average during FY2023-FY2027 and would account for 5 percent of Uganda's GDP during the peak extraction period (previously, 7 percent).

- *The GDP deflator* is projected at 5 percent over the medium term, somewhat higher than in the previous DSA, anchored by the 5 percent core inflation target and the terms of trade trend. Over the long term, it is expected to gradually converge again to around 4 percent.

- Oil revenue projections have been reduced somewhat, following a moderate downward revision in oil price assumptions in line with the latest WEO projections (from 63 to 58 dollars per barrel in FY2022 when oil production is assumed to start). The projected start of production has been delayed, mainly due to prolonged negotiations over the routing of pipelines. Oil production licenses have now been awarded, and the final investment decisions are expected to be made in February 2018.

- The external current account deficit is estimated at 9 percent of GDP on average over the medium term (1 percent of GDP lower than in the last DSA), mostly financed with FDI and public sector borrowing. The lower deficit reflects the combined impact of updated assumptions on oil investment, the slower real effective exchange rate depreciation, and a revised profile of public investment, partly offset by weaker exports. Oil exports are projected to narrow the current account balance by 1 percent of GDP on average during the main production period (as in the previous DSA).

Text Table 1. Selected Macroeconomic Indicators – Compared to the Previous DSA

	2017	2018-2022 Average	2023-2027 Average	2028-2032 Average	2033-2037 Average
Real GDP growth (percent)					
Baseline	5.0	6.4	7.8	5.4	5.0
excl. oil production	5.0	6.4	6.9	5.6	5.3
Previous DSA	5.8	7.3	7.6	5.1	4.8
Inflation (GDP deflator, national currency, percent)					
Baseline	5.1	5.1	4.1	4.0	3.9
excl. oil production	5.1	5.0	3.9	4.0	4.0
Previous DSA	4.0	4.5	4.1	3.9	3.9
Nominal GDP (US$ billion)					
Baseline	26.5	33.4	59.6	99.2	145.0
excl. oil production	26.5	33.4	57.2	93.5	138.9
Previous DSA	26.1	35.7	64.5	104.2	150.8
Current account balance (percent of GDP)					
Baseline	-7.1	-8.7	-7.3	-5.5	-6.1
excl. oil production	-7.0	-7.5	-9.3	-8.2	-6.4
Previous DSA	-10.6	-10.1	-5.6	-4.8	-4.3
Overall fiscal balance (percent of GDP)					
Baseline	-6.0	-3.4	-2.0	-1.7	-1.5
excl. oil production	-6.0	-3.5	-3.0	-3.3	-2.9
Previous DSA	-6.6	-4.7	-1.6	-1.1	-1.3
Public investment (percent of GDP)					
Baseline	11.0	9.2	9.0	9.0	8.7
excl. oil production	11.0	9.1	8.3	8.1	7.9
Previous DSA	11.5	10.6	9.4	9.3	8.9
Oil-related revenue (percent of GDP)					
Baseline	0.0	0.2	1.9	2.7	2.4
excl. oil production	0.0	0.0	0.0	0.0	0.0
Previous DSA	0.0	0.8	2.8	3.3	2.5

Source: IMF staff projections.

- *The fiscal deficit* is estimated to average 3¾ percent of GDP a year over the medium term—a decline of about one percentage point compared to the last DSA. In line with historical outturns, the deficit path assumes a project execution rate of 80 percent which implies a narrowing of about two-thirds of a percentage point in the overall fiscal deficit over the medium-run and subsequently a slower decline as projects take longer to complete.[3] In addition, over the long term, the deficit is marginally higher than in the last DSA to account for the lower oil prices.

- *Nonconcessional borrowing* is projected to remain unchanged at about US$8 billion over the medium term (cumulative from June 28, 2013), but annual disbursements before FY2025 are now anticipated to be lower, with the more realistic project execution rate for externally-financed development spending (Text Table 2). Debt contracted by end-December 2015 (US$3 billion)

[3] In recent years, actual project execution rates have been about 80 percent for externally-financed development spending, while the execution rate for the two hydro power projects was much lower in the early days of construction. The execution rate for domestically financed public investment has been 100 percent.

finances the construction of the Karuma and Isimba dams, industrial substations, the Entebbe Airport rehabilitation, and road construction projects. The DSA includes contingent liabilities stemming from public-private partnerships, including the construction of roads and the Hoima refinery.

Text Table 2. Summary Table on External Borrowing Program

PPG external debt contracted or guaranteed	Volume of new debt[1]	Present value of new debt[1]
Year 1: FY2016/17	(Millions of U.S. dollars)	
Source of debt financing	**1,299**	**957**
Concessional debt, of which[2]	707	424
Multilateral debt	595	357
Bilateral debt	112	67
Non-concessional debt, of which[2]	592	533
Semi-concessional debt[3]	592	533
Commercial-term debt[4]	-	-
Use of debt financing	**1,299**	**957**
Infrastructure	1,299	957
Budget financing	-	-
Memorandum items		
Indicative projections		
Year 2: FY2017/18	1,303	1,047
Year 3: FY2018/19	-	-

Sources: Ugandan authorities and IMF staff projections.

[1] Contracting and guaranteeing of new debt. The present value of debt is calculated using the terms of individual loans and applying the 5 percent program discount rate.

[2] Debt with a grant element that exceeds a minimum threshold (35 percent).

[3] Debt with a positive grant element which does not meet the minimum threshold.

[4] Debt without a positive grant element. For commercial debt, the present value would be defined as the nominal/face value.

EXTERNAL DEBT SUSTAINABILITY

5. **PPG external debt is assessed to be sustainable over the projection period.** The PV of PPG external debt-to-GDP ratio is expected to peak at 22 percent in FY2021, which is lower than the projections in the previous DSA, reflecting the revised project execution rate. Nominal PPG external debt would stay below 31 percent of GDP in the projection period. All debt burden indicators are projected to remain below the debt burden thresholds for medium policy performers under the baseline scenario (Figure 1, Tables 1, and 3). Under the standardized stress tests, all but one debt service indicator are projected to remain below their respective thresholds.

6. **Only under the most extreme stress scenario, an exports shock, the PV of debt-to-exports ratio, shows a temporary breach of the threshold during FY2019–FY2021**. The maximum breach is 13 percentage points. This is related to the scaling-up of public investment, which leads to a temporary

bump in several debt burden indicators. The severity of the export shock, driven by the large export growth volatility over the last ten years, might also overstate the vulnerabilities. In particular, the conflict in neighboring South Sudan has reduced the level of exports and contributed to the volatility of export growth. However, the vulnerability to export shocks is projected to be gradually reduced by the current scaling-up of infrastructure that should support Uganda's exports. Indeed, over the long-term, all debt burden indicators are comfortably below the relevant thresholds. Staff, therefore, assesses that the external debt sustainability risk is low.

7. Nevertheless, risks to debt sustainability have increased. The scaling-up of investment spending and related increases in semi-concessional borrowing lead to increased vulnerabilities. In turn, failure to realize the envisaged growth dividend from the increased investment is a key risk as the historical scenario illustrates. The muted export performance remains another important risk, with the large impact of the shock scenario relative to the baseline being due to the significant volatility in export growth, which exceeds the historical average growth rate of exports. This highlights the importance of enhancing the country's competitiveness to boost exports over the medium term, including through effective public investment to fill infrastructure gaps. If growth and exports prospects were to be revised down in the future, this could adversely affect Uganda's risk rating, as could additional reliance on non-concessional borrowing that would not lead to higher growth rates.

8. Risks stemming from the uncertainty about oil production remain limited (customized scenario). In the baseline, it is assumed that the government uses half of its oil revenue to finance additional public investment—conceptually considering part of public investment directly tied to the existence of oil revenue. In the no-oil scenario, public investment is thus reduced by the amount tied to half of the "lost" oil revenue. However, the the fiscal deficit is still higher than in the baseline. As a result, the debt burden and debt service indicators over the long-term are somewhat higher than in the baseline scenario. Nevertheless, all external debt indicators remain below their respective thresholds with large margins, indicating a limited increase in debt sustainability risks. Moreover, as oil production licenses have now been awarded and the pipeline route agreed on, the uncertainty about oil production has declined. Nonetheless, given the high uncertainty of oil prices, keeping a prudent fiscal plan that does not overly rely on oil proceeds is warranted.

PUBLIC DEBT SUSTAINABILITY

9. Total public debt (external and domestic) is also assessed to be sustainable over the projection period. The PV of public debt-to-GDP ratio is projected to peak at about 36 percent in FY2021, well below the benchmark level of 56 percent associated with heightened public debt vulnerabilities for medium performers (Figure 2, Tables 2 and 4). However, the relatively short average maturity of domestic debt combined with a low revenue base continues to be a matter of concern. The debt service-to-revenue ratio (including grants) is projected to stay close to 40 percent until FY2022, among the highest in low-income countries, indicating high rollover and interest rate risks. These risks need to be mitigated by a combination of stronger revenue mobilization and determined efforts to extend average maturities over the medium term. In the latest Medium Term Debt Strategy released in June 2016, the authorities commit to keeping the average maturity of domestic debt above three years and reduce the ratio of short term bills to longer term bonds to 30:70. Overall, the authorities' capacity regarding debt management, monitoring and reporting is improving, aided by IMF and World Bank technical assistance.

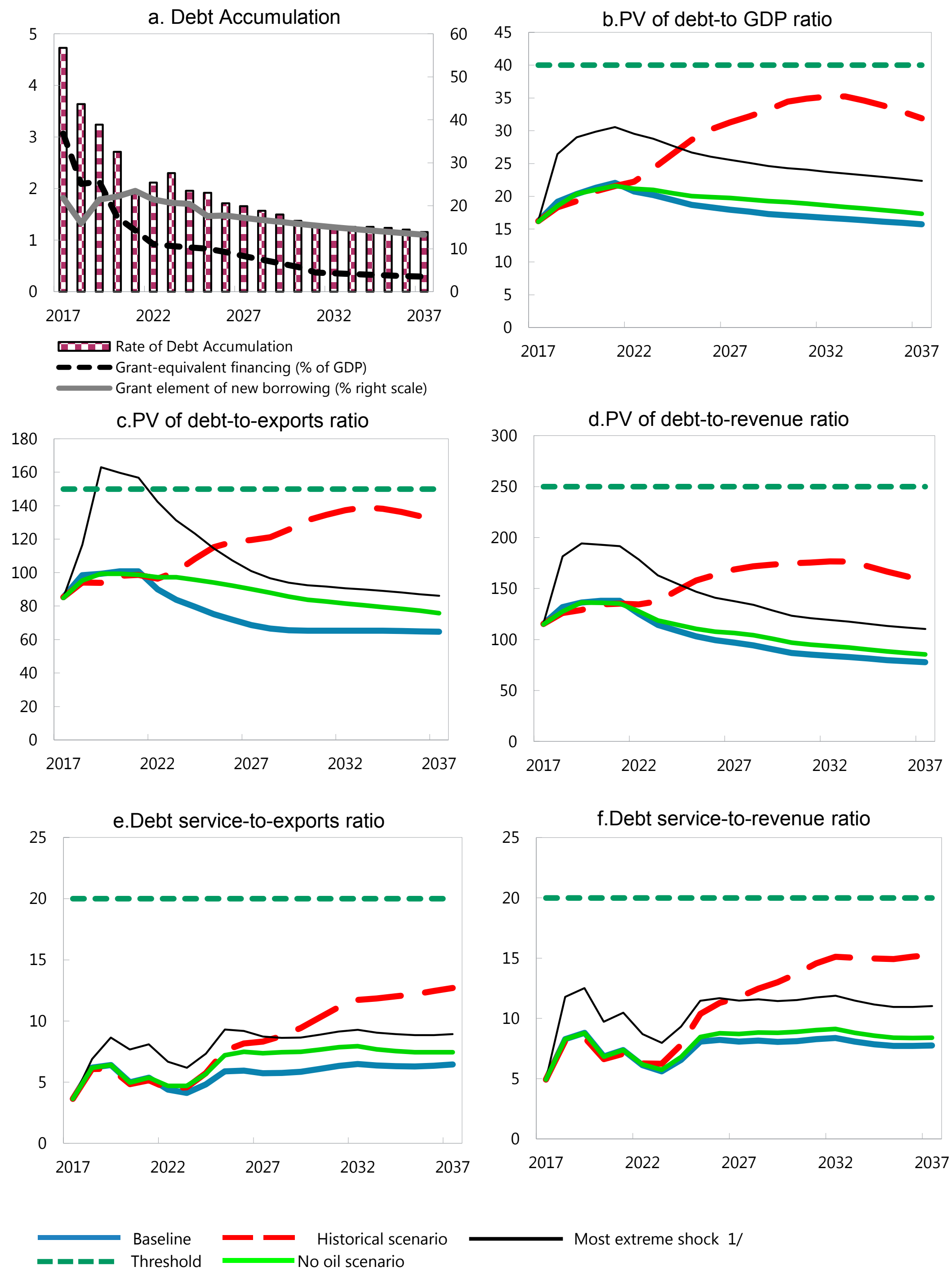
10. Deviations from fiscal objectives are the main risks to debt sustainability. An illustrative scenario with a fixed primary deficit over the projection period indicates a significantly higher PV of public debt-to-GDP ratio, exceeding the benchmark level of 56 percent of GDP in the long run. This highlights the importance of staying the course on fiscal policies (revenue mobilization, expenditure reprioritization) and reducing fiscal deficits immediately after the planned scaling up of public investment has been completed. The customized alternative scenario without oil flows indicates elevated but limited risks stemming from uncertainty about oil revenues, as in the case for the external debt analysis.

CONCLUSION

11. Uganda's risk of external debt distress remains low. Uganda's debt levels remain low, and the temporary increase in borrowing is intended to finance growth-enhancing scaled-up public investment. However, risks to debt sustainability have increased, as the temporary breach under an export shock scenario illustrates. To mitigate these risks, it is important to ensure sound project selection and implementation, a reprioritization of expenditures, and domestic revenue mobilization. Strong governance frameworks are equally essential to safeguard the quality and effectiveness of public investment (and spending in general). A better infrastructure and the impact of parallel reforms, e.g., improvements in the business climate, are expected to strengthen Uganda's competitiveness. The real effective exchange rate depreciation over the past year should also help boost stagnating exports over the medium term. Sound asset-liability management and avoiding a premature reliance on uncertain future oil flows remain essential preconditions for debt sustainability.

12. The authorities concurred with staff's views. They remain committed to ensuring debt sustainability through long-term prudent debt management, as outlined in their Medium Term Debt Management Framework, which aims at minimizing costs and risks associated with public investment project financing. The authorities acknowledged the risks, in particular from weak exports, and intend to closely monitor developments, and stand ready to adjust policies as needed to safeguard debt sustainability. They also comit to continue to engage with IDA/IMF staff on debt management issues and to address the short maturity of domestic debt by building policy credibility and deepening the markets.

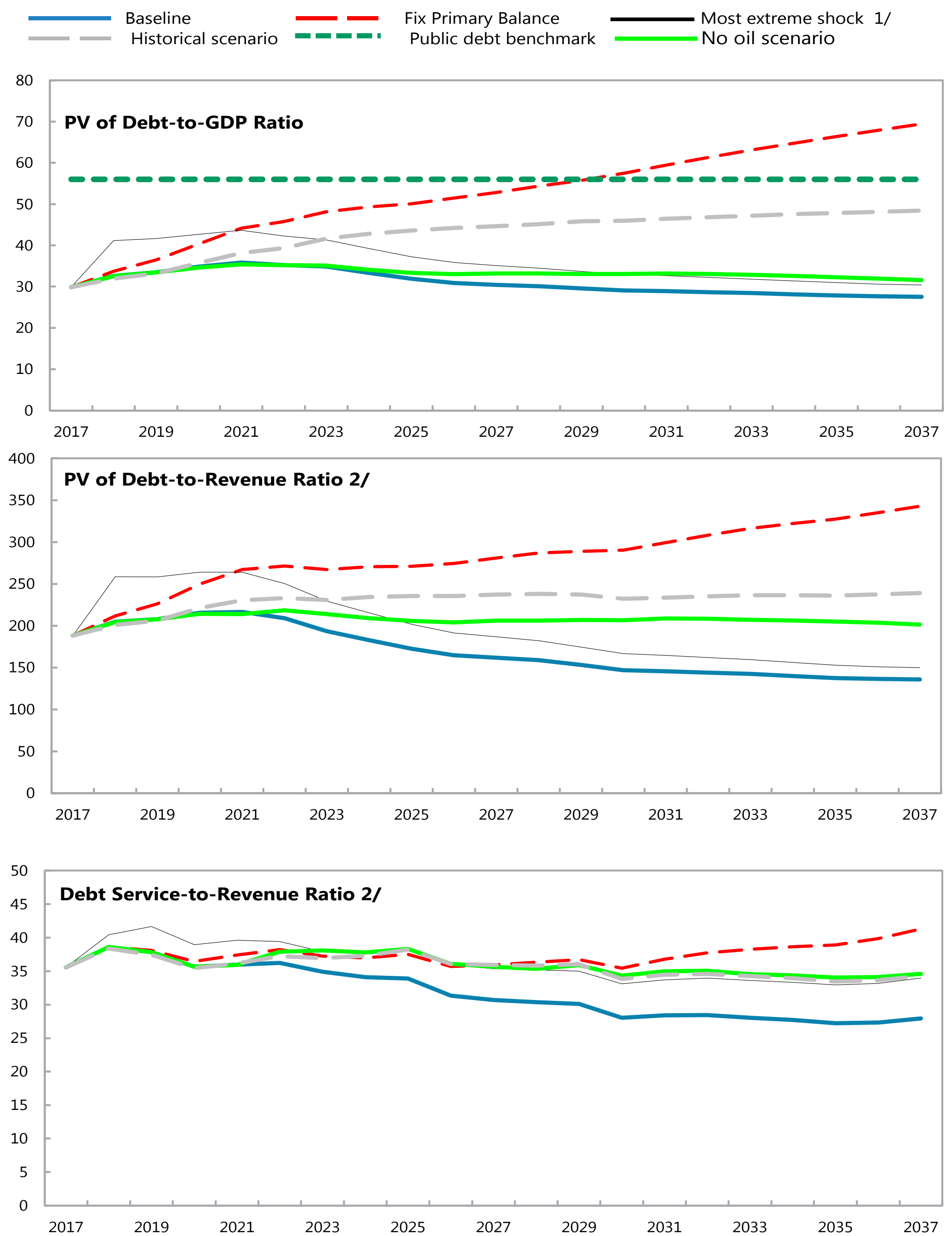
Figure 1. Uganda: Indicators of Public and Publicly Guaranteed External Debt under Alternatives Scenarios, 2017-2037 1/



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 2027. 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. Uganda: Indicators of Public Debt Under Alternative Scenarios, 2017–2037 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 2027.

2/ Revenues are defined inclusive of grants.

Table 1. Uganda: External Debt Sustainability Framework, Baseline Scenario, 2014–2037 1/

(Percent of GDP, unless otherwise indicated)

	Actual			Historical Average 6/	Standard Deviation 6/	Projections									
	2014	2015	2016			2017	2018	2019	2020	2021	2022	2017-2022 Average	2027	2037	2023-2037 Average
External debt (nominal) 1/	**29.9**	**34.8**	**39.0**			**41.5**	**43.7**	**44.3**	**45.5**	**47.8**	**44.2**		**35.0**	**36.5**	
of which: public and publicly guaranteed (PPG)	15.8	18.5	20.9			25.0	28.1	29.1	29.9	30.5	28.3		23.2	19.4	
Change in external debt	0.7	4.8	4.3			2.4	2.3	0.6	1.2	2.3	-3.6		-0.9	1.1	
Identified net debt-creating flows	1.7	5.5	8.4			3.6	2.2	1.7	1.6	1.3	0.0		0.0	1.9	
Non-interest current account deficit	**6.2**	**6.1**	**4.7**	**5.2**	**2.2**	**5.7**	**6.6**	**6.9**	**6.7**	**6.5**	**6.7**		**4.7**	**4.5**	4.6
Deficit in balance of goods and services	9.7	10.7	10.4			10.5	10.5	10.7	10.0	10.1	9.3		4.7	6.0	
Exports	18.2	18.1	18.2			19.0	19.5	20.5	21.2	21.9	23.0		26.2	24.3	
Imports	27.9	28.8	28.6			29.5	30.0	31.2	31.2	32.0	32.4		30.9	30.3	
Net current transfers (negative = inflow)	-4.3	-5.1	-6.3	-6.5	1.4	-5.1	-4.5	-4.7	-4.3	-4.4	-3.9		-3.1	-3.0	-3.1
of which: official	-0.7	-0.9	-1.0			-1.4	-0.9	-0.7	-0.2	-0.4	-0.3		-0.2	0.0	
Other current account flows (negative = net inflow)	0.8	0.6	0.5			0.4	0.6	0.9	0.9	0.7	1.3		3.1	1.4	
Net FDI (negative = inflow)	**-2.9**	**-1.9**	**-1.7**	**-3.0**	**1.1**	**-1.7**	**-3.8**	**-4.7**	**-4.8**	**-4.8**	**-5.7**		**-4.3**	**-3.1**	-4.2
Endogenous debt dynamics 2/	**-1.5**	**1.3**	**5.4**			**-0.4**	**-0.5**	**-0.5**	**-0.4**	**-0.4**	**-1.0**		**-0.5**	**0.6**	
Contribution from nominal interest rate	1.4	1.1	1.3			1.4	1.6	2.0	2.2	2.4	2.2		1.6	2.1	
Contribution from real GDP growth	-1.4	-1.6	-1.9			-1.8	-2.1	-2.4	-2.5	-2.8	-3.2		-2.0	-1.6	
Contribution from price and exchange rate changes	-1.6	1.8	5.9			...	...	...	...	...	...		...	...	
Residual (3-4) 3/	**-1.0**	**-0.7**	**-4.1**			**-1.1**	**0.0**	**-1.1**	**-0.4**	**1.0**	**-3.6**		**-0.8**	**-0.8**	
of which: 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 4/	...	...	30.7			32.7	34.8	35.6	37.0	39.4	36.6		29.8	32.8	
In percent of exports	...	...	168.0			172.1	178.6	173.5	174.8	179.9	158.9		113.7	134.8	
PV of PPG external debt	**...**	**...**	**12.5**			**16.2**	**19.2**	**20.4**	**21.3**	**22.0**	**20.7**		**18.0**	**15.7**	
In percent of exports	**...**	**...**	**68.5**			**85.3**	**98.4**	**99.3**	**100.8**	**100.7**	**90.0**		**68.6**	**64.7**	
In percent of government revenues	**...**	**...**	**92.3**			**115.4**	**131.7**	**136.3**	**138.0**	**138.1**	**125.4**		**96.9**	**77.7**	
Debt service-to-exports ratio (in percent)	**11.7**	**9.6**	**15.3**			**15.7**	**15.0**	**18.3**	**15.8**	**15.7**	**13.3**		**10.7**	**14.8**	
PPG debt service-to-exports ratio (in percent)	**2.6**	**2.7**	**3.4**			**3.6**	**6.2**	**6.4**	**5.0**	**5.4**	**4.4**		**5.7**	**6.4**	
PPG debt service-to-revenue ratio (in percent)	**4.1**	**3.7**	**4.6**			**4.9**	**8.3**	**8.8**	**6.8**	**7.4**	**6.1**		**8.1**	**7.7**	
Total gross financing need (Billions of U.S. dollars)	1.8	2.0	1.9			2.3	2.1	2.3	2.3	2.4	2.2		4.3	13.5	
Non-interest current account deficit that stabilizes debt ratio	5.5	1.3	0.4			3.3	4.3	6.3	5.5	4.2	10.4		5.6	3.4	
Key macroeconomic assumptions															
Real GDP growth (in percent)	5.2	5.1	4.8	6.2	2.2	5.0	5.5	6.0	6.3	6.5	7.7	6.2	6.3	4.8	6.0
GDP deflator in US dollar terms (change in percent)	5.6	-5.7	-14.6	2.1	8.9	2.4	1.0	0.8	3.6	-0.1	5.5	2.2	4.6	3.7	4.2
Effective interest rate (percent) 5/	5.4	3.5	3.4	6.3	2.7	3.8	4.1	4.8	5.4	5.5	5.2	4.8	4.9	6.5	5.3
Growth of exports of G&S (US dollar terms, in percent)	-0.1	-1.2	-9.8	11.8	13.9	11.9	9.3	12.4	13.7	10.0	19.6	12.8	14.2	7.5	10.9
Growth of imports of G&S (US dollar terms, in percent)	2.2	2.3	-10.8	11.1	14.5	10.5	8.6	11.2	10.0	9.1	15.0	10.7	8.5	8.6	10.0
Grant element of new public sector borrowing (in percent)	...	...	...	...	...	21.8	16.0	21.5	22.2	23.5	21.4	21.1	17.2	13.2	16.2
Government revenues (excluding grants, in percent of GDP)	11.6	13.0	13.5			14.0	14.6	14.9	15.5	16.0	16.5		18.5	20.3	19.3
Aid flows (in Billions of US dollars) 7/	0.5	0.7	0.4			1.1	0.7	0.9	0.7	0.6	0.6		0.8	0.9	
of which: Grants	0.3	0.3	0.3			0.5	0.4	0.4	0.2	0.2	0.1		0.2	0.0	
of which: Concessional loans	0.2	0.4	0.1			0.6	0.4	0.5	0.4	0.4	0.4		0.6	0.9	
Grant-equivalent financing (in percent of GDP) 8/	...	...	...			3.1	2.1	2.1	1.4	1.2	0.9		0.7	0.3	0.5
Grant-equivalent financing (in percent of external financing) 8/	...	...	...			41.0	35.0	37.9	35.7	37.4	30.2		24.3	13.2	19.9
Memorandum items:															
Nominal GDP (Billions of US dollars)	27.8	27.5	24.7			26.5	28.2	30.2	33.2	35.3	40.1		74.0	178.3	
Nominal dollar GDP growth	11.1	-0.8	-10.4			7.5	6.5	6.8	10.1	6.4	13.6	8.5	11.3	8.7	10.5
PV of PPG external debt (in Billions of US dollars)			3.1			4.3	5.2	6.2	7.0	7.6	8.4		13.3	28.0	
(PVt-PVt-1)/GDPt-1 (in percent)						4.7	3.6	3.2	2.7	1.9	2.1	3.1	1.7	1.2	1.5
Gross workers' remittances (Billions of US dollars)	1.0	1.2	1.3			1.0	1.0	1.2	1.3	1.4	1.6		2.8	6.1	
PV of PPG external debt (in percent of GDP + remittances)	...	...	11.9			15.6	18.5	19.6	20.5	21.2	19.9		17.3	15.2	
PV of PPG external debt (in percent of exports + remittances)	...	...	53.1			71.3	82.9	83.1	84.7	85.1	76.8		60.0	56.7	
Debt service of PPG external debt (in percent of exports + remittances)	...	...	2.7			3.0	5.2	5.4	4.2	4.5	3.7		5.0	5.6	

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, 2014–2037

(Percent of GDP, unless otherwise indicated)

	Actual			Average 5/	Standard Deviation 5/	Estimate	Projections								
	2014	2015	2016			2017	2018	2019	2020	2021	2022	2017-22 Average	2027	2037	2023-37 Average
Public sector debt 1/	28.3	31.8	34.5			38.6	41.5	42.2	43.4	44.3	42.8		35.7	31.2	
of which: foreign-currency denominated	15.8	18.5	20.9			25.0	28.1	29.1	29.9	30.5	28.3		23.2	19.4	
Change in public sector debt	2.2	3.5	2.8			4.1	2.8	0.7	1.1	0.9	-1.4		-0.8	-0.2	
Identified debt-creating flows	1.9	5.8	2.6			3.6	2.8	0.8	1.1	0.9	-2.2		-1.5	-1.0	
Primary deficit	2.6	2.7	2.8	2.0	1.0	3.8	2.5	1.6	0.6	0.5	0.3	1.5	0.2	-0.2	-0.2
Revenue and grants	12.6	14.2	14.9			15.9	15.9	16.1	16.2	16.5	16.9		18.8	20.3	
of which: grants	1.0	1.2	1.4			1.8	1.4	1.2	0.7	0.6	0.3		0.2	0.0	
Primary (noninterest) expenditure	15.2	16.9	17.7			19.6	18.4	17.7	16.8	17.0	17.1		19.0	20.1	
Automatic debt dynamics	-0.7	2.7	-0.1			-0.2	0.3	-1.6	-1.2	-0.6	-3.8		-1.7	-0.8	
Contribution from interest rate/growth differential	-0.5	-0.6	-0.2			-0.4	-0.7	-1.1	-1.3	-1.4	-2.1		-1.1	-0.5	
of which: contribution from average real interest rate	0.8	0.7	1.3			1.3	1.3	1.2	1.2	1.2	1.0		1.0	0.9	
of which: contribution from real GDP growth	-1.3	-1.4	-1.5			-1.6	-2.0	-2.3	-2.5	-2.6	-3.2		-2.2	-1.4	
Contribution from real exchange rate depreciation	-0.2	3.4	0.1			0.1	1.0	-0.5	0.1	0.9	-1.6		...	...	
Other identified debt-creating flows	0.0	0.3	0.0			0.1	0.1	0.8	1.7	1.0	1.3		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	0.8	1.7	1.0	1.3		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	0.3	0.0			0.1	0.1	0.0	0.0	0.0	0.0		0.0	0.0	
Residual, including asset changes	0.3	-2.3	0.1			0.5	0.0	0.0	0.0	0.0	0.8		0.7	0.8	
Other Sustainability Indicators															
PV of public sector debt	...	...	26.2			29.9	32.6	33.5	34.8	35.8	35.3		30.4	27.6	
of which: foreign-currency denominated	...	...	12.5			16.2	19.2	20.4	21.3	22.0	20.7		18.0	15.7	
of which: external	...	...	12.5			16.2	19.2	20.4	21.3	22.0	20.7		18.0	15.7	
PV of contingent liabilities (not included in public sector debt)	...	...	...			...	...	...	...	...	...		...	...	
Gross financing need 2/	11.0	12.0	13.0			14.2	13.4	12.3	10.8	11.0	10.8		9.9	8.9	
PV of public sector debt-to-revenue and grants ratio (in percent)	...	...	175.7			188.3	204.7	208.0	215.5	216.5	209.0		161.9	136.1	
PV of public sector debt-to-revenue ratio (in percent)	...	...	193.3			212.9	223.8	224.4	225.3	224.4	213.3		164.1	136.1	
of which: external 3/	...	...	92.3			115.4	131.7	136.3	138.0	138.1	125.4		96.9	77.7	
Debt service-to-revenue and grants ratio (in percent) 4/	34.9	33.6	36.0			35.6	38.6	37.8	35.7	36.0	36.2		30.7	27.9	
Debt service-to-revenue ratio (in percent) 4/	37.9	36.7	39.6			40.2	42.2	40.8	37.3	37.3	37.0		31.1	27.9	
Primary deficit that stabilizes the debt-to-GDP ratio	0.4	-0.7	0.0			-0.3	-0.4	0.8	-0.5	-0.4	1.7		1.0	0.1	
Key macroeconomic and fiscal assumptions															
Real GDP growth (in percent)	5.2	5.1	4.8	6.2	2.2	5.0	5.5	6.0	6.3	6.5	7.7	6.2	6.3	4.8	6.0
Average nominal interest rate on forex debt (in percent)	1.2	1.0	1.4	1.2	0.3	1.5	1.9	2.3	2.5	2.5	2.6	2.2	2.9	3.5	3.1
Average real interest rate on domestic debt (in percent)	8.4	6.8	9.8	3.9	6.0	9.9	10.5	9.8	8.9	8.7	7.0	9.1	7.1	6.0	7.1
Real exchange rate depreciation (in percent, + indicates depreciation)	-1.4	22.6	0.3	0.4	13.2	0.7	...	...	...	...	...	...	...	...	...
Inflation rate (GDP deflator, in percent)	3.4	5.1	4.0	8.6	5.7	5.1	4.7	4.8	4.8	3.8	7.4	5.1	4.5	3.9	4.0
Growth of real primary spending (deflated by GDP deflator, in percent)	7.5	17.1	9.7	3.5	6.0	16.3	-1.3	2.0	0.8	8.0	8.5	5.7	9.5	5.0	7.2
Grant element of new external borrowing (in percent)	...	...	...	...	...	21.8	16.0	21.5	22.2	23.5	21.4	21.1	17.2	13.2	...

Sources: Country authorities; and staff estimates and projections.

1/ The public sector sector includes the central government only and gross debt is used for all presentations. For purposes of the DSA, public domestic debt includes contingent liabilities stemming from public-private partnerships.

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, 2017–2037

(Percent)

	Projections							
	2017	2018	2019	2020	2021	2022	**2027**	2037
PV of debt-to GDP ratio								
Baseline	16	19	20	21	22	21	**18**	16
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2017-2037 1/	16	18	19	21	22	22	**31**	32
A2. New public sector loans on less favorable terms in 2017-2037 2	16	20	23	24	25	25	**23**	24
A3. Alternative Scenario : No Oil Scenario	16	19	20	21	22	21	**20**	17
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2018-2019	16	19	21	22	22	21	**19**	16
B2. Export value growth at historical average minus one standard deviation in 2018-2019 3/	16	20	26	26	27	26	**21**	16
B3. US dollar GDP deflator at historical average minus one standard deviation in 2018-2019	16	20	24	25	25	24	**21**	18
B4. Net non-debt creating flows at historical average minus one standard deviation in 2018-2019 4/	16	20	24	24	24	24	**19**	16
B5. Combination of B1-B4 using one-half standard deviation shocks	16	20	27	27	28	27	**22**	18
B6. One-time 30 percent nominal depreciation relative to the baseline in 2018 5/	16	26	29	30	31	30	**26**	22
PV of debt-to-exports ratio								
Baseline	85	98	99	101	101	90	**69**	65
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2017-2037 1/	85	94	94	98	99	96	**120**	131
A2. New public sector loans on less favorable terms in 2017-2037 2	85	101	110	113	114	107	**89**	98
A3. Alternative Scenario : No Oil Scenario	85	95	99	99	99	97	**90**	76
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2018-2019	85	95	99	99	98	90	**69**	65
B2. Export value growth at historical average minus one standard deviation in 2018-2019 3/	85	117	163	160	157	142	**101**	86
B3. US dollar GDP deflator at historical average minus one standard deviation in 2018-2019	85	95	99	99	98	90	**69**	65
B4. Net non-debt creating flows at historical average minus one standard deviation in 2018-2019 4/	85	101	115	114	112	102	**74**	66
B5. Combination of B1-B4 using one-half standard deviation shocks	85	105	135	133	131	119	**86**	75
B6. One-time 30 percent nominal depreciation relative to the baseline in 2018 5/	85	95	99	99	98	90	**69**	65
PV of debt-to-revenue ratio								
Baseline	115	132	136	138	138	125	**97**	78
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2017-2037 1/	115	126	129	134	135	134	**169**	157
A2. New public sector loans on less favorable terms in 2017-2037 2	115	135	151	154	156	149	**126**	118
A3. Alternative Scenario : No Oil Scenario	115	127	136	136	135	128	**106**	85
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2018-2019	115	130	141	141	139	130	**100**	80
B2. Export value growth at historical average minus one standard deviation in 2018-2019 3/	115	140	174	171	168	155	**111**	81
B3. US dollar GDP deflator at historical average minus one standard deviation in 2018-2019	115	138	160	159	158	147	**113**	91
B4. Net non-debt creating flows at historical average minus one standard deviation in 2018-2019 4/	115	136	158	156	153	142	**105**	79
B5. Combination of B1-B4 using one-half standard deviation shocks	115	140	180	176	174	161	**117**	87
B6. One-time 30 percent nominal depreciation relative to the baseline in 2018 5/	115	182	194	193	192	179	**138**	110

Table 3. Uganda: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2017–2037 (concluded)

(Percent)

	Projections							
	2017	2018	2019	2020	2021	2022	**2027**	2037
Debt service-to-exports ratio								
Baseline	4	6	6	5	5	4	**6**	6
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2017-2037 1/	4	6	6	5	5	4	**8**	13
A2. New public sector loans on less favorable terms in 2017-2037 2	4	6	6	5	5	4	**6**	9
A3. Alternative Scenario : No Oil Scenario	4	6	6	5	5	5	**7**	7
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2018-2019	4	6	6	5	5	4	**6**	6
B2. Export value growth at historical average minus one standard deviation in 2018-2019 3/	4	7	9	8	8	7	**9**	9
B3. US dollar GDP deflator at historical average minus one standard deviation in 2018-2019	4	6	6	5	5	4	**6**	6
B4. Net non-debt creating flows at historical average minus one standard deviation in 2018-2019 4/	4	6	7	6	6	5	**6**	7
B5. Combination of B1-B4 using one-half standard deviation shocks	4	6	7	6	7	6	**7**	8
B6. One-time 30 percent nominal depreciation relative to the baseline in 2018 5/	4	6	6	5	5	4	**6**	6
Debt service-to-revenue ratio								
Baseline	5	8	9	7	7	6	**8**	8
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2017-2037 1/	5	8	8	7	7	6	**12**	15
A2. New public sector loans on less favorable terms in 2017-2037 2	5	8	8	7	7	6	**8**	10
A3. Alternative Scenario : No Oil Scenario	5	8	9	7	7	6	**9**	8
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2018-2019	5	8	9	7	8	6	**8**	8
B2. Export value growth at historical average minus one standard deviation in 2018-2019 3/	5	8	9	8	9	7	**10**	8
B3. US dollar GDP deflator at historical average minus one standard deviation in 2018-2019	5	9	10	8	9	7	**9**	9
B4. Net non-debt creating flows at historical average minus one standard deviation in 2018-2019 4/	5	8	9	8	8	7	**9**	8
B5. Combination of B1-B4 using one-half standard deviation shocks	5	9	10	9	9	8	**10**	9
B6. One-time 30 percent nominal depreciation relative to the baseline in 2018 5/	5	12	13	10	10	9	**11**	11
Memorandum item:								
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	13	13	13	13	13	13	**13**	13

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 2017–2037
(Percent)

		Projections						
	2017	2018	2019	2020	2021	2022	2027	2037
PV of Debt-to-GDP Ratio								
Baseline	30	33	34	35	36	35	30	28
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	30	32	33	36	38	39	45	48
A2. Primary balance is unchanged from 2017	30	34	36	40	44	46	53	69
A3. Permanently lower GDP growth 1/	30	33	34	36	37	37	35	43
A4. Alternative Scenario : No Oil Scenario	30	33	33	35	35	35	33	32
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2018-2019	30	33	35	37	39	38	35	36
B2. Primary balance is at historical average minus one standard deviations in 2018-2019	30	33	35	36	37	37	31	28
B3. Combination of B1-B2 using one half standard deviation shocks	30	33	35	36	37	37	33	31
B4. One-time 30 percent real depreciation in 2018	30	40	40	41	42	41	34	31
B5. 10 percent of GDP increase in other debt-creating flows in 2018	30	41	42	43	44	42	35	30
PV of Debt-to-Revenue Ratio 2/								
Baseline	188	205	208	215	217	209	162	136
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	188	201	206	221	231	233	237	239
A2. Primary balance is unchanged from 2017	188	212	226	250	267	271	281	343
A3. Permanently lower GDP growth 1/	188	206	211	221	224	219	187	214
A4. Alternative Scenario : No Oil Scenario	188	204	208	214	214	219	206	201
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2018-2019	188	209	219	229	233	227	187	177
B2. Primary balance is at historical average minus one standard deviations in 2018-2019	188	208	218	225	226	217	167	139
B3. Combination of B1-B2 using one half standard deviation shocks	188	206	215	224	226	219	173	152
B4. One-time 30 percent real depreciation in 2018	188	252	249	255	255	242	181	155
B5. 10 percent of GDP increase in other debt-creating flows in 2018	188	259	258	264	264	251	187	150
Debt Service-to-Revenue Ratio 2/								
Baseline	36	39	38	36	36	36	31	28
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	36	38	37	35	36	37	36	34
A2. Primary balance is unchanged from 2017	36	39	38	36	37	38	36	41
A3. Permanently lower GDP growth 1/	36	39	38	36	37	37	33	34
A4. Alternative Scenario : No Oil Scenario	36	39	38	36	36	38	36	35
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2018-2019	36	39	39	37	37	38	33	31
B2. Primary balance is at historical average minus one standard deviations in 2018-2019	36	39	38	36	36	37	31	28
B3. Combination of B1-B2 using one half standard deviation shocks	36	39	38	36	37	37	32	29
B4. One-time 30 percent real depreciation in 2018	36	40	42	39	40	39	35	34
B5. 10 percent of GDP increase in other debt-creating flows in 2018	36	39	40	38	38	38	33	29

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.