INTERNATIONAL MONETARY FUND AND
INTERNATIONAL DEVELOPMENT ASSOCIATION

BURKINA FASO

Joint Bank/Fund Debt Sustainability Analysis

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

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The debt sustainability outlook for Burkina Faso is aligned with the results of the previous debt sustainability analysis (DSA) update carried out in November 2008. [1] *Despite a clear increase in projected gold exports in 2010, the medium- and long-term export outlook deteriorates slightly because exports of cotton are reduced. Burkina Faso is still classified as a medium performer* [2] *and the country remains at high risk of debt distress.*

I. BACKGROUND

1.   **The analysis presented in this document is based on the stock of Burkina Faso's debt at end-2007.** The stock of debt was established following a creditor-by-creditor and loan-by-loan reconciliation exercise that was carried out in April 2008 and showed a negligible discrepancy between the authorities' and creditors' data. Moreover, the stock of debt at end-2008 has been estimated based on aggregated information provided by the authorities.

2.   **Burkina Faso's external debt is composed in the largest part by financing from multilateral creditors, which account for almost 80 percent of the total of outstanding loans.** The share of the World Bank represents about one third of the total, that of the AfDB

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[1] For the joint DSA from June 2008, see Country Report No. 08/257 and Annex 6 in IDA Report No. 4033-BF, August 26, 2008; for the DSA update from November 2008 prepared by Fund staff, see Country Report No. 09/38. The comparison to changes since the last DSA refers to the November 2008 update, unless otherwise indicated.

[2] With a three-year backward moving average CPIA for 2005-2007 below 3.75.
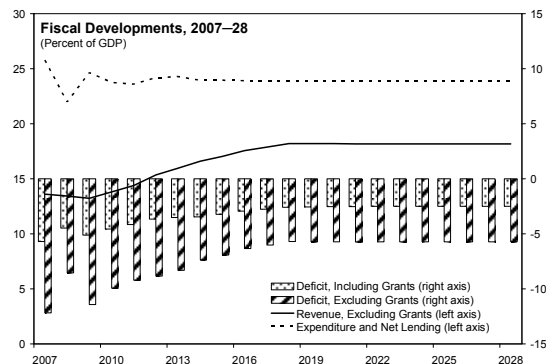
about 15 percent, and that of the IMF about 3 percent. Loans from bilateral creditors represent about 20 percent of the total, of which about 90 percent were extended by non-Paris Club creditors. Burkina Faso's loans have long maturities, with an overall grant element which currently stands at about 48 percent and is projected to remain above 35 percent for the entire projection period of the DSA. While there is a gradual decline in the grant element to about 37 percent by 2028, this is explained for the most part by a shift in emphasis in new lending from multilateral to bilateral creditors. With regard to the composition of external financing, the grant-financing share amounted to 56 percent in 2008.

3.   **Since the transition from a centralized to a market-oriented economy in the early 1990s, Burkina Faso's government has consistently demonstrated its commitment to stay current on its external payment obligations.** This includes the period before the country benefited from debt relief under the Heavily Indebted Poor Country Initiative (HIPC), when the NPV of debt-to-exports ratio was well above 200 percent. The 35 percent concessionality floor is strictly enforced for all central-government foreign-currency borrowings, and projects are consistently scrutinized by a National Public Debt Committee before negotiations are concluded.

II.   UNDERLYING MACROECONOMIC ASSUMPTIONS

4.   **The medium-term outlook for growth is generally unchanged from the previous DSA.** Projections for real GDP growth hold over the medium-term, but have been lowered by 1.4 percentage points for 2009 and 1.9 percentage points for 2010 because of the slowdown in global demand, including in the cotton sector. As a result, nominal GDP projections are slightly lower than in the previous DSA, but the upward trend is clear for the medium and long term (Figure 1, Panel 1). Real GDP growth is projected to average 6 percent in the long run, broadly in line with the average for the past ten years. Inflation is projected to decline to 4.8 percent in 2009, 2.3 percent in 2010, and to the historical average of about 2 percent in 2011.

5.   **Fiscal developments over the medium term are also aligned with the previous DSA**. The projected fiscal deficit target for 2009 has been increased by 0.4 percentage points to 5.3 percent of GDP to account for the negative impact of the global crisis on tax revenues and the need to increase some transfer expenditures. While recognizing how the slowdown in global demand is affecting public finances, the authorities remain committed to a prudent fiscal policy, and tax policy reform is making progress. The long run deficit is projected to reach 2.5 percent of GDP in 2020 (Figure 1, Panel 3), and external financing requirements are to be met equally by grants and loans, which is a conservative

Fiscal Developments, 2007–28
(Percent of GDP)

Deficit, Including Grants (right axis)
Deficit, Excluding Grants (right axis)
Revenue, Excluding Grants (left axis)
Expenditure and Net Lending (left axis)

assumption for the DSA based on recent experience.

6.   **Recent commodity price developments warranted a revision of some projections on the external sector compared to the previous DSA.** In the near term, the projected decline in cotton prices will be offset by an increase in the price of gold and a decline in oil prices, leading to an improvement in the terms of trade of about 10 percent and a narrowing of the current account deficit. The medium term export outlook has been revised for the following reasons:

- **Commodity prices**: Cotton prices have declined by about 40 percent since their August 2008 peak; they are about 21 percent lower for 2009 and 14 percent lower for 2010 than the previous DSA projected (Figure 1, Panel 5). On the other hand, gold prices are expected to be about 29 percent higher in 2009 and 27 percent higher in 2010.

- **Exchange rate:** The value of the US dollar relative to the CFA franc has been revised upward by 5.7 percent, which over the medium term reduces the total value in U.S. dollars of Burkina Faso's exports.

- **Medium-term export potential**: The first significant change is a downward revision in the value of cotton exports based on lower export prices and the negative impact on supply of the increase in cotton inventories globally. Due to the shortage of arable lands, the share of cotton exports as a percent of GDP is projected to decline markedly over the long term (Figure 1, Panel 2). The second important change comes from a significant increase in the volume of gold exports in 2010, from 10.5 tons in the previous DSA to 16 tons currently, because of the operations over the next ten years of a new gold mine. While exploration is underway for additional mines, which could lead to a significantly higher gold exports, this is not reflected in the assumptions of the current DSA. A third change concerns the increase from 2015 onward in exports of fruits, vegetables and cereals as the authorities' agricultural diversification strategy comes into play.
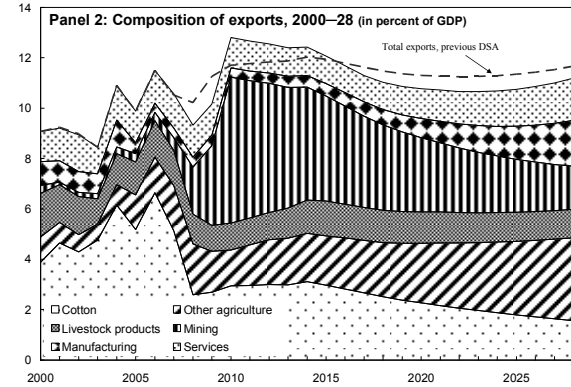
7.   **The current account deficit is expected to narrow moderately in the medium and long run as the tighter fiscal stance dampens import demand**. Export growth is driven in the medium term by the projected increase in gold exports in 2010 and in the long term by efforts to diversify agricultural production away from cotton and into fruit, vegetables, and cereals.

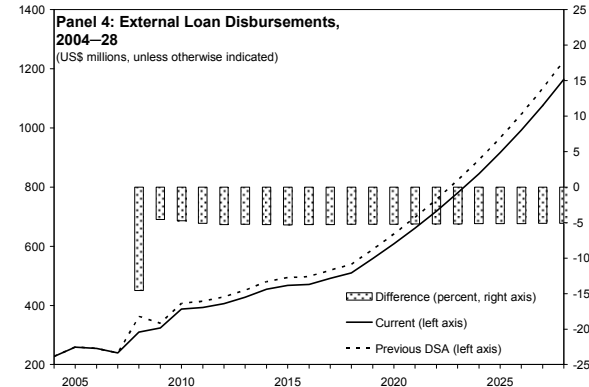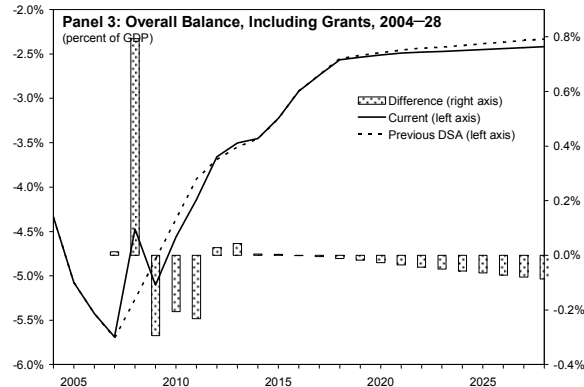**Figure 1. Burkina Faso: Medium-Term Framework, Current and Previous DSA**

Nominal GDP over the medium term has been revised downwards, as a result of lower growth in the short term.
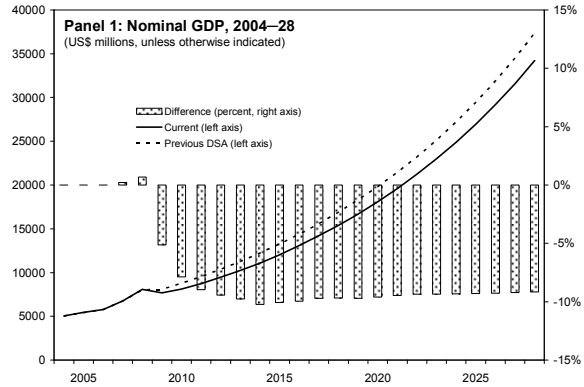
While exports are somewhat lower than in the previous DSA, efforts are underway to diversify the export base.

Panel 1: Nominal GDP, 2004—28 (US$ millions, unless otherwise indicated)

Panel 2: Composition of exports, 2000—28 (in percent of GDP)

Revenue is lower in the near term, but will gradually recover to reach 17 percent of GDP, contributing to a reduction in the fiscal deficit over the medium term. While lower than expected in 2008, external borrowing requirements for the medium term remain in line with those of the previous DSA.

Panel 3: Overall Balance, Including Grants, 2004—28 (percent of GDP)

Panel 4: External Loan Disbursements, 2004—28 (US$ millions, unless otherwise indicated)

As a result of lower demand at the global level, cotton prices have declined markedly compared to the previous DSA.
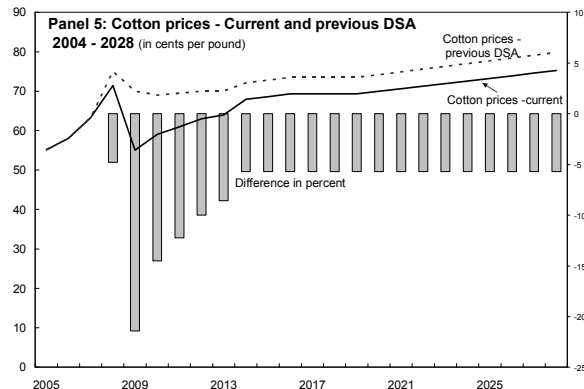
Notwithstanding better prospects for gold exports, the long term export outlook is weaker than in the previous DSA.
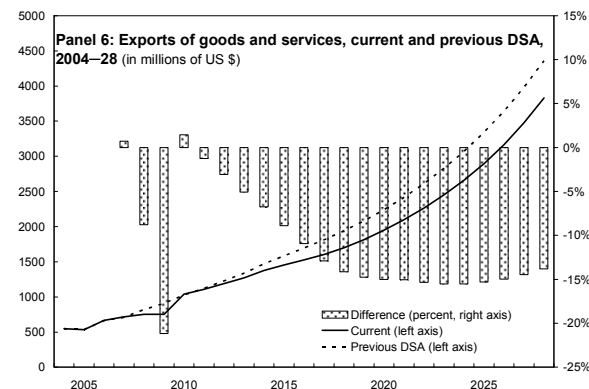
Panel 5: Cotton prices - Current and previous DSA 2004 - 2028 (in cents per pound)

Panel 6: Exports of goods and services, current and previous DSA, 2004—28 (in millions of US $)

Sources: Burkinabè authorities, World Economic Outlook, and IMF staff estimates and projections.

III.   EXTERNAL DEBT SUSTAINABILITY ANALYSIS

8.   **There are no significant changes to the indicators compared to the previous DSA (Figure 2)**. Under the baseline scenario, there is a slight deterioration in the NPV of debt-to-exports ratio, the only indicator that breaches the indicative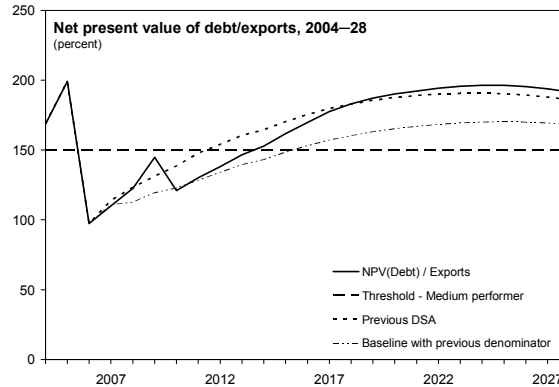 thresholds. With the decline in cotton exports over the long term, the ratio peaks at 196.4 percent in 2024, compared to 190.7 percent in the previous DSA. Nevertheless, all other debt indicators remain comfortably below the thresholds.

9.   **Furthermore, the rate of external debt accumulation under the baseline scenario is projected to remain manageable.** The annual increase in the NPV of public external debt is substantially below 3 percent of GDP per year throughout the projection period and, notwithstanding a small increase in the medium term, it is projected to remain at about 20 percent of GDP. Additional grant financing could improve the debt sustainability outlook significantly. Whereas DSA projections are based on a conservative 50 percent grant-financing share, raising the grant-financing share to 55 percent in the projection period would lower the peak NPV of debt-to-exports ratio by about 20 percentage points.

10.   **Stress tests and alternative scenarios show Burkina Faso's debt outlook as vulnerable to large shocks to exports and less favorable financing terms.** The NPV of debt-to-exports and the debt service-to-exports ratios rises and stays above the threshold under some tests. In particular, these ratios are most vulnerable to a scenario of exports remaining subdued and growing below historical levels (Figure 5). While all the other ratios remain below their indicative thresholds throughout the projection period, stress test show there are vulnerabilities, in particular to a combination of lower GDP growth and a lower share of grants in external financing (bounds tests B2 and B5 and alternative scenario A2 in Table 2, respectively).

Figure 2. Burkina Faso: Current vs. Previous DSA

The main risk comes from the NPV of debt-to-exports ratio. Despite an improvement in the near term because of higher gold exports, long term the ratio deteriorates slightly because cotton exports fall.

Net present value of debt/exports, 2004—28
(percent)

- NPV(Debt) / Exports
- Threshold - Medium performer
- Previous DSA
- Baseline with previous denominator

The NPV of debt-to-GDP and to-revenue ratios remain comfortably below the indicative thresholds.

Net present value of debt/GDP, 2004—28
(percent)

- NPV(Debt) / GDP
- Threshold - Medium performer
- Previous DSA
- Baseline with previous denominator

Net present value of debt/revenue, 2004—28
(percent)

- NPV(Debt) / Revenues
- Threshold - Medium performer
- Previous DSA
- Baseline with previous denominator
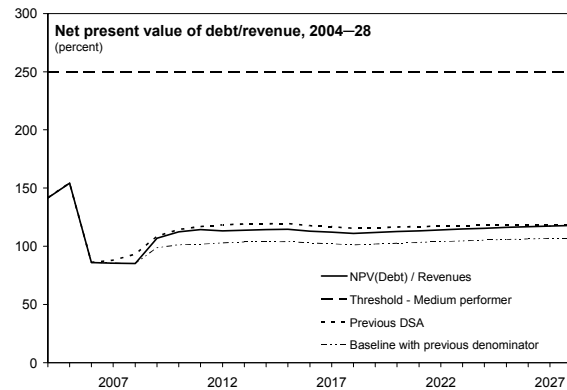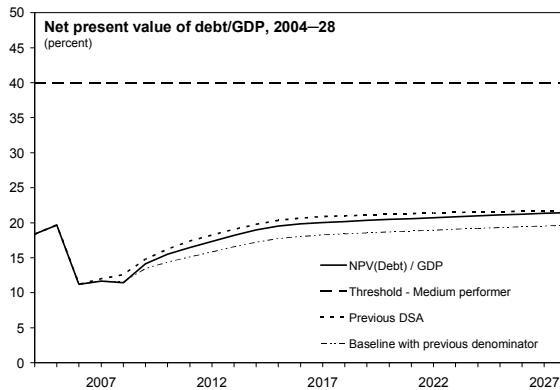
Debt service ratios also remain well below their thresholds.
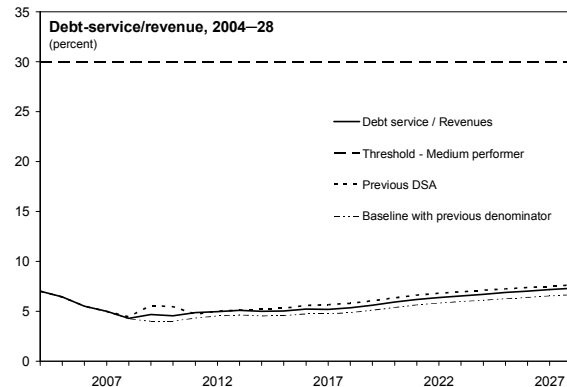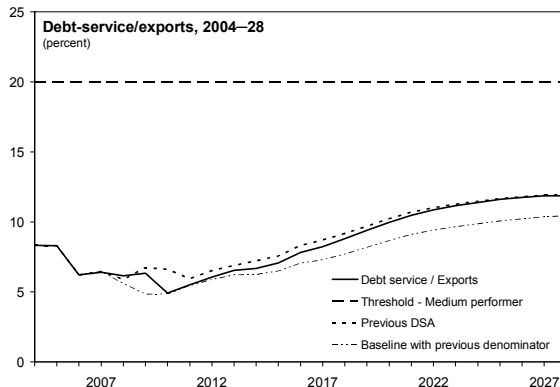
Debt-service/exports, 2004—28
(percent)

- Debt service / Exports
- Threshold - Medium performer
- Previous DSA
- Baseline with previous denominator

Debt-service/revenue, 2004—28
(percent)

- Debt service / Revenues
- Threshold - Medium performer
- Previous DSA
- Baseline with previous denominator

Sources: Burkinabè authorities, World Economic Outlook, and IMF staff estimates and projections.

IV. ALTERNATIVE SCENARIOS

11.   **How vulnerable is the debt sustainability outlook to further backlash from the current global crisis**? The baseline scenario of the DSA assumes (i) a continued improvement in revenue performance to meet the WAEMU target of 17 percent in 2015 and

(ii) a moderate decline in the share of cotton in total exports that is compensated in the medium term by a significant increase in the volume and value of gold exports.

12.   **The alternative scenario assumes a further decline in projected revenue compared to precrisis levels, a worsening of the outlook for cotton, and lower gold prices as the global recovery starts to take hold:**

- Revenues are lower by 0.5 percentage points of GDP in both 2010 and 2011, before gradually recovering to their baseline level by 2017.

- Cotton prices are 10 percent lower in 2010, returning to the baseline in 2011.

- Cotton export volumes are 20 percent lower in 2010, an impact that carries over into the medium and long run as producers diversify away from the sector in response to lower prices in 2009 and 2010 and declining prospects.

- Gold prices are 10 percent lower in 2011 and 5 percent lower in 2012 and 2013 before catching up to the baseline level in 2014 (Figure 3).

13.   **The results under the alternative scenario do not foresee a significant deterioration of the debt sustainability outlook, and most debt sustainability indicators would be little affected over the long term**. The indicators remain below their indicative thresholds for medium performers, with the exception of the NPV of debt-to-exports ratio, which exceeds 200 percent (Figure 4).

Figure 3. Alternative Scenario with Lower Revenues and Exports: Assumptions

Revenue is lower by 0.5 percent of GDP in 2010 and 2011 but gradually recovers to reach the WAEMU target of 17 percent of GDP in 2017.

Total Revenue, 2005 - 2028
(in percent of GDP)

Revenue curr.

Revenue, alt

Total Revenue, 2005 - 2028
(in billions of CFAF)

Revenue, current

Revenue, alt
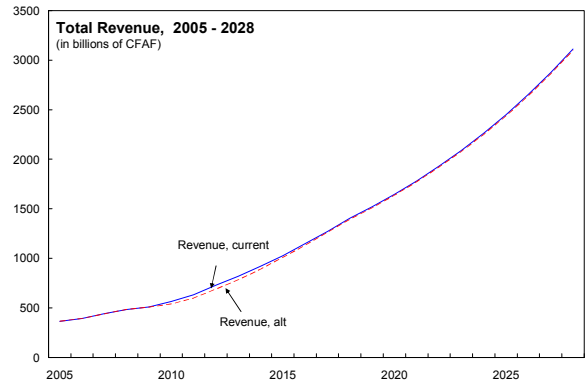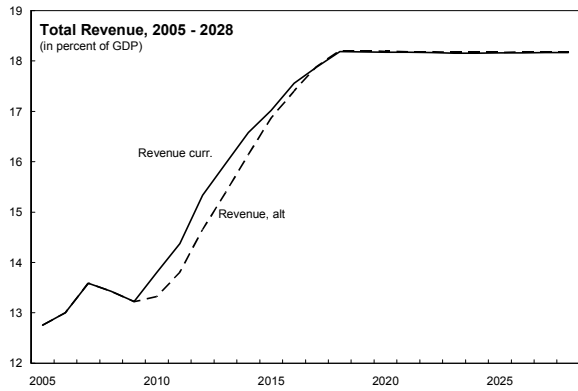
Cotton prices decrease further in 2010 and the sector suffers a pronounced decline over the medium term as farmers shift to other crops.

Cotton prices, 2005 - 2028
(cents per pound)

Cotton Prices - Current scen.

Cotton Prices - Alt scen.

Cotton exports, 2005 - 2028
(in billions of CFAF)

Cotton Exports - Curr. scen.

Cotton Exports - Alt. scen.
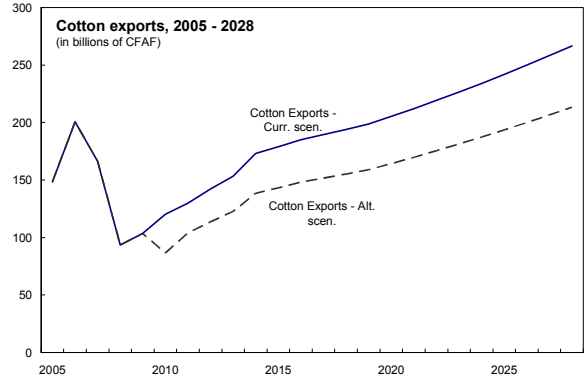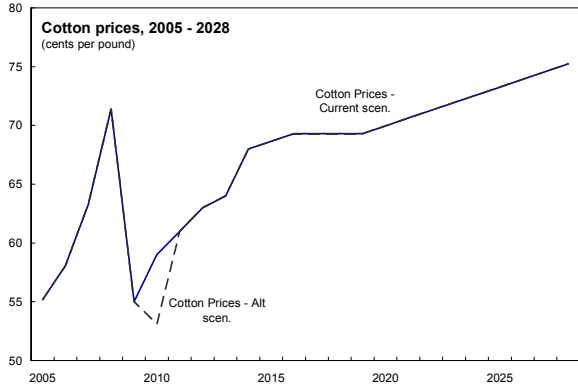
The value of gold exports declines as lower prices in 2011-2013 reflect an improved outlook for growth internationally and less uncertainty in financial markets.

Gold prices, 2005 - 2028
(US dollars per ounce)

Gold prices - curr. Scen.

Gold prices - Alt. Scen.

Gold exports, 2005 -2028
(in billions of CFAF)

Gold exports - curr. Scen.

Gold exports - alt. scen.
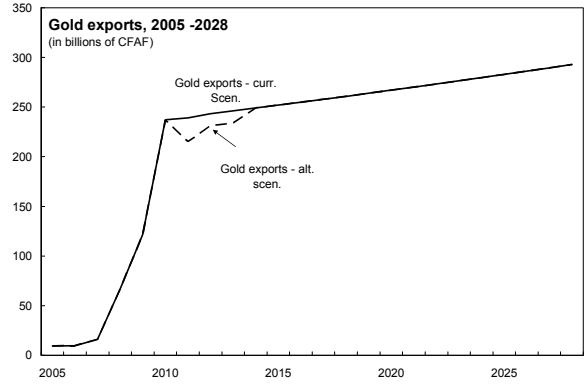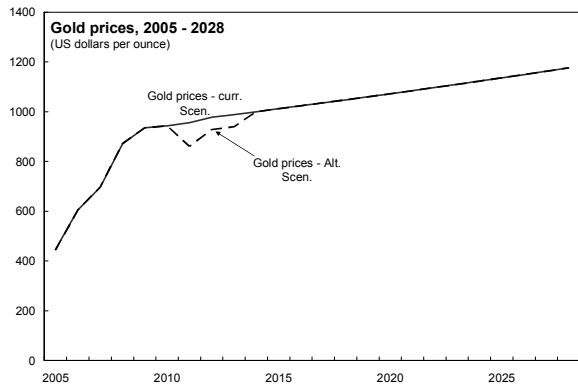
Sources: Burkinabè authorities and World Bank and IMF staff estimates.

Figure 4. Alternative Scenario with Lower Revenues and Exports: Results

If export performance worsens, the NPV of debt-to-exports ratio would reach 206 percent, exceeding the threshold for strong performers …

Net present value of debt/Exports, 2005─28
(percent)

- NPV(Debt) / Exports
- Threshold - Medium performer
- Alt. scenario
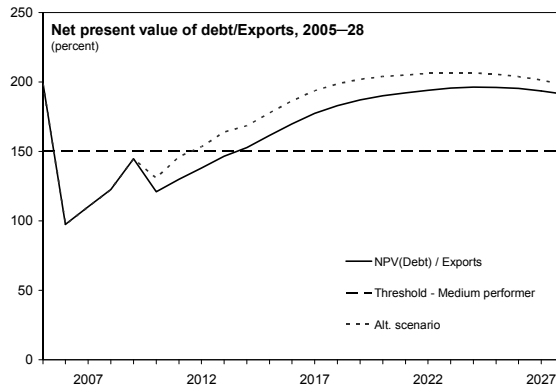
… but debt would remain otherwise sustainable …

Net present value of debt/Revenue, 2005─28
(percent)

- NPV(Debt) / Revenues
- Threshold - Medium performer
- Alt. scenario

Net present value of debt/GDP, 2005─28
(percent)

- NPV(Debt) / GDP
- Threshold - Medium performer
- Alt. scenario
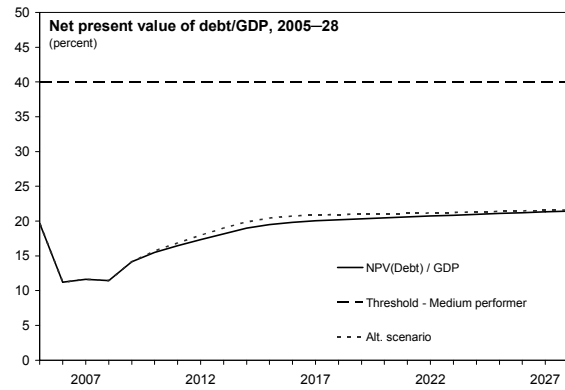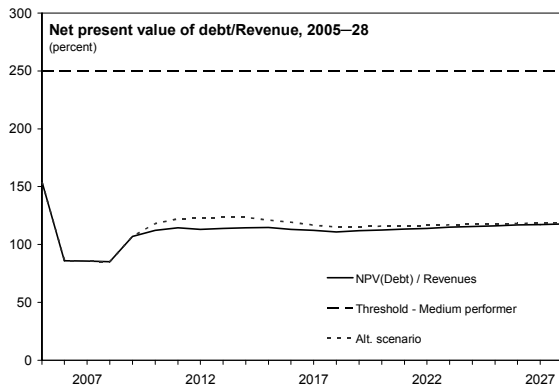
… because Burkina Faso would preserve its capacity to stay current on external debt service.

Debt-service/Revenue, 2005─28
(percent)

- Debt service / Revenues
- Threshold - Medium performer
- Alt. scenario

Debt-service/Exports, 2005─28
(percent)

- Debt service / Exports
- Threshold - Medium performer
- Alt. scenario
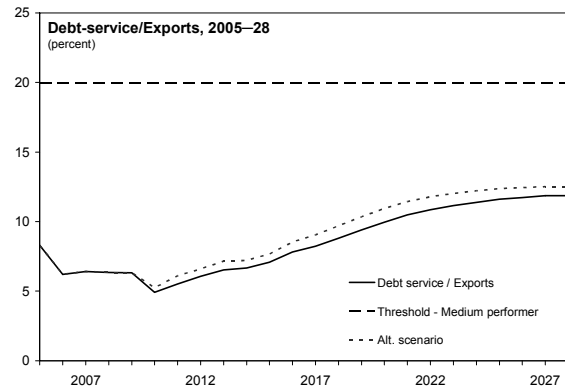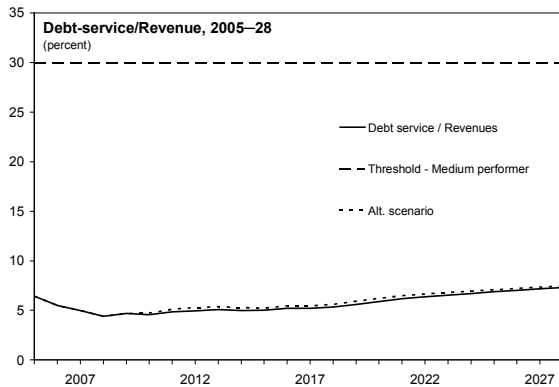
Sources: Burkinabè authorities and World Bank and IMF staff estimates.

V. PUBLIC SECTOR DEBT SUSTAINABILITY ANALYSIS

14.   **The results for the fiscal DSA are similar to those for the external DSA**. Domestic debt is low—gross domestic debt is estimated at approximately 2.7 percent of GDP at end-2008, and net debt at 1.3 percent of GDP. Moreover, it is assumed to decline further over the projection period as the authorities seek to avoid more costly domestic financing of the fiscal deficit. As a result, public debt dynamics are largely determined by the evolution of external debt.

15.   **Public debt indicators could worsen under some scenarios.** The standard sensitivity tests reveal the public debt outlook to be vulnerable to persistent large primary deficits and an unexpected increase in debt creating flows, under which the debt ratios would increase sharply over the projection period. These results highlight the importance to follow prudent fiscal and borrowing policies. Failure to reduce the current deficits would lead to ever-increasing debt indicators; however the authorities are committed to ongoing tax reforms designed to lower the deficit to more sustainable levels.

VI. CONCLUSION

16.   **Burkina Faso's risk of debt distress is high** because of the NPV of debt-to-exports ratio; all other debt indicators remain comfortably below their policy-dependent thresholds in the baseline scenario. Nevertheless, the high risk of distress underscores the importance of limiting external borrowing to concessional loans, maintaining a prudent fiscal policy to limit the accumulation of new debt, including by sustaining the ongoing tax reforms, and making continued efforts to diversify and increase exports. Moreover, the authorities should continue to improve their policy and institutional environment, which over time may result in a higher CPIA rating and higher debt thresholds.

Table 1. Burkina Faso: External Debt Sustainability Framework, Baseline Scenario, 2008–28 1/

(percent of GDP, unless otherwise indicated)

	Actual			Historical Average 6/	Standard Deviation 6/	Projections						2008–13 Average			2014–28 Average
	2005	2006	2007			2008	2009	2010	2011	2012	2013		2018	2028	
External debt (nominal) 1/	**38.9**	**21.1**	**19.8**			**20.0**	**22.7**	**24.0**	**24.7**	**25.5**	**26.2**		**28.2**	**26.6**	
o/w public and publicly guaranteed (PPG)	38.9	21.1	19.8			20.0	22.7	24.0	24.7	25.5	26.2		28.2	26.6	
Change in external debt	-2.9	-17.8	-1.3			0.3	2.7	1.2	0.7	0.8	0.7		0.0	-0.2	
Identified net debt–creating flows	8.0	6.7	0.1			6.7	8.2	8.6	7.7	7.6	7.5		6.5	3.6	
Non–interest current account deficit	**11.4**	**9.3**	**8.1**	**10.0**	**1.2**	**10.8**	**9.8**	**10.5**	**10.0**	**8.9**	**8.9**		**8.1**	**5.2**	**6.9**
Deficit in balance of goods and services	15.6	14.0	14.2			16.0	15.2	14.3	13.6	12.6	12.5		11.5	9.2	
Exports	9.9	11.5	10.6			9.3	9.8	12.8	12.7	12.6	12.4		11.0	11.2	
Imports	25.5	25.5	24.8			25.4	25.0	27.1	26.3	25.2	24.9		22.5	20.3	
Net current transfers (negative = inflow)	-4.3	-4.4	-6.0	-4.8	0.9	-5.3	-5.4	-3.9	-3.7	-3.8	-3.7		-3.5	-4.1	-3.7
o/w official	-3.4	-3.0	-4.3			-3.7	-4.0	-2.5	-2.4	-2.4	-2.3		-1.8	-1.6	
Other current account flows (negative = net inflow)	0.1	-0.2	-0.2			0.1	0.1	0.2	0.1	0.1	0.1		0.1	0.1	
Net FDI (negative = inflow)	**-0.6**	**-0.6**	**-5.1**	**-0.9**	**1.5**	**-3.4**	**-1.1**	**-1.2**	**-1.4**	**-0.3**	**-0.3**		**-0.3**	**-0.5**	**-0.4**
Endogenous debt dynamics 2/	-2.8	-2.0	-2.9			-0.6	-0.5	-0.7	-0.9	-1.1	-1.1		-1.2	-1.0	
Contribution from nominal interest rate	0.3	0.2	0.2			0.2	0.2	0.2	0.2	0.3	0.3		0.4	0.4	
Contribution from real GDP growth	-2.8	-2.0	-0.6			-0.8	-0.7	-0.9	-1.2	-1.4	-1.4		-1.6	-1.5	
Contribution from price and exchange rate changes	-0.3	-0.3	-2.4			…	…	…	…	…	…		…	…	
Residual (3–4) 3/	-10.9	-24.6	-1.4			-6.5	-5.4	-7.3	-7.0	-6.7	-6.8		-6.6	-3.9	
o/w exceptional financing	0.0	-22.4	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
NPV of external debt 4/	19.7	11.2	11.6			11.4	14.1	15.5	16.5	17.3	18.2		20.2	21.4	
percent of exports	199.1	97.3	110.0			122.6	144.7	121.0	130.0	138.1	146.6		182.9	191.4	
NPV of PPG external debt	19.7	11.2	11.6			11.4	14.1	15.5	16.5	17.3	18.2		20.2	21.4	
percent of exports	199.1	97.3	110.0			122.6	144.7	121.0	130.0	138.1	146.6		182.9	191.4	
percent of government revenues	154.2	86.1	85.5			85.1	106.9	112.3	114.5	113.1	113.9		110.9	117.9	
Debt service-to-exports ratio (percent)	**8.3**	**6.2**	**6.4**			**6.3**	**6.3**	**4.9**	**5.5**	**6.1**	**6.5**		**8.8**	**11.9**	
PPG debt service-to-exports ratio (percent)	**8.3**	**6.2**	**6.4**			**6.3**	**6.3**	**4.9**	**5.5**	**6.1**	**6.5**		**8.8**	**11.9**	
PPG debt service-to-revenue ratio (percent)	**6.4**	**5.5**	**5.0**			**4.4**	**4.7**	**4.6**	**4.9**	**5.0**	**5.1**		**5.3**	**7.3**	
Total gross financing need (US$ billions)	631.1	548.6	248.6			644.3	715.2	805.2	814.9	893.3	970.3		1338.4	2054.1	
Non–interest current account deficit that stabilizes debt ratio	14.3	27.2	9.4			10.6	7.1	9.3	9.3	8.1	8.2		8.1	5.4	
Key macroeconomic assumptions															
Real GDP growth (percent)	7.1	5.5	3.6	5.6	1.9	5.0	3.5	4.1	5.3	6.0	6.0	5.0	6.0	5.9	5.9
GDP deflator in US$ terms (percent change)	0.8	0.7	13.1	5.3	10.3	13.7	-8.3	1.8	2.1	2.3	2.0	2.3	2.3	2.3	2.3
Effective interest rate (percent) 5/	0.7	0.7	1.2	0.6	0.4	1.1	0.9	0.7	1.1	1.2	1.2	1.1	1.4	1.7	1.5
Growth of exports of G&S (US$ terms, percent)	-2.1	23.7	7.7	12.4	22.2	5.4	-0.5	38.8	6.3	7.6	6.8	10.7	5.9	10.2	7.6
Growth of imports of G&S (US$ terms, percent)	11.7	6.1	14.0	11.1	12.8	22.2	-6.5	14.7	4.5	3.8	7.1	7.6	6.4	8.0	6.9
Grant element of new public sector borrowing (percent)	…	…	…	…	…	47.7	47.6	47.1	47.2	45.2	44.8	46.6	43.8	37.1	41.1
Aid flows (US$ billions) 7/	554.8	608.8	678.6			588.2	808.8	774.4	786.1	882.7	902.8		969.7	2272.1	
o/w Grants	249.8	324.4	439.4			329.6	484.5	437.8	443.4	491.7	493.7		484.9	1136.1	
o/w Concessional loans	259.4	254.9	239.2			258.6	324.3	336.6	342.6	391.1	409.1		484.9	1136.1	
Grant–equivalent financing (percent of GDP) 8/	…	…	…			5.7	8.3	7.3	6.9	7.0	6.6		4.5	4.6	4.7
Grant–equivalent financing (percent of external financing) 8/	…	…	…			76.0	79.1	77.0	77.0	75.7	75.0		71.9	68.5	70.6
Memorandum items:															
Nominal GDP (US$ millions)	5436.9	5776.6	6768.9			8084.7	7677.2	8131.0	8743.6	9483.0	10254.3		15406.3	34220.5	
(NPVt–NPVt–1)/GDPt–1 (percent)						2.0	2.0	2.3	2.2	2.3	2.3	2.2	1.8	1.9	1.9

Source: Staff simulations.

1/ Includes both public and private sector external debt.

2/ Derived as [r – g – r(1+g)]/(1+g+r+gr) times previous period debt ratio, with r = nominal interest rate; g = real GDP growth rate, and r = 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, capital transfers are included–in particular project grants, which are projected to average about 2.5 percent of GDP over the long term, and about 4 percent over 2008-12 due to MCC grants—and private, non-debt-creating capital inflows. 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. Burkina Faso: Sensitivity Analyses for Key Indicators of Public and Publicly Guaranteed External Debt, 2008–28
(Percent)

				Projections					
	2008	2009	2010	2011	2012	2013	**2018**	2028

NPV of debt-to-GDP ratio

	2008	2009	2010	2011	2012	2013	**2018**	2028
Baseline	11	14	16	16	17	18	**20**	21
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2008–27 1/	11	12	13	13	14	15	**19**	30
A2. New public sector loans on less favorable terms in 2008–27 2/	11	15	18	20	22	24	**29**	34
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2008–09	11	14	16	16	17	18	**20**	21
B2. Export value growth at historical average minus one standard deviation in 2008–09 3/	11	15	20	20	21	22	**22**	22
B3. US dollar GDP deflator at historical average minus one standard deviation in 2008–09	11	14	16	17	18	19	**21**	22
B4. Net non–debt creating flows at historical average minus one standard deviation in 2008–09 4/	11	16	19	20	20	21	**22**	22
B5. Combination of B1–B4 using one–half standard deviation shocks	11	13	16	17	18	18	**19**	20
B6. One–time 30 percent nominal depreciation relative to the baseline in 2008 5/	11	21	23	24	26	27	**30**	32

NPV of debt-to-exports ratio

	2008	2009	2010	2011	2012	2013	**2018**	2028
Baseline	123	145	121	130	138	147	**183**	191
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2007–26 1/	123	125	99	106	114	120	**172**	265
A2. New public sector loans on less favorable terms in 2007–26 2/	123	157	139	157	173	190	**262**	303
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2008–09	123	145	121	130	138	147	**183**	191
B2. Export value growth at historical average minus one standard deviation in 2008–09 3/	123	166	259	274	286	299	**345**	332
B3. US dollar GDP deflator at historical average minus one standard deviation in 2008–09	123	145	121	130	138	147	**183**	191
B4. Net non–debt creating flows at historical average minus one standard deviation in 2008–09 4/	123	166	147	155	162	170	**198**	194
B5. Combination of B1–B4 using one–half standard deviation shocks	123	145	183	195	206	217	**259**	260
B6. One–time 30 percent nominal depreciation relative to the baseline in 2008 5/	123	145	121	130	138	147	**183**	191

NPV of debt-to-revenue ratio

	2008	2009	2010	2011	2012	2013	**2018**	2028
Baseline	85	107	112	114	113	114	**111**	118
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2007–26 1/	85	93	92	94	93	94	**104**	163
A2. New public sector loans on less favorable terms in 2007–26 2/	85	116	129	138	142	148	**159**	187
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2008–09	85	107	113	115	113	114	**111**	118
B2. Export value growth at historical average minus one standard deviation in 2008–09 3/	85	111	142	142	138	137	**123**	120
B3. US dollar GDP deflator at historical average minus one standard deviation in 2008–09	85	103	116	118	117	118	**115**	122
B4. Net non–debt creating flows at historical average minus one standard deviation in 2008–09 4/	85	123	136	137	133	132	**120**	120
B5. Combination of B1–B4 using one–half standard deviation shocks	85	99	116	117	114	114	**107**	109
B6. One–time 30 percent nominal depreciation relative to the baseline in 2008 5/	85	159	167	170	168	169	**165**	175

Table 2. Burkina Faso: Sensitivity Analyses for Key Indicators of Public and Publicly Guaranteed External Debt, 2008–28 (concluded)
(Percent)

	Projections							
	2008	2009	2010	2011	2012	2013	2018	2028

Debt service-to-exports ratio

Baseline	6	6	5	6	6	7	**9**	12
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2008–27 1/	6	5	4	4	5	5	**7**	14
A2. New public sector loans on less favorable terms in 2008–27 2/	6	6	5	6	7	8	**15**	23
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2008–09	6	6	5	6	6	7	**9**	12
B2. Export value growth at historical average minus one standard deviation in 2008–09 3/	6	6	8	10	11	12	**18**	22
B3. US dollar GDP deflator at historical average minus one standard deviation in 2008–09	6	6	5	6	6	7	**9**	12
B4. Net non–debt creating flows at historical average minus one standard deviation in 2008–09 4/	6	6	5	6	7	7	**10**	13
B5. Combination of B1–B4 using one–half standard deviation shocks	6	6	7	8	9	9	**13**	17
B6. One–time 30 percent nominal depreciation relative to the baseline in 2008 5/	6	6	5	6	6	7	**9**	12

Debt service-to-revenue ratio

Baseline	4	5	5	5	5	5	**5**	7
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2008–27 1/	4	4	4	4	4	4	**4**	8
A2. New public sector loans on less favorable terms in 2008–27 2/	4	4	5	6	6	6	**9**	14
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2008–09	4	4	4	5	5	5	**5**	7
B2. Export value growth at historical average minus one standard deviation in 2008–09 3/	4	4	5	5	5	5	**7**	8
B3. US dollar GDP deflator at historical average minus one standard deviation in 2008–09	4	4	5	5	5	5	**6**	8
B4. Net non–debt creating flows at historical average minus one standard deviation in 2008–09 4/	4	4	5	5	5	5	**6**	8
B5. Combination of B1–B4 using one–half standard deviation shocks	4	4	4	5	5	5	**5**	7
B6. One–time 30 percent nominal depreciation relative to the baseline in 2008 5/	4	6	7	7	7	8	**8**	11
Memorandum item:								
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	34	34	34	34	34	34	**34**	34

Source: Staff projections and simulations.

1/ Variables include real GDP growth, growth of GDP deflator (US$ 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 assumingan 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 5. Burkina Faso: Indicators of Public and Publicly Guaranteed External Debt
Under Alternative Scenarios (in percent), 2008-28 1/
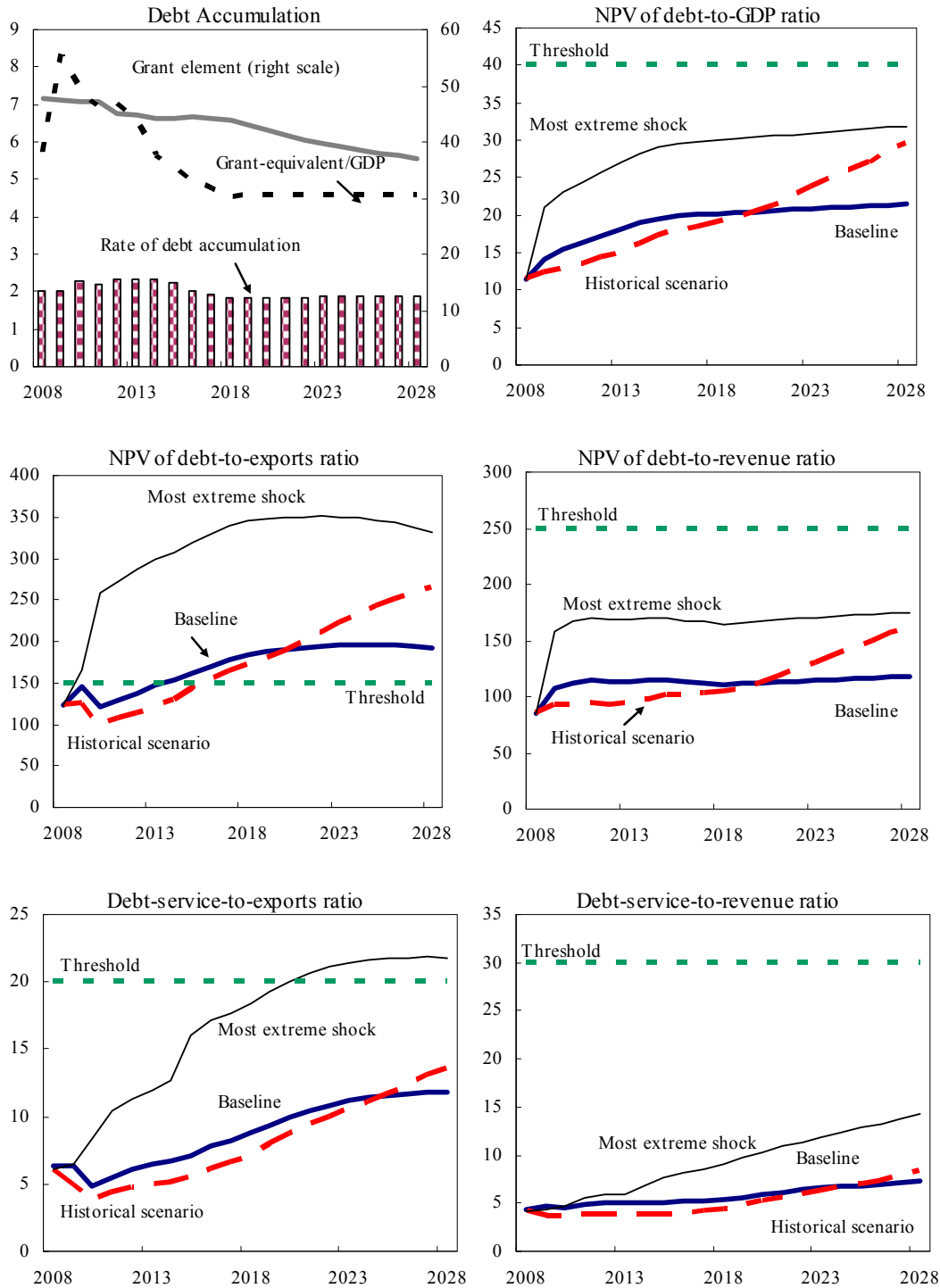
Source: Staff projections and simulations.
1/ Thresholds for medium performer.

Table 3: Public Sector Debt Sustainability Framework, Baseline Scenario, 2005-28
(In percent of GDP, unless otherwise indicated)

	Actual			Historical Average 5/	Standard Deviation 5/	Estimate	Projections					2008-13 Average			2014-28 Average
	2005	2006	2007			2008	2009	2010	2011	2012	2013		2018	2028	
Public sector debt 1/	44.4	22.8	22.0			23.9	26.1	28.1	29.1	30.4	31.6		33.4	32.7	
o/w foreign-currency denominated	40.9	20.0	18.6			21.6	22.8	24.0	24.7	25.5	26.2		28.2	26.5	
Change in public sector debt	0.3	-21.6	-0.7			1.9	2.2	1.9	1.0	1.3	1.2		-0.1	-0.1	
Identified debt-creating flows	6.6	-23.0	2.4			3.4	4.5	3.1	2.2	1.4	1.2		0.0	-0.1	
Primary deficit	4.6	5.0	5.3	3.7	1.1	4.2	4.7	4.3	3.8	3.3	3.1	3.9	2.1	2.0	2.2
Revenue and grants	17.4	18.9	20.1			17.5	19.5	19.2	19.4	20.5	20.8		21.3	21.5	
of which : grants	4.6	5.9	6.5			4.1	6.3	5.4	5.1	5.2	4.8		3.1	3.3	
Primary (noninterest) expenditure	21.9	23.9	25.4			21.7	24.3	23.4	23.2	23.8	23.9		23.5	23.4	
Automatic debt dynamics	2.1	-5.9	-2.9			-0.7	-0.3	-1.2	-1.6	-1.9	-1.9		-2.2	-2.1	
Contribution from interest rate/growth differential	-3.6	-3.1	-1.0			-1.3	-0.7	-0.9	-1.3	-1.7	-1.8		-1.9	-1.9	
of which : contribution from average real interest rate	-0.7	-0.8	-0.2			-0.2	0.1	0.1	0.2	0.0	0.0		-0.1	0.0	
of which : contribution from real GDP growth	-2.9	-2.3	-0.8			-1.0	-0.8	-1.0	-1.4	-1.6	-1.7		-1.9	-1.8	
Contribution from real exchange rate depreciation	5.7	-2.8	-1.9			0.6	0.4	-0.3	-0.3	-0.2	-0.1		...	...	
Other identified debt-creating flows	0.0	-22.2	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Privatization receipts (negative)	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Recognition of implicit or contingent liabilities	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Debt relief (HIPC and other)	0.0	-22.2	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Other (specify, e.g. bank recapitalization)	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Residual, including asset changes	-6.3	1.4	-3.1			-1.5	-2.3	-1.1	-1.1	-0.1	-0.1		0.0	0.0	
NPV of public sector debt	23.2	14.0	15.1			13.7	17.5	19.6	20.9	22.3	23.6		25.4	27.6	
o/w foreign-currency denominated	19.7	11.2	11.6			11.4	14.1	15.5	16.5	17.3	18.2		20.2	21.4	
o/w external	19.7	11.2	11.6			11.4	14.1	15.5	16.5	17.3	18.2		20.2	21.4	
NPV of contingent liabilities (not included in public sector debt)	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Gross financing need 2/	6.0	6.2	6.6			4.9	5.5	5.0	4.6	4.2	4.0		3.2	3.3	
NPV of public sector debt-to-revenue and grants ratio (in percent)	133.6	73.9	75.0			78.6	89.6	102.3	107.4	108.5	113.4		119.0	128.3	
NPV of public sector debt-to-revenue ratio (in percent)	181.7	107.3	110.9			102.4	132.3	142.2	145.3	145.2	147.6		139.6	151.8	
o/w external 3/	154.2	86.1	85.5			85.1	106.9	112.3	114.5	113.1	113.9		110.9	117.9	
Debt service-to-revenue and grants ratio (in percent) 4/	8.2	6.2	6.7			4.1	4.0	4.1	4.3	4.3	4.5		4.9	6.3	
Debt service-to-revenue ratio (in percent) 4/	11.2	8.9	9.9			5.4	5.9	5.7	5.8	5.8	5.8		5.8	7.5	
Primary deficit that stabilizes the debt-to-GDP ratio	4.3	26.6	6.0			2.2	2.6	2.3	2.7	1.9	1.9		2.2	2.1	
Key macroeconomic and fiscal assumptions															
Real GDP growth (in percent)	7.1	5.5	3.6	5.6	1.9	5.0	3.5	4.1	5.3	6.0	6.0	5.0	6.0	5.9	5.9
Average nominal interest rate on forex debt (in percent)	0.7	0.6	1.1	0.6	0.4	1.1	1.0	0.7	1.1	1.2	1.2	1.1	1.4	1.7	1.5
Average real interest rate on domestic currency debt (in percent)	3.9	5.1	3.9	-0.3	5.2	-1.7	4.2	2.7	1.6	1.1	0.6	1.4	-0.7	-1.6	-1.0
Real exchange rate depreciation (in percent, + indicates depreciation)	16.1	-7.3	-10.2	-2.6	12.5	3.2	...	...	...	...	...	...	...	...	...
Inflation rate (GDP deflator, in percent)	0.6	-0.1	3.6	2.8	2.9	5.9	3.0	2.1	2.0	2.1	2.0	2.9	2.3	2.3	2.3
Growth of real primary spending (deflated by GDP deflator, in percent)	10.8	15.0	9.9	7.4	6.8	-10.3	16.1	0.5	4.2	8.6	6.4	4.3	5.9	5.9	5.8
Grant element of new external borrowing (in percent)	0.0	0.0	0.0	0.0	0.0	47.7	47.6	47.1	47.2	45.2	44.8	46.6	43.8	37.1	...

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

1/ Central government.

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.Burkina Faso: Sensitivity Analysis for Key Indicators of Public Debt 2008-28

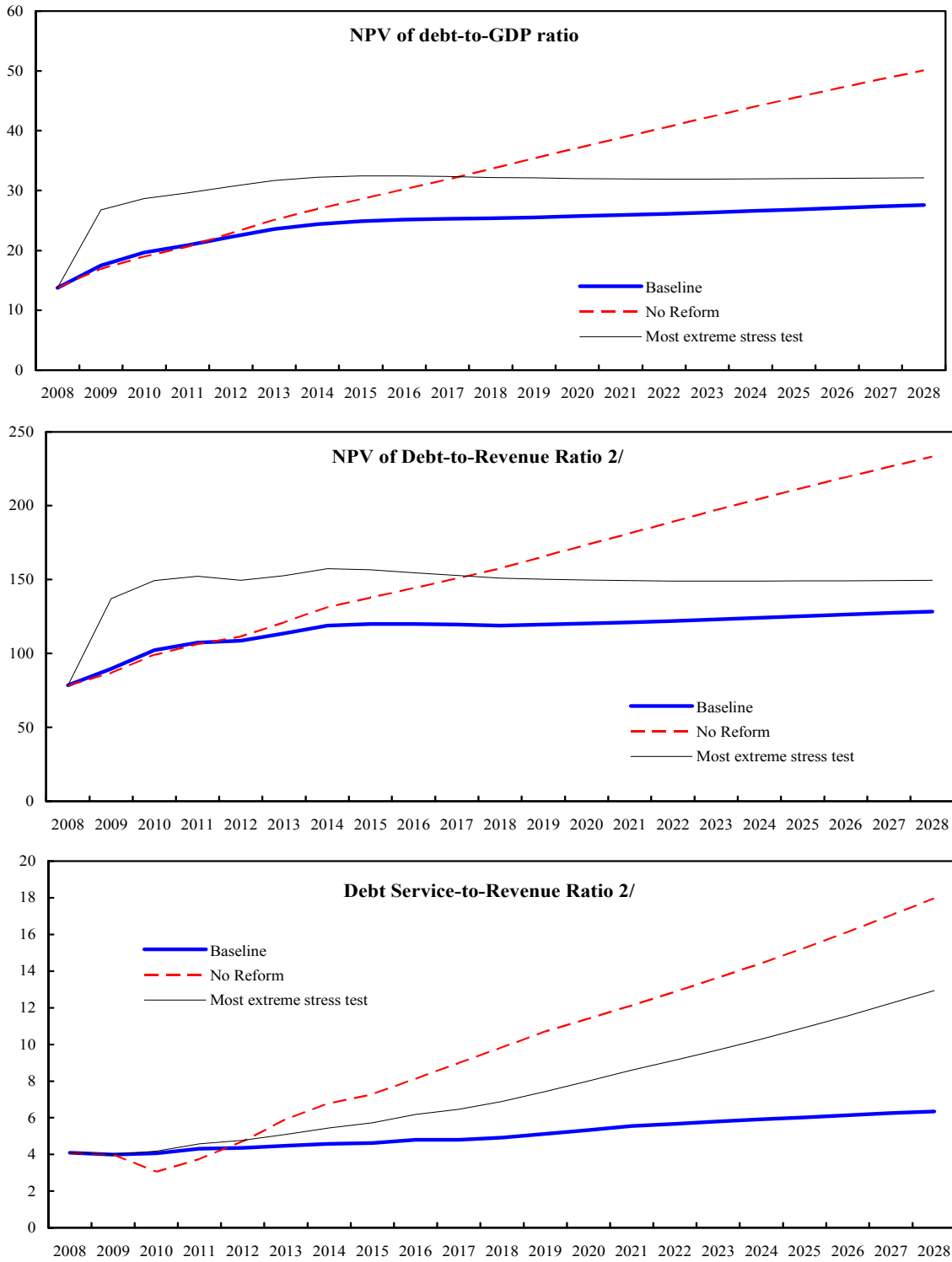|	Projections							
	2008	2009	2010	2011	2012	2013	2018	2028
NPV of Debt-to-GDP Ratio								
Baseline	14	17	20	21	22	24	25	28
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	14	16	18	19	21	23	30	45
A2. Primary balance is unchanged from 2008	14	17	19	21	23	25	34	50
A3. Permanently lower GDP growth 1/	14	18	20	21	23	25	30	42
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2009-2010	14	17	20	21	22	24	26	28
B2. Primary balance is at historical average minus one standard deviations in 2009-2010	14	18	20	21	23	24	26	28
B3. Combination of B1-B2 using one half standard deviation shocks	14	17	19	20	22	23	25	28
B4. One-time 30 percent real depreciation in 2009	14	23	25	26	27	28	28	30
B5. 10 percent of GDP increase in other debt-creating flows in 2009	14	27	29	30	31	32	32	32
NPV of Debt-to-Revenue Ratio 2/								
Baseline	79	90	102	107	109	113	119	128
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	79	84	93	98	103	111	142	208
A2. Primary balance is unchanged from 2008	79	87	99	106	111	121	158	233
A3. Permanently lower GDP growth 1/	79	90	104	110	112	119	138	191
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2009-2010	79	89	102	108	109	114	120	130
B2. Primary balance is at historical average minus one standard deviations in 2009-2010	79	90	105	110	111	116	121	130
B3. Combination of B1-B2 using one half standard deviation shocks	79	87	99	105	107	112	119	131
B4. One-time 30 percent real depreciation in 2009	79	119	131	133	130	133	129	137
B5. 10 percent of GDP increase in other debt-creating flows in 2009	79	137	149	152	150	153	151	150
Debt Service-to-Revenue Ratio 2/								
Baseline	4	4	4	4	4	4	5	6
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	4	4	2	3	4	5	8	15
A2. Primary balance is unchanged from 2008	4	4	3	4	5	6	10	18
A3. Permanently lower GDP growth 1/	4	4	4	5	5	5	7	13
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2009-2010	4	4	4	4	4	5	5	7
B2. Primary balance is at historical average minus one standard deviations in 2009-2010	4	4	4	5	5	5	5	7
B3. Combination of B1-B2 using one half standard deviation shocks	4	4	3	4	4	5	5	7
B4. One-time 30 percent real depreciation in 2009	4	4	5	5	5	5	6	8
B5. 10 percent of GDP increase in other debt-creating flows in 2009	4	4	21	11	8	7	7	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 6.Burkina Faso: Indicators of Public Debt Under Alternative Scenarios, 2008-28 1/

Source: Staff projections and simulations.
1/ Most extreme stress test is test that yields highest ratio in 2018.
2/ Revenue including grants.