INTERNATIONAL MONETARY FUND

BURKINA FASO

Debt Sustainability Analysis

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and the International Development Association

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This joint World Bank/ IMF DSA has been prepared in the context of authorities' request to augment access under their program supported by the IMF's Extended Credit Facility (ECF). It indicates a significant improvement in Burkina Faso's debt dynamics, based on updated gold export projections and new end-2011 debt data.[1] *While none of the external debt ratios under the baseline scenario or standardized stress tests breach their respective indicative debt distress thresholds, a country-specific stress test that better reflects the high dependency on projections for gold prices does result in a minor breach of the indicative debt distress threshold for the NPV of debt-to-exports. As a result, Burkina Faso's risk rating for external debt distress shifts to moderate from high.*

I. BACKGROUND AND UNDERLYING DSA ASSUMPTIONS

1. **Burkina Faso's nominal stock of debt as of end-2011 was 29.3 percent of GDP, equivalent to around US$700 million** (Table 1). Roughly 83 percent of this was external debt and the remainder was domestic debt, comprised almost entirely of 10 year government bonds.

Table 1. Burkina Faso: Stock of Public Debt, 2008-2011

	2008	2009	2010	2011
	(CFAF billions)			
Total Debt	883.5	1029.6	1185.2	1407.1
External	786.4	867.7	1045.7	1159.1
Multilaterals	604.7	688.5	853.1	961.0
Bilaterals	181.8	179.2	192.6	198.1
Domestic	97.1	162.0	139.5	248.0
	(percent of GDP)			
Total Debt	23.6	26.1	27.1	29.3
External	21.0	22.0	23.9	24.1
Multilaterals	16.2	17.5	19.5	20.0
Bilaterals	4.9	4.5	4.4	4.1
Domestic	2.6	4.1	3.2	5.2

Source: Burkinabe authorities

2. **Compared to the December 2011 DSA, the main change in macroeconomic assumptions in this DSA is an increase in gold production and associated exports** (Table 2). Export projections were significantly increased based gold production development in the pipeline and

[1] Based on the average CPIA score in 2008–10, Burkina Faso is ranked as a "medium performer." Burkina Faso's CPIA average for 2009–11 may move it into the category of "high performer."

a slightly higher 2011 outturn than forecast (gold production was 32.4 tons vs. 31.4 tons projected in the December 2011 DSA). The December 2011 DSA had assumed that gold production would drop in 2012 and remain largely flat over the medium term. Recent information show that investments already underway in new mining capacity should bring about large increases in production over the next 2 years, and large ongoing discovery and development—over 50 additional projects are in the exploration or development phases—suggest that production should be at least 49 tons by 2015, if not much higher. Despite a marginal downward adjustment in WEO gold prices, these production volumes would lead to much larger export values.

3. **Higher exports also lead to higher GDP growth and more revenues in the near term.** Real GDP growth has been increased to 7.0 percent per year until 2015, and revenues are boosted by mining royalties and higher corporate income taxes. An associated reduction in the current account deficit is assumed, which is the main variable driving the accumulation of new external financing under the DS framework. Growth over the longer term, however, has been revised downward somewhat to account for the likelihood of future shocks.

4. **This DSA is based on new end-2011 debt data**. The authorities had revised the end-2010 stock of debt upward slightly, and the outturn of the end-2011 debt stock was higher than projected (CFAF 1407 billion vs. CFAF 1246 billion projected), and higher still in GDP terms since the 2011 GDP outturn was lower than expected.

5. **New external financing assumptions are somewhat more conservative.** The proposed augmentation in access to the ECF-supported program (US$55.7 million) has been included in new external borrowing in 2012. The December 2011 assumption of a gradual move from grants to loans has been maintained, but with somewhat less concessional terms for new borrowing (from an average grant element of roughly 45 percent in 2012 to about 35 percent in 2032).

Table 2. Changes in Assumptions: April 2012 DSA vs. the December 2011 DSA

		2011	2012	2013	2014	2015	2022	2030
Gold production (tons)	2011 DSA	31.4	30.6	32.0	34.7	34.9	40.1	48.3
	2012 DSA	32.4	35.0	40.0	46.1	49.1	69.1	86.6
Exports of G& S (% of GDP)	2011 DSA	24.1	24.6	24.4	24.5	23.2	18.4	13.6
	2012 DSA	25.7	27.1	28.4	29.7	29.6	27.4	26.7
GDP growth (y/y)	2011 DSA	5.6	5.8	6.4	6.8	6.8	7.3	7.4
	2012 DSA	4.2	7.0	7.0	7.0	7.0	6.4	6.0
Revenue (% of GDP)	2011 DSA	15.8	16.2	16.3	16.6	17.0	18.5	19.2
	2012 DSA	16.5	16.1	16.3	17.0	17.5	18.5	19.2
IMF (US$ millions)	2011 DSA	20.4	19.9	10.0	0.0	0.0	0.0	0.0
	2012 DSA	20.4	75.6	10.0	0.0	0.0	0.0	0.0

Sources: Burkinabe authorities and staff projections.

6. **Other underlying assumptions remain the same as in the December DSA,** summarized in Box 1.

Box 1. Burkina Faso: Macroeconomic Assumptions Underlying the DSA

Real GDP growth is projected at 7 percent per year until 2015, supported by projections of: (i) an increase in gold production and sustained global gold prices; (ii) improved agricultural production; and (iii) an ambitious public investment program. However, longer term real growth has been moderated to 6 percent to account for a deceleration in the rate of growth of gold production and to reflect a more conservative investment-longer term growth link, particularly in light of the frequency of weather and other shocks.

Inflation is projected to remain below 3 percent over the whole projection period. This is consistent with past performance and WAEMU macroeconomic criteria.

Current account deficit is expected to fall to 2.7 percent of GDP by 2015, in line with gold exports and somewhat higher near term imports. Over the longer term, the current account deficit is projected to increase gradually to 6 percent by 2032, as gold exports decelerate but imports remain relatively constant. The overall balance of payments remains relatively unaffected by these developments, however, since gold proceeds (after wage and supplier payments) are mainly held in offshore accounts in order to repay intra-company loans.

Fiscal deficits (including grants) are projected to decrease very gradually, from 3.3 percent of GDP in 2013 to around 2.8 percent in 2032, despite a pronounced decrease in grants (from 6.4 percent of GDP to 2 percent of GDP) and a shift toward external borrowing.

Domestic debt assumptions remain unchanged from the December 2011 DSA, that is, the nominal stock of domestic debt is held constant, resulting in a sharp decline in terms of percent of GDP. Absent a higher fiscal deficit, changing this assumption would result in a lower external financing requirement still.

II. External Debt DSA Results

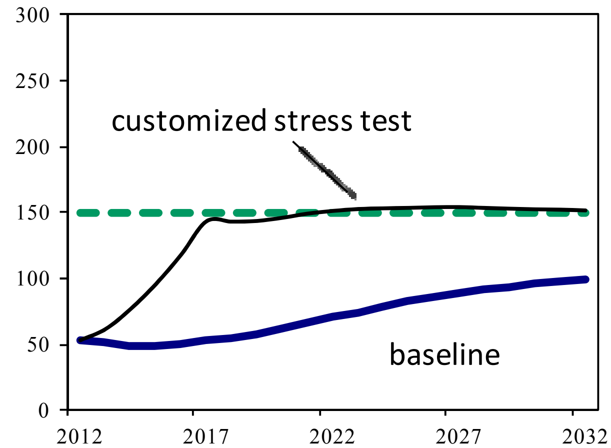
7. **The December 2011 DSA maintained a determination of a "high risk" of external debt distress.** This was based on a single indicator, the NPV of debt-to-exports, breaching its indicative threshold, both under the stress tests and the baseline scenario. None of the other stock variables or stress tests breached the indicative thresholds and the flow variables were far below the indicative thresholds. Indeed, the December 2011 DSA noted that it was based on conservative export assumptions and the NPV of debt-to-exports breach under the baseline scenario was 10 years later (2026) than under the 2010 DSA. The 2011 DSA concluded that further improvements in gold exports would lead to a situation where there was no breach.

8. **This DSA does not show a breach of the indicative debt distress threshold for NPV of debt-to-exports** (Tables 4a and b and Figure 2). The baseline scenario shows a slight decrease in NPV of debt-to-exports, from 53.6 percent in 2012 to 48.7 percent in 2014 (during the years of rapid growth of gold exports), followed by a steady increase to a maximum of 99.2 percent in 2032. The other debt indicators continue to show no breach in their indicative debt distress thresholds. Similarly, the standardized stress tests show no breach in the indicative thresholds.

9. **Given that the DSA results are highly dependent upon gold projections, the staffs felt that consideration of a customized stress test was merited**. Gold prices are inherently difficult to predict, and production projections in the outlook would also be likely to be affected

by a significant change in prices, as this would probably affect investment. Staffs therefore ran a customized scenario based on World Bank Commodities Group projections for gold prices, which are lower than WEO projections. The effect of this change on export values was approximated by extending the standardized export shock for three further years (2013-17). World Bank baseline projections show cumulative price declines of around 40 percent over five years, with lower prices sustained over the remainder of the projection period. Even without altering production, under this scenario the debt distress threshold with respect to exports is breached. Adding any adverse impact on production would intensify this breach.

Figure 1. PV of debt-to-exports ratio with a customized stress test



10. **This DSA shows a large deviation between the historical and baseline scenarios (Table 3).** This is mainly due to a significant reduction in the current account deficit in the baseline, and thus debt accumulation, relative to the historical average. This reduction is a function of stronger export projections, and is consistent with current account performance over the last three years—those with significant gold exports—in which the current account deficit averaged just 2.5 percent of GDP. In the December 2011 analysis, it was assumed that the current account deficit returned to its pre-gold trend, hence the baseline and historical scenarios were closer. The historical scenario in this new DSA shows an improvement in debt indicators in later years, since the underlying historical averages for GDP, export, and revenue growth are significantly higher than long run projections in the baseline.

Table 3. Historical vs. Baseline: December 2011 DSA vs. April 2012 DSA

		GDP growth	GDP deflator	Export Growth	CA Deficit (% of GDP)	Revenues (% of GDP)
Dec. 2011 DSA	Historical 2001-2010	5.7	7.1	24.1	8.9	12.9
	Baseline 2011	5.6	7.2	50.5	3.3	15.8
	Baseline 2012-17 avg	6.6	1.0	5.6	7.3	16.8
	Baseline 2018-31 avg	7.3	1.8	5.8	6.7	18.6
April 2012 DSA	Historical 2002-2011	5.6	7.9	29.2	7.8	13.5
	… of which 2011	4.2	9.2	36.6	1.0	16.5
	Baseline 2012-17 avg	7.0	1.0	10.1	3.1	17.3
	Baseline 2018-32 avg	6.3	2.0	7.8	4.6	18.8

Sources: Burkinabe authorities and IMF staff projections.

III. Total Public Debt DSA Results

11. **This DSA does not modify the December 2011 assumptions for the evolution of domestic debt** (Box 1, Tables 5a and b, and Figure 3). Therefore, the results of the total public debt analysis mimic those of the external debt analysis, especially over the long term. However, the most extreme shock corresponds now to a shock to growth rather than the primary balance, which results in worse debt indicators under the shock than in the December DSA. The decision to leave domestic financing assumptions unchanged was taken to avoid, in the absence of a higher fiscal deficit, creating lower external financing requirements still and so that the impact of new export projections could be isolated. However, it would be reasonable to assume, in the next joint DSA, that domestic debt levels are maintained, in line with efforts to create a regional bond market and deepen financial markets.

IV. Debt Management Issues

12. **Burkina Faso has been classified at "lower debt management capacity" by the World Bank/IMF for the purposes of setting programmatic external debt limits.** The authorities have enhanced debt management capacity in recent years, as noted by technical experts from the World Bank and IMF. Remaining areas for improvement include: (i) exposition of a medium-term debt management strategy (MTDS); (ii) stronger auditing procedures; (iii) better risk accounting; and (iv) an improved debt database management. The authorities have requested technical assistance from the IMF and the World Bank for the preparation of a MTDS by end-2012, and TA from the IMF to conduct a DSF workshop as a means to start preparing their own regular DSAs.

V. Authorities Views

13. **The authorities concurred with the DSA results and reaffirmed their commitment to prudent borrowing policies**. They noted that a move from a "high risk" rating would unlock new sources of concessional financing. They acknowledged that the rating change could result in an accelerated move away from grants toward concessional financing, and that this would require determined efforts to continue strengthening debt management capacity and increased diligence to ensure financing terms are the most generous possible.

14. **The authorities stressed, however, that more flexibility is needed regarding the zero limit on nonconcessional borrowing under the ECF-supported program.** They argued for consideration of some nonconcessional financing linked to high return large infrastructure projects, as yet unspecified. They would like to explore this topic in more detail at the time of the next program review.

VI. Conclusion

15. **Based on the results of the new DSA, Burkina Faso's risk of debt distress shifts from high to moderate.** This shift primarily reflects the rapid development of Burkina Faso's gold mining sector, combined with notable improvements in underlying macroeconomic fundamentals. However, the staffs caution that any adjustments in financing plans—both on the part of the authorities and development partners—should only be undertaken gradually, to ensure that debt management capacity is sufficient to handle evolving needs.

Table 4a. Burkina Faso: External Debt Sustainability Framework, Baseline Scenario, 2009-2032 1/
(In percent of GDP, unless otherwise indicated)

	Actual			Hist. Average 6/	Std. Deviation 6/	Projections									
	2009	2010	2011			2012	2013	2014	2015	2016	2017	2012-2017 Average	2022	2032	2018-2032 Average
External debt (nominal) 1/	**22.0**	**23.9**	**24.1**			**24.0**	**23.8**	**23.9**	**24.1**	**24.4**	**24.9**		**30.2**	**38.1**	
o/w public and publicly guaranteed (PPG)	22.0	23.9	24.1			24.0	23.8	23.9	24.1	24.4	24.9		30.2	38.1	
Change in external debt	1.0	1.9	0.2			-0.1	-0.2	0.1	0.2	0.3	0.5		1.3	0.4	
Identified net debt-creating flows	3.7	0.5	-2.0			2.5	1.0	0.8	0.8	1.2	1.8		1.9	2.5	
Non-interest current account deficit	**4.5**	**2.1**	**1.0**	**7.8**	**3.9**	**4.2**	**2.7**	**2.6**	**2.5**	**3.0**	**3.5**		**3.9**	**5.1**	4.4
Deficit in balance of goods and services	10.6	7.6	6.8			9.2	7.1	6.7	6.4	6.6	7.2		7.2	7.0	
Exports	12.6	21.4	25.7			27.1	28.4	29.7	29.6	29.3	28.8		27.4	26.6	
Imports	23.3	29.0	32.5			36.3	35.5	36.4	36.0	35.9	36.1		34.6	33.6	
Net current transfers (negative = inflow)	-6.0	-5.3	-5.6	-4.9	0.8	-4.7	-4.1	-3.8	-3.6	-3.3	-3.4		-3.0	-1.9	-2.6
o/w official	-4.4	-3.9	-4.2			-3.5	-2.9	-2.8	-2.6	-2.4	-2.5		-2.1	-1.1	
Other current account flows (negative = net inflow)	-0.2	-0.2	-0.2			-0.3	-0.3	-0.3	-0.4	-0.4	-0.4		-0.3	0.0	
Net FDI (negative = inflow)	**-1.1**	**-0.4**	**-0.4**	**-1.1**	**1.4**	**-0.3**	**-0.4**	**-0.4**	**-0.4**	**-0.4**	**-0.4**		**-0.5**	**-0.9**	-0.6
Endogenous debt dynamics 2/	**0.3**	**-1.2**	**-2.6**			**-1.4**	**-1.3**	**-1.3**	**-1.3**	**-1.3**	**-1.3**		**-1.5**	**-1.8**	
Contribution from nominal interest rate	0.2	0.2	0.2			0.2	0.2	0.2	0.2	0.2	0.2		0.2	0.3	
Contribution from real GDP growth	-0.6	-1.6	-0.9			-1.6	-1.5	-1.5	-1.5	-1.5	-1.5		-1.7	-2.1	
Contribution from price and exchange rate changes	0.7	0.2	-2.0			…	…	…	…	…	…		…	…	
Residual (3-4) 3/	**-2.7**	**1.4**	**2.2**			**-2.6**	**-1.2**	**-0.8**	**-0.6**	**-0.9**	**-1.2**		**-0.6**	**-2.1**	
o/w exceptional financing	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
PV of external debt 4/	...	...	14.6			14.5	14.4	14.5	14.6	14.8	15.2		19.3	26.4	
In percent of exports	...	...	56.6			53.6	50.8	48.7	49.2	50.5	52.7		70.2	99.2	
PV of PPG external debt	**...**	**...**	**14.6**			**14.5**	**14.4**	**14.5**	**14.6**	**14.8**	**15.2**		**19.3**	**26.4**	
In percent of exports	**...**	**...**	**56.6**			**53.6**	**50.8**	**48.7**	**49.2**	**50.5**	**52.7**		**70.2**	**99.2**	
In percent of government revenues	**...**	**...**	**88.2**			**90.2**	**88.4**	**84.8**	**83.3**	**80.9**	**83.3**		**104.4**	**137.0**	
Debt service-to-exports ratio (in percent)	**4.6**	**2.7**	**2.6**			**2.8**	**2.5**	**2.4**	**2.6**	**2.6**	**2.5**		**2.5**	**4.7**	
PPG debt service-to-exports ratio (in percent)	**4.6**	**2.7**	**2.6**			**2.8**	**2.5**	**2.4**	**2.6**	**2.6**	**2.5**		**2.5**	**4.7**	
PPG debt service-to-revenue ratio (in percent)	**4.3**	**3.7**	**4.0**			**4.7**	**4.4**	**4.2**	**4.3**	**4.1**	**3.9**		**3.7**	**6.6**	
Total gross financing need (Billions of U.S. dollars)	0.3	0.2	0.1			0.5	0.4	0.4	0.4	0.5	0.6		1.0	3.0	
Non-interest current account deficit that stabilizes debt ratio	3.5	0.2	0.8			4.3	2.9	2.5	2.3	2.6	3.0		2.6	4.8	
Key macroeconomic assumptions															
Real GDP growth (in percent)	3.0	7.9	4.2	5.6	1.9	7.0	7.0	7.0	7.0	6.9	6.8	7.0	6.4	6.0	6.3
GDP deflator in US dollar terms (change in percent)	-3.2	-0.7	9.2	7.9	7.9	-2.1	2.1	1.6	1.5	1.5	1.4	1.0	2.0	2.0	2.0
Effective interest rate (percent) 5/	1.1	1.1	1.2	0.9	0.3	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Growth of exports of G&S (US dollar terms, in percent)	27.4	81.8	36.6	29.2	25.4	10.6	14.2	13.7	8.3	7.5	6.6	10.1	7.6	8.0	7.8
Growth of imports of G&S (US dollar terms, in percent)	-11.7	33.4	27.7	18.2	15.0	16.9	6.8	11.5	7.4	8.4	8.7	9.9	7.3	8.1	7.9
Grant element of new public sector borrowing (in percent)	...	...	...	...	...	41.1	46.4	45.2	43.8	42.7	41.7	43.5	38.1	36.2	37.6
Government revenues (excluding grants, in percent of GDP)	13.7	15.6	16.5			16.1	16.3	17.0	17.5	18.3	18.3		18.4	19.3	18.7
Aid flows (in Billions of US dollars) 7/	0.8	0.7	0.8			0.9	1.0	1.1	1.1	1.2	1.3		1.9	3.0	
o/w Grants	0.5	0.4	0.5			0.8	0.7	0.8	0.8	0.8	0.9		1.0	1.0	
o/w Concessional loans	0.3	0.3	0.3			0.2	0.2	0.3	0.3	0.4	0.4		0.9	2.0	
Grant-equivalent financing (in percent of GDP) 8/	...	...	...			8.2	7.5	7.2	7.0	6.7	6.7		5.6	3.3	4.8
Grant-equivalent financing (in percent of external financing) 8/	...	...	...			83.5	85.7	84.2	82.5	80.8	79.6		69.3	55.9	65.1
Memorandum items:															
Nominal GDP (Billions of US dollars)	8.4	9.0	10.2			10.7	11.7	12.7	13.8	15.0	16.2		24.5	54.3	
Nominal dollar GDP growth	-0.3	7.1	13.7			4.7	9.2	8.8	8.6	8.5	8.3	8.0	8.5	8.1	8.4
PV of PPG external debt (in Billions of US dollars)			1.4			1.6	1.7	1.8	2.0	2.2	2.5		4.7	14.3	
(PVt-PVt-1)/GDPt-1 (in percent)						1.5	1.2	1.3	1.4	1.5	1.7	1.4	2.7	2.5	2.5
Gross workers' remittances (Billions of US dollars)	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.1	
PV of PPG external debt (in % of GDP + remittances)	...	...	14.5			14.5	14.4	14.4	14.5	14.8	15.2		19.2	26.3	
PV of PPG external debt (in % of exports + remittances)	...	...	56.3			53.3	50.6	48.5	49.1	50.4	52.5		69.8	98.3	
Debt service of PPG external debt (in % of exports + remittances)	...	...	2.6			2.8	2.5	2.4	2.6	2.6	2.5		2.5	4.7	

Sources: Country authorities; and staff estimates and projections.

1/ Includes both public and private sector external debt.

2/ Derived as $[r - g - \rho(1+g)]/(1+g+\rho+g\rho)$ 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 4b. Burkina Faso: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2012-2032
(In percent)

	Projections																				
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	**2022**	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
PV of debt-to GDP ratio																					
Baseline	15	14	14	15	15	15	16	16	17	18	**19**	20	21	22	23	24	24	25	26	26	26
A. Alternative Scenarios																					
A1. Key variables at their historical averages in 2012-2032 1/	15	17	19	21	22	24	25	26	27	29	**30**	31	31	32	32	33	33	33	32	32	32
A2. New public sector loans on less favorable terms in 2012-2032 2	15	15	16	17	18	19	20	21	23	24	**26**	28	30	31	33	34	35	36	37	38	39
B. Bound Tests																					
B1. Real GDP growth at historical average minus one standard deviation in 2013-2014	15	15	15	15	16	16	17	17	18	19	**20**	22	23	24	25	25	26	27	27	28	28
B2. Export value growth at historical average minus one standard deviation in 2013-2014 3/	15	16	19	19	19	19	19	20	21	21	**22**	23	23	24	25	25	26	26	27	27	27
B3. US dollar GDP deflator at historical average minus one standard deviation in 2013-2014	15	15	15	15	15	16	16	17	18	19	**20**	21	22	23	24	25	25	26	26	27	27
B4. Net non-debt creating flows at historical average minus one standard deviation in 2013-2014 4/	15	15	15	15	15	16	16	17	18	19	**20**	21	22	22	23	24	25	25	26	26	26
B5. Combination of B1-B4 using one-half standard deviation shocks	15	14	13	13	13	14	14	15	16	17	**18**	19	20	21	22	23	24	25	25	26	26
B6. One-time 30 percent nominal depreciation relative to the baseline in 2013 5/	15	20	20	21	21	21	22	23	24	26	**27**	29	30	31	33	34	35	35	36	37	37
PV of debt-to-exports ratio																					
Baseline	54	51	49	49	51	53	55	57	61	66	**70**	75	79	83	86	89	92	94	96	98	99
A. Alternative Scenarios																					
A1. Key variables at their historical averages in 2012-2032 1/	54	58	63	70	76	82	87	92	98	104	**109**	113	116	119	121	122	122	122	122	121	120
A2. New public sector loans on less favorable terms in 2012-2032 2	54	53	53	56	60	65	69	74	81	88	**96**	102	109	115	121	127	131	135	139	143	146
B. Bound Tests																					
B1. Real GDP growth at historical average minus one standard deviation in 2013-2014	54	51	49	49	50	53	55	57	61	66	**70**	74	79	82	86	89	91	94	95	97	99
B2. Export value growth at historical average minus one standard deviation in 2013-2014 3/	54	62	77	77	78	80	82	84	88	92	**96**	100	104	108	111	114	116	118	120	121	123
B3. US dollar GDP deflator at historical average minus one standard deviation in 2013-2014	54	51	49	49	50	53	55	57	61	66	**70**	74	79	82	86	89	91	94	95	97	99
B4. Net non-debt creating flows at historical average minus one standard deviation in 2013-2014 4/	54	52	51	51	52	54	56	59	63	67	**71**	75	80	83	87	90	92	94	96	98	99
B5. Combination of B1-B4 using one-half standard deviation shocks	54	47	40	41	42	45	47	50	54	58	**63**	67	72	76	80	83	85	88	90	92	93
B6. One-time 30 percent nominal depreciation relative to the baseline in 2013 5/	54	51	49	49	50	53	55	57	61	66	**70**	74	79	82	86	89	91	94	95	97	99
PV of debt-to-revenue ratio																					
Baseline	90	88	85	83	81	83	86	90	95	100	**104**	109	113	118	122	126	129	131	133	135	137
A. Alternative Scenarios																					
A1. Key variables at their historical averages in 2012-2032 1/	90	101	109	118	121	129	136	144	152	158	**163**	165	167	170	172	173	172	171	169	167	166
A2. New public sector loans on less favorable terms in 2012-2032 2	90	93	93	95	96	102	109	117	125	134	**142**	149	157	164	172	179	184	189	193	197	201
B. Bound Tests																					
B1. Real GDP growth at historical average minus one standard deviation in 2013-2014	90	91	90	88	86	88	92	96	101	106	**111**	115	120	125	130	134	137	140	142	143	145
B2. Export value growth at historical average minus one standard deviation in 2013-2014 3/	90	98	112	108	104	105	107	110	113	116	**119**	122	124	128	131	134	136	138	139	140	141
B3. US dollar GDP deflator at historical average minus one standard deviation in 2013-2014	90	90	88	86	84	86	89	94	98	103	**108**	113	117	122	126	131	134	136	138	140	142
B4. Net non-debt creating flows at historical average minus one standard deviation in 2013-2014 4/	90	91	88	86	84	86	89	93	97	101	**106**	110	114	119	123	127	130	132	134	135	137
B5. Combination of B1-B4 using one-half standard deviation shocks	90	85	74	73	72	74	78	82	87	93	**98**	103	108	113	118	123	126	129	131	133	135
B6. One-time 30 percent nominal depreciation relative to the baseline in 2013 5/	90	125	120	118	114	118	122	128	134	141	**147**	154	159	166	172	178	182	186	188	191	194

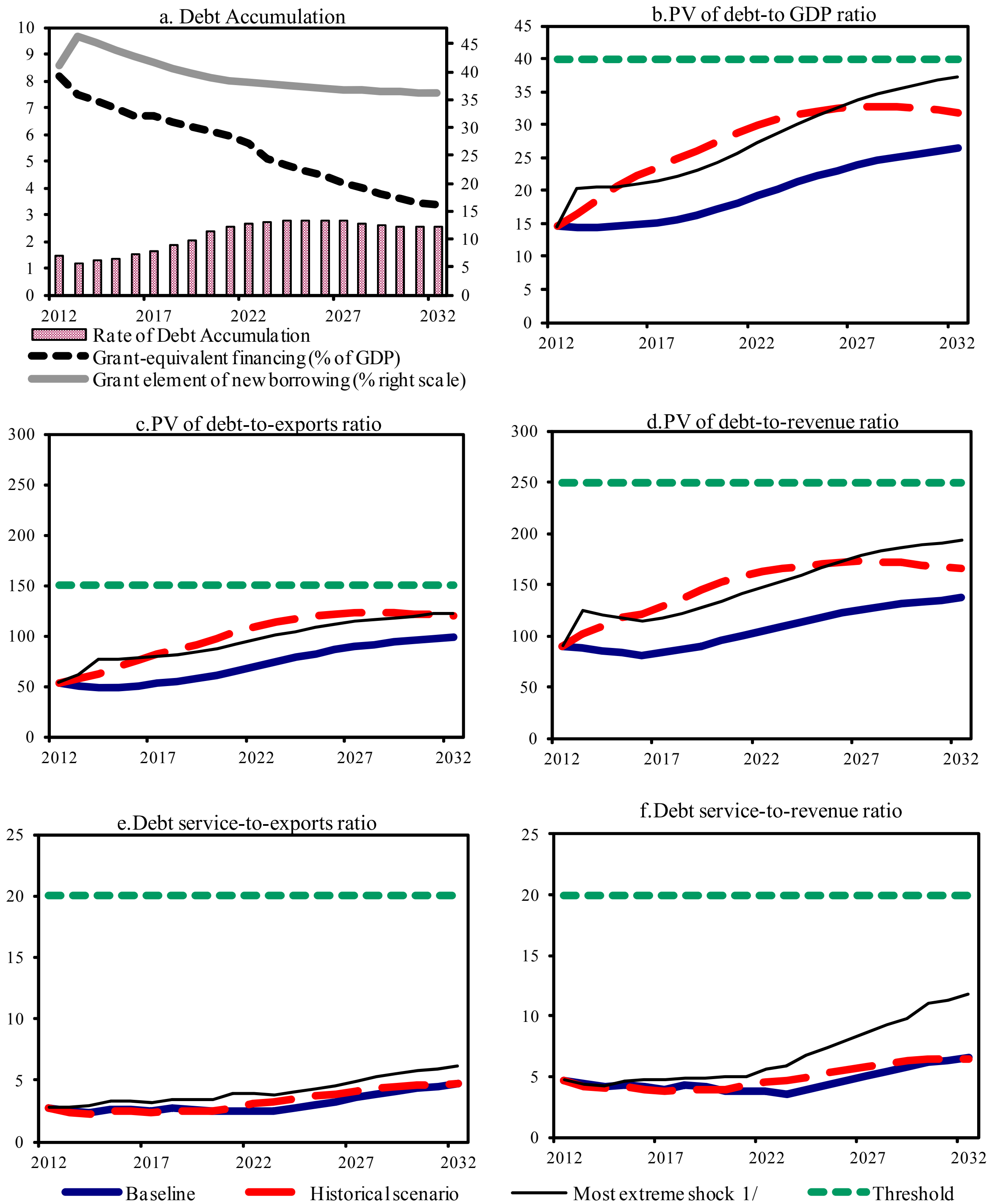
Table 4b. Burkina Faso: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2012-2032 (continued)
(In percent)

Debt service-to-exports ratio																					
Baseline	3	3	2	3	3	2	3	3	2	2	**3**	2	3	3	3	4	4	4	4	5	5
A. Alternative Scenarios																					
A1. Key variables at their historical averages in 2012-2032 1/	3	2	2	2	2	2	3	2	3	3	**3**	3	3	4	4	4	4	4	5	5	5
A2. New public sector loans on less favorable terms in 2012-2032 2	3	3	2	3	3	3	3	3	3	3	**4**	4	5	5	6	6	7	7	8	8	9
B. Bound Tests																					
B1. Real GDP growth at historical average minus one standard deviation in 2013-2014	3	3	2	3	3	2	3	3	2	2	**3**	2	3	3	3	4	4	4	4	5	5
B2. Export value growth at historical average minus one standard deviation in 2013-2014 3/	3	3	3	3	3	3	3	3	3	4	**4**	4	4	4	5	5	5	5	6	6	6
B3. US dollar GDP deflator at historical average minus one standard deviation in 2013-2014	3	3	2	3	3	2	3	3	2	2	**3**	2	3	3	3	4	4	4	4	5	5
B4. Net non-debt creating flows at historical average minus one standard deviation in 2013-2014 4/	3	3	2	3	3	3	3	3	3	3	**3**	3	3	3	3	4	4	4	4	5	5
B5. Combination of B1-B4 using one-half standard deviation shocks	3	2	2	2	2	2	3	2	2	2	**2**	2	2	3	3	3	4	4	4	4	4
B6. One-time 30 percent nominal depreciation relative to the baseline in 2013 5/	3	3	2	3	3	2	3	3	2	2	**3**	2	3	3	3	4	4	4	4	5	5
Debt service-to-revenue ratio																					
Baseline	5	4	4	4	4	4	4	4	4	4	**4**	4	4	4	5	5	5	6	6	6	7
A. Alternative Scenarios																					
A1. Key variables at their historical averages in 2012-2032 1/	5	4	4	4	4	4	4	4	4	4	**5**	5	5	5	6	6	6	6	6	6	6
A2. New public sector loans on less favorable terms in 2012-2032 2	5	4	4	5	5	5	5	5	5	5	**6**	6	7	7	8	9	9	10	11	11	12
B. Bound Tests																					
B1. Real GDP growth at historical average minus one standard deviation in 2013-2014	5	4	4	5	4	4	5	4	4	4	**4**	4	4	5	5	5	6	6	7	7	7
B2. Export value growth at historical average minus one standard deviation in 2013-2014 3/	5	4	4	5	4	4	5	4	4	5	**5**	5	5	5	5	6	6	6	7	7	7
B3. US dollar GDP deflator at historical average minus one standard deviation in 2013-2014	5	4	4	5	4	4	4	4	4	4	**4**	4	4	4	5	5	6	6	6	6	7
B4. Net non-debt creating flows at historical average minus one standard deviation in 2013-2014 4/	5	4	4	4	4	4	4	4	4	4	**4**	4	4	4	5	5	6	6	6	6	7
B5. Combination of B1-B4 using one-half standard deviation shocks	5	4	4	4	4	4	4	4	4	3	**3**	3	4	4	4	5	5	6	6	6	6
B6. One-time 30 percent nominal depreciation relative to the baseline in 2013 5/	5	6	6	6	6	6	6	6	5	5	**5**	5	5	6	7	7	8	8	9	9	9
Memorandum item:																					
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	38	38	38	38	38	38	38	38	38	38	**38**	38	38	38	38	38	38	38	38	38	38

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.

Figure 2. Burkina Faso: Indicators of Public and Publicly Guaranteed External Debt under Alternatives Scenarios, 2012-2032 1/



Sources: Country authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio in 2022. In figure b. it corresponds to a One-time depreciation shock; in c. to a Customized scenario (lower prices for 5 years and LT production decrease) shock; in d. to a One-time depreciation shock; in e. to a Exports shock and in figure f. to a Terms shock

Table 5a.Burkina Faso: Total Public Sector Debt Sustainability Framework, Baseline Scenario, 2009-2032
(In percent of GDP, unless otherwise indicated)

	Actual					Estimate				Projections					
	2009	2010	2011	Average 5/	Std. Dev. 5/	2012	2013	2014	2015	2016	2017	2012-17 Average	2022	2032	2018-32 Average
Public sector debt 1/	26.1	27.1	29.3			28.3	27.2	26.0	25.3	24.9	25.1		30.2	38.1	
o/w foreign-currency denominated	22.0	23.9	24.1			24.0	23.8	23.9	24.1	24.4	24.9		30.2	38.1	
Change in public sector debt	2.5	1.0	2.2			-1.0	-1.2	-1.1	-0.7	-0.4	0.2		1.3	0.4	
Identified debt-creating flows	1.5	3.4	0.5			0.6	0.9	0.8	1.0	0.5	0.7		1.4	0.2	
Primary deficit	4.3	4.1	2.0	1.8	6.7	3.0	2.8	2.6	2.8	2.3	2.4	2.6	3.5	2.7	3.1
Revenue and grants	19.6	20.1	21.8			23.2	22.7	23.2	23.3	23.8	23.7		22.5	21.1	
of which: grants	5.9	4.6	5.3			7.1	6.4	6.1	5.8	5.5	5.4		4.1	1.9	
Primary (noninterest) expenditure	23.9	24.2	23.8			26.2	25.6	25.8	26.1	26.1	26.1		26.0	23.8	
Automatic debt dynamics	-2.1	-0.5	-1.5			-2.4	-1.9	-1.8	-1.8	-1.7	-1.7		-2.0	-2.5	
Contribution from interest rate/growth differential	-0.8	-2.1	-2.0			-2.4	-2.0	-1.9	-1.9	-1.8	-1.8		-2.0	-2.5	
of which: contribution from average real interest rate	-0.1	-0.2	-0.9			-0.5	-0.1	-0.1	-0.2	-0.2	-0.2		-0.3	-0.4	
of which: contribution from real GDP growth	-0.7	-1.9	-1.1			-1.9	-1.9	-1.8	-1.7	-1.6	-1.6		-1.7	-2.1	
Contribution from real exchange rate depreciation	-1.3	1.7	0.5			0.0	0.0	0.1	0.1	0.1	0.1		...	...	
Other identified debt-creating flows	-0.8	-0.2	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Privatization receipts (negative)	-0.8	-0.2	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	1.0	-2.4	1.6			-1.6	-2.1	-1.9	-1.7	-0.9	-0.5		-0.1	0.1	
Other Sustainability Indicators															
PV of public sector debt	...	...	19.7			18.9	17.8	16.6	15.8	15.3	15.4		19.3	26.4	
o/w foreign-currency denominated	...	...	14.6			14.5	14.4	14.5	14.6	14.8	15.2		19.3	26.4	
o/w external	...	...	14.6			14.5	14.4	14.5	14.6	14.8	15.2		19.3	26.4	
PV of contingent liabilities (not included in public sector debt)	...	...	...			...	...	...	...	...	...		...	...	
Gross financing need 2/	5.4	5.4	3.4			4.6	4.4	4.4	4.3	3.7	3.4		4.2	4.0	
PV of public sector debt-to-revenue and grants ratio (in percent)	…	…	90.5			81.5	78.1	71.6	67.8	64.2	64.9		85.4	125.0	
PV of public sector debt-to-revenue ratio (in percent)	…	…	119.4			117.2	108.8	97.3	90.4	83.5	84.2		104.4	137.0	
o/w external 3/	…	…	88.2			90.2	88.4	84.8	83.3	80.9	83.3		104.4	137.0	
Debt service-to-revenue and grants ratio (in percent) 4/	5.2	6.7	6.3			6.9	7.0	7.7	6.8	6.2	4.2		3.1	6.0	
Debt service-to-revenue ratio (in percent) 4/	7.4	8.6	8.3			9.9	9.7	10.5	9.1	8.1	5.5		3.7	6.6	
Primary deficit that stabilizes the debt-to-GDP ratio	1.8	3.1	-0.1			3.9	4.0	3.8	3.5	2.7	2.2		2.2	2.4	
Key macroeconomic and fiscal assumptions															
Real GDP growth (in percent)	3.0	7.9	4.2	5.6	1.9	7.0	7.0	7.0	7.0	6.9	6.8	7.0	6.4	6.0	6.3
Average nominal interest rate on forex debt (in percent)	1.1	1.1	1.2	0.9	0.3	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Average real interest rate on domestic debt (in percent)	5.9	2.8	1.7	3.0	3.4	2.3	3.6	3.6	3.4	3.2	2.3	3.0	1.0	1.0	1.0
Real exchange rate depreciation (in percent, + indicates depreciation)	-6.7	8.3	2.3	-3.3	10.2	0.1	...	...	...	...	...	...	...	...	...
Inflation rate (GDP deflator, in percent)	2.3	2.8	5.6	3.0	2.8	3.5	2.0	2.0	2.0	2.0	2.0	2.3	2.0	2.0	2.0
Growth of real primary spending (deflated by GDP deflator, in percent)	0.2	0.1	0.0	0.1	0.1	0.2	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Grant element of new external borrowing (in percent)	...	...	...	…	…	41.1	46.4	45.2	43.8	42.7	41.7	43.5	38.1	36.2	...

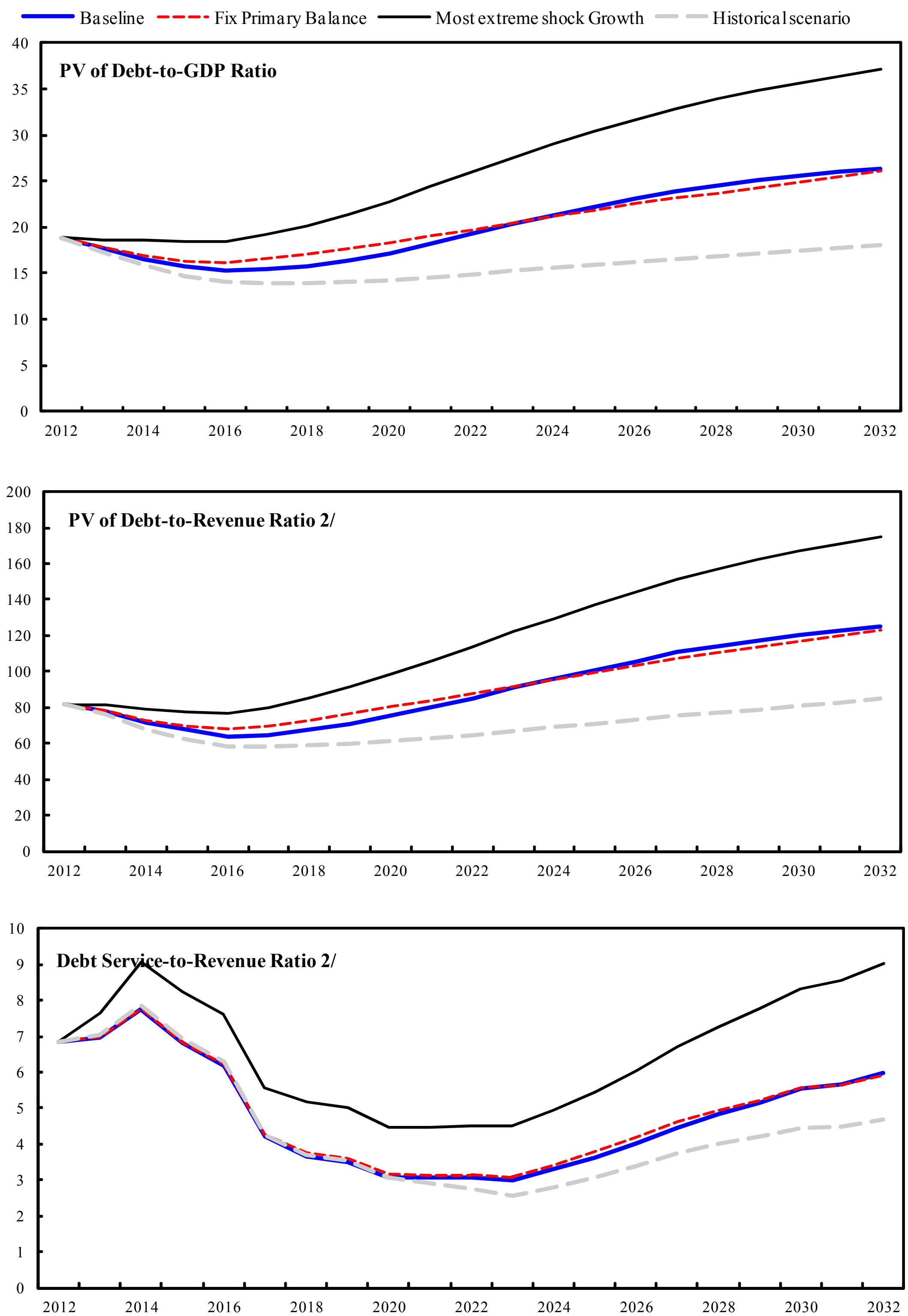
Sources: Country authorities; and staff estimates and projections.
1/ Medium term and long term general government gross debt
2/ Gross financing need is defined as the primary deficit plus debt service plus the stock of short-term debt at the end of the last period.
3/ Revenues excluding grants.
4/ Debt 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 5b.Burkina Faso: Sensitivity Analysis for Key Indicators of Public Debt 2012-2032

	Projections							
	2012	2013	2014	2015	2016	2017	2022	2032
PV of Debt-to-GDP Ratio								
Baseline	19	18	17	16	15	15	19	26
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	19	17	16	15	14	14	15	18
A2. Primary balance is unchanged from 2012	19	18	17	16	16	17	20	26
A3. Permanently lower GDP growth 1/	19	18	17	16	16	16	22	36
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2013-2014	19	19	19	18	19	19	26	37
B2. Primary balance is at historical average minus one standard deviations in 2013-2014	19	21	23	22	21	21	24	29
B3. Combination of B1-B2 using one half standard deviation shocks	19	20	20	20	19	20	25	35
B4. One-time 30 percent real depreciation in 2013	19	23	21	20	19	18	19	23
B5. 10 percent of GDP increase in other debt-creating flows in 2013	19	24	22	21	20	20	23	28
PV of Debt-to-Revenue Ratio 2/								
Baseline	81	78	72	68	64	65	85	125
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	81	76	68	62	58	58	65	85
A2. Primary balance is unchanged from 2012	81	79	73	70	68	70	88	123
A3. Permanently lower GDP growth 1/	81	78	73	69	67	68	98	170
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2013-2014	81	81	79	78	77	80	114	175
B2. Primary balance is at historical average minus one standard deviations in 2013-2014	81	93	101	96	90	90	105	136
B3. Combination of B1-B2 using one half standard deviation shocks	81	85	86	83	81	83	111	163
B4. One-time 30 percent real depreciation in 2013	81	102	92	85	78	76	85	111
B5. 10 percent of GDP increase in other debt-creating flows in 2013	81	105	96	91	86	86	102	134
Debt Service-to-Revenue Ratio 2/								
Baseline	7	7	8	7	6	4	3	6
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	7	7	8	7	6	4	3	5
A2. Primary balance is unchanged from 2012	7	7	8	7	6	4	3	6
A3. Permanently lower GDP growth 1/	7	7	8	7	6	4	3	7
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2013-2014	7	7	8	7	7	5	4	8
B2. Primary balance is at historical average minus one standard deviations in 2013-2014	7	7	8	7	7	5	4	7
B3. Combination of B1-B2 using one half standard deviation shocks	7	7	8	7	7	5	4	8
B4. One-time 30 percent real depreciation in 2013	7	8	9	8	8	6	5	9
B5. 10 percent of GDP increase in other debt-creating flows in 2013	7	7	8	8	6	4	4	7

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

Figure 3. Burkina Faso: Indicators of Public Debt Under Alternative Scenarios, 2012-2032 1/



Sources: Country authorities; and staff estimates and projections.
1/ The most extreme stress test is the test that yields the highest ratio in 2022.
2/ Revenues are defined inclusive of grants.