INTERNATIONAL DEVELOPMENT ASSOCIATION AND
INTERNATIONAL MONETARY FUND

KYRGYZ REPUBLIC

Joint World Bank/IMF Debt Sustainability Analysis

Prepared by the Staffs of the International Monetary Fund
and the World Bank

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Based on the joint World Bank-IMF Low-Income Country Debt Sustainability Framework, the Kyrgyz Republic is assessed to be at a moderate risk of external debt distress.[1] *Compared to the previous joint DSA, the long-term debt outlook did not change. Some stress tests suggest that the country is still vulnerable, particularly to a combination of exogenous shocks. Further improvement of the debt outlook will depend on maintaining sound macroeconomic policies; including prudent borrowing, as well as ensuring continued concessional financing to support the country's large development needs.*

I. Background

The Kyrgyz Republic's nominal stock of public and publicly guaranteed (PPG) external debt declined from about 100 percent in 2003 to 70 percent of GDP in 2006, and further to 42 percent in 2008. The decline has been mainly the result of an acceleration in the pace of economic growth and a nominal appreciation of the domestic currency, but also reflects firm fiscal discipline and Paris Club support. The present value (PV) of PPG external debt was equivalent to $1,355 million (27 percent of GDP) at end-2008, of which 70 percent is owed to international financial institutions (IFIs) and the remaining 30 percent to bilateral creditors. The external private debt reached four percent of GDP at end-2008.

The Kyrgyz Republic had two debt restructuring agreements with the Paris Club. The first debt restructuring with the Paris Club, in December 2002, provided for flow rescheduling, in three phases and on Houston terms, of maturities falling due between December 2001 and April 2005, all of which have been implemented. The second, in March 2005, under the Evian approach, stipulated that the full amount of principal payments on official development assistance credits was to be repaid over 40 years, with a

[1]The DSA has been produced jointly by Bank and Fund staffs, in consultation with Asian Development Bank staff and the Kyrgyz authorities. The fiscal year for the Kyrgyz Republic is January 1–December 31.

13-year grace period, at interest rates at least as favorable as the original concessional rates applied to those loans. The Kyrgyz authorities indicated in early 2007 that they did not wish to avail themselves of the HIPC initiative, but subsequently expressed interest for the MDRI. At end-2008, indebtedness indicators were estimated to be below the applicable HIPC Initiative thresholds, while income levels were estimated to be above the IMF MDRI thresholds.

II. Underlying Debt Sustainability Analysis Assumptions

The macroeconomic assumptions reflect the framework underlying the current IMF program and World Bank and IMF staff projections through 2029. They have been updated to incorporate recent developments and changes to the medium-term outlook, but long-term assumptions are broadly similar to the framework used in the last DSA. The data on the stock of external debt at end-2008 and debt payment schedule were provided by the Kyrgyz authorities, except for the data on the World Bank and Asian Development Bank debt, which were provided directly by the two institutions.

The framework assumes continuation of sound macroeconomic policies—including fiscal consolidation and prudent public debt management—as a basis for sustaining growth (Box 1). The baseline projections do not rely on substantially higher growth rates than the historical average nor on significant improvement in loan terms. Growth would be underpinned by firm implementation of structural reforms to remove impediments to private investment and stimulate economic diversification. The framework features average long-run GDP growth of about five percent per year over 2011–29, in line with growth assumed in the last DSA, backed by strong private investments (including foreign direct investment) spurred by improvements in the business climate. The external current account deficit is projected to decline from 6.3 percent of GDP in 2009 to 4.7 percent in 2029.

The main change compared with the last DSA is the financial package from the Russian Federation agreed in February 2009. This includes the cancellation of the existing Russian debt of $194 million (with a PV of $126 million), the contracting of a $300 million concessional loan (with a PV of $132 million), and a grant of $150 million for budget support. An agreement has also been reached between the governments of the Russian Federation and the Kyrgyz Republic to set up a joint stock company to construct the Kambarata-I hydropower dam. Russia's RAO UES will own 50 percent of the company, and the remaining 50 percent will be owned by a Kyrgyz company which itself is about 90 percent owned by the Kyrgyz government. A pre-feasibility study is underway and is expected to be finalized in July, and, depending on the outcome, this is expected to be followed by a formal feasibility study. It is unclear, however, whether these studies will conclude that the project is economically viable. Given the very large uncertainty associated with the project, it is not incorporated in the DSA. Nevertheless, some analysis is included to explore the potential impact on the external debt sustainability, which is reported in Box 2.

Box 1. Baseline Macroeconomic Assumptions

Real GDP growth is projected to average about 5 percent over the longer term, only marginally higher than the historical average of about 4½ percent, on the back of strong private investment, including FDI, spurred by improvements in the business climate. Affected by the global and regional slowdown combined with weaker domestic demand due to lower remittances inflows and slowdown in credit expansion, GDP growth is expected to be depressed in the near term. In the medium term, however, growth will rebound, supported by continued development of the mining industry, the resumed reforms in the energy sector, and an increase in tourism.

The gradual decline in gold output is assumed to be compensated by gains in tourism receipts and other exports. In all, annual growth of exports of goods and services, including estimates for informal agricultural exports and reexports of consumer goods, would average 6¾ percent over the long term, maintaining the export-to-GDP ratio at about 66 percent. Consistent with growth projections and expected FDI inflows, imports of goods and services would grow at about 6½ percent per year over the long term, with the import-to-GDP ratio declining slightly to 86 percent. Remittances are projected to slow down in the near term, but will remain strong over medium and long term, with their ratio to GDP gradually declining.

Net FDI inflows would stay at about 4 percent of GDP over the long term. While in the near-term FDI would be concentrated in sectors like mining, financial services, and industry, the business climate improvements should yield a more diversified structure of FDI in the outer years. International reserves would be kept above three months of imports of goods and services.

Medium-term public borrowing is assumed to be on highly concessional terms. Over the DSA horizon, concessionality of new external public borrowing would gradually decline from around 42.8 percent in 2009–14 to 12.8 percent in 2015–29, as more borrowing will be contracted at less concessional terms from bilateral and commercial creditors.

Consistent with the assumption of continued sound fiscal and monetary policies, inflation (measured by the GDP deflator) would average 4½ percent annually over 2011–29. Expenditure controls and a strengthening of revenue performance will bring the primary balance back to a low level of below ½ percent of GDP on average in 2015–29. As a result, the public sector debt would stabilize at just under 50 percent of GDP over the longer term.

III. External Debt Sustainability Analysis

A. Baseline

The baseline scenario points to a cautiously favorable improvement in the external debt outlook over time. Already by end-2008, the PV of debt-to-exports and the PV of debt-to-revenue ratios, at 43 and 94 percent respectively, were well below their policy-based indicative thresholds.[2] Only the PV of PPG debt-to-GDP ratio, at 27 percent, is closer to its relevant threshold of 40 percent in 2008. Over the DSA horizon, all debt ratios move steadily on a downward path underpinned by steady growth, fiscal consolidation, and prudent debt management.

Debt service is expected to remain manageable throughout the DSA horizon. This reflects the high concessionality of both the outstanding multilateral debt and the assumed new borrowing over the medium term. The PPG debt service ratio would increase slightly from 3.5 percent of exports (5.3 percent of revenues) in 2008 to 7.5 percent of exports (11.4 percent of revenues) in 2029, driven by less-concessional new borrowing and the repayment of the previously restructured bilateral debt.

B. Alternative Scenarios and Stress Tests

Stress tests and alternative scenarios show that the Kyrgyz Republic's external debt is vulnerable to large shocks or substantially less favorable assumptions. The PV of the external debt-to-GDP ratio and the PV of the external debt-to-revenue rise above the relevant indicative thresholds under some tests. The PV of debt-to-GDP ratio rises above the indicative threshold of 40 percent in the medium term (or even over the longer term) when (i) export value growth is at historical average minus one standard deviation in 2010−11; (ii) the net non-debt creating inflows over 2010−11 are one standard deviation below their historical average; and (iii) under a shock over 2010−11 combining lower GDP and export growth, currency depreciation, and lower net non-debt creating inflows. The ratio of PV of debt-to-revenue would also rise above the relevant indicative threshold of 250 percent in the medium term under the last two conditions. However, the PV of debt-to-exports ratio is robust and does not breach its threshold under various tests. Debt service ratios also prove resilient, staying below their indicative threshold levels under various tests. The historical scenario—where key macro variables evolve according to their historic averages—points to a more benign external debt outlook than the baseline scenario.

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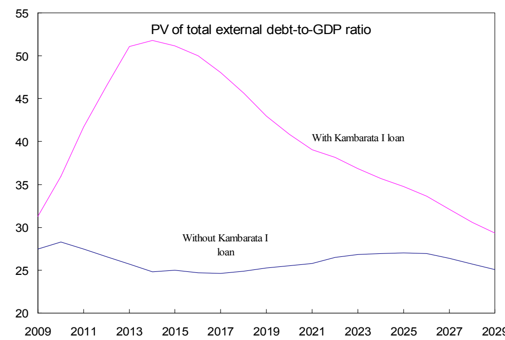
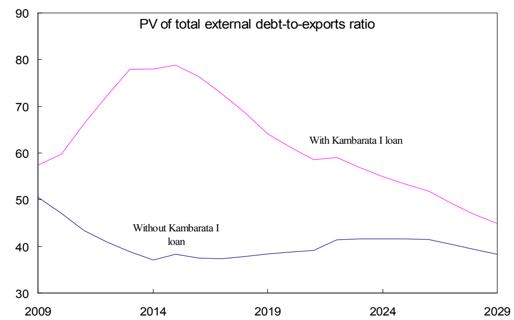
[2] The Kyrgyz Republic is rated as a *medium performer* based on the World Bank's Country Performance and Institutional Assessment Index for low income countries. The relevant policy-dependent thresholds for countries in this category are 40 percent for the PV of the debt-to-GDP ratio, 150 percent for the PV of debt-to-exports ratio, 250 percent for the PV of debt-to-revenue ratio, 20 percent of the debt service-to-exports ratio, and 30 percent of the debt service-to-revenue ratio.

Box 2. Kambarata-I Loan

The Kambarata hydropower project could provide large benefits to the Kyrgyz Republic, but is not without risks. The Kambarata-I loan would substantially increase Kyrgyz Republic's external debt burden, especially in the medium term. According to the agreement reached between the Russian and Kyrgyz governments, the Russian partner of the joint stock company would provide $1.7 billion in financing at LIBOR plus three percent, with an eight-year grace period, and twenty-year maturity. It is assumed that the construction of the dam would start in 2011, with full production capacity reached in 2019. Growth would benefit during the construction phase, although a large part of the materials would be imported. Growth rates would also increase somewhat once production of electricity starts, but will level off once the production capacity is reached. Electricity output in excess of domestic demand is assumed to be exported at six cents per kWh. Over the DSA period, on average about half of the output is assumed to be exported. The PV of external debt-to-GDP and debt-to-exports ratios would shoot up over the next few years when the loan is disbursed, and gradually decline over the longer term as electricity export receipts are used to repay the debt.





Based on current agreements, repayment of the loan would not be guaranteed by the government. But if the government were to assume any responsibility for the repayment of these loans, public debt indicators would deteriorate dramatically. The authorities, however, have indicated that any decision regarding Kambarata will not be made until the feasibility study is completed and that they will continue to refrain from issuing any government guarantees.

IV. Public Debt Sustainability Analysis

A. Baseline

Domestic debt is projected to increase and will play a more important role in financing the budget deficit in the medium and long term. Domestic debt currently accounts for less than 10 percent of total public debt. However, by 2029, domestic debt is projected to reach 40 percent of total public debt as domestic financial markets deepen.

The Kyrgyz Republic's public debt outlook is projected to be manageable in the medium and long term. Under the baseline scenario, the PV of public debt to GDP ratio increases gradually from 33 percent in 2009 to 46 percent by 2029 reflecting declining concessionality of new external borrowing and increased domestic debt. The tax revenue ratio will increase from 23 percent in 2008 to 25 percent by 2029. The tax revenue ratio will drop somewhat in 2009 due to tax cuts introduced with the new tax code and, in addition, declining economic activity and lower commodity prices affecting the tax base. However, in the longer run, tax collection will gradually recover and, aided by continued tax reforms and discipline on the expenditure side, contribute to the sustainability of public debt indicators.

B. Alternative Scenarios and Stress Tests

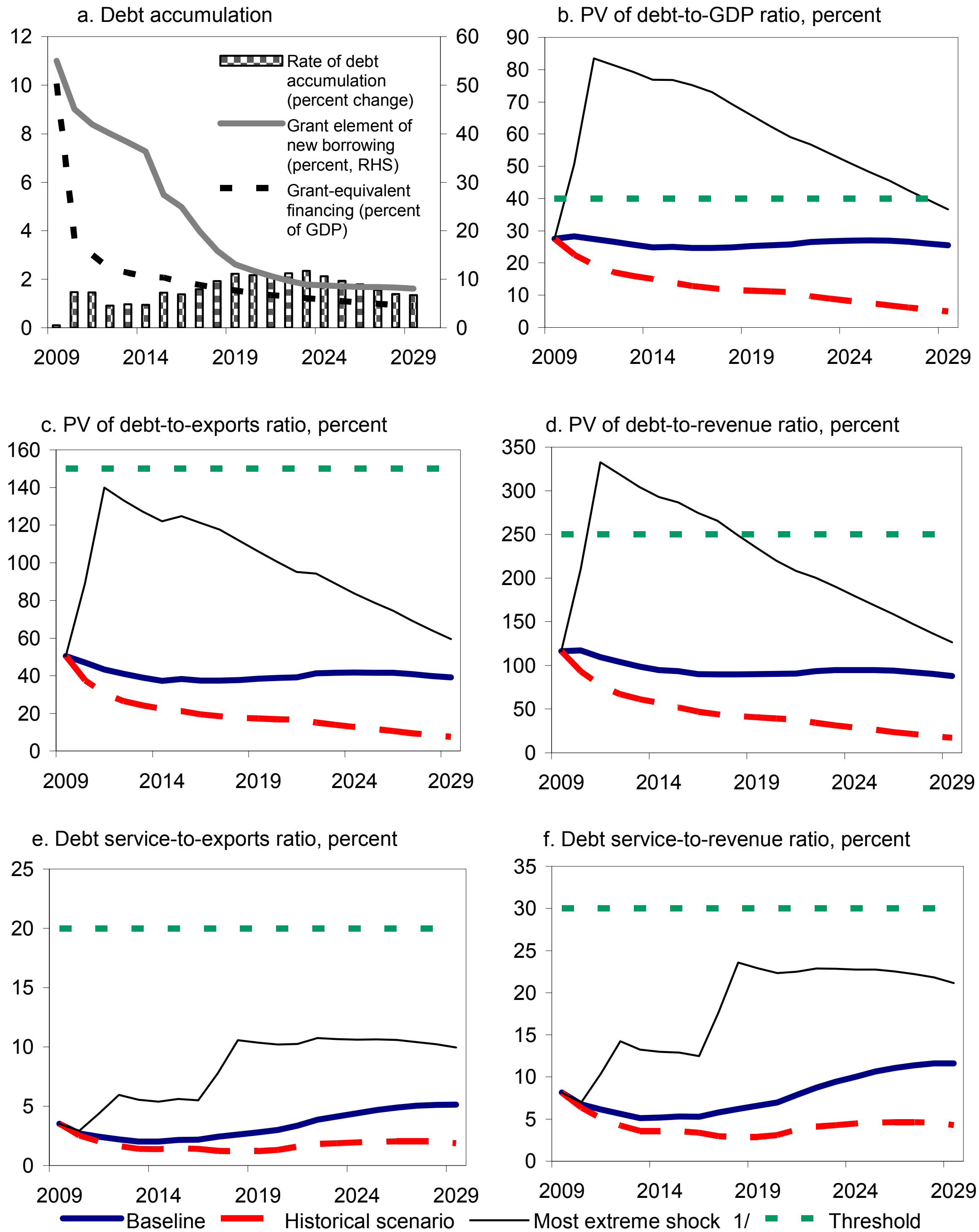
Alternative scenarios and stress tests show that Kyrgyz Republic's public debt remains sensitive to shocks that reduce real GDP growth. The standard sensitivity analysis based on the historical variation of key parameters, including real GDP growth and exchange rate, shows that debt ratios will rise considerably in the long run. Under different stress tests and scenarios, the PV debt-to-GDP ratio in 2029 will vary from about 33 percent under the fixed (at 2009 level) primary deficit scenario to 95 percent under the permanent real GDP growth shock scenario.

V. Debt Distress Classification and Conclusions

Based on the projected external debt burden indicators, Kyrgyz Republic is assessed to be at moderate risk of debt distress. The public DSA suggests that Kyrgyz Republic's total public sector debt seems manageable in light of the dynamics of the domestic debt stock. All PV-based external debt indicators in the baseline are projected to stay below their indicative thresholds over the DSA horizon. Moreover, under the baseline scenario, the debt service burden would remain well below the thresholds, reflecting the high concessionality of the external debt. Nevertheless, alternative scenarios and stress tests show that the external public debt indicators could approach or breach the thresholds if the Kyrgyz Republic were to experience large adverse exogenous shocks or relax its prudent debt management policy. This conclusion is consistent with the last DSA.

Low-concessionality loans from bilateral and commercial creditors to finance large public investment projects continue to pose a risk to the debt outlook. Staff recognizes that the Kyrgyz Republic has large developmental needs, but considers paramount to lock in the recent progress towards achieving and maintaining debt sustainability. Even if loans have a grant element of at least 35 percent, it would be important to ensure that the underlying projects are viable and that market risks, including exchange rate risk, are accounted for, so as to avoid the build up of an unsustainable debt burden. Similarly, it would remain important for the government to not provide any guarantees for commercial loans, including in the energy sector.

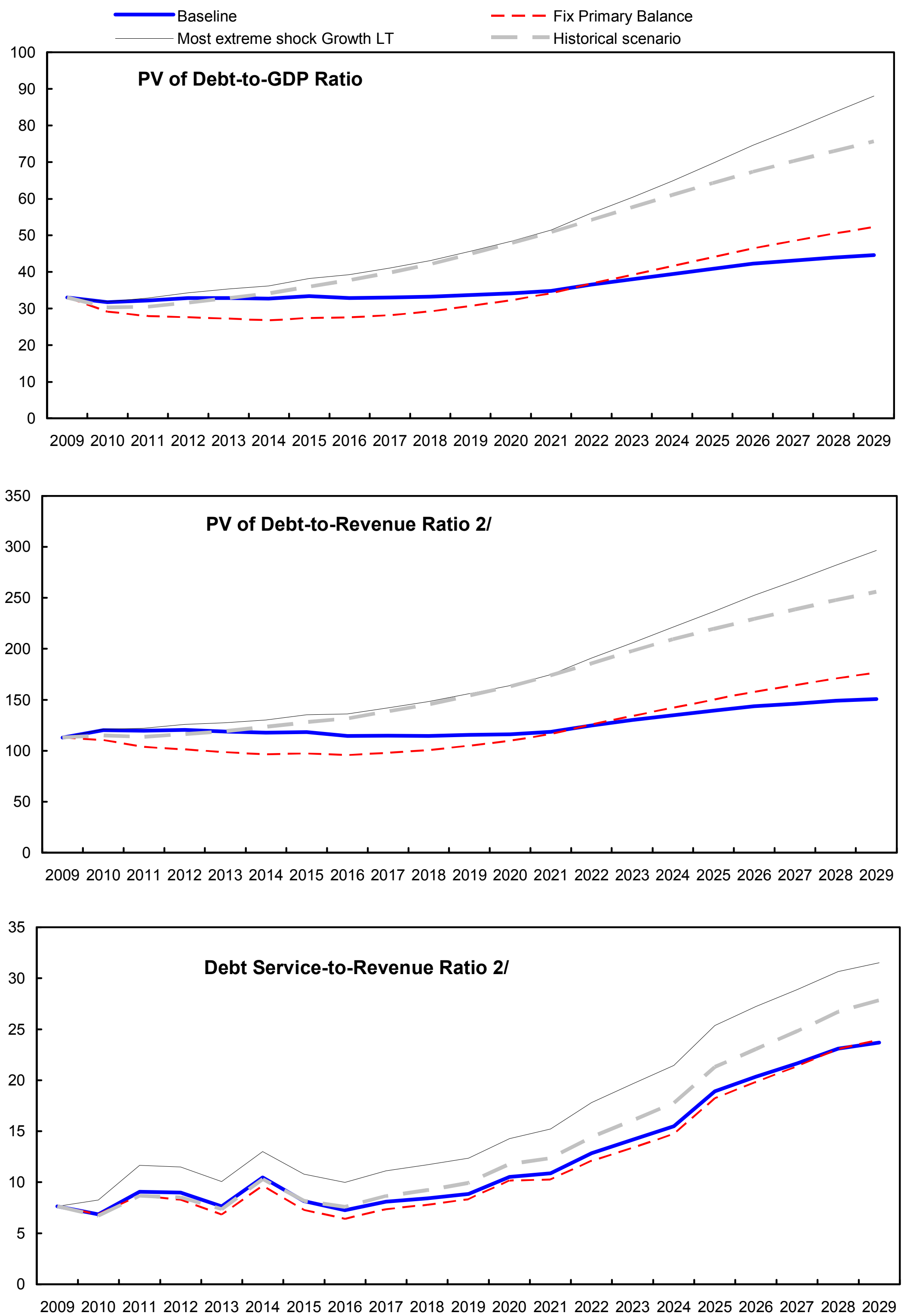
Figure 1. Kyrgyz Republic: Indicators of Public and Publicly Guaranteed External Debt under Alternatives Scenarios, 2009-2029 1/



Source: Staff projections and simulations.

1/ The most extreme stress test is the test that yields the highest ratio in 2019. In figure b. it corresponds to a Combination shock; in c. to a Combination shock; in d. to a Combination shock; in e. to a Combination shock and in picture f. to a Combination shock

Figure 2. Kyrgyz Republic: Indicators of Public Debt Under Alternative Scenarios, 2009-2029 1/



Sources: Kyrgyz authorities; and Fund 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 1a. Kyrgyz Republic: 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
Public sector debt 1/	72.5	56.8	49.2			52.0	49.7	49.1	48.5	47.3	45.9		42.5	48.7	
o/w foreign-currency denominated	71.6	55.9	42.8			46.0	46.8	44.8	42.6	40.5	38.4		34.3	29.8	
Change in public sector debt	-13.4	-15.7	-7.6			2.8	-2.3	-0.7	-0.6	-1.1	-1.4		-0.3	0.4	
Identified debt-creating flows	-12.8	-18.3	-8.7			2.1	0.6	-0.2	-0.2	-0.8	-1.1		-2.0	-2.4	
Primary deficit	1.5	0.0	-1.4	3.2	3.4	1.2	3.8	3.1	2.4	1.8	1.6	2.3	0.3	-0.4	0.2
Revenue and grants	26.4	30.3	30.3			29.3	26.4	27.0	27.3	27.7	27.8		29.2	29.6	
of which: grants	0.8	2.3	1.8			5.6	2.3	1.9	1.7	1.6	1.5		1.1	0.6	
Primary (noninterest) expenditure	27.9	30.3	28.9			30.5	30.2	30.1	29.6	29.5	29.4		29.5	29.3	
Automatic debt dynamics	-14.3	-18.0	-7.5			1.0	-3.2	-3.2	-2.5	-2.6	-2.7		-2.2	-2.0	
Contribution from interest rate/growth differential	-4.4	-6.9	-4.7			-0.5	-1.1	-1.7	-2.1	-2.6	-2.8		-2.2	-2.0	
of which: contribution from average real interest rate	-1.8	-1.2	-0.7			0.0	0.4	0.2	-0.2	-0.3	-0.3		-0.1	0.4	
of which: contribution from real GDP growth	-2.6	-5.7	-4.0			-0.5	-1.5	-1.9	-2.0	-2.3	-2.5		-2.1	-2.4	
Contribution from real exchange rate depreciation	-9.9	-11.1	-2.7			1.5	-2.1	-1.5	-0.4	0.0	0.1		...	...	
Other identified debt-creating flows	0.0	-0.2	0.1			-0.1	-0.1	-0.1	-0.1	-0.1	-0.1		0.0	0.0	
Privatization receipts (negative)	0.0	-0.1	0.1			-0.1	-0.1	-0.1	-0.1	-0.1	-0.1		0.0	0.0	
Recognition of implicit or contingent liabilities	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Debt relief (HIPC and other)	0.0	-0.1	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	-0.6	2.6	1.1			0.7	-2.8	-0.5	-0.4	-0.3	-0.3		1.7	2.8	
Other Sustainability Indicators															
PV of public sector debt	6.2	5.1	33.0			33.1	31.8	32.2	32.8	32.9	32.7		33.8	44.6	
o/w foreign-currency denominated	1.6	1.2	30.1			30.5	29.5	28.6	27.6	26.7	25.8		25.9	25.9	
o/w external	...	...	29.0			29.6	28.7	27.8	26.9	26.1	25.2		25.5	25.8	
PV of contingent liabilities (not included in public sector debt)	...	...	...			...	...	...	...	...	...		...	...	
Gross financing need 2/	5.7	3.1	1.3			4.7	6.8	6.6	6.6	6.5	7.8		6.2	10.3	
PV of public sector debt-to-revenue and grants ratio (in percent)	24	17	109			113	120	119	120	119	118		116	150	
PV of public sector debt-to-revenue ratio (in percent)	24	18	116			140	132	128	129	126	125		120	154	
o/w external 3/	…	…	102			125	119	111	106	100	96		91	89	
Debt service-to-revenue and grants ratio (in percent) 4/	10.6	6.5	5.4			7.7	6.9	9.1	9.0	7.7	10.5		8.9	23.7	
Debt service-to-revenue ratio (in percent) 4/	10.9	7.0	5.7			9.5	7.5	9.7	9.6	8.1	11.1		9.2	24.2	
Primary deficit that stabilizes the debt-to-GDP ratio	15.0	15.7	6.2			-1.6	6.1	3.8	3.0	2.9	3.0		0.6	-0.7	
Key macroeconomic and fiscal assumptions															
Real GDP growth (in percent)	3.1	8.5	7.6	5.4	3.5	0.9	2.9	4.0	4.2	4.9	5.6	3.8	5.2	5.2	5.0
Average nominal interest rate on forex debt (in percent)	0.9	0.9	0.9	1.6	0.7	1.2	1.0	1.0	1.0	1.1	1.1	1.1	1.7		2.2
Average real interest rate on domestic debt (in percent)	-1.8	-7.3	-6.2	-5.0	7.8	-1.5	2.8	2.5	1.1	0.6	0.4	1.0	0.2	0.0	0.2
Real exchange rate depreciation (in percent, + indicates depreciation)	-13.1	-17.2	-5.4	-8.0	4.8	3.5	...	...	...	...	...	...	...	...	...
Inflation rate (GDP deflator, in percent)	9.4	14.9	21.2	13.0	10.3	13.4	8.6	7.2	5.5	5.0	4.7	7.4	4.0	4.0	4.1
Growth of real primary spending (deflated by GDP deflator, in percent)	0.1	0.2	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0
Grant element of new external borrowing (in percent)	...	...	...	…	…	55.0	45.1	41.9	40.1	38.2	36.4	42.8	13.1	8.1	12.8

Sources: Country authorities; and Fund staff estimates and projections.
1/ General government gross debt.
2/ Gross financing need is defined as the primary deficit plus debt service plus the stock of short-term debt at the end of the last period.
3/ Revenues excluding grants.
4/ Debt service is defined as the sum of interest and amortization of medium and long-term debt.
5/ Historical averages and standard deviations are generally derived over the past 10 years, subject to data availability.

Table 2a. Kyrgyz Republic: Sensitivity Analysis for Key Indicators of Public Debt 2009–2029

	Projections							
	2009	2010	2011	2012	2013	2014	2019	2029
PV of Debt-to-GDP Ratio								
Baseline	33	32	32	33	33	33	34	45
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	33	30	31	32	33	34	45	76
A2. Primary balance is unchanged from 2009	33	29	28	28	27	27	31	52
A3. Permanently lower GDP growth 1/	33	32	33	34	35	36	46	88
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2010-2011	33	32	34	35	36	36	41	58
B2. Primary balance is at historical average minus one standard deviations in 2010-2011	33	34	38	38	38	38	38	48
B3. Combination of B1-B2 using one half standard deviation shocks	33	32	34	35	35	35	35	45
B4. One-time 30 percent real depreciation in 2010	33	44	44	44	44	43	43	56
B5. 10 percent of GDP increase in other debt-creating flows in 2010	33	40	41	41	41	41	41	50
PV of Debt-to-Revenue Ratio 2/								
Baseline	113	120	119	120	119	118	116	150
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	113	115	114	116	119	123	154	256
A2. Primary balance is unchanged from 2009	113	110	104	101	98	97	105	177
A3. Permanently lower GDP growth 1/	113	121	122	126	127	130	156	296
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2010-2011	113	121	125	129	129	131	140	194
B2. Primary balance is at historical average minus one standard deviations in 2010-2011	113	129	139	140	137	136	131	162
B3. Combination of B1-B2 using one half standard deviation shocks	113	122	128	128	126	124	120	150
B4. One-time 30 percent real depreciation in 2010	113	167	162	161	157	155	149	189
B5. 10 percent of GDP increase in other debt-creating flows in 2010	113	153	151	151	148	146	140	169
Debt Service-to-Revenue Ratio 2/								
Baseline	8	7	9	9	8	10	9	24
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	8	7	9	9	7	10	10	28
A2. Primary balance is unchanged from 2009	8	7	9	8	7	10	8	24
A3. Permanently lower GDP growth 1/	8	7	9	9	8	11	11	34
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2010-2011	8	7	9	9	8	11	10	27
B2. Primary balance is at historical average minus one standard deviations in 2010-2011	8	7	9	10	9	11	10	25
B3. Combination of B1-B2 using one half standard deviation shocks	8	7	9	9	8	11	9	24
B4. One-time 30 percent real depreciation in 2010	8	8	12	12	10	13	12	32
B5. 10 percent of GDP increase in other debt-creating flows in 2010	8	7	10	11	9	12	10	26

Sources: Kyrgyz 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 the length of the projection period.

2/ Revenues are defined inclusive of grants.

Table 3a. Kyrgyz Republic: 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
External debt (nominal) 1/	**77.7**	**60.2**	**45.8**			**49.2**	**49.6**	**47.0**	**44.2**	**42.0**	**40.1**		**36.4**	**32.6**	
o/w public and publicly guaranteed (PPG)	69.8	54.6	41.8			45.1	46.0	44.1	41.9	39.9	37.9		33.9	29.6	
Change in external debt	-7.8	-17.5	-14.4			3.4	0.5	-2.6	-2.8	-2.2	-1.9		-0.4	-0.7	
Identified net debt-creating flows	-14.7	-25.1	-13.6			2.7	2.6	0.1	-1.2	-2.3	-2.8		-0.9	-0.5	
Non-interest current account deficit	**2.4**	**-0.5**	**6.0**	**-0.5**	**3.8**	**5.7**	**7.9**	**5.8**	**4.6**	**3.3**	**2.9**		**3.7**	**3.7**	3.8
Deficit in balance of goods and services	27.1	25.6	31.5			26.9	28.9	26.6	25.7	24.5	23.2		25.5	20.5	
Exports	52.3	59.0	62.1			54.4	60.1	63.3	64.9	66.1	66.9		65.8	65.4	
Imports	79.4	84.6	93.6			81.4	89.0	89.9	90.5	90.6	90.1		91.3	85.9	
Net current transfers (negative = inflow)	-25.7	-26.8	-28.5	-14.8	9.6	-23.7	-24.0	-24.7	-25.0	-25.0	-24.8		-23.0	-18.0	-21.6
o/w official	-0.4	-0.8	-0.8			-3.9	-0.8	-0.6	-0.6	-0.6	-0.5		-0.4	-0.2	
Other current account flows (negative = net inflow)	1.0	0.7	3.0			2.5	3.0	3.9	3.9	3.8	4.5		1.2	1.2	
Net FDI (negative = inflow)	**-6.4**	**-5.5**	**-5.3**	**-3.0**	**2.6**	**-3.2**	**-4.5**	**-4.5**	**-4.5**	**-4.3**	**-4.1**		**-3.7**	**-3.7**	-3.7
Endogenous debt dynamics 2/	**-10.7**	**-19.1**	**-14.3**			**0.2**	**-0.8**	**-1.2**	**-1.2**	**-1.3**	**-1.5**		**-0.9**	**-0.5**	
Contribution from nominal interest rate	0.7	0.7	0.6			0.6	0.6	0.6	0.7	0.7	0.7		0.9	1.2	
Contribution from real GDP growth	-2.3	-4.9	-3.4			-0.4	-1.4	-1.9	-1.9	-2.0	-2.2		-1.8	-1.6	
Contribution from price and exchange rate changes	-9.1	-14.8	-11.4			…	…	…	…	…	…		…	…	
Residual (3-4) 3/	**6.9**	**7.6**	**-0.8**			**0.7**	**-2.1**	**-2.7**	**-1.7**	**0.1**	**0.8**		**0.5**	**-0.2**	
o/w exceptional financing	-0.3	-0.1	-0.1			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
PV of external debt 4/	...	...	30.8			31.6	31.9	30.4	28.8	27.8	27.0		27.7	28.5	
In percent of exports	...	...	49.5			58.0	53.1	48.1	44.4	42.1	40.4		42.1	43.5	
PV of PPG external debt	**...**	**...**	**26.8**			**27.5**	**28.3**	**27.4**	**26.5**	**25.7**	**24.8**		**25.3**	**25.5**	
In percent of exports	**...**	**...**	**43.2**			**50.5**	**47.0**	**43.4**	**40.9**	**38.9**	**37.1**		**38.4**	**39.0**	
In percent of government revenues	**...**	**...**	**94.2**			**116.3**	**117.2**	**109.3**	**104.0**	**98.8**	**95.5**		**89.1**	**85.7**	
Debt service-to-exports ratio (in percent)	**5.7**	**4.5**	**3.5**			**4.4**	**4.9**	**4.8**	**5.0**	**4.2**	**3.8**		**4.9**	**7.5**	
PPG debt service-to-exports ratio (in percent)	**4.7**	**3.1**	**2.4**			**3.5**	**2.7**	**2.4**	**2.2**	**2.0**	**2.0**		**2.8**	**5.2**	
PPG debt service-to-revenue ratio (in percent)	**9.5**	**6.5**	**5.3**			**8.1**	**6.7**	**6.1**	**5.6**	**5.1**	**5.2**		**6.5**	**11.3**	
Total gross financing need (Billions of U.S. dollars)	0.0	-0.1	0.1			0.2	0.3	0.2	0.2	0.1	0.1		0.3	0.9	
Non-interest current account deficit that stabilizes debt ratio	10.2	17.0	20.4			2.3	7.4	8.5	7.4	5.5	4.9		4.1	4.4	
Key macroeconomic assumptions															
Real GDP growth (in percent)	3.1	8.5	7.6	4.4	3.5	0.9	2.9	4.0	4.2	4.9	5.6	3.8	5.2	5.2	5.0
GDP deflator in US dollar terms (change in percent)	11.9	23.6	23.3	4.6	15.2	-2.9	-0.5	4.1	2.4	1.9	1.6	1.1	2.0	2.0	1.8
Effective interest rate (percent) 5/	0.9	1.2	1.3	2.0	1.0	1.3	1.2	1.3	1.5	1.6	1.7	1.4	2.5	3.7	3.1
Growth of exports of G&S (US dollar terms, in percent)	40.9	51.1	39.9	14.5	20.7	-14.2	13.0	14.0	9.5	9.0	8.6	6.7	7.2	7.4	6.8
Growth of imports of G&S (US dollar terms, in percent)	61.3	42.8	46.9	20.6	27.2	-14.9	12.0	9.5	7.5	7.0	6.7	4.6	6.8	6.6	6.6
Grant element of new public sector borrowing (in percent)	...	...	...	...	...	55.0	45.1	41.9	40.1	38.2	36.4	42.8	13.1	8.1	12.8
Government revenues (excluding grants, in percent of GDP)	25.6	28.1	28.5			23.6	24.1	25.1	25.5	26.1	26.0		28.3	29.8	28.8
Aid flows (in Billions of US dollars) 7/	0.1	0.2	0.1			0.7	0.2	0.2	0.2	0.2	0.2		0.2	0.2	
o/w Grants	0.0	0.1	0.1			0.3	0.1	0.1	0.1	0.1	0.1		0.1	0.1	
o/w Concessional loans	0.1	0.1	0.0			0.4	0.1	0.1	0.1	0.1	0.1		0.1	0.1	
Grant-equivalent financing (in percent of GDP) 8/	...	...	...			10.1	3.7	3.0	2.4	2.3	2.1		1.5	0.9	1.4
Grant-equivalent financing (in percent of external financing) 8/	...	...	...			73.5	68.2	65.5	70.7	69.3	67.2		35.9	20.7	32.5
Memorandum items:															
Nominal GDP (Billions of US dollars)	2.8	3.8	5.0			4.9	5.1	5.5	5.9	6.3	6.7		9.2	18.3	
Nominal dollar GDP growth	15.4	34.1	32.7			-2.0	2.4	8.3	6.8	6.9	7.4	5.0	7.3	7.3	6.9
PV of PPG external debt (in Billions of US dollars)	…	…	1.4			1.4	1.4	1.5	1.6	1.6	1.7		2.3	4.7	
(PVt-PVt-1)/GDPt-1 (in percent)	…	…	…			0.1	1.5	1.5	0.9	1.0	0.9	1.0	2.2	1.3	1.8

Source: Staff simulations.

1/ Includes both public and private sector external debt.
2/ Derived as [r - g - d(1+g)]/(1+g+d+gd) times previous period debt ratio, with r = nominal interest rate; g = real GDP growth rate, and d = 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. Projections also include 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 3b. Kyrgyz Republic: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2009-2029
(In percent)

	Projections											
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	**2019**	2029
PV of debt-to GDP ratio												
Baseline	27	28	27	27	26	25	25	25	25	25	**25**	26
A. Alternative Scenarios												
A1. Key variables at their historical averages in 2009-2029 1/	27	22	19	17	16	15	14	13	12	12	**11**	5
A2. New public sector loans on less favorable terms in 2009-2029 2	27	29	29	28	28	27	28	28	28	29	**30**	37
B. Bound Tests												
B1. Real GDP growth at historical average minus one standard deviation in 2010-2011	27	29	29	28	27	26	26	26	26	26	**27**	27
B2. Export value growth at historical average minus one standard deviation in 2010-2011 3/	27	37	53	52	51	49	49	48	47	45	**44**	30
B3. US dollar GDP deflator at historical average minus one standard deviation in 2010-2011	27	31	36	34	33	32	32	32	32	32	**33**	33
B4. Net non-debt creating flows at historical average minus one standard deviation in 2010-2011 4/	27	50	71	70	68	66	66	64	62	59	**56**	32
B5. Combination of B1-B4 using one-half standard deviation shocks	27	51	83	81	79	77	77	75	73	69	**66**	37
B6. One-time 30 percent nominal depreciation relative to the baseline in 2010 5/	27	40	39	38	37	36	36	35	35	36	**36**	37
PV of debt-to-exports ratio												
Baseline	50	47	43	41	39	37	38	37	37	38	**38**	39
A. Alternative Scenarios												
A1. Key variables at their historical averages in 2009-2029 1/	50	37	31	26	24	23	21	20	18	18	**17**	8
A2. New public sector loans on less favorable terms in 2009-2029 2	50	48	45	43	42	40	42	42	43	44	**45**	56
B. Bound Tests												
B1. Real GDP growth at historical average minus one standard deviation in 2010-2011	50	47	43	41	39	37	38	37	37	38	**38**	39
B2. Export value growth at historical average minus one standard deviation in 2010-2011 3/	50	74	123	117	112	107	110	107	105	101	**97**	66
B3. US dollar GDP deflator at historical average minus one standard deviation in 2010-2011	50	47	43	41	39	37	38	37	37	38	**38**	39
B4. Net non-debt creating flows at historical average minus one standard deviation in 2010-2011 4/	50	84	113	107	102	98	101	98	95	90	**86**	49
B5. Combination of B1-B4 using one-half standard deviation shocks	50	89	140	133	127	122	125	121	118	112	**106**	59
B6. One-time 30 percent nominal depreciation relative to the baseline in 2010 5/	50	47	43	41	39	37	38	37	37	38	**38**	39
PV of debt-to-revenue ratio												
Baseline	116	117	109	104	99	95	94	90	89	89	**89**	86
A. Alternative Scenarios												
A1. Key variables at their historical averages in 2009-2029 1/	116	93	77	67	61	58	52	47	44	42	**40**	17
A2. New public sector loans on less favorable terms in 2009-2029 2	116	119	114	110	106	104	104	101	102	103	**106**	124
B. Bound Tests												
B1. Real GDP growth at historical average minus one standard deviation in 2010-2011	116	119	115	109	104	100	99	95	94	93	**94**	90
B2. Export value growth at historical average minus one standard deviation in 2010-2011 3/	116	154	213	203	194	188	184	176	171	162	**155**	99
B3. US dollar GDP deflator at historical average minus one standard deviation in 2010-2011	116	130	142	135	128	124	122	117	116	115	**116**	111
B4. Net non-debt creating flows at historical average minus one standard deviation in 2010-2011 4/	116	208	284	272	260	253	247	235	226	212	**199**	108
B5. Combination of B1-B4 using one-half standard deviation shocks	116	210	333	319	304	296	289	275	265	248	**232**	123
B6. One-time 30 percent nominal depreciation relative to the baseline in 2010 5/	116	168	157	149	141	137	135	129	128	127	**128**	123

(To be continued on the next page)

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

	Debt service-to-exports ratio											
Baseline	3.5	2.7	2.4	2.2	2.0	2.0	2.2	2.2	2.4	2.6	**2.8**	5.2
A. Alternative Scenarios												
A1. Key variables at their historical averages in 2009-2029 1/	3.5	2.5	2.0	1.7	1.4	1.4	1.5	1.4	1.2	1.2	**1.2**	1.9
A2. New public sector loans on less favorable terms in 2009-2029 2	3.5	2.7	2.4	2.3	2.1	2.2	2.3	2.4	2.5	2.6	**2.7**	6.2
B. Bound Tests												
B1. Real GDP growth at historical average minus one standard deviation in 2010-2011	3.5	2.7	2.4	2.2	2.0	2.0	2.2	2.2	2.4	2.6	**2.8**	5.2
B2. Export value growth at historical average minus one standard deviation in 2010-2011 3/	3.5	3.3	4.3	5.5	5.1	5.0	5.2	5.2	6.6	8.9	**8.9**	10.2
B3. US dollar GDP deflator at historical average minus one standard deviation in 2010-2011	3.5	2.7	2.4	2.2	2.0	2.0	2.2	2.2	2.4	2.6	**2.8**	5.2
B4. Net non-debt creating flows at historical average minus one standard deviation in 2010-2011 4/	3.5	2.7	3.7	4.8	4.5	4.4	4.5	4.5	6.5	8.5	**8.3**	8.2
B5. Combination of B1-B4 using one-half standard deviation shocks	3.5	2.9	4.4	5.9	5.5	5.4	5.6	5.5	7.8	10.6	**10.4**	10.0
B6. One-time 30 percent nominal depreciation relative to the baseline in 2010 5/	3.5	2.7	2.4	2.2	2.0	2.0	2.2	2.2	2.4	2.6	**2.8**	5.2
	Debt service-to-revenue ratio											
Baseline	8.1	6.7	6.1	5.6	5.1	5.2	5.3	5.3	5.8	6.2	**6.5**	11.3
A. Alternative Scenarios												
A1. Key variables at their historical averages in 2009-2029 1/	8.1	6.3	5.1	4.2	3.6	3.6	3.6	3.4	3.0	2.8	**2.8**	4.2
A2. New public sector loans on less favorable terms in 2009-2029 2	8.1	6.7	6.1	5.8	5.4	5.5	5.7	5.7	6.0	6.1	**6.2**	13.7
B. Bound Tests												
B1. Real GDP growth at historical average minus one standard deviation in 2010-2011	8.1	6.9	6.4	5.9	5.4	5.5	5.6	5.5	6.1	6.5	**6.8**	11.9
B2. Export value growth at historical average minus one standard deviation in 2010-2011 3/	8.1	6.7	7.5	9.5	8.8	8.8	8.8	8.5	10.7	14.3	**14.1**	15.2
B3. US dollar GDP deflator at historical average minus one standard deviation in 2010-2011	8.1	7.5	7.9	7.3	6.6	6.8	6.9	6.8	7.5	8.0	**8.4**	14.7
B4. Net non-debt creating flows at historical average minus one standard deviation in 2010-2011 4/	8.1	6.7	9.4	12.2	11.4	11.3	11.2	10.8	15.5	19.9	**19.3**	17.9
B5. Combination of B1-B4 using one-half standard deviation shocks	8.1	6.9	10.4	14.2	13.3	13.1	13.0	12.5	17.6	23.4	**22.7**	20.6
B6. One-time 30 percent nominal depreciation relative to the baseline in 2010 5/	8.1	9.7	8.8	8.1	7.3	7.5	7.6	7.6	8.3	8.8	**9.3**	16.2
Memorandum item:												
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	13	13	13	13	13	13	13	13	13	13	**13**	13

Source: Staff projections and simulations.

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.