

INTERNATIONAL DEVELOPMENT ASSOCIATION
AND INTERNATIONAL MONETARY FUND

BURUNDI

Joint World Bank/IMF Debt Sustainability Analysis

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

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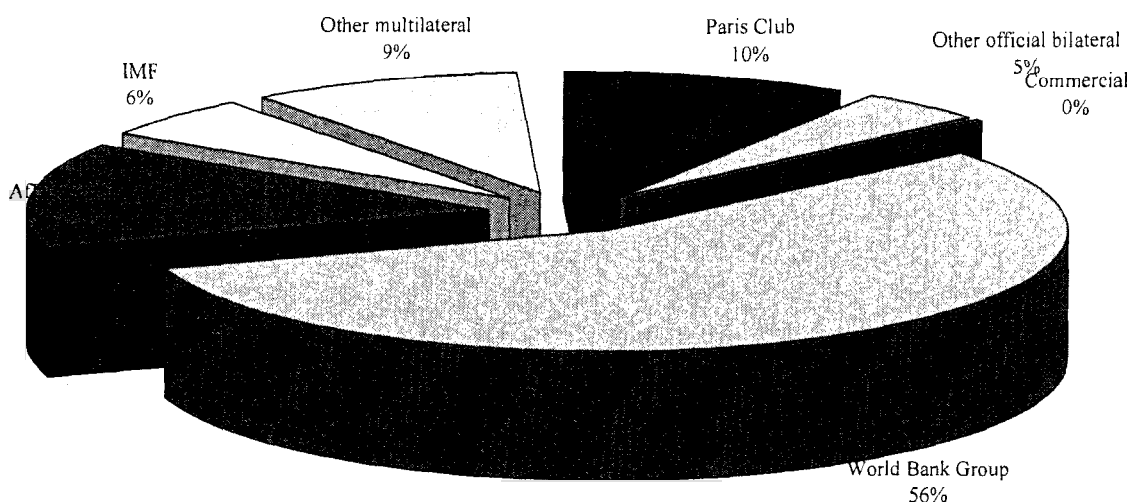
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Burundi is in debt distress. Burundi's external debt burden indicators under the baseline are in substantial and sustained breach of their indicative thresholds. Even after enhanced HIPC and MDRI assistance, the NPV of debt-to-exports ratio is projected to remain above its indicative threshold over the entire 2007-27 period. Adverse shocks significantly worsen the debt sustainability indicators. The fiscal sustainability indicators for total (domestic and external) public debt suggest a more robust position, reflecting a strong domestic revenue effort. The analysis suggests that particular attention be given to exports as the driver of overall growth and to obtaining external grant financing as much as possible.

I. BACKGROUND

1. **This debt sustainability analysis (DSA) assesses Burundi's external public debt dynamics using the forward-looking debt sustainability framework for low-income countries (LIC).** At end-2006, Burundi's stock of public and publicly guaranteed (PPG) external debt was US\$1,464 million (US\$1,517 million including arrears), US\$51 million higher than at end-2005 (Figure 1). The **baseline scenario** assumes continued interim HIPC debt relief through the medium term. An **alternative scenario** models the HIPC completion point and the delivery of additional MDRI debt relief in September 2008. Under the baseline scenario, Burundi would be in debt distress as the present value (NPV) of PPG external debt at end-2006 was 88 percent of GDP, 841 percent of exports, and 462 percent of government revenues (Table 1). As a result, most debt burden indicators substantially exceed their policy-based thresholds under the baseline scenario. Under the alternative scenario, the risk of debt distress is significantly reduced but remains elevated.

Figure 1. Burundi: Composition of Stock of External Debt at End-December 2006 1/
Nominal Value of debt: US\$1463.7 million



Sources: Burundi authorities; and staff estimates
1/ Before HIPC relief and excluding arrears

2. **This DSA updates the analysis presented in the HIPC decision point document for Burundi of July 2005¹ and that of mid 2006.** Three key differences underpin the results of this analysis from that in the 2005 HIPC Decision point document: (i) the baseline scenario assumes significantly higher aid inflows, and larger current account deficits and primary fiscal deficits, to be financed mainly with additional grants and concessional loans in the medium term; (ii) real growth would average about 1 percent higher through the medium term than in the decision point baseline, reflecting the combination of higher external financial assistance and investment, and a strong sustained reform effort; (iii) the HIPC completion point is assumed to be reached in September 2008, almost 2 years later than projected at the decision point.

II. MEDIUM-TERM MACROECONOMIC AND DSA ASSUMPTIONS

3. **The baseline macroeconomic outlook assumes real GDP growth sustained by an increase in export volumes and financing in the form of grants or highly concessional borrowing** (Box 1). Growth would be sustained by the consolidation of peace, maintenance of macroeconomic stability, a deepening of structural reforms, increased public investment in infrastructure, and greater openness to trade, especially following Burundi's accession to the East African Community (EAC) in July 2007. Public investment would rise to an average of 10.7 percent of GDP in 2006-16, made possible by the fiscal space created by a redirection of

¹ See *Burundi: Decision Point Document for the Enhanced Initiative for Heavily Indebted Poor Countries*, July 11, 2005 (IDA Report No. 32835-BU; IMF report EBS/05/104).

spending from security, rising grants and concessional loans, HIPC debt relief, and continued strong fiscal revenue performance.

4. **Exports, stimulated by new investment and sustained reforms, are projected to drive growth over the long term, with significant development in the coffee and tea sectors as well as nontraditional sectors, such as mining and tourism.** Prices of the main exports would remain in line with recent market developments and coffee prices would fetch a small premium beginning in 2008, reflecting reforms that enhance productivity and quality in the coffee and tea sectors. Reforms in the banking sector and limited domestic public borrowing would increase the availability of credit to the private sector, sustaining private investment.

Box 1. Burundi: Principal Baseline Macroeconomic Assumptions

Real GDP growth averages 6.0 percent over 2007–27, supported by a peacetime broad-based recovery in agricultural production and other private sector activities.

CPI inflation (end-period) is projected to slow from 9.3 percent in 2006; to 8.7 percent in 2007; to 5.2 percent in 2008, and subsequently to stabilize at 4 percent from 2009 through 2027.

Fiscal policy aims at restructuring the government’s spending priorities while maintaining macroeconomic stability. Revenues, excluding grants, are assumed to rise gradually from 19.0 percent of GDP in 2006 to 20.9 percent of GDP by 2027.

Gross official external financing (grants plus loan disbursements) is expected to increase from 14.7 percent of GDP in 2006 to 19.7 percent in 2007 and then gradually decline over the period 2008–27 to 11.0 percent of GDP in 2027.

Official financing program financing would be only grants in 2007–10 (excluding the IMF); after 2010, the proportion of loan financing increases gradually from 10 percent in 2011 to 50 percent by the end of the projection period. Loan financing is assumed to be on IDA or comparable terms during 2011–27. Project loans are assumed to be entirely at concessional rates on IDA or comparable terms. The financing gap would be only partially covered by MDRI assistance.

Export receipts are expected to increase sharply in 2008, after an unexpected sharp decline in coffee production in 2007, and then to further to about 13.5 percent per annum during 2009–15, reflecting the impact of structural reforms, notably in the coffee sector, and trade development with the EAC. Over the long-term (2016–27) exports would grow at the same rate of GDP. The composition of exports would gradually shift from coffee and tea to other agricultural products, processed foods, and light manufactures. In volume terms, export growth would average 9.9 percent a year over the projection period. Exports of goods and services would rise from 6.4 percent of GDP in 2006 to 9.7 percent in 2027.

Imports of goods and services are projected to average 28 percent of GDP in 2007–08 and with emergency assistance and reconstruction-related imports winding down to decline to 20.8 percent of GDP in 2027. In volume terms, imports would rise on average by 4.1 percent a year from 2008 onward, following the 2006–07 period of consolidation.

5. **External concessional inflows would finance increased public investment and sustain current account and primary fiscal deficits.** Gross external financing would average 19 percent of GDP per annum over 2007–15 with grant financing making up over 90 percent of the total. Total external financing is projected to decrease slightly to 18.5 percent of GDP per annum over 2016–27 on average, as humanitarian inflows decline, with the grant share at about 80 percent of the total. Gross investment and national savings would gradually rise to about 20.2 and 12.2 percent of GDP, respectively, by 2027. The

current account deficit is projected to average 10.1 percent of GDP over the projection period. The overall fiscal balance (commitment basis, including grants) is projected to average about 2 percent throughout the period.

III. EXTERNAL DEBT SUSTAINABILITY ASSESSMENT ²

A. Baseline Scenario: Continued Interim HIPC Relief

6. **The results under the baseline scenario indicate that in the absence of full HIPC relief, Burundi would be in debt distress.** All debt sustainability indicators, except for the debt-service-to-revenue, will breach the policy-dependent indicative thresholds. The NPV of debt-to-GDP and debt-to-exports ratios remain above the indicative thresholds throughout the period (Box 2 and Table 1). The standard stress tests, applied to the baseline scenario suggest that the evolution of Burundi's external debt position is subject to considerable vulnerabilities, as most debt indicators deteriorate significantly under the bound tests (Table 2).

7. **Under the historical scenario, all external debt burden indicators breach their thresholds and remain high throughout the projection period** (Table 2 and Figure 2). The historical scenario assumes that relevant macroeconomic variables remain at their ten-year historical average. The external current account deficit continues at about 5 percent of GDP, real GDP growth remains low at about 2 percent, and the profile of FDI is less favorable than in the baseline scenario, resulting in much higher debt ratios than in the baseline.

Box 2: Summary of Baseline Debt Sustainability Indicators ¹
(with continued interim HIPC relief)

	Indicative Threshold ²	2007	2017	2027	Average 2007-27
NPV of debt to GDP	30	85	38	32	45
NPV of debt to exports	100	998	230	158	315
NPV of debt to revenue	200	468	192	157	230
Debt service to exports	15	35	15	10	20
Debt service to revenue	25	17	12	10	15

¹ Debt indicators refer to Burundi's public and publicly guaranteed external debt.

² Threshold over which countries with similar evaluations of policies and institutions would have at least a 25 percent chance of having a prolonged incident of debt distress in the coming year. Burundi ranks as a "poor performer" (rating of 3.0) in terms of the quality of its policies and institutions as measured by the three-year backward-looking average of the World Bank's Country Policy and Institutional Assessment Index (CPIA).

² The external debt sustainability analysis provides information only on the NPV of PPG external debt, as information on private external debt is not available. For the NPV calculation, a 5 percent discount rate is used. Debt-service payments are converted to US dollars using WEO exchange rate projections consistent with the requirements of the joint World Bank/IMF LIC Debt Sustainability Framework (Operational Framework for Debt Sustainability Assessments in Low-Income Countries – Further Considerations, SM/05/109, 3/29/05 and IDA/R2005-0056).

8. **An alternative scenario assuming a lower growth payoff from the debt-financed investment program was run, given that growth projections under the baseline scenario are more than one standard deviation above the historical average.** Under this scenario, all debt indicators remain above their indicative threshold throughout the 2007-27 period, while debt service indicators gradually recover starting in 2014, reflecting strong domestic revenue efforts.

B. Alternative Scenario: Full Delivery of HIPC and MDRI Assistance

9. **Even after full delivery of HIPC assistance Burundi still faces a considerable risk of debt distress** (Box 3). Although the indicators of the NPV of debt-to-GDP would fall sharply as a result of reaching the HIPC completion point,³ as the proportion of loan financing increases over time, the trajectory of that indicator approaches the threshold, while the NPV of debt-to-exports ratio remains above the indicative threshold for the entire projection period. Even though all other external debt burden indicators are below their respective thresholds during the projection period, the NPV of debt-to-exports ratio indicates that even after HIPC relief, and assuming future financing on highly concessional terms, debt distress would remain a concern in the long term. The profiles of the debt and debt-service ratios over the long term would be as follows (Figure 2):

- ***The NPV of debt to GDP is projected to decline to 23 percent after 2008, before rising to about 28 percent in 2027.*** The indicator remains consistently below the country-specific threshold; however it begins to approach the threshold as the proportion of loan financing increases to 50 percent.
- ***The NPV of debt-to-exports indicator remains continuously above the indicative threshold throughout the period.*** The ratio declines from 208 percent at end-2008 to 139 percent in 2027, and is projected to average about 141 percent of exports during 2007-27.
- ***The external debt-service indicators suggest a more modest and manageable debt burden both in the short and medium term.*** Public external debt service is projected to average about 8 percent of exports and 6 percent of government revenue during 2007-27; the projected trajectory shows an initial decline and then an increase during the years of the repayment of disbursements under the PRGF arrangement. Generally, the relatively low debt-service-to-exports indicator reflects: (i) a stable and relatively high grant element in the debt stock resulting in a relatively low debt service requirement, and (ii) the cumulative effect of high export growth during the period when debt service requirements increase as a result of the end of grace periods. The external debt-service-to-fiscal-revenues ratio (including grants) follows a broadly similar trajectory and is well below the indicative threshold.

³ It is assumed that Burundi reaches the HIPC completion point at end-September 2008.

Box 3: Summary of Alternative Scenario Debt Sustainability Indicators¹

(with full HIPC relief by Sept 2008)

	Indicative Threshold ²	2007	2017	2027	Average 2007-27
NPV of debt to GDP	30	85	20	28	22
NPV of debt to exports	100	998	118	139	141
NPV of debt to revenue	200	468	99	139	111
Debt service to exports	15	35	4	6	8
Debt service to revenue	25	17	3	6	6

¹ All debt indicators assume the full delivery of HIPC relief in September 2008 and refer to the NPV of public and publicly guaranteed external debt.

² Threshold over which countries with similar evaluations of policies and institutions would have at least a 25 percent chance of having a prolonged incident of debt distress in the coming year. Burundi ranks as a "poor performer" (rating of 3.0) in terms of the quality of its policies and institutions as measured by the three-year backward-looking average of the World Bank's Country Policy and Institutional Assessment Index (CPIA).

10. **Even after the completion point is reached, Burundi's debt sustainability is likely to remain vulnerable to adverse exogenous shocks.** Applying the standardized bound tests to the post-completion point scenario; under the most extreme stress tests all debt stock indicators would breach their thresholds over sustained period of time. This highlights the risk of borrowing at less concessional terms after the reduction of the external debt burden as a result of debt relief. This would suggest that Burundi should avoid nonconcessional borrowing even after obtaining HIPC relief. It also points to the need for all creditors to align their lending with Burundi's fragile debt sustainability situation.

C. Impact of MDRI Relief

11. **Burundi would be eligible for debt relief under MDRI from the IMF, IDA, and the African Development Bank (AfDB) after reaching the completion point.** Debt relief under MDRI would amount to a stock of debt reduction of US\$57 million. The additional effect of MDRI, especially on debt service, is relatively modest, and would represent an average debt service saving of US\$2.5 million dollars per year in 2007-23 or about one percent of exports (Text Table 1). This reflects the very large reduction under the HIPC Initiative, equivalent to 91.5 percent of the NPV of debt outstanding at end-2004. A one-year delay in reaching the completion point (from September 2008) would imply a loss of US\$2.7 million in MDRI relief.

Text Table 1. Burundi: Impact of the full provision of MDRI relief on the baseline scenario, 2007–27 1/
(percent of GDP)

	2007	2008	2009	2010	2011	2012	2017	2022	2027	2007-27 Average
	NPV of external debt-to-GDP									
Before MDRI	84.8	35.7	33.1	30.8	29.3	27.4	24.2	28.2	29.4	30.5
After MDRI	84.8	22.6	17.8	17.6	18.1	17.8	19.6	25.8	28.2	22.0
	NPV of external debt-to-exports ratio									
Before MDRI	997.5	328.9	258.9	227.2	209.1	189.7	146.3	154.1	145.4	213.6
After MDRI	997.5	207.9	138.8	129.8	128.7	123.3	118.5	140.6	139.4	140.7
	Debt service-to-exports ratio									
Before MDRI	35.2	17.2	19.3	17.2	17.1	19.5	6.5	6.4	7.0	12.1
After MDRI	35.2	9.1	6.1	5.2	5.9	10.0	3.6	4.9	6.2	7.6

Source: Staff estimates and projections.

1/ MDRI estimates assume HIPC completion point in September 2008.

IV. FISCAL SUSTAINABILITY ANALYSIS

12. **The baseline macroeconomic scenario assumes a strong revenue performance and financing of the reconstruction effort and poverty reduction in the medium to long term primarily with grants** (Table 3). This would allow the public sector borrowing requirement to fall over time, while keeping expenditures consistent both with the government's poverty reduction strategy and with macroeconomic stability. In particular, it is assumed that revenues as a percentage of GDP rise from 19 percent in 2006 to 20.4 percent in 2027 and that borrowing decreases from 7.5 percent of GDP in 2006 to 3.4 percent of GDP on average between 2007 and 2027.

13. **Given the relatively strong revenue effort, public debt (external and domestic), under the baseline scenario, is projected to gradually decline.**⁴ The NPV of debt-to-revenue ratio is projected to drop from 252 percent in 2007 to 123 percent in 2027, and the debt service-to-revenue ratio is projected to decline from 12 percent in 2007 to 9 percent in 2027 (Table 4). As in the external debt sustainability analysis, the alternative scenario and the bound tests signal a significant increase in Burundi's risk of debt distress over the medium term (Figure 3). The NPV of debt-to-GDP and debt-to-revenue ratios would substantially increase, highlighting the risk of failing to achieve sustained long-term growth and fiscal consolidation.

14. **Other stress tests highlight the negative impact of temporary shocks on debt burden indicators.** In particular, a 30 percent real depreciation represents the most extreme stress test. A one-off increase of debt-creating flows by 10 percent of GDP, and a recession with GDP growth equal to the historical average minus one standard deviation in 2007–08 also signal increased risk of debt distress over the medium term.

⁴ In the LIC DSA methodology, the ratio of debt service to revenue is calculated with revenue including budgetary grants. Under the HIPC DSA framework grants are excluded.

V. CONCLUSION

15. **Burundi is currently in debt distress.** Even after reaching the HIPC completion point and benefiting from debt relief under the enhanced HIPC and MDRI initiatives, Burundi remains highly vulnerable to shocks that could lead to lower exports and economic growth. For Burundi to lower its high debt stock ratios with respect to exports and to maintain the other debt indicators below their respective thresholds, particular emphasis needs to be placed on four aspects of future economic performance. First, the authorities will need to implement a strong and sustained reform effort, especially to develop a diversified export base, to support robust growth in exports and GDP. Second, the authorities need to implement prudent fiscal and monetary policies to ensure fiscal discipline and macroeconomic stability. Third, together with prudent debt management, future financing needs to be in the form of grants and highly concessional loans, in the short- and medium-term. Fourth, attention should be given to strengthening debt management policies and institutions. Fifth, accelerated efforts are needed to meet the HIPC completion point triggers as soon as possible.

Table 1. Burundi: External Debt Sustainability Framework, Baseline Scenario, 2007–2027 1/
(percent of GDP, unless otherwise indicated)

	Actual			Projections							2013–27 Average				
	2004	2005	2006	Historical Average 6/	Standard Deviation 6/	2007	2008	2009	2010	2011		2012	2007–12 Average	2017	2027	Average
External debt (nominal) 1/	220.1	183.0	166.2			155.5	133.1	120.7	109.8	101.4	93.2		68.9	55.5	
of which: public and publicly guaranteed (PPG)	220.1	183.0	166.2			155.5	133.1	120.7	109.8	101.4	93.2		68.9	55.5	
Change in external debt	-4.5	-37.1	-16.8			-10.7	-22.5	-12.4	-10.9	-8.4	-8.2		-2.5	-2.1	
Identified net debt-creating flows	-24.1	-33.0	-15.2			-3.0	-4.8	-6.3	-4.8	-2.9	-2.6		-0.4	0.1	
Non-interest current account deficit	6.6	8.2	14.0	5.8	3.8	11.0	13.1	11.4	12.5	12.6	12.3		12.2	9.9	11.5
Deficit in balance of goods and services	24.3	28.1	37.4			35.0	33.4	30.2	30.2	28.0	26.4		19.0	12.4	
Exports	9.6	11.5	10.5			8.5	10.8	12.8	13.6	14.0	14.4		16.6	20.2	
Imports	33.9	39.7	47.9			43.5	44.3	43.0	43.8	42.0	40.8		35.5	32.6	
Net current transfers (negative = inflow)	-18.9	-20.1	-24.4			-25.0	-21.1	-18.1	-17.1	-14.9	-13.6		-9.4	-4.5	
of which: official	-17.4	-17.9	-21.2			-22.1	-18.4	-16.0	-15.2	-12.8	-11.5		-7.6	-2.9	
Other current account flows (negative = net inflow)	1.2	0.1	1.0			1.0	0.8	-0.7	-0.6	-0.5	-0.5		2.7	2.0	
Net FDI (negative = inflow)	-8.7	-5.2	-7.3		2.8	-9.1	-10.4	-11.7	-11.4	-9.8	-9.8		-9.0	-6.9	
Endogenous debt dynamics 2/	-22.0	-36.0	-22.0			-5.0	-7.5	-6.0	-5.9	-5.7	-5.2		-3.6	-2.9	
Contribution from nominal interest rate	1.5	1.4	0.4			0.6	0.5	0.9	0.8	0.7	0.6		0.4	0.3	
Contribution from real GDP growth	-9.7	-1.7	-8.2			-5.5	-8.0	-6.9	-6.6	-6.4	-5.8		-4.0	-3.2	
Contribution from price and exchange rate changes	-13.8	-35.8	-14.1			...	...	...	...	...	...		...	...
Residual (3–4) 3/	19.6	-4.1	-1.6			-0.3	-6.3	-1.3	-3.0	-3.6	-3.8		-0.9	-1.2	
of which: exceptional financing	-12.1	-4.9	-4.3			-5.8	-8.2	-3.8	0.0	0.0	0.0		0.0	0.0	
NPV of external debt 4/	...	...	88.0			84.8	72.3	66.2	60.7	56.3	51.7		38.0	31.9	
percent of exports	...	...	840.8			997.5	666.9	517.0	446.9	401.4	358.2		229.7	158.0	
NPV of PPG external debt	...	...	88.0			84.8	72.3	66.2	60.7	56.3	51.7		38.0	31.9	
percent of exports	...	...	840.8			997.5	666.9	517.0	446.9	401.4	358.2		229.7	158.0	
percent of government revenues	...	...	461.9			468.0	377.9	342.6	309.1	286.4	262.7		191.6	157.3	
Debt service-to-exports ratio (percent)	111.4	46.7	21.0			35.2	22.0	35.6	32.3	31.3	32.6		14.6	10.1	
PPG debt service-to-exports ratio (percent)	111.4	46.7	21.0			35.2	22.0	35.6	32.3	31.3	32.6		14.6	10.1	
PPG debt service-to-revenue ratio (percent)	53.1	26.9	11.5			16.5	12.4	23.6	22.4	22.3	23.9		12.2	10.1	
Total gross financing need (billions of US\$)	56.8	67.0	81.3			48.8	57.7	52.4	73.5	104.7	114.4		129.7	246.2	
Non-interest current account deficit that stabilizes debt ratio	11.1	45.3	30.8			21.7	35.6	23.8	23.4	21.0	20.5		14.7	11.9	
Key macroeconomic assumptions															
Real GDP growth (percent)	4.8	0.9	5.1	1.9	2.6	3.6	5.9	5.7	6.0	6.3	6.2		5.6	6.0	6.1
GDP deflator in US\$ terms (change percent)	6.5	19.4	8.4	-0.8	11.3	4.6	7.9	3.7	2.6	1.8	1.7		3.7	1.7	1.6
Effective interest rate (percent) 5/	0.7	0.8	0.3	0.9	0.3	0.4	0.4	0.7	0.7	0.7	0.7		0.6	0.7	0.6
Growth of exports of G&S (US\$ terms, percent)	27.1	44.8	3.5	11.2	36.1	-11.9	45.8	29.3	15.4	11.7	11.2		16.9	11.3	6.9
Growth of imports of G&S (US\$ terms, percent)	36.8	40.9	37.6	15.1	21.4	-1.5	16.3	6.4	10.7	3.9	5.0		6.8	5.8	6.3
Grant element of new public sector borrowing (percent)	...	...	...	...	...	39.3	51.1	51.1	51.1	51.1	51.1		49.1	51.1	51.1
Aid flows (in billions of US\$) 7/	206.9	207.9	289.7			329.6	352.5	364.1	357.1	373.7	380.7		478.0	649.2	
of which: Grants	164.4	130.5	219.7			266.3	290.6	328.1	324.2	320.9	326.5		370.0	463.0	
of which: Concessional loans	42.5	69.3	34.3			24.0	39.4	36.0	32.9	52.9	54.2		108.0	186.2	
Grant-equivalent financing (percent of GDP) 8/	...	...	...			28.7	27.5	28.0	25.3	23.9	22.5		18.5	11.4	16.8
Grant-equivalent financing (percent of external financing) 8/	...	...	...			91.2	94.2	95.2	95.5	93.1	93.0		88.9	86.0	87.5
Memorandum items:															
Nominal GDP millions of US\$)	664.5	800.6	912.1			988.6	1129.4	1237.6	1346.2	1456.6	1574.0		2303.1	4901.1	

Source: Staff simulations.

1/ Includes both public and private sector external debt.

2/ Derived as $[r - g - r(1+g)] / (1+g+r)$ times previous period debt ratio, with r = real GDP growth rate, and g = growth rate of GDP deflator in US\$ 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 NPV 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 NPV of new debt).

Table 2. Burundi: Sensitivity Analyses for Key Indicators of Public and Publicly Guaranteed External Debt, 2007–27
(percent)

	Projections							
	2007	2008	2009	2010	2011	2012	2017	2027
NPV of debt-to-GDP ratio								
Baseline	85	72	66	61	56	52	38	32
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2008–27 1/	85	81	81	81	79	78	74	76
A2. New public sector loans on less favorable terms in 2008–27 2/	85	73	68	63	59	55	45	46
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2008–09	85	77	75	69	64	59	43	36
B2. Export value growth at historical average minus one standard deviation in 2008–09 3/	85	75	73	67	63	58	43	33
B3. US\$ GDP deflator at historical average minus one standard deviation in 2008–09	85	89	96	88	82	75	55	46
B4. Net non-debt creating flows at historical average minus one standard deviation in 2008–09 4/	85	85	90	84	79	73	56	37
B5. Combination of B1–B4 using one-half standard deviation shocks	85	99	119	110	103	96	73	51
B6. One-time 30 percent nominal depreciation relative to the baseline in 2008 5/	85	100	92	84	78	72	53	44
NPV of debt-to-exports ratio								
Baseline	998	667	517	447	401	358	230	158
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2007–26 1/	998	748	636	594	566	538	445	374
A2. New public sector loans on less favorable terms in 2007–26 2/	998	674	528	461	420	381	273	227
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2008–09	998	667	517	447	401	358	230	158
B2. Export value growth at historical average minus one standard deviation in 2008–09 3/	998	1342	1911	1659	1496	1342	872	555
B3. US\$ GDP deflator at historical average minus one standard deviation in 2008–09	998	667	517	447	401	358	230	158
B4. Net non-debt creating flows at historical average minus one standard deviation in 2008–09 4/	998	785	707	618	562	509	337	185
B5. Combination of B1–B4 using one-half standard deviation shocks	998	1174	1432	1250	1133	1023	674	387
B6. One-time 30 percent nominal depreciation relative to the baseline in 2008 5/	998	667	517	447	401	358	230	158
NPV of debt-to-revenue ratio								
Baseline	468	378	343	309	286	263	192	167
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2007–26 1/	468	424	421	411	404	394	371	373
A2. New public sector loans on less favorable terms in 2007–26 2/	468	382	350	319	300	280	228	226
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2008–09	468	403	389	351	325	298	217	179
B2. Export value growth at historical average minus one standard deviation in 2008–09 3/	468	391	378	343	319	294	217	165
B3. US\$ GDP deflator at historical average minus one standard deviation in 2008–09	468	464	496	448	415	381	278	228
B4. Net non-debt creating flows at historical average minus one standard deviation in 2008–09 4/	468	445	468	428	401	373	281	184
B5. Combination of B1–B4 using one-half standard deviation shocks	468	516	617	562	525	488	366	250
B6. One-time 30 percent nominal depreciation relative to the baseline in 2008 5/	468	523	475	428	397	364	265	218

Table 2. Country: Sensitivity Analyses for Key Indicators of Public and Publicly Guaranteed External Debt, 2007–27 (continued)

	Debt service-to-exports ratio (percent)									
Baseline										
A. Alternative Scenarios	35	22	36	32	31	33	15	10		
A1. Key variables at their historical averages in 2008–27 1/	35	25	44	43	44	49	30	34		
A2. New public sector loans on less favorable terms in 2008–27 2/	35	22	36	33	32	32	17	14		
B. Bound Tests										
B1. Real GDP growth at historical average minus one standard deviation in 2008–09	35	22	36	32	31	33	15	10		
B2. Export value growth at historical average minus one standard deviation in 2008–09 3/	35	43	120	110	106	111	52	37		
B3. US\$ GDP deflator at historical average minus one standard deviation in 2008–09	35	22	36	32	31	33	15	10		
B4. Net non-debt creating flows at historical average minus one standard deviation in 2008–09 4/	35	22	37	34	33	34	19	14		
B5. Combination of B1–B4 using one-half standard deviation shocks	35	34	79	74	71	73	39	28		
B6. One-time 30 percent nominal depreciation relative to the baseline in 2008 5/	35	22	36	32	31	33	15	10		
	17	12	24	22	22	24	12	10		
Debt service-to-revenue ratio										
Baseline										
A. Alternative Scenarios	17	14	29	29	32	36	25	34		
A1. Key variables at their historical averages in 2008–27 1/	17	12	24	23	23	24	14	14		
A2. New public sector loans on less favorable terms in 2008–27 2/										
B. Bound Tests										
B1. Real GDP growth at historical average minus one standard deviation in 2008–09	17	13	27	25	25	27	14	11		
B2. Export value growth at historical average minus one standard deviation in 2008–09 3/	17	12	24	23	23	24	13	11		
B3. US\$ GDP deflator at historical average minus one standard deviation in 2008–09	17	15	34	32	32	35	18	15		
B4. Net non-debt creating flows at historical average minus one standard deviation in 2008–09 4/	17	12	24	24	24	25	16	13		
B5. Combination of B1–B4 using one-half standard deviation shocks	17	15	34	33	33	35	21	18		
B6. One-time 30 percent nominal depreciation relative to the baseline in 2008 5/	17	17	33	31	31	33	17	14		
Memorandum item:										
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	51	51	51	51	51	51	51	51		

Source: Staff projections and simulations.

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

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

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

4/ Includes official and private transfers and FDI.

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

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

Table 3. Burundi: Public Sector Debt Sustainability Framework, Baseline Scenario, 2004–2027
(percent of GDP, unless otherwise indicated)

	Actual 2006	Historical Average 5/ Standard Deviation 5/	Estimate	Projections									
				2007	2008	2009	2010	2011	2012	2007–12 Average	2017	2027	2013–27 Average
Public sector debt 1/	185.8		174.1	149.1	135.5	123.7	114.0	104.7				76.2	58.6
of which foreign-currency denominated	161.9		151.6	133.1	121.1	110.9	102.4	94.1				69.6	56.1
Change in public sector debt	-6.4		-11.7	-25.0	-13.7	-11.8	-9.7	-9.3				-3.2	-2.3
Identified debt-creating flows	-16.8		-23.3	-17.3	-9.3	-9.0	-8.2	-6.2				-3.5	-3.6
Primary deficit	-5.6	0.7	-5.6	-5.3	-7.1	-6.8	-6.0	-6.0			-6.1	-3.2	0.9
Revenue and grants	37.0		41.7	41.3	39.2	41.8	37.4	36.3				33.7	28.8
of which: grants	18.0		23.6	22.1	19.9	22.1	17.7	16.7				13.2	7.9
Primary (noninterest) expenditure	-24.7		-23.7	-24.5	-26.4	-26.4	-25.7	-25.8				-23.7	-20.0
Automatic debt dynamics	-12.6		-12.4	-15.5	-11.1	-9.0	-8.2	-7.4				-4.8	-3.5
Contribution from interest rate/growth differential	-12.1		-8.3	-11.1	-9.4	-9.0	-8.4	-7.6				-4.9	-3.8
of which: contribution from average real interest rate	-2.8		-1.8	-1.4	-1.4	-1.3	-1.1	-0.9				-0.4	-0.3
of which: contribution from real GDP growth	-9.4		-6.5	-9.7	-8.0	-7.7	-7.4	-6.7				-4.5	-3.5
Contribution from real exchange rate depreciation	-0.5		-4.1	-4.4	-1.7	0.0	0.2	0.2				...	...
Other identified debt-creating flows	-3.0		-6.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0
Privatization receipts (negative)	-1.1		-0.8	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
Debt relief (HIPC and other)	-1.9		-5.2	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
Residual, including asset changes	10.4		11.6	-7.7	-4.4	-2.8	-1.5	-3.2				0.3	1.3
NPV of public sector debt	109.6		105.2	88.4	80.8	74.1	68.5	62.7				44.9	34.8
of which: foreign-currency denominated	85.7		82.7	72.3	66.4	61.3	56.8	52.2				38.4	32.2
of which: external	85.7		82.7	72.3	66.4	61.3	56.8	52.2				38.4	32.2
NPV of contingent liabilities (not included in public sector debt)	...		...	...	...	...	...	...				...	...
Gross financing need 2/	3.1		0.3	2.5	7.0	5.0	5.2	6.6				4.5	2.6
NPV of public sector debt-to-revenue and grants ratio (percent)	295.8		252.3	214.3	206.0	177.4	183.1	172.7				133.5	120.7
of which: external 3/	575.4		580.4	461.8	418.0	377.5	348.4	318.9				219.7	166.5
Debt service-to-revenue and grants ratio (percent) 4/	449.9		456.2	377.9	343.8	312.2	289.2	265.3				187.8	154.3
Debt service-to-revenue ratio (percent) 4/	11.7		12.4	10.5	13.4	12.1	13.6	14.9				9.6	9.3
Primary deficit that stabilizes the debt-to-GDP ratio	22.7		28.6	22.6	27.1	25.7	25.8	27.5				15.9	13.0
	0.8		6.1	19.7	6.6	5.0	3.6	3.3				0.0	3.2
Key macroeconomic and fiscal assumptions													
Real GDP growth (percent)	5.1		3.6	5.9	5.7	6.0	6.3	6.2				5.6	6.0
Average nominal interest rate on forex debt (percent)	0.3		0.4	0.4	0.4	0.7	0.7	0.7				0.6	0.6
Average real interest rate on domestic currency debt (percent)	6.7		1.2	3.4	0.5	0.6	1.7	2.4				7.0	18.3
Real exchange rate depreciation (percent, + indicates depreciation)	-0.3		-2.7	...	...	...	...	...				...	...
Inflation rate (GDP deflator, percent)	3.7		11.7	...	...	...	...	...				...	...
Growth of real primary spending (deflated by GDP deflator, percent)	14.1		6.2	13.7	9.6	8.1	-4.6	6.4				5.2	3.7
Grant element of new external borrowing (percent)	...		39.3	51.1	51.1	51.1	51.1	51.1				49.1	51.1

Sources: Country authorities; and Fund 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 4. Burundi: Sensitivity Analysis for Key Indicators of Public Debt 2007–2027

	Projections							
	2007	2008	2009	2010	2011	2012	2017	2027
NPV of Debt-to-GDP Ratio								
Baseline	105	88	81	74	68	63	45	35
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	105	93	88	84	82	78	69	81
A2. Primary balance is unchanged from 2007	105	87	76	68	60	52	24	2
A3. Permanently lower GDP growth 1/	105	89	82	76	70	65	50	48
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2008–2009	105	95	93	87	82	76	61	56
B2. Primary balance is at historical average minus one standard deviations in 2008–2009	105	91	83	77	71	65	47	36
B3. Combination of B1–B2 using one half standard deviation shocks	105	95	91	83	75	68	45	31
B4. One-time 30 percent real depreciation in 2008	105	121	112	103	96	88	62	40
B5. 10 percent of GDP increase in other debt-creating flows in 2008	105	93	85	78	72	67	48	37
NPV of Debt-to-Revenue Ratio 2/								
Baseline	252	214	206	177	183	173	136	123
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	252	221	216	190	203	195	174	216
A2. Primary balance is unchanged from 2007	252	211	195	162	161	143	72	6
A3. Permanently lower GDP growth 1/	252	215	207	180	186	177	148	165
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2008–2009	252	222	223	194	205	197	174	191
B2. Primary balance is at historical average minus one standard deviations in 2008–2009	252	219	213	183	189	179	142	127
B3. Combination of B1–B2 using one half standard deviation shocks	252	223	220	187	192	179	131	108
B4. One-time 30 percent real depreciation in 2008	252	294	285	247	256	242	186	143
B5. 10 percent of GDP increase in other debt-creating flows in 2008	252	225	217	187	194	183	146	129
Debt Service-to-Revenue Ratio 2/								
Baseline	12	10	13	12	14	15	10	9
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	12	11	14	13	15	17	12	16
A2. Primary balance is unchanged from 2007	12	10	13	12	13	15	9	5
A3. Permanently lower GDP growth 1/	12	11	13	12	14	15	10	11
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2008–2009	12	11	14	13	15	16	11	12
B2. Primary balance is at historical average minus one standard deviations in 2008–2009	12	10	13	12	14	15	10	10
B3. Combination of B1–B2 using one half standard deviation shocks	12	11	14	13	14	16	10	9
B4. One-time 30 percent real depreciation in 2008	12	11	14	13	14	16	10	10
B5. 10 percent of GDP increase in other debt-creating flows in 2008	12	10	14	12	14	15	10	10

Sources: Country authorities, and Fund staff estimates and projections.

1/ Assumes that real GDP growth is at baseline minus one standard deviation divided by the square root of 20 (i.e., the length of the projection period).

2/ Revenues are defined inclusive of grants.

Figure 2. Burundi: Indicators of Public and Publicly Guaranteed External Debt Under Alternative Scenarios, 2007-2027

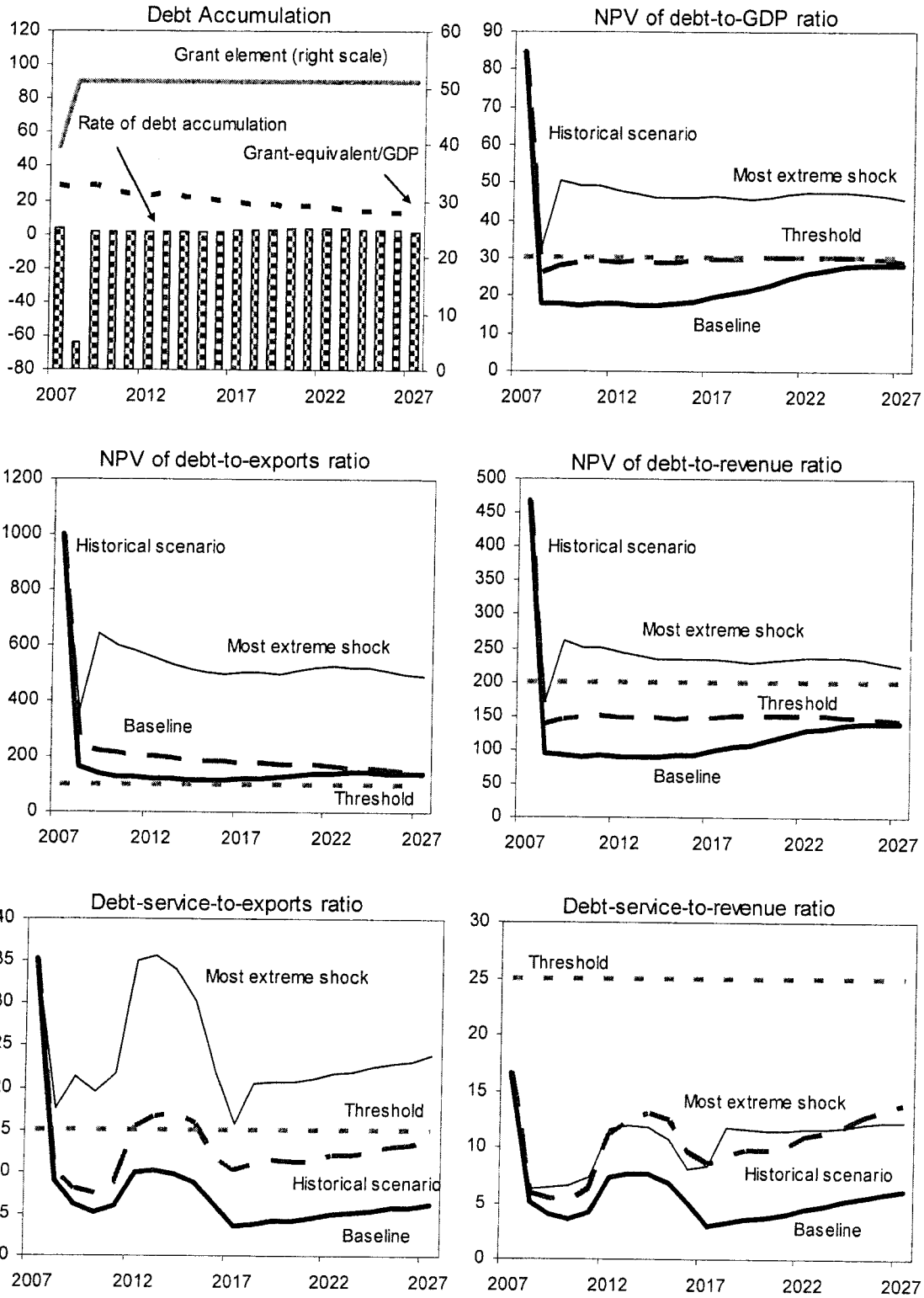
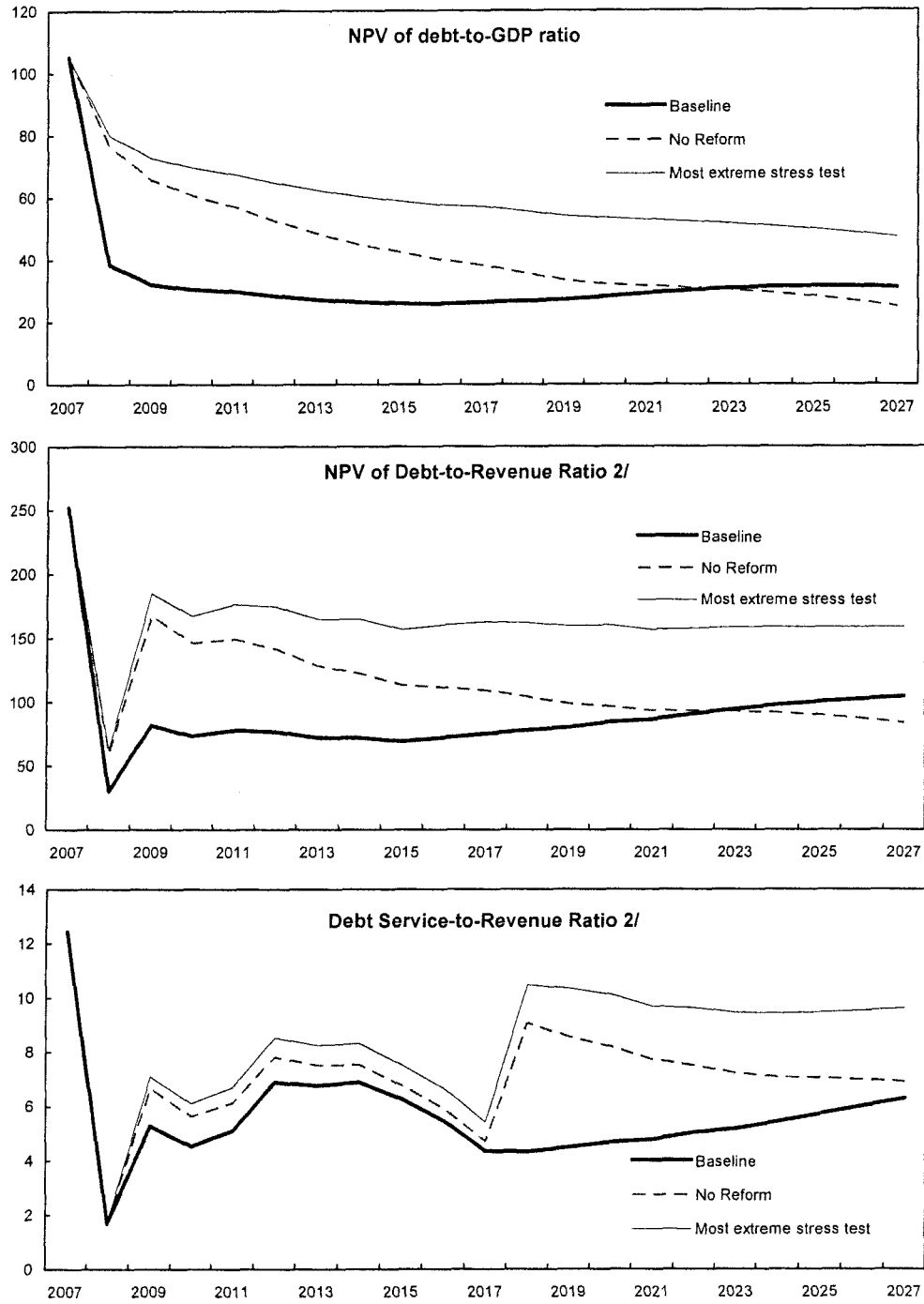


Figure 3. Burundi: Indicators of Public Debt Under Alternative Scenarios, 2007-2027 1/



Source: Staff projections and simulations.
 1/ Most extreme stress test is test that yields highest ratio in 2017.
 2/ Revenue including grants.