

KYRGYZ REPUBLIC: JOINT BANK-FUND DEBT SUSTAINABILITY ANALYSIS

The staff's debt sustainability analysis (DSA) suggests that the Kyrgyz Republic's external debt continues to pose a heavy burden, placing the country at a high risk of debt distress. The debt outlook remains highly vulnerable to exogenous shocks or reversals of the prudent macroeconomic policies that have become entrenched in recent years. Accordingly, careful debt management and donor support on highly concessional terms will be crucial to ensure that debt indicators remain on a downward path.

1. **The DSA presented below was prepared jointly by Fund and World Bank staffs in consultation with the authorities, using the joint Bank-Fund Low-Income Country Debt Sustainability Framework (LIC DSF).**^{1, 2} Macroeconomic assumptions underlying the baseline scenario in this DSA (Box 1) are consistent with the framework presented in the staff report for the 2006 Article IV Consultations and in the preliminary HIPC document (EBS/06/125; 9/20/06, IDA/R2006-0183). The external debt data used for this exercise were updated by staffs using information provided by the authorities for the stock of debt as of end-2004 and information on disbursements and debt restructuring agreements signed in 2005.³

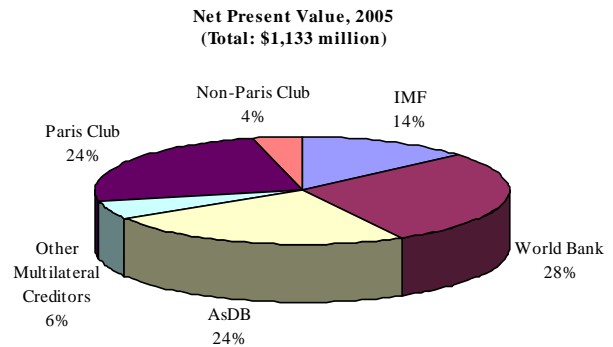
¹ There are important conceptual and methodological differences between a DSA conducted under the HIPC Initiative and the LIC DSF. The latter is a forward-looking exercise aimed at helping frame sustainable, country-specific borrowing and fiscal policies in low-income countries, while the former focuses on assessing eligibility for HIPC Initiative debt relief and calculating its amounts using fixed uniform thresholds to ensure uniformity of treatment across countries. NPV of debt under the LIC DSA is calculated using (a) a fixed 5 percent discount rate, compared to currency-specific discount rates for HIPC DSA; (b) WEO exchange rate projections (compared to fixed exchange rates as of the end of the base year; and (c) annual exports (compared to three-year average of exports, net of re-exports) as the denominator in the debt burden-to-exports ratios. Findings of the LIC DSA have no bearing on a country's status under the enhanced HIPC Initiative (see SM/05/109 and IDA/R2004-0253, "Operational Framework for Debt Sustainability Assessments in Low-Income Countries—Further Considerations.")

² The last LIC DSA (external debt only) prepared by Fund staff was included in the request for the current PRGF arrangement (EBS/05/22; 2/9/05).

³ These data refer to public and publicly guaranteed external debt. The 2004 stock of debt was reconciled and used in the DSA for the preliminary HIPC document.

I. Background: structure of external debt and developments in 2005

2. **The Kyrgyz Republic's nominal stock of public and publicly guaranteed external debt as of end-2005 is estimated at \$1,918 million (79 percent of GDP).** In present value terms, this is equivalent to \$1,133 million (46 percent of GDP), of which 72 percent is owed to IFIs and the remaining 28 percent to bilateral creditors.



3. **The March 2005 Paris Club agreement was a key factor influencing public external debt in 2005.** Paris Club creditors agreed to restructure the country's bilateral obligations on concessional terms and provided considerable immediate cash relief. On ODA loans, they granted a 40-year repayment period with 13 years' grace, at interest rates at least as favorable as the original concessional rates. On non-ODA credits, they agreed to halve the NPV, following either the debt reduction or debt service-reduction options. Further, to grant temporary cash flow relief, creditors capitalized 80 percent, 75 percent, 70 percent, and 65 percent of interest accrued in 2005, 2006, 2007, and 2008, respectively, and extended the repayment period to 23 years with a 7-year grace period. The authorities have completed bilateral agreements with all Paris Club creditors and are currently conducting negotiations with the remaining bilateral creditors. Staffs estimate that full participation of all bilateral creditors at comparable terms would result in a reduction of about 40 percent in the NPV of public bilateral debt.

II. External Debt Sustainability

4. **While the assumptions outlined in Box 1 underpin the baseline projections of debt sustainability indicators, staff conducted a series of stress tests to assess their sensitivity to less favorable scenarios.** In addition to standard alternative scenarios and stress tests embedded in the LIC DSA template, an additional Kyrgyz-specific test gauges the impact of a sharp fall in gold price on debt indicators (recognizing that gold accounts for one-fourth of total Kyrgyz exports), simulating the effect of a cumulative 40 percent decline in gold prices in 2007-2009, followed by a return to their baseline path thereafter. In addition to accounting for the first-round impact of the shock on exports, the scenario factors in second-round effects by assuming a slowdown in growth and FDI and allowing currency depreciation. The analysis also presents a scenario accounting for the impact of debt relief under the HIPC Initiative and the MDRI on the Kyrgyz Republic's debt sustainability, given the authorities intention to seek relief under the HIPC Initiative.

Box 1. Macroeconomic Assumptions 2006–26.

Annual real GDP growth would average 4½ percent, on the back of strong private investment, including FDI, spurred by improvements in business climate. In the near term, growth would be supported by a rebound in mining and the initial impact of reforms in the energy sector, while services, primarily tourism-related, and a reformed energy sector would underpin long-run growth. Consistent with the assumption of conservative fiscal and monetary policies, long-term inflation would average 4 percent, and the Kyrgyz som would remain stable against the US dollar in real terms.

Following an accident in the Kumtor gold mine in 2006, **exports are slated to recover, growing by an average of 5.3 percent a year.** In addition to normalization of Kumtor operations, this recovery would be underpinned by the start of mining in other major gold deposits and robust import demand from Russia and Kazakhstan, particularly for industrial and processed food products. As this growth pattern would keep exports vulnerable to a depletion of mining deposits, a sharp drop in world commodity prices, and natural disasters, export diversification efforts need to be directed to creating an enabling business environment to exploit the considerable export potential, particularly in tourism and hydroenergy. Long run projections assume that a sharp drop in gold output from the expected closure of the Kumtor mine in 2012-2013 will be moderated by sustained gains in the tourism and energy sectors. In all, by the end of the period, exports growth would stabilize around 4¾ percent a year.

Consistent with growth projections and expected FDI inflows, imports would grow at 5 percent a year. They would continue to be sourced mainly from CIS trading partners and China, with oil products and consumer goods dominating the commodity structure.

The current account deficit is projected to narrow from 8¼ percent of GDP in 2005 to 5¼ percent in 2025. Buoyed by strong income growth in Russia and Kazakhstan, private transfers—mainly worker’s remittances amounting to almost 15 percent of GDP in 2006—will remain large, financing a significant share of the trade deficit. In the long-run, a projected narrowing in the current account deficit would be supported by fiscal consolidation and increased private savings.

Net FDI would increase gradually to 3.5 percent of GDP by the end of the projection period. While in the near term FDI would be concentrated in traditional sectors, like mining and industry, business climate improvements should yield a more diversified structure of FDI in the outer years. The foreign loan-financed part of the Public Investment Program would decline from 3¼ percent of GDP at present to 2½ percent in 2026. International reserves would stay at 4-5 months of imports.

Medium-term public borrowing—to finance Public Investment Program and fill financing gaps—will be contracted on highly concessional terms, primarily from IFIs. Over the DSA horizon, concessionality of new external public borrowing would gradually decline from around 45 percent in 2006-2010 about 17 percent in 2020-2026, as more borrowing will be contracted at less concessional terms from bilateral and commercial creditors.

Central government revenues (excluding grants) are projected at around 17½ percent of GDP in 2006-2010, and would increase gradually by a total of ¾ percentage points by 2026.

5. **As noted below, the current debt burden places the Kyrgyz Republic at a high risk of debt distress.** Nevertheless, the baseline scenario shows a cautiously favorable improvement in the external debt outlook over time. At 277 percent in 2005, the NPV of debt-to-revenue ratio is above the policy-based indicative threshold of 250 percent.⁴ ⁵ This indicator and the NPV of debt-to-GDP ratio would fall below their indicative thresholds by end-2006 and end-2008, respectively, and steadily decline further, continuing on a downward path underpinned by the assumed fiscal consolidation and prudent debt management. Given that the Kyrgyz Republic is an open economy with a high exports-to-GDP ratio, the NPV of debt-to-export ratio would stay well below the corresponding threshold throughout the projection period. With the anticipated closure of the largest gold mine, Kumtor, in 2012 or 2013, the ratio would increase somewhat at that time before falling to about 65 percent by the end of projection period.

6. **Debt service indicators are expected to remain manageable throughout the DSA horizon.** This reflects the high concessionality of both existing multilateral debt and new borrowing, as well as debt relief delivered by Paris Club creditors in 2005. In sum, the debt service would amount to 5½ percent of exports (12 percent of revenues) in the medium term, but reach 7 percent of exports (15 percent of revenues) during the later stage of the projection period, driven by new borrowing and the repayment of previously restructured bilateral debt.

7. **Stress tests and alternative scenarios show the Kyrgyz Republic's debt sustainability as highly vulnerable to large shocks or less favorable assumptions.** The NPV of debt-to-GDP ratio stays above the threshold under almost all tests, while the NPV of debt-to-revenue is especially sensitive to assumptions on export growth, projections of non-debt creating inflows, and a combination of four standard tests (B4), breaching the relevant threshold over the DSA horizon. Debt service burden ratios, however, prove relatively more resilient under several scenarios, staying below indicative levels, although they too deteriorate considerably by 2026. An alternative scenario (A2) suggests that a 2 percent higher interest rate on new borrowing would make debt unsustainable, with the debt service burden becoming heavy in the medium term. The additional country-specific scenario (A3) designed by staff shows that the debt situation could also worsen in the event of a sharp fall in gold price. All sustainability indicators would deteriorate over the medium term, but the NPV of debt-to-exports and the debt service ratio would still remain below their thresholds.

⁴ The Kyrgyz Republic is rated as a *medium performer* based on the World Bank's Country Performance and Institutional Assessment Index. The relevant policy-dependent thresholds are 40 percent for the NPV of the debt-to-GDP ratio, 150 percent for the NPV of debt-to-exports ratio, 250 percent for the NPV of debt-to-revenue ratio, 20 percent of the debt service-to-exports ratio, and 30 percent of the debt service-to-revenue ratio.

⁵ Central government revenues excluding grants.

8. **Additional risks to the debt sustainability outlook stem from *nonconcessional* loans to finance large investment projects under discussion with bilateral creditors.**⁶ Even if these loans were concessional, it would be important to ensure that the underlying projects are viable, so as to safeguard debt sustainability.

9. **Under the enhanced HIPC initiative and subsequently the MDRI, the Kyrgyz Republic could avail itself of a significant fiscal space that could be directed to poverty-reducing spending.**⁷ Assuming that it reaches the HIPC decision point by end-2006 and the completion point by end-2008, debt service in 2007-2015 would decline from 4½ percent of exports (10½ percent of revenues), before any debt relief, to 2 percent of exports (4 percent of revenues), after application of debt relief from both initiatives. The relief would also improve sustainability indicators in the near to medium term, although, in the outer years, the NPV of debt ratios would rise, reflecting new borrowing—primarily to finance PIP projects.

III. Public Debt Sustainability

10. **Since external debt accounts for more than 90 percent total public debt, the public DSA results are similar to the external DSA findings.** The public DSA assumes further fiscal consolidation (measured by the primary balance) of about 1 percent of GDP from 2006 to 2026, stemming from an increase in revenues of about 2 percentage points of GDP due to stricter tax enforcement and better compliance. Almost half of the revenue increase would finance higher pension outlays driven by the projected population aging, whereas capital spending would increase by ½ percentage point of GDP and non-interest current spending would remain broadly unchanged in relation to GDP. In this baseline scenario, the NPV of public debt-to-GDP is about 50 percent in 2006 and stabilizes slightly below 40 percent in the long-term. The ratio of NPV of debt to general government revenue declines from just under 200 percent in 2006 to about 140 percent in 2026, while the ratio of the NPV of debt to central government revenue before grants would drop from 279 percent in 2006 to 214 percent by 2026. Standard stress tests show that current debt levels are highly vulnerable to shocks to the economy, and, under an alternative scenario with real GDP growth for 2007 and 2008 of one half standard deviation lower than the baseline, the ratios of the NPV of debt to GDP and the NPV of debt to central government revenue before grants would increase to 85 percent and 463 percent, respectively, by 2026.

⁶ The DSA does not include these loans as neither their terms and conditions as well as government involvement nor potential returns from the projects being discussed were known to staff at the time of preparation of this DSA.

⁷ Estimates of the debt relief under the HIPC Initiative are from the HIPC Preliminary document, which used end-2004 debt and government revenue data. Debt relief will be recalculated at the Decision point using end-2005 data and will accordingly differ from the preliminary numbers used in this DSA.

IV. Debt Distress Classification

11. **The Kyrgyz Republic is assessed to be at high risk of debt distress, as evidenced by the NPV of debt-to-revenue and the NPV of debt-to-GDP ratios, which were above their indicative thresholds at end-2005.**⁸ Although these indicators are projected to improve and move below the thresholds, they would approach or breach the thresholds if the Kyrgyz Republic were to experience an exogenous shock or relax its prudent debt management policy, as suggested by alternative scenarios and stress tests. Under the baseline scenario, the debt service burden would remain well below threshold, reflecting the high concessionality of the Kyrgyz external debt and the 2005 Paris Club debt relief.

⁸ This classification is based on the guidelines set out in SM/05/109 and IDA/R2004-0253, “Operational Framework for Debt Sustainability Assessments in Low-Income Countries—Further Considerations.”

Figure 1. Kyrgyz Republic: Indicators of Public and Publicly Guaranteed External Debt Under Alternative Scenarios, 2006–26
(In percent)

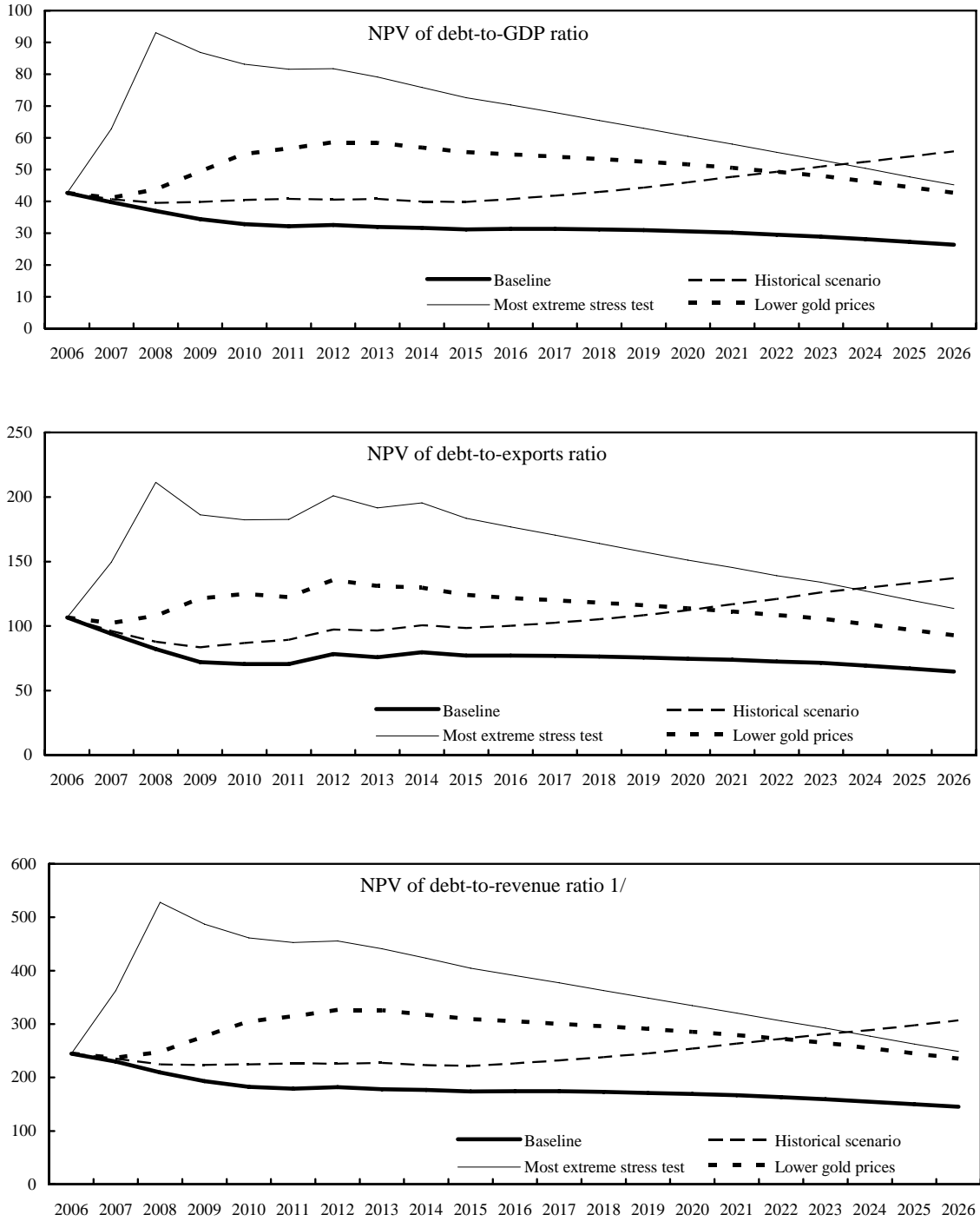
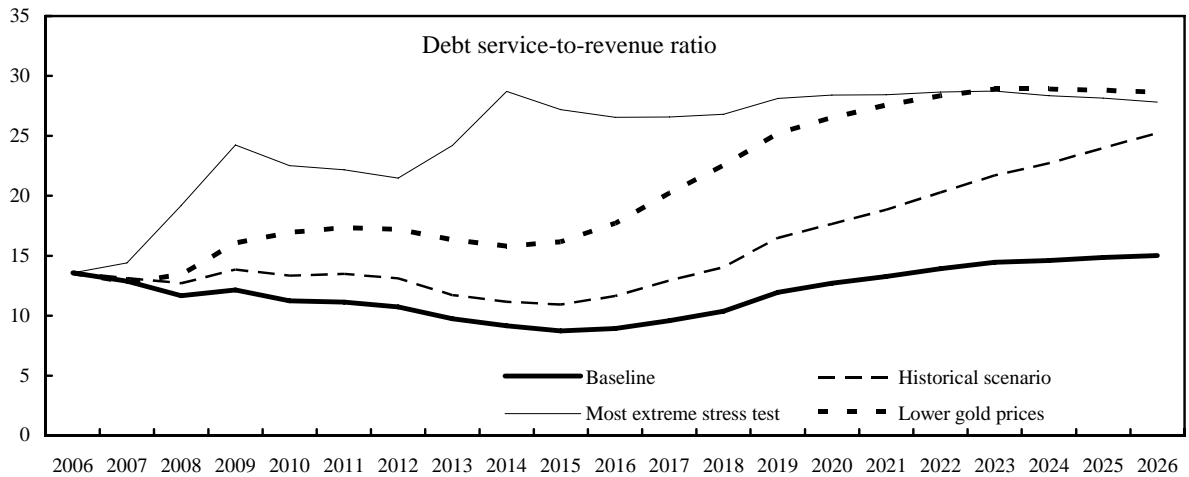
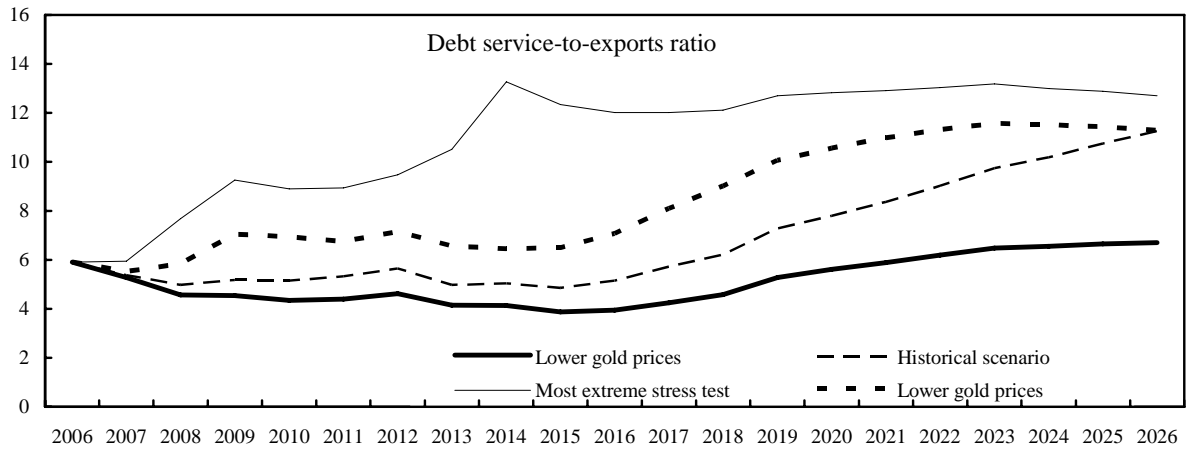


Figure 1. (concluded) Kyrgyz Republic: Indicators of Public and Publicly Guaranteed External Debt Under Alternative Scenarios, 2006–26
(In percent)



Source: Staff projections and simulations.

1/ Central government revenues excluding grants.

Figure 2. Kyrgyz Republic: Indicators of Public and Publicly Guaranteed External Debt Assuming Delivery of Debt Relief under the HIPC Initiative and the MDRI, 2006–26
(In percent)

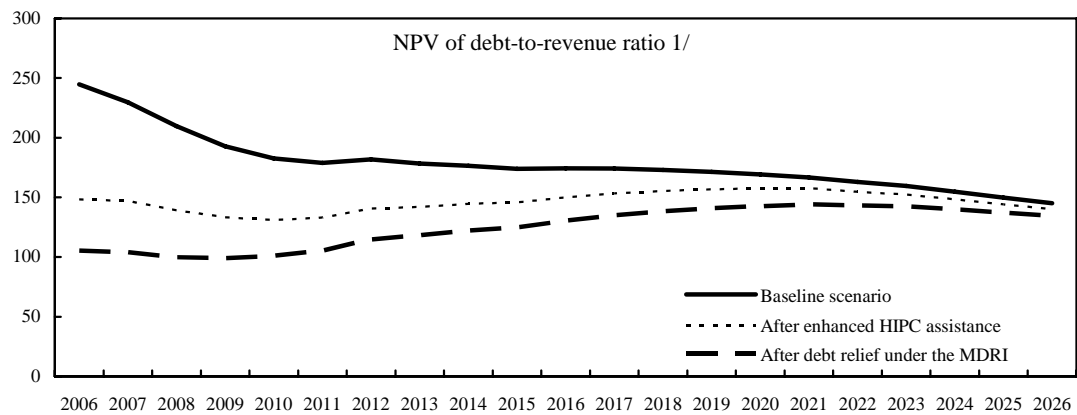
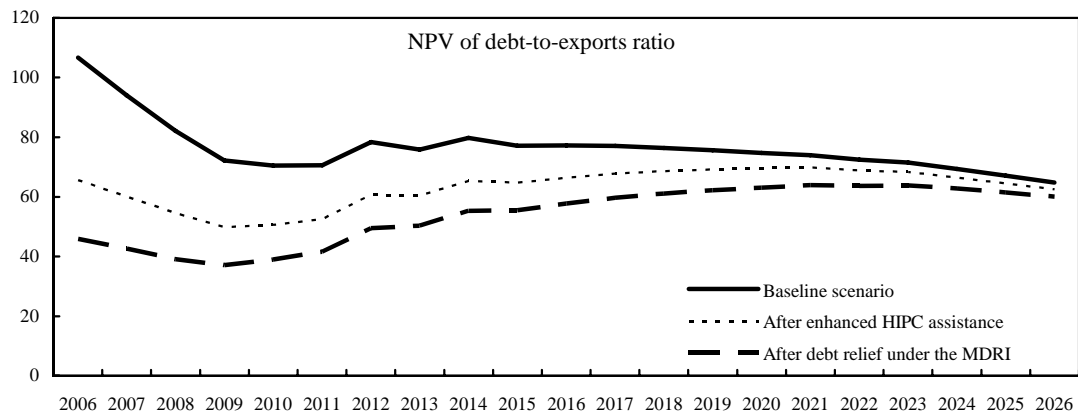
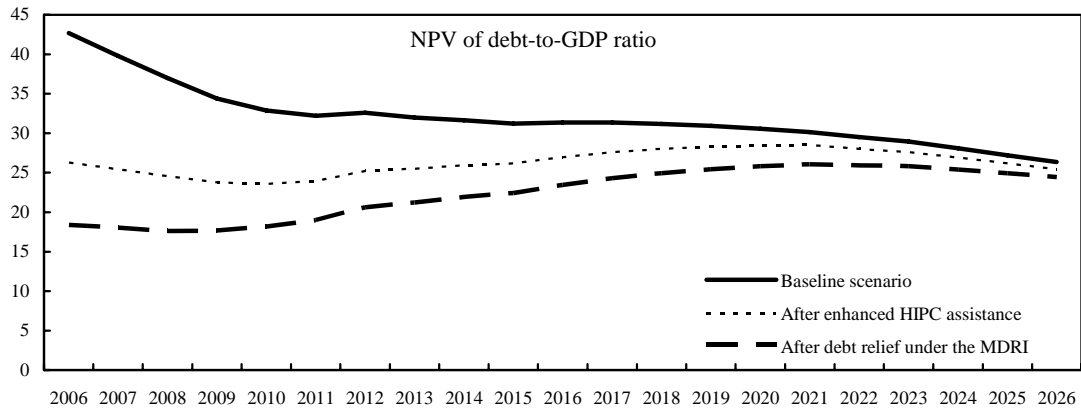
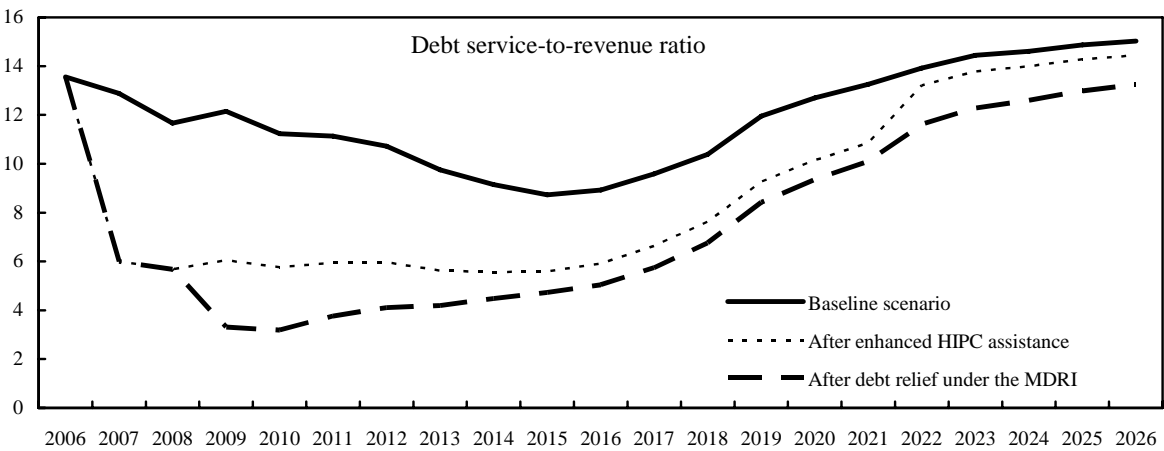
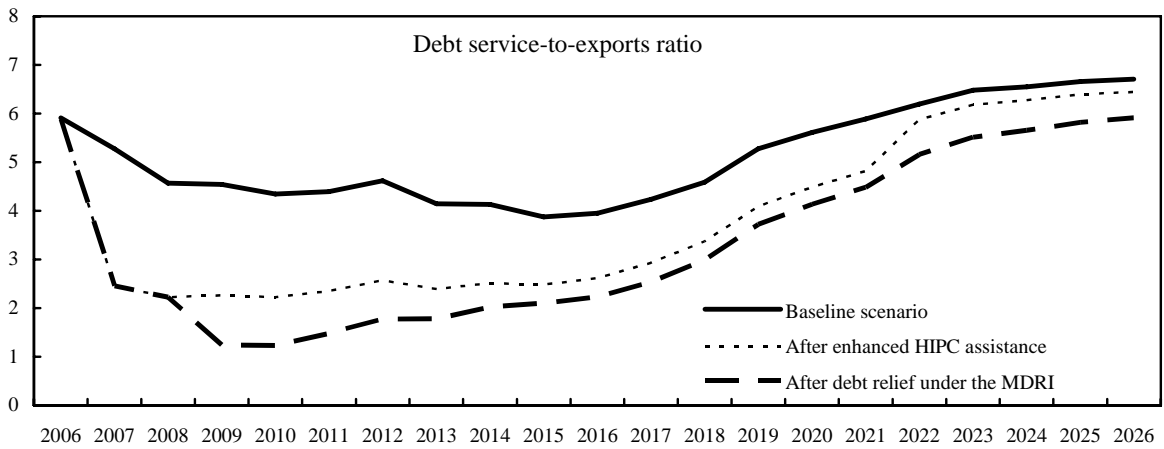
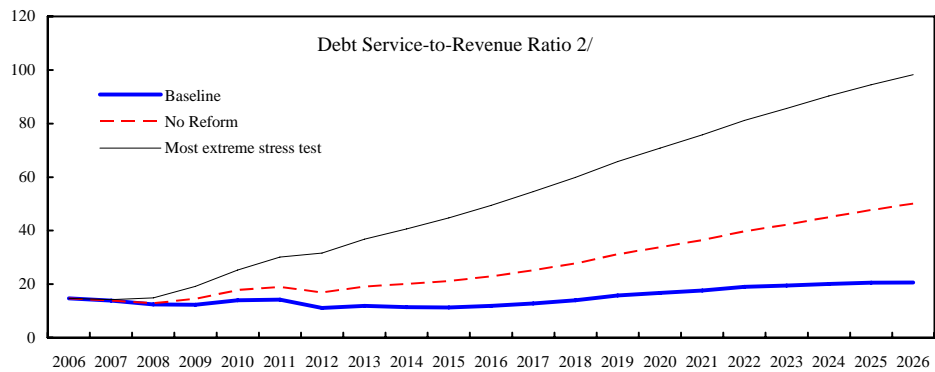
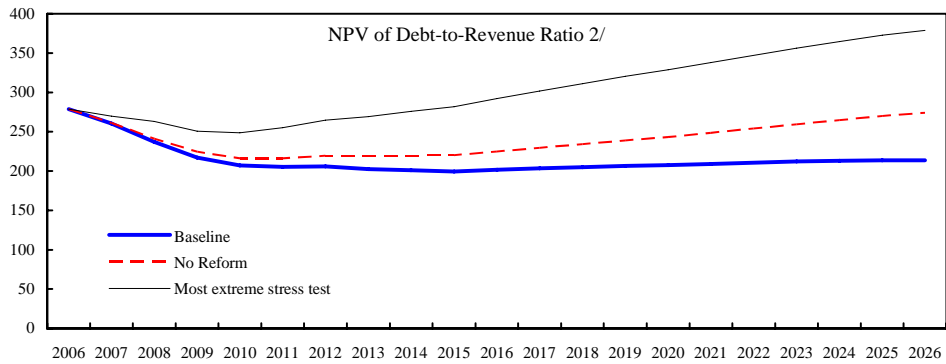
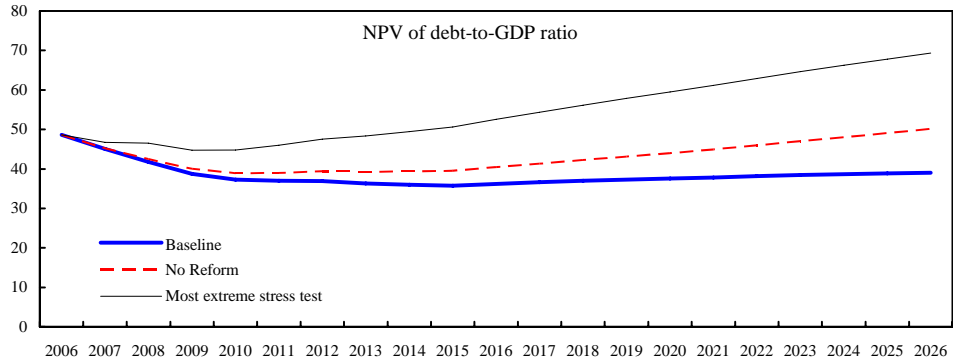


Figure 2. (concluded) Kyrgyz Republic: Indicators of Public and Publicly Guaranteed External Debt Assuming Delivery of Debt Relief under the HIPC Initiative and the MDRI, 2006–26
(In percent)



Source: Staff projections and simulations.
1/ Central government revenues, excluding grants.

Figure 3. Kyrgyz Republic: Indicators of Public and Publicly Guaranteed External Debt Under Alternative Scenarios, 2006–26
(In percent)



Source: Staff projections and simulations.

1/ Most extreme stress test is test that yields highest ratio in 2016.

2/ Central government revenues excluding grants.

Table 1. Kyrgyz Republic : External Debt Sustainability Framework, Baseline Scenario, 2006-2026 1/
(In percent of GDP, unless otherwise indicated)

	Actual			Historical Average 6/	Standard Deviation 6/	Projections									
	2003	2004	2005			2006	2007	2008	2009	2010	2011	2006-11 Average	2016	2026	2012-26 Average
External debt (nominal) 1/	103.3	95.2	83.1			75.6	70.0	64.9	60.4	56.3	55.1		50.5	38.7	
o/w public and publicly guaranteed (PPG)	98.4	88.2	78.6			71.7	66.3	61.2	56.5	53.6	52.2		46.7	33.2	
Change in external debt	-11.4	-8.1	-12.1			-7.5	-5.6	-5.1	-4.5	-4.0	-1.3		-1.0	-1.2	
Identified net debt-creating flows	-17.0	-16.3	-3.8			2.6	2.6	0.8	-0.5	0.4	1.5		2.2	0.0	
Non-interest current account deficit	2.7	1.7	6.8	5.1	5.9	10.1	9.1	7.4	5.4	5.2	5.7		6.6	3.6	5.6
Deficit in balance of goods and services	6.8	8.3	18.6			24.9	24.2	20.9	17.0	16.4	16.6		17.4	13.3	
Exports	38.8	42.5	38.6			40.0	42.3	45.0	47.7	46.6	45.6		40.6	40.7	
Imports	45.6	50.9	57.2			64.9	66.5	65.9	64.6	63.0	62.2		58.0	54.0	
Net current transfers (negative = inflow)	-5.8	-9.4	-13.6	-6.4	3.1	-16.2	-17.0	-16.2	-15.2	-14.5	-14.5		-13.4	-11.2	-12.8
Other current account flows (negative = net inflow)	1.8	2.8	1.8			1.5	1.9	2.7	3.6	3.3	3.6		2.6	1.5	
Net FDI (negative = inflow)	-2.4	-5.9	-3.4	-2.7	2.3	-5.4	-3.6	-3.0	-3.0	-3.0	-3.2		-3.3	-3.5	-3.4
Endogenous debt dynamics 2/	-17.3	-12.1	-7.2			-2.1	-2.9	-3.6	-2.9	-1.9	-1.0		-1.1	-0.1	
Contribution from nominal interest rate	1.4	1.7	1.5			0.8	0.8	0.8	0.9	0.9	0.9		1.1	1.5	
Contribution from real GDP growth	-6.7	-6.3	0.5			-2.9	-3.7	-4.4	-3.8	-2.8	-1.9		-2.2	-1.6	
Contribution from price and exchange rate changes	-12.0	-7.5	-9.3			...	...	...	...	...	...		...	...
Residual (3-4) 3/	5.6	8.1	-8.2			-10.1	-8.2	-5.9	-4.1	-4.4	-2.8		-3.2	-1.2	
o/w exceptional financing	-2.2	-2.1	-1.8			-0.1	0.1	0.0	0.0	0.0	0.0		0.0	0.0	
NPV of external debt 4/	...	...	51.0			46.6	43.5	40.7	38.2	35.6	35.1		35.2	31.9	
In percent of exports	...	...	132.0			116.5	102.7	90.3	80.2	76.4	76.9		86.6	78.4	
NPV of PPG external debt	...	...	46.4			42.7	39.8	37.0	34.4	32.9	32.2		31.4	26.4	
In percent of exports	...	...	120.3			106.7	94.0	82.1	72.1	70.5	70.6		77.2	64.8	
Debt service-to-exports ratio (in percent)	15.7	9.4	13.6			7.9	6.6	5.4	5.4	7.8	5.5		5.8	9.6	
PPG debt service-to-exports ratio (in percent)	7.3	6.4	7.4			5.9	5.3	4.6	4.5	4.3	4.4		4.0	6.7	
Total gross financing need (billions of U.S. dollars)	0.2	0.2	0.1			0.1	0.1	0.1	0.1	0.1	0.2		0.2	0.5	
Non-interest current account deficit that stabilizes debt ratio	14.2	9.9	18.9			17.6	14.7	12.5	10.0	9.3	6.9		7.7	4.8	
Key macroeconomic assumptions															
Real GDP growth (in percent)	7.0	7.0	-0.6	4.7	4.9	4.0	5.5	7.0	6.5	5.0	3.5	5.2	4.5	4.3	4.3
GDP deflator in US dollar terms (change in percent)	11.7	7.8	10.8	1.4	13.5	8.4	5.8	4.4	4.5	3.5	2.4	4.8	2.6	2.7	2.6
Effective interest rate (percent) 5/	1.5	1.9	1.7	3.1	1.5	1.1	1.1	1.2	1.6	1.6	1.7	1.4	2.3	3.9	2.8
Growth of exports of G&S (US dollar terms, in percent)	16.4	26.6	-0.1	8.6	14.3	16.9	18.0	18.9	17.9	6.2	3.8	13.6	7.7	7.4	6.3
Growth of imports of G&S (US dollar terms, in percent)	15.7	28.8	23.9	9.1	23.0	27.9	14.3	10.7	9.2	6.0	4.6	12.1	6.4	6.5	6.1
Grant element of new public sector borrowing (in percent)	...	...	...	...	...	51.7	52.7	51.8	45.3	45.3	45.3	48.7	22.8	17.5	24.9
<i>Memorandum item:</i>															
Nominal GDP (billions of US dollars)	1.9	2.2	2.4			2.75	3.07	3.43	3.82	4.15	4.40		6.1	12.2	
Central government revenues excluding grants (in percent of GDP)	15.1	15.6	16.7			17.5	17.3	17.6	17.8	18.0	18.0		18.0	18.2	

Source: Staff simulations.

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 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.

Table 2. Kyrgyz Republic: Sensitivity Analyses for Key Indicators of Public and Publicly Guaranteed External Debt, 2006-26
(In percent)

	Projections							
	2006	2007	2008	2009	2010	2011	2016	2026
NPV of debt-to-GDP ratio								
Baseline	43	40	37	34	33	32	31	26
After HIPC	26	25	25	24	24	24	27	25
After MDRI	18	18	18	18	18	19	23	24
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2007-26 1/	43	41	40	40	40	41	41	56
A2. New public sector loans on less favorable terms in 2007-26 2/	43	44	44	43	44	45	57	63
A3. Terms-of-trade shock - sharp decline in gold prices 3/	43	41	44	49	55	57	55	43
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2007-08	43	42	42	39	37	37	36	30
B2. Export value growth at historical average minus one standard deviation in 2007-08 4/	43	46	56	52	50	49	44	31
B3. US dollar GDP deflator at historical average minus one standard deviation in 2007-08	43	48	53	49	47	46	45	38
B4. Net non-debt creating flows at historical average minus one standard deviation in 2007-08 5/	43	53	61	57	55	54	47	32
B5. Combination of B1-B4 using one-half standard deviation shocks	43	63	93	87	83	82	70	45
B6. One-time 30 percent nominal depreciation relative to the baseline in 2007 6/	43	56	52	48	46	45	44	37
NPV of debt-to-exports ratio								
Baseline	107	94	82	72	71	71	77	65
After HIPC	66	60	55	50	51	53	66	63
After MDRI	46	43	39	37	39	42	58	60
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2007-26 1/	107	96	88	84	87	89	100	137
A2. New public sector loans on less favorable terms in 2007-26 2/	107	104	98	90	94	98	140	155
A3. Terms-of-trade shock - sharp decline in gold prices 3/	107	102	108	121	125	122	122	93
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2007-08	107	94	82	72	71	71	77	65
B2. Export value growth at historical average minus one standard deviation in 2007-08 4/	107	137	197	173	169	170	170	119
B3. US dollar GDP deflator at historical average minus one standard deviation in 2007-08	107	94	82	72	71	71	77	65
B4. Net non-debt creating flows at historical average minus one standard deviation in 2007-08 5/	107	125	136	120	117	118	116	78
B5. Combination of B1-B4 using one-half standard deviation shocks	107	150	211	186	182	183	177	114
B6. One-time 30 percent nominal depreciation relative to the baseline in 2007 6/	107	94	82	72	71	71	77	65
NPV of debt-to-revenue ratio 7/								
Baseline	245	230	210	193	182	179	174	145
After HIPC	148	147	139	133	131	133	150	140
After MDRI	105	104	100	99	101	105	130	135
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2007-26 1/	245	235	224	223	225	227	227	307
A2. New public sector loans on less favorable terms in 2007-26 2/	245	253	249	240	242	249	317	347
A3. Terms-of-trade shock - sharp decline in gold prices 3/	245	237	248	277	305	315	305	235
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2007-08	245	243	238	219	207	203	198	165
B2. Export value growth at historical average minus one standard deviation in 2007-08 4/	245	268	318	293	278	272	244	170
B3. US dollar GDP deflator at historical average minus one standard deviation in 2007-08	245	277	300	276	261	256	250	208
B4. Net non-debt creating flows at historical average minus one standard deviation in 2007-08 5/	245	306	348	321	304	298	262	176
B5. Combination of B1-B4 using one-half standard deviation shocks	245	363	528	487	461	453	391	249
B6. One-time 30 percent nominal depreciation relative to the baseline in 2007 6/	245	321	293	269	255	250	243	203

Table 3.The Kyrgyz Republic: Public Sector Debt Sustainability Framework, Baseline Scenario, 2006-2026
(In percent of GDP, unless otherwise indicated)

	Actual		Historical Average 5/	Standard Deviation 5/	Estimate					Projections			
	2004	2005			2006	2007	2008	2009	2010	2011	2006-11 Average	2016	2026	2012-26 Average
Public sector debt 1/	92.7	88.6			79.9	73.6	67.9	62.5	59.6	58.4		52.6	46.4
o/w foreign-currency denominated	86.8	83.1			75.8	70.0	64.5	59.5	56.3	54.7		48.5	34.0
Change in public sector debt	-14.2	-4.0			-8.7	-6.3	-5.8	-5.4	-2.9	-1.2		-1.0	-0.4
Identified debt-creating flows	-17.0	-1.3			-7.0	-5.4	-5.5	-4.4	-2.3	-0.7		-1.0	-0.4
Primary deficit	3.1	2.4	6.0	3.0	2.2	2.1	1.6	1.7	1.9	1.9	1.9	1.7	1.2
Revenue and grants	23.1	24.3			24.9	24.9	25.4	25.4	25.1	25.3		25.8	27.2
of which : grants	0.8	0.4			0.7	0.8	1.2	0.8	0.3	0.3		0.3	0.3
Primary (noninterest) expenditure	26.2	26.6			27.2	26.9	27.0	27.0	27.0	27.1		27.5	28.5
Automatic debt dynamics	-16.1	-3.5			-9.0	-7.3	-6.9	-5.9	-4.1	-2.5		-2.7	-1.6
Contribution from interest rate/growth differential	-7.9	0.9			-3.9	-4.1	-5.2	-4.5	-3.4	-2.3		-2.4	-1.4
of which : contribution from average real interest rate	-1.1	0.3			-0.5	0.0	-0.4	-0.4	-0.4	-0.3		-0.1	0.5
of which : contribution from real GDP growth	-6.8	0.6			-3.4	-4.1	-4.8	-4.1	-3.0	-2.0		-2.3	-1.9
Contribution from real exchange rate depreciation	-8.2	-4.4			-5.1	-3.1	-1.7	-1.4	-0.7	-0.2		...	...
Other identified debt-creating flows	-4.0	-0.2			-0.3	-0.2	-0.2	-0.1	-0.1	-0.1		-0.1	-0.1
Privatization receipts (negative)	-4.0	-0.2			-0.3	-0.2	-0.2	-0.1	-0.1	-0.1		-0.1	-0.1
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
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
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
Residual, including asset changes	2.8	-2.7			-1.7	-0.9	-0.3	-0.9	-0.6	-0.4		0.0	0.0
NPV of public sector debt	...	53.9			48.7	45.1	41.8	38.7	37.3	37.0		36.2	39.1
o/w foreign-currency denominated	...	48.4			44.5	41.4	38.4	35.7	34.1	33.3		32.1	26.7
o/w external	...	46.4			42.7	39.8	37.0	34.4	32.9	32.2		31.4	26.4
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
Gross financing need 2/	8.5	8.4			6.3	5.7	4.8	4.8	5.4	5.6		5.5	12.0
NPV of public sector debt-to-revenue ratio (in percent) 3/	...	322.1			278.7	260.2	236.9	217.3	207.3	205.4		201.4	213.6
o/w external	...	277.3			244.7	229.7	209.7	193.0	182.5	178.9		174.5	144.5
Debt service-to-revenue ratio (in percent) 3/ 4/	...	27.8			14.7	13.9	12.4	12.4	14.0	14.3		11.9	20.6
Primary deficit that stabilizes the debt-to-GDP ratio	17.3	6.4			11.0	8.4	7.4	7.0	4.8	3.1		2.7	1.7
Key macroeconomic and fiscal assumptions													
Real GDP growth (in percent)	7.0	-0.6	4.7	3.4	4.0	5.5	7.0	6.5	5.0	3.5	5.2	4.5	4.2
Average nominal interest rate on forex debt (in percent)	1.7	1.7	2.9	1.5	1.0	1.0	1.0	1.3	1.4	1.4	1.2	1.7	2.9
Average nominal interest rate on domestic debt (in percent)	-2.6	3.1	-0.9	3.1	3.2	9.3	5.7	6.0	6.1	6.2	6.1	6.2	6.1
Average real interest rate (in percent)	-1.1	0.3	-3.6	9.3	-0.6	0.0	-0.6	-0.6	-0.7	-0.6	-0.5	-0.1	1.1
Real discount rate on foreign-currency debt (in percent)	2.6	3.8	3.1	0.4	3.5	3.8	3.3	2.9	2.8	2.8	3.2	2.9	2.9
Average real interest rate on domestic currency debt (in percent)	-7.6	-3.4	-13.0	10.7	-2.3	4.6	1.3	1.4	0.8	1.9	1.3	1.7	1.6
Real exchange rate depreciation (in percent, + indicates depreciation)	-8.8	-5.0	2.9	21.7	-6.4	...	...	...	...	...	...	...	...
Inflation rate (GDP deflator, in percent)	5.3	6.8	15.4	13.4	5.7	4.5	4.4	4.5	5.3	4.2	4.8	4.4	4.4
Growth of real primary spending (deflated by GDP deflator, in percent)	10.0	1.1	1.4	12.4	6.2	4.5	7.3	6.6	5.0	3.9	5.6	4.9	4.6
Grant element of new external borrowing (in percent)	...	...	...	...	51.7	51.8	52.4	45.3	45.3	43.2	48.3	22.3	23.7

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

1/ Public and publicly guaranteed 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/ Central government 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. The Kyrgyz Republic: Sensitivity Analysis for Key Indicators of Public Debt 2006-2026

	Projections							
	2006	2007	2008	2009	2010	2011	2016	2026
NPV of Debt-to-GDP Ratio								
Baseline	49	45	42	39	37	37	36	39
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	49	49	51	53	55	58	75	113
A2. Primary balance is unchanged from 2006	49	45	43	40	39	39	40	50
A3. Permanently lower GDP growth 1/	49	46	43	41	40	41	49	85
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2007-2008	49	47	47	45	45	46	53	69
B2. Primary balance is at historical average minus one standard deviations in 2007-2008	49	52	56	52	51	50	49	50
B3. Combination of B1-B2 using one half standard deviation shocks	49	52	56	52	50	49	47	48
B4. One-time 30 percent real depreciation in 2007	49	62	57	53	50	50	47	50
B5. 10 percent of GDP increase in other debt-creating flows in 2007	49	55	51	48	46	46	45	46
NPV of Debt-to-Revenue Ratio 2/								
Baseline	279	260	237	217	207	205	201	214
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	279	285	290	296	306	323	417	616
A2. Primary balance is unchanged from 2006	279	261	241	225	216	216	225	274
A3. Permanently lower GDP growth 1/	279	263	243	228	223	227	272	463
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2007-2008	279	270	263	251	248	255	292	379
B2. Primary balance is at historical average minus one standard deviations in 2007-2008	279	300	316	293	281	279	271	272
B3. Combination of B1-B2 using one half standard deviation shocks	279	297	314	290	277	274	263	263
B4. One-time 30 percent real depreciation in 2007	279	359	324	296	280	275	261	275
B5. 10 percent of GDP increase in other debt-creating flows in 2007	279	318	291	269	258	256	249	254
Debt Service-to-Revenue Ratio 2/								
Baseline	15	14	12	12	14	14	12	21
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	15	14	24	37	51	61	114	224
A2. Primary balance is unchanged from 2006	15	14	13	15	18	19	23	50
A3. Permanently lower GDP growth 1/	15	14	13	14	17	20	37	128
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2007-2008	15	14	15	19	25	30	49	98
B2. Primary balance is at historical average minus one standard deviations in 2007-2008	15	14	33	53	54	53	49	52
B3. Combination of B1-B2 using one half standard deviation shocks	15	14	29	45	46	45	39	41
B4. One-time 30 percent real depreciation in 2007	15	15	14	15	18	19	21	40
B5. 10 percent of GDP increase in other debt-creating flows in 2007	15	14	42	40	41	41	37	42

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/ Central government revenues excluding grants.