

## VII. APPENDIX II — AFGHANISTAN: DEBT SUSTAINABILITY ANALYSIS USING THE DEBT SUSTAINABILITY FRAMEWORK

*According to this analysis based on the joint IMF-World Bank debt sustainability framework for low-income countries,<sup>19, 20</sup> Afghanistan has a high risk of debt distress. After debt relief under the enhanced HIPC initiative and MDRI, Afghanistan's external and public debt burden indicators improve significantly in the short to medium term. However, the debt sustainability analysis shows that the substantial financing needs would lead to a rapid deterioration of debt burden indicators if met with loans, even if concessional. Stress testing and a country-specific alternative scenario illustrate the vulnerability to macroeconomic shocks, especially on the terms of trade for exports and lack of security, impacting investment and growth.*

1. **This debt sustainability analysis (LIC DSA) for Afghanistan assesses its public and external debt dynamics using the forward-looking debt sustainability framework (DSF) for low-income countries.** The LIC DSA uses the reconciled debt database prepared for the completion point HIPC DSA, and incorporates the impact of HIPC, additional bilateral assistance beyond HIPC, and MDRI relief in the baseline scenario. The LIC DSA and the HIPC DSA share the same macroeconomic assumptions in the baseline and alternative scenarios but differ in four key areas: (i) the discount rate in the LIC DSA is fixed at 4 percent, compared to the currency-specific 6-month averages of commercial interest reference rates (CIRR) used in the HIPC DSA; (ii) WEO exchange rate assumptions are used for calculating the present value of debt in the LIC DSA, while actual exchange rates at end-2008 are used in the HIPC DSA; (iii) the exports denominator in the LIC DSA is based on the current level of exports of goods and services, rather than the three-year backward-looking average in the HIPC DSA; and (iv) the baseline in the LIC DSA assumes that IDA assistance is delivered in the form of concessional loans rather than mainly grants as in the HIPC DSA.

2. **Despite HIPC and MDRI debt relief, Afghanistan will remain at a high risk of debt distress.** This reflects the very low level of economic and institutional development in the country and substantial new projected borrowing for both development spending and security expenses. Since 2002, progress has been made in developing institutions and maintaining macroeconomic stability, but the government remains heavily dependent on aid flows for reconstruction needs and on foreign security forces to maintain stability. Should the

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<sup>19</sup> See "Debt Sustainability in Low-Income Countries: Proposal for an Operational Framework and Policy Implications" (<http://www.imf.org/external/np/pdr/sustain/2004/020304.htm>) and "Debt Sustainability in Low-Income Countries: Further Considerations on an Operational Framework and Policy Implications" (<http://www.imf.org/external/np/pdr/sustain/2004/091004.htm>)

<sup>20</sup> The LIC DSA compares the evolution over the projection period of debt-burden indicators against policy-dependent indicative thresholds, using the three-year average of the World Bank's Country Policy and Institutional Assessment (CPIA). With an average CPIA of 2.6, Afghanistan is classified as a "weak performer" according to the DSF.

security situation or governance not improve in the medium-term, investments and growth could be even lower than projected in the baseline.

3. **There are several differences in this LIC DSA compared to previous one.**<sup>21</sup> First, debt relief is incorporated into the baseline, rather than underpinning an alternative scenario. Second, there is slightly lower inflation and a small real exchange rate appreciation. Third, due to the security situation and drought, the economy is in a worse position than where it had been projected to be at the last DSA.

### Recent Developments

4. **Afghanistan's external public and publicly guaranteed (PPG) debt burden decreased slightly in 2008/09.** Despite some disbursements from multilateral loans signed before Afghanistan became a grant-only country for IDA and the AsDB, GDP growth ensured the debt offset, leading to a lower debt-to-GDP ratio. The bulk of the PPG debt, which totaled 19 percent of GDP in 2008/09, is owed to Paris Club and multilateral creditors. Payments on Paris Club debts continue to be capitalized into the stock, while the grace periods for multilateral debts are still in effect.

Islamic Republic of Afghanistan: PPG External Debt, 2008/09–2013/14

	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
					Projected	
	(In millions of U.S. dollars)					
Total government external debt	2,103.9	1,449.6	1,737.7	2,304.1	2,922.1	3,564.0
Bilateral creditors	1,102.7	13.6	13.6	13.2	12.7	12.2
<i>Of which:</i> Paris Club creditors	975.9	0.0	0.0	0.0	0.0	0.0
Multilateral creditors	1,000.5	1,436.0	1,724.1	2,290.8	2,909.4	3,551.8
<i>Of which:</i> use of Fund resources	87.3	114.8	122.7	122.7	115.6	103.2
Service on government external debt 4/	14.8	14.8	16.9	20.3	34.9	53.9
<i>Of which:</i> to the Fund	1.8	2.0	2.3	2.3	9.7	14.8
Amortization paid	4.0	3.7	3.4	3.5	12.8	25.8
<i>Of which:</i> to the Fund	0.0	0.0	0.0	0.0	7.4	12.6
Interest paid	10.7	11.1	13.5	16.8	22.1	28.2
<i>Of which:</i> to the Fund	1.8	2.0	2.3	2.3	2.2	2.2
	(In percent of GDP)					
Total government external debt	18.0	11.2	11.7	14.0	16.1	17.8
Bilateral creditors	9.4	0.1	0.1	0.1	0.1	0.1
<i>Of which:</i> Paris Club creditors	8.3	0.0	0.0	0.0	0.0	0.0
Multilateral creditors	8.5	11.1	11.6	13.9	16.0	17.8
<i>Of which:</i> use of Fund resources	0.7	0.9	0.8	0.7	0.6	0.5
Service on government debt	0.1	0.1	0.1	0.1	0.2	0.3
Amortization	0.0	0.0	0.0	0.0	0.1	0.1
Interest	0.0	0.0	0.0	0.0	0.0	0.0

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

<sup>21</sup> Published as IDA report No. 45215 in August 2008 and as a staff supplement to the IMF Country Report 08/229.

## Key Assumptions

5. **The baseline macroeconomic outlook reflects recent developments.** After the food and fuel price shocks, as well as the drought in 2008, inflation has subsided and real growth has rebounded. In the medium term, real GDP growth is expected to average 7 percent. The baseline scenario assumes economic stability, a gradual improvement in security over the next five years, improvements in tax and customs administration, and public enterprise reform. It also assumes that investments in large-scale mining projects, such as the Aynak copper mine, materialize in the medium term, while improvements in governance and increased efficiency of development spending raise growth. However, the government remains heavily dependent on grants to finance both development and operating expenditures, and these are expected to continue to remain large in nominal terms, albeit as a decreasing share of GDP. All this depends on governance improving over the near term. Finally, it is assumed that regional stability and higher global growth would allow for increasing trade flows over time.

### Box 1. Islamic Republic of Afghanistan: Baseline Macroeconomic Assumptions, 2009-2029

**For the short term**, the baseline scenario assumes that real GDP will grow by about 15 percent in 2009/10, due to a faster-than-expected recovery of agricultural output and the impact of increased security spending. Headline inflation is projected to be about 6 percent (year-on-year) by March 2010 and to average -9 percent for the fiscal year. **For the medium term**, the baseline scenario assumes: (i) continuing macroeconomic stability and liberal policies toward international trade and foreign investment; (ii) completion of an ambitious restructuring and privatization program by 2012; (iii) stabilization of the security situation by about 2015; and (iv) further structural reforms to governance, the judiciary, and the business environment.

**Real growth of non-opium GDP** in the baseline scenario is projected to average 7 percent in 2010-2015 and to increase to 7.5 percent by 2020 as security and the business environment improve. The higher growth during this period would be driven by FDI inflows to mining and hydropower projects, earnings from minerals exports, a gradual conversion of opium-growing areas to legal crops, and increased industrial and service activity. By 2029, growth is projected to settle at about 4.5 percent, the same as in the HIPC Decision Point document. As a result, growth is projected to average 5.7 percent over the period 2015-29.

**Inflation**, after jumping in 2008/09 and falling to about 6 percent by March 2010, is projected to settle to about 4 percent during 2012-2029. The baseline assumes a slight real appreciation of the Afghani over the long term, consistent with productivity growth.

**External grants, channeled through and outside the budget**, are expected to remain substantial in absolute amounts throughout the period, albeit declining as a percentage of GDP. Total external grants, comprising grants to the core budget and to the external budget, are projected to fall from US\$6.5 billion (50 percent of GDP) in 2009/10 to about US\$3.7 billion (5 percent of GDP) by 2029. Operating expenditure grants are projected to eventually be phased out, while grants executed outside the budget are steadily redirected to budgetary development expenditures.

As external grants decrease, the role of **external loans** will grow. From about US\$100 million in 2009/10, gross foreign borrowing is projected to increase to about US\$2.1 billion by 2029. This borrowing is assumed to remain on concessional terms, with IDA credits disbursed in the form of loans.

**Investment** is expected to be exceptionally high until about 2020. With the help of external financing for core development expenditures, public investment is projected to average 14 percent of GDP through 2020, and to settle at about 6 percent of GDP by 2029. Meanwhile, FDI inflows to the mining and hydropower sectors and, later, to domestic industries and services, are envisaged to push up private investment to above 13 percent of GDP by 2029.

The **external current account** is projected to steadily improve. Excluding official transfers, the current account deficit is projected to fall from about 55 percent of GDP in 2009/10 to 10 percent by 2029. Although capital goods purchases related to investments in mining and hydropower will increase imports during the first half of the projection period, this effect will be more than offset by the decline in donor-driven imports and the increase in mineral exports.

**Fiscal accounts:** Relatively strong growth, combined with continued improvements in tax and customs administration would raise domestic revenues to about 13.5 percent of GDP by 2029. Operating expenditures are projected to increase to around 15 percent of GDP during 2009-2015 due to the security buildup, and to settle at about 11 percent of GDP through 2029. The scenario assumes marginal privatization proceeds and small domestic public borrowing. The **real interest rate on domestic currency debt** would be about 3 percent.

6. **Risks to the outlook are tilted toward the downside and are linked to security and the strength of future reforms.** Should security remain fragile or worsen, the forecasted rebound in GDP will not materialize. The low growth alternative scenario reflects a fully-fledged macroeconomic forecast should security or governance not improve and investments in large-scale infrastructure and mining projects be delayed. Real GDP growth falls from around 7 percent of GDP in the medium to an average of 3.7 percent over 2015-2029, which yields half the GDP level in US\$ terms by 2029 compared with the baseline. The scenario also reflects a lack of reform, such as with respect to public enterprises and the business environment, which would discourage both investment and external support, leading to lower exports of two percentage points as a share of GDP compared with the baseline. In a low-growth scenario, the medium-term prospects remain muted, and per capita GDP is markedly lower at the end of the forecast period; this could occur either as a result of internal security problems or problems in neighboring states. Stress tests on lower transfers also reveal the extreme dependence on donor flows.

### External Debt Sustainability Analysis

7. **Under the baseline, only the NPV of debt-to-exports ratio breaches the threshold (figures 1 and 2).**<sup>22</sup> This is consistent with the fact that the most extreme shock stress test is a terms of trade shock, which implies breaches of the thresholds for all indicators except the debt service-to-revenue ratio. The fact that the export-related ratios are worrisome reflects the weakness in the export base when estimates of transit trade are excluded. However,

<sup>22</sup> To stabilize debt ratios after 2024/25, nominal GDP growth in US\$ terms would have to be above about 6.5 percent.

Afghanistan has great potential for transit trade between the Middle East and Central Asia. Although complete estimates are not available for transit trade, staff estimates that this could raise exports of goods by a few percent of GDP.

8. **Alternative scenarios and stress testing emphasize the continuing risks to the baseline forecasts.** An alternative low growth scenario, displayed in figures 3 and 4, that looks at continuing security and governance problems in particular is worrisome. Nominal GDP and exports are much lower by the end, reflecting low growth, while imports continue to be driven by donor flows rather than FDI. The fact that fixing relevant ratios at their historical averages leads to very low to no debt underscores the strength of the current position and the advantages Afghanistan has received from strong donor support over the last few years. The low growth scenario implies all the ratios except debt service-to-revenue breach the relevant thresholds. The export-related ratios reach very high levels. Stress testing also reveals weaknesses in exports, which again emphasizes the need to improve the business environment to provide a more sustainable base.

9. **The risk of debt distress will remain high after the HIPC completion point.** Afghanistan faces a number of serious risks that have significant probabilities of materializing. Two key risks are that security fails to improve or that economic and governance reforms are delayed, thus delaying investments and lowering potential GDP. These risks are related, and could potentially lead to economic instability and continued poverty.

### **Fiscal Debt Sustainability**

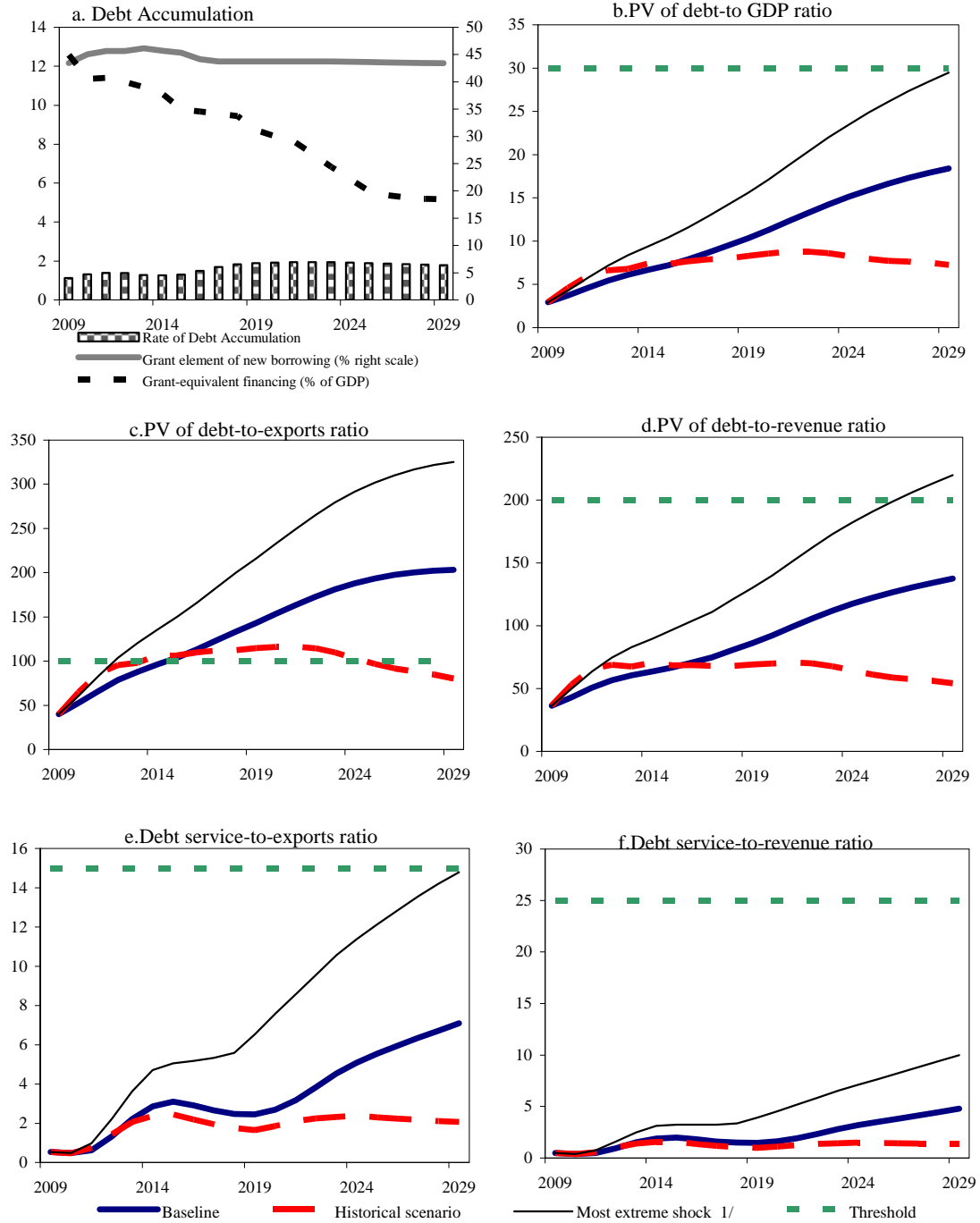
10. **Public debt indicators also grow markedly under the baseline.** Financing of the army and police will continue to occupy a large share of the operating expenditures. While development spending is forecast to increase and raise potential GDP, investments depend on a reform efforts and a stable security environment. Given all the expenditure pressures on the budget, the fact that debt service grows to occupy over 10 percent of fiscal revenues by the end of the forecast period is worrisome.

11. **Alternative scenarios and stress testing again emphasize the fragility of Afghanistan's situation.** Under the low growth alternative scenario, debt service requires almost 20 percent of revenues by the end of the forecast period, leaving little fiscal space for investments or social spending. If the primary balance were fixed at the current level, debt becomes zero within the projection period. This also underscores the relative strength of the current position, and the need for caution going forward.

## Conclusion

12. **Afghanistan will remain at a high risk of debt distress after the HIPC completion point and delivery of debt relief following the MDRI.** Despite the large amount forgiven under HIPC and MDRI, continuing risks to the outlook and large financing needs underscore the importance of substantial and long-term grant financing. In addition, continuing economic reforms and strong progress on improving security and governance will also be required. Should donors curtail aid too quickly, security fail to stabilize, or structural reforms lag, Afghanistan's debt burdens will likely become unsustainable.

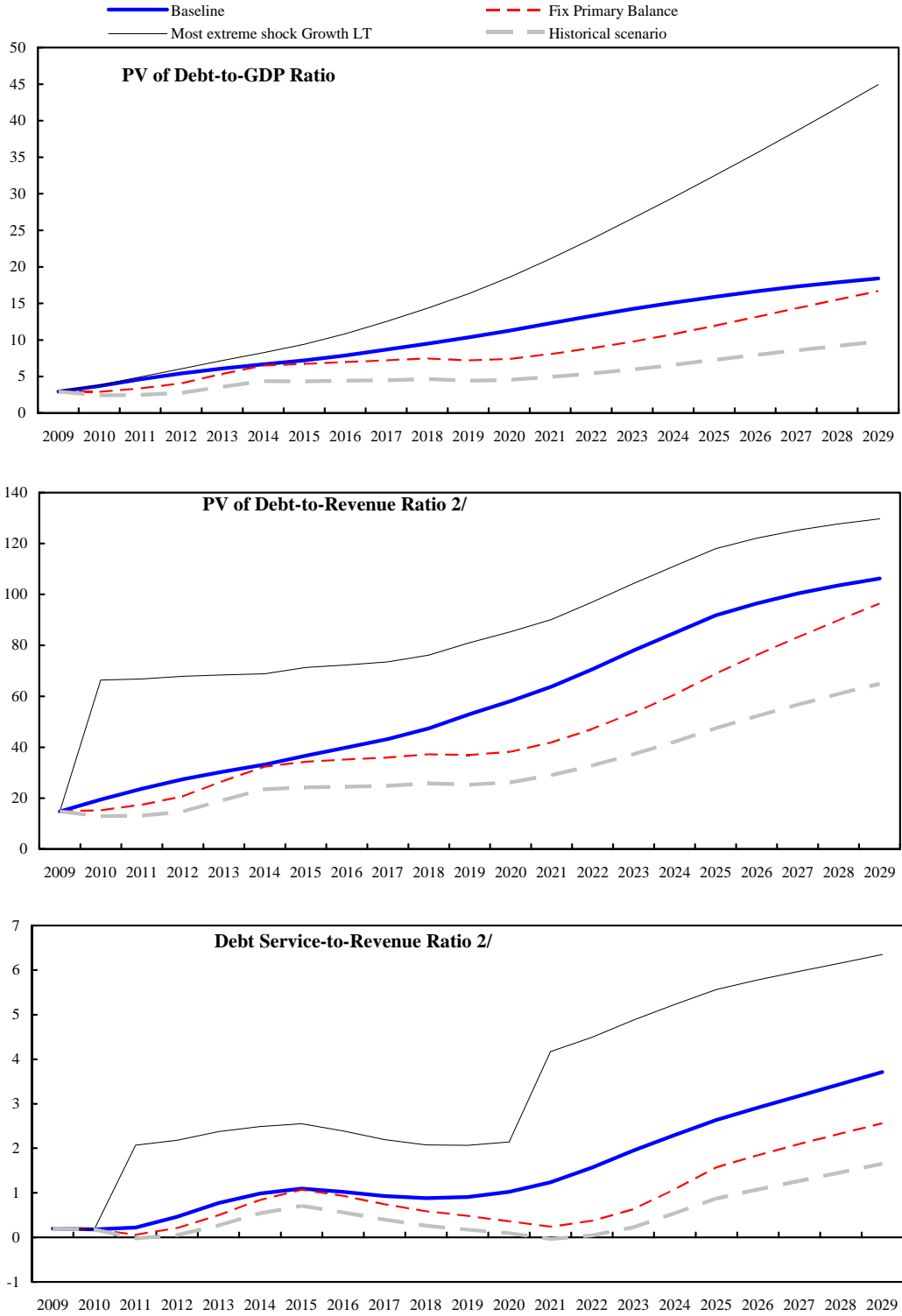
Figure 1. Afghanistan: Indicators of Public and Publicly Guaranteed External Debt under Baseline Scenario, 2009-2029 1/



Sources: Country authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio in 2019. In figure b-f it corresponds to a Terms of trade shock.

Figure 2. Afghanistan: Indicators of Public Debt Under Baseline Scenario, 2009-2029 1/

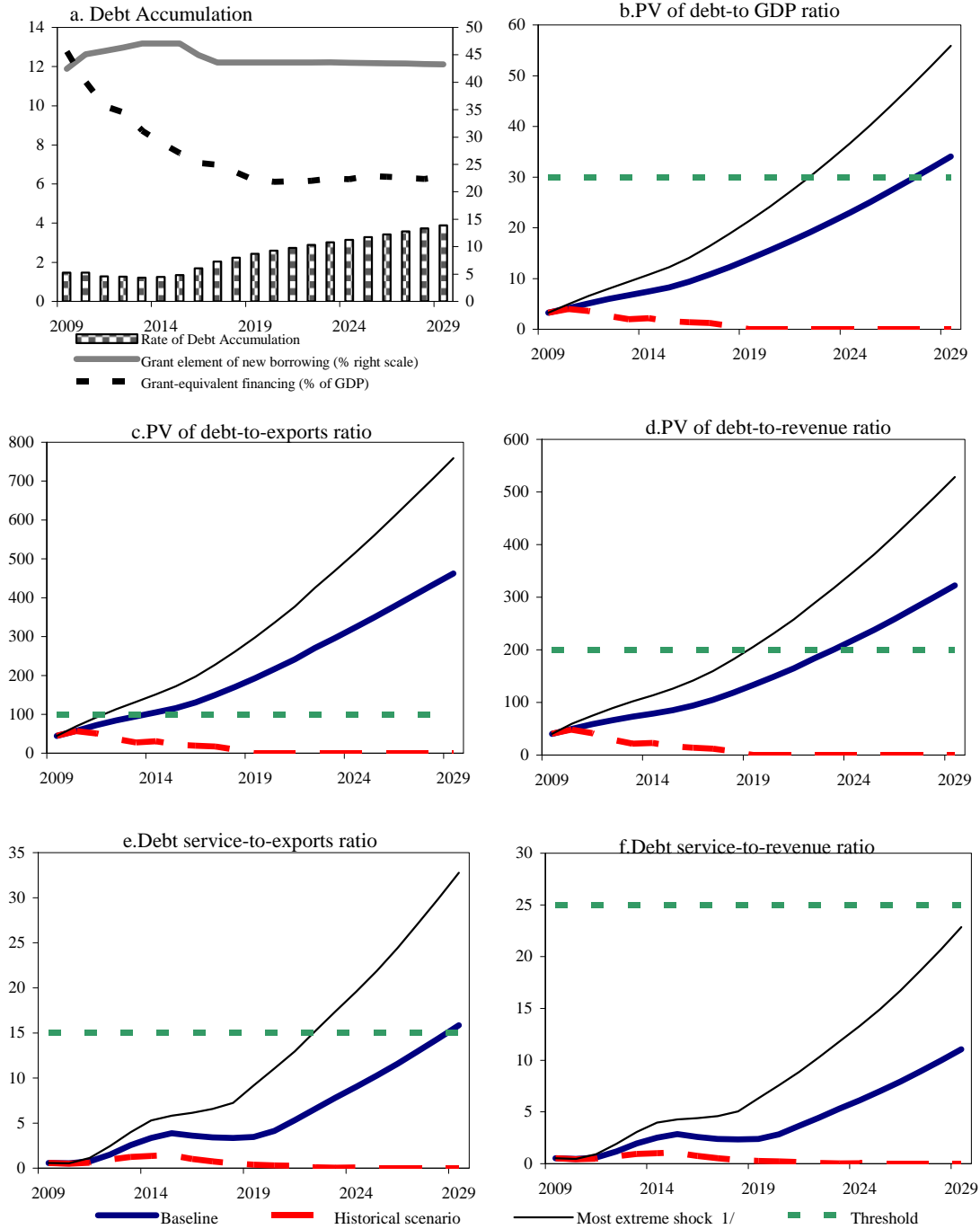


Sources: Country authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio in 2019.

2/ Revenues are defined inclusive of grants.

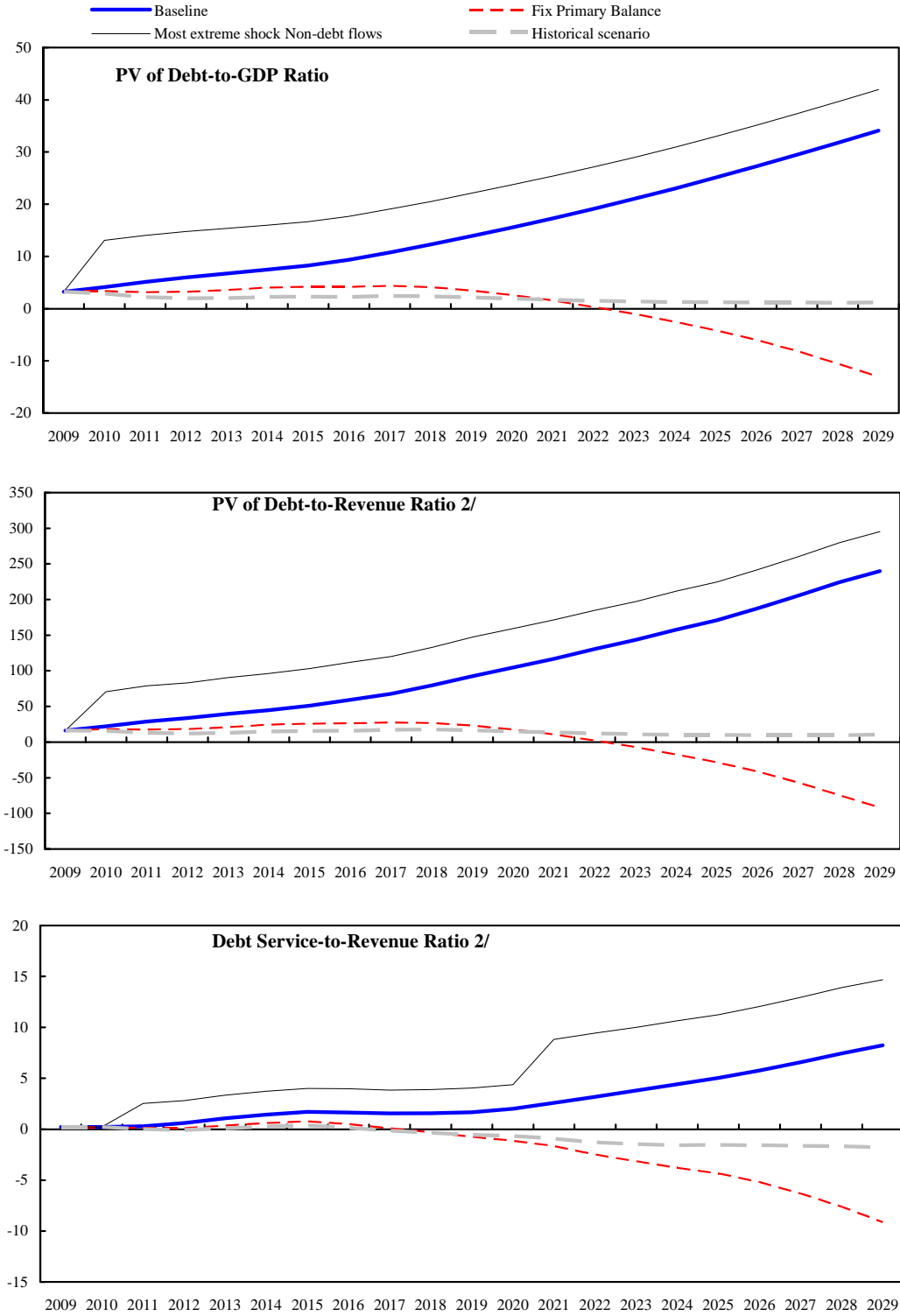
Figure 3. Afghanistan: Indicators of Public and Publicly Guaranteed External Debt under Low Growth Scenario, 2009-2029 1/



Sources: Country authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio in 2019. In figure b-e it corresponds to a Terms of trade shock; and in figure f. to a One-time depreciation shock

Figure 4. Afghanistan: Indicators of Public Debt Under Low Growth Scenario, 2009-2029 1/



Sources: Country authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio in 2019.

2/ Revenues are defined inclusive of grants.

Table 1: External Debt Sustainability Framework, Baseline Scenario, 2006-2029 1/  
(In percent of GDP, unless otherwise indicated)

	Actual			Historical Average	Standard Deviation	Projections										
	2006	2007	2008			2009	2010	2011	2012	2013	2014	2009-2014 Average	2019	2029	2015-2029 Average	
<b>External debt (nominal) 1/</b>	<b>154.5</b>	<b>21.0</b>	<b>18.0</b>			<b>10.8</b>	<b>11.3</b>	<b>12.4</b>	<b>13.3</b>	<b>14.2</b>	<b>14.8</b>				<b>18.6</b>	<b>27.0</b>
o/w public and publicly guaranteed (PPG)	154.5	21.0	18.0			10.8	11.3	12.4	13.3	14.2	14.8				18.6	27.0
Change in external debt	-28.5	-133.5	-2.9			-8.3	0.6	1.1	1.0	0.8	0.7				0.9	0.4
Identified net debt-creating flows	-27.4	-34.3	-4.6			-0.5	-0.3	-0.1	0.9	1.3	0.4				1.1	1.9
<b>Non-interest current account deficit</b>	<b>4.8</b>	<b>-0.9</b>	<b>1.6</b>	<b>4.7</b>	<b>5.7</b>	<b>3.5</b>	<b>1.7</b>	<b>2.0</b>	<b>3.7</b>	<b>4.8</b>	<b>4.1</b>				<b>4.5</b>	<b>4.4</b>
Deficit in balance of goods and services	88.6	80.8	73.1			68.0	59.5	56.7	53.7	49.7	45.0				33.5	23.0
Exports	7.1	6.6	7.5			7.4	7.0	7.0	6.9	6.9	6.9				7.2	9.1
Imports	95.7	87.4	80.5			75.4	66.5	63.7	60.6	56.7	52.0				40.7	32.1
Net current transfers (negative = inflow)	-65.1	-67.4	-57.3	-58.6	14.4	-52.7	-45.4	-42.1	-37.7	-33.0	-28.8				-15.7	-6.9
o/w official	-59.9	-62.8	-53.1			-50.4	-43.6	-40.4	-35.9	-31.1	-26.9				-14.4	-6.0
Other current account flows (negative = net inflow)	-18.7	-14.3	-14.2			-11.8	-12.3	-12.6	-12.3	-12.0	-12.2				-13.3	-11.7
<b>Net FDI (negative = inflow)</b>	<b>-3.1</b>	<b>-2.5</b>	<b>-2.6</b>	<b>-2.6</b>	<b>1.1</b>	<b>-1.4</b>	<b>-1.3</b>	<b>-1.5</b>	<b>-2.2</b>	<b>-2.9</b>	<b>-3.0</b>				<b>-2.4</b>	<b>-1.8</b>
<b>Endogenous debt dynamics 2/</b>	<b>-29.1</b>	<b>-30.9</b>	<b>-3.6</b>			<b>-2.6</b>	<b>-0.7</b>	<b>-0.6</b>	<b>-0.7</b>	<b>-0.6</b>	<b>-0.7</b>				<b>-0.9</b>	<b>-0.7</b>
Contribution from nominal interest rate	0.1	0.0	0.0			0.0	0.0	0.1	0.1	0.2	0.2				0.2	0.4
Contribution from real GDP growth	-12.6	-14.9	-0.6			-2.6	-0.7	-0.7	-0.8	-0.8	-0.9				-1.2	-1.1
Contribution from price and exchange rate changes	-16.7	-16.0	-3.1			...	...	...	...	...	...				...	...
<b>Residual (3-4) 3/</b>	<b>-1.1</b>	<b>-99.2</b>	<b>2.7</b>			<b>-7.8</b>	<b>0.8</b>	<b>1.2</b>	<b>0.1</b>	<b>-0.5</b>	<b>0.2</b>				<b>-0.3</b>	<b>-1.5</b>
o/w exceptional financing	-0.2	-0.4	-0.4			-8.4	-7.3	0.0	0.0	0.0	-0.1				0.0	0.0
PV of external debt 4/	...	...	2.1			3.2	4.2	5.4	6.4	7.3	8.1				12.1	19.2
In percent of exports	...	...	28.0			42.9	59.4	76.9	93.1	105.6	116.8				166.9	211.7
<b>PV of PPG external debt</b>	<b>...</b>	<b>...</b>	<b>2.1</b>			<b>3.2</b>	<b>4.2</b>	<b>5.4</b>	<b>6.4</b>	<b>7.3</b>	<b>8.1</b>				<b>12.1</b>	<b>19.2</b>
In percent of exports	...	...	28.0			42.9	59.4	76.9	93.1	105.6	116.8				166.9	211.7
In percent of government revenues	...	...	30.7			39.0	48.7	58.8	66.9	72.6	77.0				100.4	143.1
Debt service-to-exports ratio (in percent)	2.0	0.9	0.8			0.7	0.7	1.0	2.0	3.1	3.9				6.9	13.1
PPG debt service-to-exports ratio (in percent)	2.0	0.9	0.8			0.7	0.7	1.0	2.0	3.1	3.9				6.9	13.1
PPG debt service-to-revenue ratio (in percent)	1.9	0.8	0.9			0.7	0.5	0.8	1.4	2.1	2.6				4.2	8.8
Total gross financing need (Millions of U.S. dollars)	145.4	-324.3	-107.0			280.3	67.7	95.9	299.6	425.6	308.4				930.2	2739.0
Non-interest current account deficit that stabilizes debt ratio	33.3	132.6	3.5			11.8	1.2	1.0	2.7	4.0	3.4				3.7	4.0
<b>Key macroeconomic assumptions</b>																
Real GDP growth (in percent)	8.2	12.1	3.4	10.6	4.8	15.1	7.6	6.8	6.9	6.5	6.9	8.3	7.4	4.5	5.7	
GDP deflator in US dollar terms (change in percent)	10.0	11.6	17.2	8.4	7.4	-3.7	6.6	3.6	3.2	3.3	3.4	2.7	2.5	2.2	2.3	
Effective interest rate (percent) 5/	0.1	0.0	0.3	0.4	0.3	0.1	0.3	0.5	1.0	1.2	1.6	0.8	1.5	1.7	1.6	
Growth of exports of G&S (US dollar terms, in percent)	7.9	15.9	38.1	40.1	42.0	9.2	9.9	9.7	9.2	10.4	10.4	9.8	11.8	9.4	10.1	
Growth of imports of G&S (US dollar terms, in percent)	8.9	14.2	11.7	25.3	28.1	3.8	1.3	5.9	5.1	2.7	1.4	3.4	5.9	5.2	4.7	
Grant element of new public sector borrowing (in percent)	...	...	...	...	...	30.7	30.1	30.3	30.3	30.2	29.2	30.1	29.3	29.0	29.1	
Government revenues (excluding grants, in percent of GDP)	7.4	7.0	6.8			8.1	8.6	9.1	9.6	10.1	10.5				12.0	13.4
Aid flows (in Millions of US dollars) 7/	879.4	1209.2	1131.3			1622.6	1676.0	1861.8	2013.7	2169.8	2324.7				3126.1	3663.3
o/w Grants	715.6	1079.2	1009.3			1535.2	1560.1	1716.9	1853.3	1992.8	2130.1				2707.0	2801.3
o/w Concessional loans	163.8	130.0	122.0			87.3	116.0	144.9	160.4	177.0	194.6				419.0	862.0
Grant-equivalent financing (in percent of GDP) 8/	...	...	...			12.4	11.1	11.1	10.8	10.6	10.2				8.3	4.8
Grant-equivalent financing (in percent of external financing) 8/	...	...	...			91.2	89.0	88.0	87.8	87.9	87.4				81.1	69.8
<b>Memorandum items:</b>																
Nominal GDP (Millions of US dollars)	7723.0	9658.8	11708.6			12982.0	14897.3	16482.9	18187.9	20002.4	22111.3				36012.8	71384.6
Nominal dollar GDP growth	19.0	25.1	21.2			10.9	14.8	10.6	10.3	10.0	10.5	11.2	10.0	6.8	8.1	
PV of PPG external debt (in Millions of US dollars)	...	...	249.4			410.4	624.1	885.5	1170.9	1466.2	1790.3				4365.7	13766.5
(PVt-PVt-1)/GDPt-1 (in percent)	...	...	...			1.4	1.6	1.8	1.7	1.6	1.6	1.6	2.0	1.7	1.9	

Sources: Country authorities; and staff estimates and projections.

1/ Includes both public and private sector external debt.

2/ Derived as  $[r - g - \rho(1+g)] / (1+g+\rho+g)$  times previous period debt ratio, with  $r$  = nominal interest rate;  $g$  = real GDP growth rate, and  $\rho$  = growth rate of GDP deflator in U.S. dollar terms.

3/ Includes exceptional financing (i.e., changes in arrears and debt relief); changes in gross foreign assets; and valuation adjustments. For projections also includes contribution from price and exchange rate changes.

4/ Assumes that PV of private sector debt is equivalent to its face value.

5/ Current-year interest payments divided by previous period debt stock.

6/ Historical averages and standard deviations are generally derived over the past 10 years, subject to data availability.

7/ Defined as grants, concessional loans, and debt relief.

8/ Grant-equivalent financing includes grants provided directly to the government and through new borrowing (difference between the face value and the PV of new debt).

Table 2. Afghanistan: Public Sector Debt Sustainability Framework, Baseline Scenario, 2006-2029  
(In percent of GDP, unless otherwise indicated)

	Actual			Average	Standard Deviation	Estimate					Projections				
	2006	2007	2008			2009	2010	2011	2012	2013	2014	2009-14 Average	2019	2029	2015-29 Average
<b>Public sector debt 1/</b>	154.5	21.0	18.0			10.8	11.3	12.4	13.3	14.2	14.8			18.6	27.0
o/w foreign-currency denominated	154.5	21.0	18.0			10.8	11.3	12.4	13.3	14.2	14.8			18.6	27.0
Change in public sector debt	-28.5	-133.5	-2.9			-8.3	0.6	1.1	1.0	0.8	0.7			0.9	0.4
Identified debt-creating flows	-27.0	-134.8	-2.0			-8.2	0.6	1.6	0.2	-0.1	-0.2			1.9	0.0
Primary deficit	2.8	1.8	3.6	1.6	1.7	2.1	3.0	2.6	2.3	1.5	1.4	2.2		3.3	1.3
Revenue and grants	16.7	18.2	15.4			19.9	19.1	19.5	19.8	20.1	20.1			19.5	17.3
of which: grants	9.3	11.2	8.6			11.8	10.5	10.4	10.2	10.0	9.6			7.5	3.9
Primary (noninterest) expenditure	19.5	20.0	19.0			22.0	22.1	22.2	22.1	21.5	21.6			22.8	18.6
Automatic debt dynamics	-28.8	-29.8	-4.0			-1.6	-1.4	-1.0	-1.1	-1.1	-1.1			-1.4	-1.3
Contribution from interest rate/growth differential	-29.9	-30.7	-4.0			-2.1	-1.4	-1.0	-1.1	-1.1	-1.1			-1.6	-1.6
of which: contribution from average real interest rate	-16.1	-14.0	-3.3			0.4	-0.6	-0.3	-0.3	-0.3	-0.2			-0.4	-0.4
of which: contribution from real GDP growth	-13.8	-16.7	-0.7			-2.5	-0.8	-0.7	-0.8	-0.8	-0.9			-1.2	-1.1
Contribution from real exchange rate depreciation	1.1	0.9	0.0			0.6	0.0	0.0	0.0	0.0	0.0			...	...
Other identified debt-creating flows	-1.0	-106.9	-1.6			-8.7	-1.1	0.0	-1.1	-0.5	-0.5			0.0	0.0
Privatization receipts (negative)	-0.6	0.0	-0.7			-0.3	-1.0	0.0	-1.1	-0.5	-0.4			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)	-0.4	-106.9	-0.9			-8.4	0.0	0.0	0.0	-0.1	-0.1			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	-1.4	1.3	0.1			-0.1	0.0	-0.5	0.8	0.9	0.9			-1.0	0.4
<b>Other Sustainability Indicators</b>															
<b>PV of public sector debt</b>	0.0	0.0	2.1			3.2	4.2	5.4	6.4	7.3	8.1			12.1	19.2
o/w foreign-currency denominated	0.0	0.0	2.1			3.2	4.2	5.4	6.4	7.3	8.1			12.1	19.2
o/w external	...	...	2.1			3.2	4.2	5.4	6.4	7.3	8.1			12.1	19.2
PV of contingent liabilities (not included in public sector debt)	...	...	...			...	...	...	...	...	...			...	...
Gross financing need 2/	2.9	1.9	3.7			2.2	3.0	2.7	2.4	1.7	1.7			3.8	2.5
PV of public sector debt-to-revenue and grants ratio (in percent)	0.0	0.0	13.6			15.9	22.0	27.5	32.5	36.5	40.2			61.7	110.7
PV of public sector debt-to-revenue ratio (in percent)	0.0	0.0	30.7			39.0	48.7	58.8	66.9	72.6	77.0			100.4	143.1
o/w external 3/	...	...	30.7			39.0	48.7	58.8	66.9	72.6	77.0			100.4	143.1
Debt service-to-revenue and grants ratio (in percent) 4/	0.9	0.3	0.4			0.3	0.2	0.4	0.7	1.1	1.3			2.6	6.8
Debt service-to-revenue ratio (in percent) 4/	1.9	0.8	0.9			0.7	0.5	0.8	1.4	2.1	2.6			4.2	8.8
Primary deficit that stabilizes the debt-to-GDP ratio	31.2	135.3	6.5			10.4	2.4	1.6	1.3	0.6	0.8			2.5	0.9
<b>Key macroeconomic and fiscal assumptions</b>															
Real GDP growth (in percent)	8.2	12.1	3.4	10.6	4.8	15.1	7.6	6.8	6.9	6.5	6.9	8.3	7.4	4.5	5.7
Average nominal interest rate on forex debt (in percent)	0.1	0.0	0.3	0.4	0.3	0.1	0.3	0.5	1.0	1.2	1.6	0.8	1.5	1.7	1.6
Average real interest rate on domestic debt (in percent)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Real exchange rate depreciation (in percent, + indicates depreciation)	0.7	0.7	-0.1	5.0	10.1	3.3	...	...	...	...	...	...	...	...	...
Inflation rate (GDP deflator, in percent)	10.3	10.3	22.5	8.3	9.8	-3.7	6.6	3.6	3.2	3.3	3.4	2.7	3.7	3.4	3.5
Growth of real primary spending (deflated by GDP deflator, in percent)	0.3	0.1	0.0	-101.3	248.4	0.3	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.0
Grant element of new external borrowing (in percent)	...	...	...	...	...	30.7	30.1	30.3	30.3	30.2	29.2	30.1	29.3	29.0	...

Sources: Country authorities; and staff estimates and projections.

1/ Central government 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 3a. Afghanistan: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2009-2029  
(In percent)

	Projections							
	2009	2010	2011	2012	2013	2014	2019	2029
<b>PV of debt-to GDP ratio</b>								
<b>Baseline</b>	3	4	5	5	6	7	<b>10</b>	18
<b>A. Alternative Scenarios</b>								
A1. Key variables at their historical averages in 2009-2029 1/	3	5	6	7	7	7	<b>8</b>	7
A2. New public sector loans on less favorable terms in 2009-2029 2	3	4	6	7	8	9	<b>16</b>	29
<b>B. Bound Tests</b>								
B1. Real GDP growth at historical average minus one standard deviation in 2010-2011	3	4	5	6	6	7	<b>11</b>	19
B2. Export value growth at historical average minus one standard deviation in 2010-2011 3/	3	4	6	7	7	8	<b>11</b>	19
B3. US dollar GDP deflator at historical average minus one standard deviation in 2010-2011	3	4	5	6	7	7	<b>11</b>	20
B4. Net non-debt creating flows at historical average minus one standard deviation in 2010-2011 4/	3	4	4	5	5	6	<b>10</b>	18
B5. Combination of B1-B4 using one-half standard deviation shocks	3	0	0	0	0	0	4	16
B6. One-time 30 percent nominal depreciation relative to the baseline in 2010 5/	3	5	6	8	9	9	<b>14</b>	26
<b>PV of debt-to-exports ratio</b>								
<b>Baseline</b>	40	53	66	79	88	96	<b>143</b>	203
<b>A. Alternative Scenarios</b>								
A1. Key variables at their historical averages in 2009-2029 1/	40	65	86	96	98	107	<b>115</b>	80
A2. New public sector loans on less favorable terms in 2009-2029 2	40	61	83	104	121	136	<b>216</b>	325
<b>B. Bound Tests</b>								
B1. Real GDP growth at historical average minus one standard deviation in 2010-2011	40	53	66	79	88	96	<b>144</b>	205
B2. Export value growth at historical average minus one standard deviation in 2010-2011 3/	40	66	104	119	129	138	<b>193</b>	260
B3. US dollar GDP deflator at historical average minus one standard deviation in 2010-2011	40	53	66	79	88	96	<b>144</b>	205
B4. Net non-debt creating flows at historical average minus one standard deviation in 2010-2011 4/	40	60	56	69	79	88	<b>138</b>	203
B5. Combination of B1-B4 using one-half standard deviation shocks	40	0	0	0	0	0	50	151
B6. One-time 30 percent nominal depreciation relative to the baseline in 2010 5/	40	53	66	79	88	96	<b>144</b>	205
<b>PV of debt-to-revenue ratio</b>								
<b>Baseline</b>	36	43	51	57	60	64	<b>86</b>	137
<b>A. Alternative Scenarios</b>								
A1. Key variables at their historical averages in 2009-2029 1/	36	53	66	69	67	70	<b>69</b>	54
A2. New public sector loans on less favorable terms in 2009-2029 2	36	50	63	75	83	89	<b>130</b>	220
<b>B. Bound Tests</b>								
B1. Real GDP growth at historical average minus one standard deviation in 2010-2011	36	44	52	58	62	65	<b>89</b>	142
B2. Export value growth at historical average minus one standard deviation in 2010-2011 3/	36	48	64	68	71	73	<b>93</b>	140
B3. US dollar GDP deflator at historical average minus one standard deviation in 2010-2011	36	45	55	61	66	69	<b>94</b>	150
B4. Net non-debt creating flows at historical average minus one standard deviation in 2010-2011 4/	36	50	43	49	54	58	<b>83</b>	137
B5. Combination of B1-B4 using one-half standard deviation shocks	36	0	0	0	0	0	35	119
B6. One-time 30 percent nominal depreciation relative to the baseline in 2010 5/	36	60	70	79	84	88	<b>121</b>	192

Table 3b. Afghanistan: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2009-2029 (continued)  
(In percent)

Debt service-to-exports ratio								
<b>Baseline</b>	1	0	1	1	2	3	2	7
<b>A. Alternative Scenarios</b>								
A1. Key variables at their historical averages in 2009-2029 1/	1	0	1	1	2	2	2	2
A2. New public sector loans on less favorable terms in 2009-2029 2	1	0	1	2	4	5	7	15
<b>B. Bound Tests</b>								
B1. Real GDP growth at historical average minus one standard deviation in 2010-2011	1	0	1	1	2	3	2	7
B2. Export value growth at historical average minus one standard deviation in 2010-2011 3/	1	1	1	2	3	4	3	9
B3. US dollar GDP deflator at historical average minus one standard deviation in 2010-2011	1	0	1	1	2	3	2	7
B4. Net non-debt creating flows at historical average minus one standard deviation in 2010-2011 4/	1	0	1	1	2	3	2	7
B5. Combination of B1-B4 using one-half standard deviation shocks	1	0	0	0	0	1	1	4
B6. One-time 30 percent nominal depreciation relative to the baseline in 2010 5/	1	0	1	1	2	3	2	7
<b>Debt service-to-revenue ratio</b>								
<b>Baseline</b>	0	0	0	1	2	2	1	5
<b>A. Alternative Scenarios</b>								
A1. Key variables at their historical averages in 2009-2029 1/	0	0	1	1	1	2	1	1
A2. New public sector loans on less favorable terms in 2009-2029 2	0	0	1	2	2	3	4	10
<b>B. Bound Tests</b>								
B1. Real GDP growth at historical average minus one standard deviation in 2010-2011	0	0	0	1	2	2	2	5
B2. Export value growth at historical average minus one standard deviation in 2010-2011 3/	0	0	1	1	2	2	2	5
B3. US dollar GDP deflator at historical average minus one standard deviation in 2010-2011	0	0	1	1	2	2	2	5
B4. Net non-debt creating flows at historical average minus one standard deviation in 2010-2011 4/	0	0	1	1	1	2	1	5
B5. Combination of B1-B4 using one-half standard deviation shocks	0	0	0	0	0	1	1	3
B6. One-time 30 percent nominal depreciation relative to the baseline in 2010 5/	0	1	1	1	2	3	2	7
<i>Memorandum item:</i>								
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	42	42	42	42	42	42	42	42

Sources: Country authorities; and staff estimates and projections.

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

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

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

4/ Includes official and private transfers and FDI.

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

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

Table 4. Afghanistan: Sensitivity Analysis for Key Indicators of Public Debt 2009-2029

	Projections							
	2009	2010	2011	2012	2013	2014	2019	2029
<b>PV of Debt-to-GDP Ratio</b>								
<b>Baseline</b>	3	4	5	5	6	7	10	18
<b>A. Alternative scenarios</b>								
A1. Real GDP growth and primary balance are at historical averages	3	2	2	3	4	4	4	10
A2. Primary balance is unchanged from 2009	3	3	3	4	5	7	7	17
A3. Permanently lower GDP growth 1/	3	4	5	6	7	8	16	45
<b>B. Bound tests</b>								
B1. Real GDP growth is at historical average minus one standard deviations in 2010-2011	3	4	5	6	7	8	13	23
B2. Primary balance is at historical average minus one standard deviations in 2010-2011	3	4	5	6	7	7	11	19
B3. Combination of B1-B2 using one half standard deviation shocks	3	3	4	5	5	6	9	15
B4. One-time 30 percent real depreciation in 2010	3	4	5	5	6	6	9	16
B5. 10 percent of GDP increase in other debt-creating flows in 2010	3	13	13	13	14	14	16	22
<b>PV of Debt-to-Revenue Ratio 2/</b>								
<b>Baseline</b>	15	19	24	27	30	33	53	106
<b>A. Alternative scenarios</b>								
A1. Real GDP growth and primary balance are at historical averages	15	13	13	15	19	23	25	65
A2. Primary balance is unchanged from 2009	15	15	17	21	27	32	37	96
A3. Permanently lower GDP growth 1/	15	20	25	30	35	40	80	247
<b>B. Bound tests</b>								
B1. Real GDP growth is at historical average minus one standard deviations in 2010-2011	15	20	26	31	35	38	64	133
B2. Primary balance is at historical average minus one standard deviations in 2010-2011	15	21	28	31	34	37	56	109
B3. Combination of B1-B2 using one half standard deviation shocks	15	17	20	24	26	28	44	87
B4. One-time 30 percent real depreciation in 2010	15	23	25	27	29	30	45	94
B5. 10 percent of GDP increase in other debt-creating flows in 2010	15	66	67	68	68	69	81	130
<b>Debt Service-to-Revenue Ratio 2/</b>								
<b>Baseline</b>	0	0	0	0	1	1	1	4
<b>A. Alternative scenarios</b>								
A1. Real GDP growth and primary balance are at historical averages	0	0	0	0	0	1	0	2
A2. Primary balance is unchanged from 2009	0	0	0	0	0	1	0	3
A3. Permanently lower GDP growth 1/	0	0	0	1	1	1	2	10
<b>B. Bound tests</b>								
B1. Real GDP growth is at historical average minus one standard deviations in 2010-2011	0	0	0	1	1	1	1	5
B2. Primary balance is at historical average minus one standard deviations in 2010-2011	0	0	0	1	1	1	1	4
B3. Combination of B1-B2 using one half standard deviation shocks	0	0	0	0	1	1	1	3
B4. One-time 30 percent real depreciation in 2010	0	0	0	1	1	1	1	6
B5. 10 percent of GDP increase in other debt-creating flows in 2010	0	0	2	2	2	2	2	6

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.