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STAFF REPORT FOR THE 2013 ARTICLE IV CONSULTATION—DEBT SUSTAINABILITY ANALYSIS

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Based on the external low income country (LIC) debt sustainability analysis (DSA), Tajikistan's risk of debt distress is assessed to be moderate.[1] *Including remittances in the DSA threshold analysis—consistent with the interim guidance on the use of remittances in the DSF for LICs—moves Tajikistan from high to moderate risk of debt distress. Tajikistan is, however, assessed to remain vulnerable to shocks on non-debt creating flows. Stress tests within the public DSA demonstrate also the sensitivity of the fiscal position with respect to a slightly lower long run growth rate. The DSA results thus underscore the need for fiscal prudence, including: (i) the continuation of planned fiscal consolidation; (ii) caution in contracting and guaranteeing new debt, particularly non-concessional; and (iii) careful cost-benefit assessment of large-scale investment projects. In addition, better coordination is needed between the fiscal and monetary authorities to identify and limit quasi-fiscal activities that ultimately generate unexpected fiscal costs and public debt and to better implement growth-enhancing structural reforms.*

[1] The DSA has been produced jointly by World Bank and IMF staff, in consultation with Asian Development Bank staff. The fiscal year for Tajikistan is January 1–December 31. As specified in the Joint Bank-Fund Staff Guidance Note on the use of remittances in the Debt Sustainability Framework for Low-Income Countries (March 2013), the current DSA includes remittances in the baseline since remittances in Tajikistan are both greater than 10 percent of GDP and greater than 20 percent of exports of goods and services.

BACKGROUND

1. **Tajikistan's reported public debt stock has declined significantly over the past decade, but the country remains vulnerable to external and growth shocks.** The public debt stock declined from about 90 percent of GDP in 2002 to 32.3 percent of GDP in 2012.[2] Most of the debt is denominated in foreign currency—around 28.3 percent of GDP in 2012. Debt dynamics are projected to stay steady through the medium term and improve slightly over the long term, aided primarily by robust real GDP growth (Table 2a). Growth dividends rely on steady remittance inflows and implementation of structural reforms, and could improve with better implementation of reforms.

2. **Domestic debt constitutes a very small part of overall public debt owing to low primary fiscal deficits (excluding the externally financed public investment program) and a shallow government securities market.** Domestic debt stood at 4 percent of GDP (12 percent of total public debt) at end-2012, consisting mostly of non-tradable government securities held by the National Bank of Tajikistan (NBT). Since 2009, the government has undertaken issuance of Treasury-bills (T-bills), but only in small amounts, with short maturity, and at rates below the current NBT refinancing rate.[3] A recent significant contribution to this stock arose from the government's bailout of Agroinvestbank (AIB) in 2012, amounting to about 2 percent of GDP. Previously the stock consisted mostly of government debt related to the cotton-debt resolution scheme of 2009-10.

3. **Public and publicly guaranteed (PPG) external debt at end 2012—estimated at 28.3 percent of GDP—was better than projections (33.3 percent of GDP) in the last DSA (Table 1a).** This was achieved mainly due to a combination of stronger real GDP growth and better fiscal outcomes. Tajikistan's PPG external debt is largely concessional and denominated in foreign currency, and held in broadly equal parts between multilateral and bilateral creditors, with the share of China quite prominent at about 41.1[4] percent. Private external debt—18.3 percent of GDP in 2012—is projected to decrease to 17.9 percent of GDP in 2013 and is largely long-term and denominated in foreign currency.

[2] A debt-for-equity swap with Russia in 2004 reduced considerably the debt burden.

[3] In 2012, the total issuance (excluding issuances for the AIB resolution and NBT recapitalization) was 0.21 percent of GDP based on auction amounts.

[4] Information is provided by the country authorities.

Tajikistan: External and Overall Public Debt (in percent of GDP, unless otherwise indicated)		
	2012	2013 (Forecast)
Total External Debt[1]	46.6	44.9
(Billion of US dollars)	*3.5*	*3.8*
Public and Publicly Guaranteed (PPG) Debt	28.3	27.0
(Billion of US dollars)	*2.2*	*2.2*
Private Debt	18.3	17.9
(Billion of US dollars)	*1.4*	*1.5*
Total Domestic Public Debt[2]	4.0	3.8
(Billion of US dollars)	*0.3*	*0.3*

Source: Country authorities, Staff forecasts

[1] Public and publicly guaranteed external debt covers general government external debt and guaranteed external debt of SOEs (state owned enterprises, excluding Talco Management). All the external debt is denominated in foreign currency and medium- and long-term.

[2] All domestic public debt is denominated in local currency and medium- and long-term.

4. **The current DSA including remittances concludes that Tajikistan's risk of debt distress is reclassified to moderate from high in the previous DSA (see Figure 1).**[5] [6] In Tajikistan, remittance inflows have become the most prominent source of foreign exchange earnings, equivalent to 48 percent of GDP and 261 percent of exports of goods and services in 2012. This supports the incorporation of remittances in the debt sustainability assessment, specifically the use of debt-burden indicators in which remittances are included in the denominator as well as respective remittances-adjusted thresholds. In the current assessment, all debt burden indicators are projected to remain below their respective thresholds under the baseline scenario, confirming Tajikistan's moderate risk of debt distress (see Figure 1).

MACROECONOMIC ASSUMPTIONS

5. **The macroeconomic framework over the medium term presents a more favorable picture compared with the one shown in the previous DSA**. It is described in detail in Box 1. Notable differences are a more moderate inflation outlook over the medium-term and a fiscal position that reflects the recent improvement in the primary balance.

[5] The Joint Bank-Fund Staff Guidance Note on the use of remittances in the Debt Sustainability Framework for Low-Income Countries (March 2013) defines that remittances must be treated in the base case if remittances are both greater than 10 percent of GDP and greater than 20 percent of exports of goods and services. Both ratios should be measured on a backward-looking, three-year average basis. The remittance-adjusted thresholds for Tajikistan are 80 and 27 for the PV of debt to exports and GDP, previously 100 and 30 (without remittances), respectively. For debt service, the remittance-adjusted threshold is lowered to 12 percent of exports (previously around 15 percent without remittances). On the contrary, thresholds for the PV of debt-to-revenues and debt service–to-revenues remain unchanged at 200 and 18 percent, respectively.

[6] The latest three-year average of the World Bank's CPIA rating (2009–11) for Tajikistan is 3.27, with the CPIA rating of 2011 at 3.35. According to the Joint Bank-Fund Staff Guidance Note on the Application of the Joint Bank-Fund Debt Sustainability Framework (January 2010), Tajikistan's policies and institutions are assessed as those corresponding to a "weak performer."

Box 1. Tajikistan: Macroeconomic Assumptions

Real GDP growth is projected at 6¾ percent in 2013, and at 5¾ percent over the medium and long term, below the ten-year historical average of 7½ percent (2003–12), although slightly better than in the previous DSA (around 5-5½ percent). Adverse projected global conditions are expected to weigh on growth in the near term. The outlook incorporates gradual fiscal consolidation consistent with debt sustainability, a moderate pace of construction of the Roghun HPP (to be reassessed following completion of the Roghun feasibility studies), and little improvement in electricity supply. Growth dividends from the pick-up in fixed capital investment are assumed to be modest over the medium term due to delays in structural reforms. Growth will also be muted by moderating remittance inflows and slowing private consumption, and this trend continues in the long run.

The U.S. dollar GDP deflator is projected to decrease to 5¼ percent in 2013 from 8¼ percent in 2012 and continue decelerating to about 3¾ percent through 2033, reflecting the expectation of benign global conditions for food and fuel prices. Historically, and given Tajikistan's vulnerability to commodity prices, particularly for food and fuel, this series has been exceptionally volatile around an average of 12 percent. The rates were closer to the historical average over the medium term (8 ¼ percent) in the previous DSA.

The external current account deficit stays in the range of 1¾-2½ percent of GDP over the medium term, driven by slower growth in remittances—tied to likely downside spillovers into Russia—and import growth consistent with the assumed pace of Roghun construction.

Migrants' remittances, which were equivalent to 47½ percent of GDP in 2012, are expected to grow at 9¼ percent and 9 percent over the medium and long term, respectively; this is lower than the ten-year historical average growth of 66 percent (2003-12).

Reserve coverage is projected to build up gradually to about 2¼ months of imports by 2018, and increase gradually to about 2¾ months of imports over the long run.

The fiscal balance (excluding externally-financed PIP) is likely to loosen in 2013 relative to the 2012 outcome. This remains consistent with medium-term debt sustainability and earlier discussions on the medium-term fiscal path, which has the balance moving to a small surplus. The projected 2013 fiscal deficit incorporates possible challenges in implementing the new tax code, the potential for higher election-related expenditures, and the full-year effect of 2012 social sector wage increases. It also incorporates some catch up in foreign-financed project spending following low disbursements in 2012. If this project spending does not materialize, the deficit would again likely move into surplus. The path reflects a more gradual pace of consolidation relative to the previous DSA over the medium term, reflecting improvements in the primary balance. Growth of **real primary spending** over the DSA period is expected to stay the same as the past ten year average, and similar to the previous DSA.

Real interest rates. For domestic debt, real interest rates are projected to become positive and rise very gradually from 2014.

Financing. External and domestic PPG debt is projected to account for about 87 percent and 13 percent, respectively, of total public debt over the medium and long term. The share of domestic PPG debt over the projection period is expected to be higher than the ten-year historical average of 5 percent of total public debt (2003-12) in view of the need to raise domestic financing to help service external debt. External PPG is expected to be largely concessional (over the medium term external borrowing on concessional terms to finance the construction of Roghun HPP is incorporated. as unidentified financing) and denominated in foreign currency, in line with its trend over last 10 years.

EXTERNAL DSA

6. Under the baseline scenario, which includes remittances, all external debt burden indicators remain below the debt burden thresholds and are expected to be on a gradual downward trajectory over the medium term and steady over the long term (see Figure 1 and Table 1a). Both external debt stock and external debt service ratios are expected to stay below their thresholds over the entire period. During the projection period, debt service payments continue to be manageable, albeit with a gradual increase during the years when principal payments on loans from China continue to fall due (starting from 2012).[7]

7. Unlike, the previous DSA—which demonstrated a protracted breach in the baseline—there are no breaches with the inclusion of remittances in the threshold analysis of the current DSA. The PV of debt-to-exports + remittances is now projected to be on a steady path below the threshold after the inclusion of remittances**.** In the previous DSA, the PV of debt-to-exports—not including remittances—was projected to breach the indicative policy-dependent thresholds significantly and for a protracted period of time.

8. The traditional historical scenario is not relevant and the related graphs are not presented in Figure 1. The historical scenario, which is associated with a combination of both steady high GDP growth of 7.5 percent and persistent high inflation (measured as US dollar GDP deflator growth rate) of 12.1 percent, is unlikely to occur since Tajikistan is expected to move into a moderate-inflation regime and somewhat lower steady growth. This historical scenario would present a more optimistic trajectory of debt burden indicators relative to what is expected under the baseline.

9. The standard stress tests reveal significant vulnerability (Figure 1 and Table 1b). A one-standard-deviation shortfall in non-debt creating flows (includes official and private transfers (remittances in particular) and FDI) create prolonged breaches in Tajikistan's debt stock ratios (PV of debt-to-GDP + remittances, PV of debt-to-exports + remittances, and PV of debt-to-revenues).[8] [9] These breaches suggest that Tajikistan's external sustainability remains vulnerable to remittance-led growth deviations, and suggests the need for broadening the revenue and export bases through diversification and structural reforms (e.g. implementation of a dividends policy for SOEs). In view of this, the authorities should remain cautious in contracting and guaranteeing new debt, particularly non-concessional, and should conduct and assess carefully cost-benefit studies of large-scale infrastructure projects.

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[7] Information is provided by the country authorities. The identified debt repayment obligations to China (one of the biggest creditors) and other multilateral and bilateral creditors are covered by sufficient foreign exchange inflows in the capital accounts.

[8] Non-debt creating flows comprise of FDI, official transfers, and private transfers including remittances (5, 3 and 92 percent of non-debt creating flows in 2012 respectively).

[9] Staff Guidance Note on the Application of the Joint Bank-Fund Debt Sustainability Framework for Low Income Countries (Jan 25, 2010 available from http://www.imf.org/external/pp/longres.aspx?id=4419) identifies the maximum permissible length of the breach of the thresholds as 10 years starting from the current period, i.e., half of the projection period.

PUBLIC DSA

10. Public debt burden indicators (including domestic public debt) are also expected to be on a gradual downward trajectory over the medium term and steady over the long run under the baseline scenario. The PV of the public debt-to-GDP ratio would decline gradually over the medium term due to continued fiscal consolidation and remain stable over the long term.

11. In contrast with the previous DSA, under the baseline scenario the PV of public debt-to-revenues in the current DSA is projected to be lower by 20-30 percent. This significant reduction in the PV of public debt-to-revenues owes in part to the recent improvement in the fiscal outturn, driven by improved revenues (both tax and non-tax), and lower expenditures (capital mostly).

12. Standard stress tests indicate existence of vulnerabilities in public debt (Figure 2). The debt burden indicators are sensitive to permanently lower GDP growth. Also, the indicators deviate noticeably from the baseline under the scenario of higher other debt creating flows (10 percent of GDP increase in other debt creating flows in 2014 arising possibly from quasi-fiscal activities, Table 2 b).[10] This suggests that the authorities need to remain vigilant to exposure to contingent fiscal liabilities from quasi-fiscal activities related to state-owned enterprises (SOEs) and the financial sector, while maintaining planned fiscal consolidation.

CONCLUSION

13. The current DSA including remittances concludes that Tajikistan's risk of debt distress is reclassified from high to moderate. All external debt burden indicators are projected to remain below their respective thresholds under the baseline scenario. In comparison with the previous DSA, in which the PV of debt-to-exports was projected to breach the threshold for a protracted period, the PV of debt-to-exports + remittances is projected to be on a stable path below its threshold in the current assessment. However, the standard stress tests with a one-off shock to non-debt creating flows (a large part of which is private transfers) reveals significant vulnerability to a sustainable debt path, as in the previous DSA. This suggests the need for continued caution in contracting and guaranteeing new debt, and the need to vet carefully any large-scale investment projects.

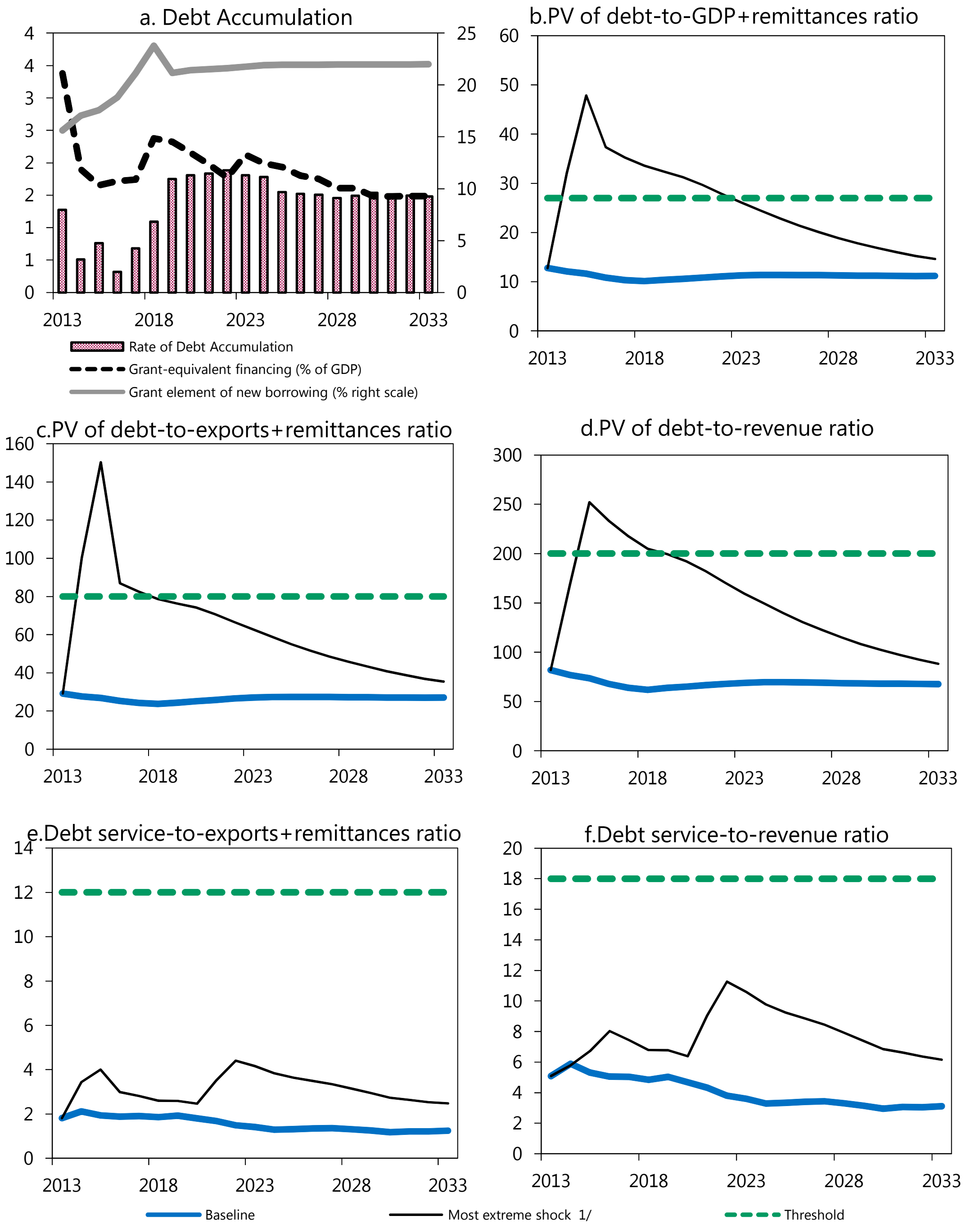
14. Despite some improvement in fiscal sustainability shown in public debt burden indicators, fiscal sustainability would be jeopardized with shocks to contingent debt creating flows and permanently lower GDP growth. Compared with the previous DSA, under the baseline scenario the PV of public debt-to-revenues in the current DSA has improved. However, fiscal sustainability remains vulnerable to permanent shocks to growth and contingent debt-creating flows, suggesting the need for continued fiscal consolidation and measures to minimize fiscal risks.

[10] The fiscal risk posed by this standardized stress test simulates a 10 percent of GDP increase in other debt creating flows. This is conservative, as recent estimates of realized quasi-fiscal costs are in the range of 2-4 percent of GDP in total over a period of four years.

15. The current DSA results thus underscore the need for fiscal consolidation, caution in contracting and guaranteeing new debt, and minimization of contingent fiscal risks. Sound macroeconomic policies and acceleration of growth-enhancing structural reforms would also be essential for maintaining debt sustainability. Going forward, the authorities should halt the practice of directed lending, both to limit contingent fiscal liabilities and to protect the health of banks. Emphasis should also be placed on strengthening debt management capacity by closely monitoring the debts of state-owned enterprises (SOEs) and completing an assessment of, and the plan to address, potential fiscal risks emerging from SOEs and banks (in line with IMF TA recommendations).

16. The authorities concurred with the conclusions of the DSA exercise. They agreed with staff's advice on exercising caution over contracting and guaranteeing new debt on non-concessional terms given existing vulnerabilities and limited buffers. In this vein, the Ministry of Finance acknowledged the need to build greater fiscal buffers and the authorities agreed on the need for greater coordination between the Ministry of Finance and the central bank (NBT) to identify and limit quasi-fiscal activities that ultimately generate unexpected fiscal costs and debt obligations.

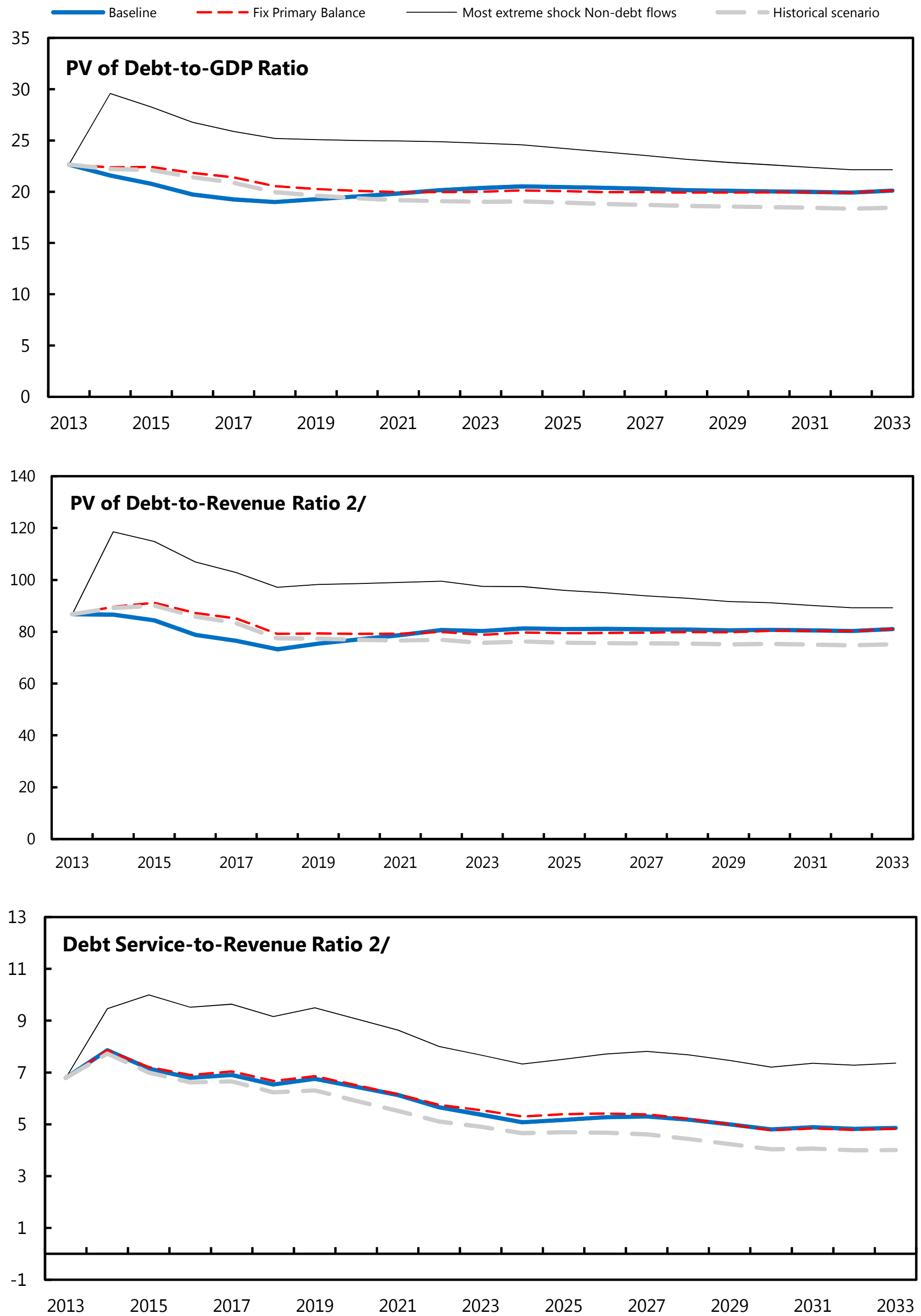
Figure 1. Tajikistan: Indicators of Public and Publicly Guaranteed External Debt Under Alternative Scenarios 2013–2033 1/



Sources: Country authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio in 2023. In figure b. it corresponds to a Non-debt flows shock; in c. to a Non-debt flows shock; in d. to a Non-debt flows shock; in e. to a Non-debt flows shock and in figure f. to a Non-debt flows shock

Figure 2. Tajikistan: Indicators of Public Debt Under Alternative Scenarios 2013–2033 1/



Sources: Country authorities; and staff estimates and projections.
1/ The most extreme stress test is the test that yields the highest ratio in 2023.
2/ Revenues are defined inclusive of grants.

Table 1. Tajikistan: External Debt Sustainability Framework, Baseline, Scenario, 2010–2033 1/

(In percent of GDP, unless otherwise indicated)

	Actual			Historical 7/	Standard 7/	Projections									
	2010	2011	2012	Average	Deviation	2013	2014	2015	2016	2017	2018	2013-2018 Average	2023	2033	2019-203 Average
External debt (nominal) 1/	**51.4**	**49.7**	**46.6**			**44.9**	**45.8**	**45.5**	**45.5**	**45.7**	**45.3**		**43.9**	**40.6**	
of which: public and publicly guaranteed (PPG)	34.1	33.1	28.3			27.0	27.7	27.4	27.4	27.8	27.4		26.3	23.5	
Change in external debt	-2.5	-1.6	-3.1			-1.7	0.9	-0.3	0.0	0.3	-0.4		-0.3	0.0	
Identified net debt-creating flows	-5.4	-3.2	-7.6			-2.8	-2.1	-2.4	-2.7	-3.2	-3.3		-2.7	-2.6	
Non-interest current account deficit	**0.4**	**3.8**	**-0.1**	**1.3**	**5.2**	**0.2**	**0.8**	**1.1**	**1.1**	**1.0**	**0.9**		**1.6**	**1.8**	1.1
Deficit in balance of goods and services	37.3	49.3	46.2			46.9	47.5	46.6	46.5	46.2	46.0		46.0	44.5	
Exports	15.3	17.9	18.2			16.9	16.7	16.4	16.1	15.8	15.8		15.0	15.3	
Imports	52.6	67.2	64.5			63.8	64.2	63.1	62.6	62.0	61.9		61.1	59.8	
Net current transfers (negative = inflow)	-37.4	-45.2	-45.6	-34.2	12.8	-45.8	-45.8	-44.8	-44.6	-44.4	-44.4		-43.7	-43.0	-43.7
of which: official	-2.3	-1.8	-1.3			-1.1	-0.7	-0.6	-0.5	-0.4	-0.3		-0.2	-0.1	
Other current account flows (negative = net inflow)	0.6	-0.3	-0.7			-0.9	-0.8	-0.7	-0.8	-0.7	-0.7		-0.8	0.3	
Net FDI (negative = inflow)	**-0.3**	**-1.0**	**-1.9**	**-3.2**	**3.7**	**-1.8**	**-2.0**	**-2.4**	**-2.7**	**-3.0**	**-3.0**		**-3.0**	**-3.0**	-3.0
Endogenous debt dynamics 2/	**-5.5**	**-6.0**	**-5.6**			**-1.3**	**-1.0**	**-1.1**	**-1.1**	**-1.2**	**-1.2**		**-1.3**	**-1.4**	
Contribution from nominal interest rate	0.8	0.9	1.4			1.5	1.4	1.3	1.3	1.2	1.2		1.0	0.7	
Contribution from real GDP growth	-3.1	-3.3	-3.2			-2.8	-2.4	-2.4	-2.4	-2.4	-2.4		-2.3	-2.1	
Contribution from price and exchange rate changes	-3.3	-3.6	-3.8			...	...	...	...	...	...		...	...	
Residual (3-4) 3/	**2.9**	**1.6**	**4.5**			**1.1**	**3.0**	**2.1**	**2.7**	**3.5**	**2.9**		**2.4**	**2.6**	
of which: exceptional financing	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
PV of external debt 4/	...	...	37.7			36.8	36.0	35.2	34.0	33.2	32.8		34.0	33.2	
In percent of exports	...	...	207.0			217.8	215.5	214.1	211.5	209.8	207.3		226.1	217.2	
PV of PPG external debt	**...**	**...**	**19.5**			**18.9**	**17.9**	**17.1**	**16.0**	**15.2**	**14.9**		**16.4**	**16.1**	
In percent of exports	**...**	**...**	**106.8**			**111.8**	**107.3**	**104.1**	**99.3**	**96.1**	**94.0**		**109.3**	**105.3**	
In percent of government revenues	**...**	**...**	**82.4**			**82.0**	**76.9**	**73.6**	**67.8**	**63.9**	**61.9**		**68.9**	**67.5**	
Debt service-to-exports ratio (in percent) 5/	**5.6**	**2.2**	**7.8**			**13.9**	**14.7**	**13.7**	**13.8**	**13.6**	**13.2**		**10.8**	**8.1**	
PPG debt service-to-exports ratio (in percent)	**2.8**	**2.6**	**2.3**			**6.9**	**8.2**	**7.5**	**7.4**	**7.6**	**7.4**		**5.7**	**4.8**	
PPG debt service-to-revenue ratio (in percent)	**2.0**	**2.0**	**1.8**			**5.1**	**5.9**	**5.3**	**5.1**	**5.0**	**4.8**		**3.6**	**3.1**	
Total gross financing need (Billions of U.S. dollars)	0.1	0.2	0.0			0.1	0.1	0.1	0.1	0.0	0.0		0.0	0.0	
Non-interest current account deficit that stabilizes debt ratio	2.9	5.4	3.0			1.9	0.0	1.4	1.1	0.7	1.3		1.9	1.8	
Key macroeconomic assumptions															
Real GDP growth (in percent)	6.5	7.4	7.5	7.5	1.9	6.7	5.8	5.7	5.7	5.8	5.8	5.9	5.8	5.8	5.8
GDP deflator in US dollar terms (change in percent)	6.4	7.6	8.3	12.1	10.2	5.3	2.1	2.8	3.3	3.5	3.1	3.4	3.7	3.7	3.7
Effective interest rate (percent) 6/	1.8	2.1	3.3	4.7	5.9	3.7	3.4	3.0	3.1	3.0	2.9	3.2	2.5	1.9	2.4
Growth of exports of G&S (US dollar terms, in percent)	14.6	34.5	18.9	8.8	23.6	4.2	6.7	7.1	6.8	7.6	9.3	7.0	9.5	10.4	9.4
Growth of imports of G&S (US dollar terms, in percent)	9.4	47.6	11.7	21.1	27.2	11.3	8.6	6.9	8.4	8.4	8.9	8.8	10.0	8.5	9.4
Grant element of new public sector borrowing (in percent)	...	...	...	...	...	15.6	17.0	17.6	18.8	21.1	23.8	19.0	21.8	22.0	21.8
Government revenues (excluding grants, in percent of GDP)	20.9	22.6	23.6			23.1	23.3	23.3	23.6	23.8	24.1		23.8	23.8	23.8
Aid flows (in Billions of US dollars) 7/	0.1	0.1	0.1			0.3	0.2	0.1	0.2	0.2	0.2		0.3	0.5	
of which: Grants	0.1	0.1	0.1			0.3	0.2	0.1	0.2	0.2	0.2		0.3	0.5	
of which: Concessional loans	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Grant-equivalent financing (in percent of GDP) 8/	...	...	...			3.4	1.9	1.7	1.7	1.7	2.4		2.1	1.5	1.8
Grant-equivalent financing (in percent of external financing) 9/	...	...	...			65.8	59.3	54.0	62.7	57.1	59.5		50.5	46.4	48.4
Memorandum items:															
Nominal GDP (Billions of US dollars)	5.6	6.5	7.6			8.5	9.2	10.0	11.0	12.0	13.1		20.7	52.2	
Nominal dollar GDP growth	13.4	15.6	16.4			12.4	8.0	8.7	9.3	9.5	9.0	9.5	9.7	9.7	9.7
PV of PPG external debt (in Billions of US dollars)			1.5			1.6	1.6	1.7	1.7	1.8	1.9		3.4	8.3	
(PVt-PVt-1)/GDPt-1 (in percent)						1.3	0.5	0.8	0.3	0.7	1.1	0.8	1.8	1.5	1.6
Gross workers' remittances (Billions of US dollars)	2.2	2.8	3.6			4.1	4.4	4.7	5.2	5.6	6.1		9.5	23.0	
PV of PPG external debt (in percent of GDP + remittances)	...	...	13.2			12.8	12.1	11.6	10.8	10.3	10.1		11.3	11.2	
PV of PPG external debt (in percent of exports + remittances)	...	...	29.6			29.2	27.7	26.9	25.2	24.2	23.7		27.1	27.1	
Debt service of PPG external debt (in percent of exports + remittances)	...	...	0.6			1.8	2.1	1.9	1.9	1.9	1.9		1.4	1.2	

Sources: Country authorities; and staff estimates and projections.

1/ Includes both public and private sector external debt.

2/ Derived as [r - g - ρ(1+g)]/(1+g+ρ+gρ) 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 cha

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

5/ Excludes trade credits as in the previous DSA (2011).

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

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

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

9/ 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 1b. Tajikistan: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2013–2033

(In percent)

	Projections							
	2013	2014	2015	2016	2017	2018	**2023**	2033
PV of debt-to-GDP+remittances ratio								
Baseline	13	12	12	11	10	10	**11**	11
A. Alternative Scenarios								
A1. New public sector loans on less favorable terms in 2013-2033 2	13	12	12	11	11	11	**14**	16
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2014-2015	13	12	11	11	10	10	**11**	11
B2. Export value growth at historical average minus one standard deviation in 2014-2015 3/	13	14	16	15	15	14	**14**	12
B3. US dollar GDP deflator at historical average minus one standard deviation in 2014-2015	13	12	11	11	10	10	**11**	11
B4. Net non-debt creating flows at historical average minus one standard deviation in 2014-2015 4/	13	32	48	37	35	34	**26**	15
B5. Combination of B1-B4 using one-half standard deviation shocks	13	24	32	28	26	25	**20**	13
B6. One-time 30 percent nominal depreciation relative to the baseline in 2014 5/	13	15	14	13	13	12	**14**	14
PV of debt-to-exports+remittances ratio								
Baseline	29	28	27	25	24	24	**27**	27
A. Alternative Scenarios								
A1. New public sector loans on less favorable terms in 2013-2033 2	29	28	28	26	26	27	**35**	40
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2014-2015	29	27	26	25	24	23	**27**	27
B2. Export value growth at historical average minus one standard deviation in 2014-2015 3/	29	33	42	40	38	37	**36**	31
B3. US dollar GDP deflator at historical average minus one standard deviation in 2014-2015	29	27	26	25	24	23	**27**	27
B4. Net non-debt creating flows at historical average minus one standard deviation in 2014-2015 4/	29	100	150	87	82	79	**63**	35
B5. Combination of B1-B4 using one-half standard deviation shocks	29	73	106	76	72	69	**58**	37
B6. One-time 30 percent nominal depreciation relative to the baseline in 2014 5/	29	27	26	25	24	23	**27**	27
PV of debt-to-revenue ratio								
Baseline	82	77	74	68	64	62	**69**	68
A. Alternative Scenarios								
A1. New public sector loans on less favorable terms in 2013-2033 2	82	77	76	71	69	69	**89**	98
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2014-2015	82	75	72	67	63	61	**68**	67
B2. Export value growth at historical average minus one standard deviation in 2014-2015 3/	82	87	104	96	90	87	**84**	71
B3. US dollar GDP deflator at historical average minus one standard deviation in 2014-2015	82	75	73	67	63	62	**69**	67
B4. Net non-debt creating flows at historical average minus one standard deviation in 2014-2015 4/	82	169	252	233	218	205	**160**	88
B5. Combination of B1-B4 using one-half standard deviation shocks	82	132	176	163	152	144	**118**	73
B6. One-time 30 percent nominal depreciation relative to the baseline in 2014 5/	82	106	102	94	89	86	**96**	94

Table 1b. Tajikistan: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2013–2033 (continued)

(In percent)

Debt service-to-exports+remittances ratio

Baseline	2	2	2	2	2	2	**1**	1
A. Alternative Scenarios								
A1. New public sector loans on less favorable terms in 2013-2033 2	2	2	2	2	2	2	**2**	2
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2014-2015	2	2	2	2	2	2	**1**	1
B2. Export value growth at historical average minus one standard deviation in 2014-2015 3/	2	2	2	2	2	2	**2**	2
B3. US dollar GDP deflator at historical average minus one standard deviation in 2014-2015	2	2	2	2	2	2	**1**	1
B4. Net non-debt creating flows at historical average minus one standard deviation in 2014-2015 4/	2	3	4	3	3	3	**4**	2
B5. Combination of B1-B4 using one-half standard deviation shocks	2	3	3	3	3	3	**4**	2
B6. One-time 30 percent nominal depreciation relative to the baseline in 2014 5/	2	2	2	2	2	2	**1**	1
Debt service-to-revenue ratio								
Baseline	5	6	5	5	5	5	**4**	3
A. Alternative Scenarios								
A1. New public sector loans on less favorable terms in 2013-2033 2	5	6	5	5	5	5	**5**	5
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2014-2015	5	6	5	5	5	4	**4**	3
B2. Export value growth at historical average minus one standard deviation in 2014-2015 3/	5	6	5	6	5	5	**5**	4
B3. US dollar GDP deflator at historical average minus one standard deviation in 2014-2015	5	6	5	5	5	4	**4**	3
B4. Net non-debt creating flows at historical average minus one standard deviation in 2014-2015 4/	5	6	7	8	7	7	**11**	6
B5. Combination of B1-B4 using one-half standard deviation shocks	5	5	6	6	6	5	**8**	5
B6. One-time 30 percent nominal depreciation relative to the baseline in 2014 5/	5	8	7	7	7	6	**5**	5
Memorandum item:								
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	19	19	19	19	19	19	**19**	19

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 2a. Tajikistan: Public Sector Debt Sustainability Framework, Baseline, Scenario, 2010–2033

(In percent of GDP, unless otherwise indicated)

	Actual					Estimate	Projections								
	2010	2011	2012	Average 5/	Standard Deviation 5/	2013	2014	2015	2016	2017	2018	2013-18 Average	2023	2033	2019-33 Average
Public sector debt 1/	36.3	35.4	32.3			30.7	31.4	31.0	31.2	31.8	31.5		30.3	27.5	
of which: foreign-currency denominated	34.1	33.1	28.3			27.0	27.7	27.4	27.4	27.8	27.4		26.3	23.5	
Change in public sector debt	0.1	-0.9	-3.1			-1.6	0.6	-0.4	0.2	0.7	-0.4		-0.3	0.2	
Identified debt-creating flows	-2.8	-0.3	-6.2			-0.8	-1.2	-1.8	-1.4	-0.9	-0.1		-0.5	-0.5	
Primary deficit	2.8	1.1	-1.6	1.6	2.7	1.3	0.4	0.2	0.6	1.1	1.9	0.9	1.6	1.3	1.5
Revenue and grants	23.2	24.9	25.1			26.1	24.9	24.6	25.0	25.2	25.9		25.4	24.8	
of which: grants	2.3	2.3	1.5			3.1	1.6	1.4	1.5	1.4	1.9		1.5	1.0	
Primary (noninterest) expenditure	26.0	26.0	23.5			27.4	25.3	24.8	25.7	26.3	27.9		26.9	26.1	
Automatic debt dynamics	-4.8	-3.2	-4.9			-2.1	-1.6	-1.9	-2.0	-2.0	-2.0		-2.0	-1.8	
Contribution from interest rate/growth differential	-2.3	-2.7	-2.4			-1.7	-1.4	-1.6	-1.6	-1.6	-1.6		-1.6	-1.4	
of which: contribution from average real interest rate	-0.1	-0.2	0.1			0.3	0.2	0.1	0.1	0.1	0.1		0.1	0.1	
of which: contribution from real GDP growth	-2.2	-2.5	-2.5			-2.0	-1.7	-1.7	-1.7	-1.7	-1.7		-1.7	-1.5	
Contribution from real exchange rate depreciation	-2.5	-0.5	-2.5			-0.3	-0.1	-0.3	-0.4	-0.4	-0.4		...	...	
Other identified debt-creating flows	-0.8	1.9	0.4			-0.1	-0.1	0.0	0.0	0.0	0.0		0.0	0.0	
Privatization receipts (negative)	-0.8	1.9	0.4			-0.1	-0.1	0.0	0.0	0.0	0.0		0.0	0.0	
Recognition of implicit or contingent liabilities	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Debt relief (HIPC and other)	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Other (specify, e.g. bank recapitalization)	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Residual, including asset changes	2.9	-0.6	3.1			-0.8	1.9	1.5	1.5	1.6	-0.2		0.2	0.7	
Other Sustainability Indicators															
PV of public sector debt	...	...	23.5			22.7	21.6	20.8	19.7	19.3	19.0		20.3	20.1	
of which: foreign-currency denominated	...	...	19.5			18.9	17.9	17.1	16.0	15.2	14.9		16.4	16.1	
of which: external	...	...	19.5			18.9	17.9	17.1	16.0	15.2	14.9		16.4	16.1	
PV of contingent liabilities (not included in public sector debt)	...	...	...			...	...	...	...	...	...		...	...	
Gross financing need 2/	3.7	2.1	-0.6			3.1	2.3	1.9	2.3	2.9	3.6		2.9	2.5	
PV of public sector debt-to-revenue and grants ratio (in percent)	...	...	93.4			86.8	86.5	84.4	78.8	76.5	73.2		80.2	81.0	
PV of public sector debt-to-revenue ratio (in percent)	...	...	99.4			98.3	92.6	89.3	83.8	81.0	78.9		85.4	84.4	
of which: external 3/	...	...	82.4			82.0	76.9	73.6	67.8	63.9	61.9		68.9	67.5	
Debt service-to-revenue and grants ratio (in percent) 4/	4.0	3.9	4.0			6.8	7.9	7.1	6.8	6.9	6.5		5.4	4.9	
Debt service-to-revenue ratio (in percent) 4/	4.4	4.3	4.3			7.7	8.4	7.6	7.2	7.3	7.0		5.7	5.1	
Primary deficit that stabilizes the debt-to-GDP ratio	2.7	2.0	1.5			2.9	-0.3	0.5	0.5	0.5	2.3		1.8	1.1	
Key macroeconomic and fiscal assumptions															
Real GDP growth (in percent)	6.5	7.4	7.5	7.5	1.9	6.7	5.8	5.7	5.7	5.8	5.8	5.9	5.8	5.8	5.8
Average nominal interest rate on forex debt (in percent)	2.8	3.0	3.0	2.6	0.6	3.1	2.8	2.3	2.2	2.1	2.1	2.4	2.0	2.0	2.1
Average real interest rate on domestic debt (in percent)	0.1	-7.3	-1.3	-6.4	6.3	-2.1	0.3	0.4	0.5	1.3	1.5	0.3	1.4	1.4	1.4
Real exchange rate depreciation (in percent)	-7.5	-1.6	-8.2	-8.6	11.3	-1.2	...	...	...	...	...	...	...	...	...
Inflation rate (GDP deflator, in percent)	12.5	13.3	11.9	18.2	7.5	8.0	7.0	7.0	7.0	7.0	6.0	7.0	6.0	6.0	6.0
Growth of real primary spending (deflated)	0.0	0.1	0.0	0.1	0.1	0.2	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Grant element of new external borrowing (in percent)	...	...	...	...	...	15.6	17.0	17.6	18.8	21.1	23.8	19.0	21.8	22.0	...

Sources: Country authorities; and staff estimates and projections.

1/ Public sector is defined as nonfinancial public sector. Gross debt is used.

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 2b. Tajikistan: Sensitivity Analysis for Key Indicators of Public Debt 2010–2033

	Projections							
	2013	2014	2015	2016	2017	2018	2023	2033
PV of Debt-to-GDP Ratio								
Baseline	23	22	21	20	19	19	20	20
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	23	22	22	21	21	20	19	18
A2. Primary balance is unchanged from 2013	23	22	22	22	21	21	20	20
A3. Permanently lower GDP growth 1/	23	22	21	20	20	20	25	33
B. Bound tests								
B1. GDP growth is at historical average minus one std deviation in 2014-2015	23	22	21	20	19	19	21	20
B2. Primary balance is at historical average minus one std deviation in 2014-2015	23	25	27	26	25	24	24	22
B3. Combination of B1-B2 using one half standard deviation shocks	23	23	25	23	22	21	20	18
B4. One-time 30 percent real depreciation in 2014	23	29	27	25	23	22	23	22
B5. 10 percent of GDP increase in other debt-creating flows in 2014	23	30	28	27	26	25	25	22
PV of Debt-to-Revenue Ratio 2/								
Baseline	87	87	84	79	77	73	80	81
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	87	89	90	86	83	77	76	75
A2. Primary balance is unchanged from 2013	87	90	91	87	85	79	79	81
A3. Permanently lower GDP growth 1/	87	87	86	81	80	79	97	132
B. Bound tests								
B1. GDP growth is at historical average minus one std deviation in 2014-2015	87	87	85	79	77	74	81	82
B2. Primary balance is at historical average minus one std deviation in 2014-2015	87	99	109	102	98	93	95	88
B3. Combination of B1-B2 using one half standard deviation shocks	87	94	100	92	87	82	81	71
B4. One-time 30 percent real depreciation in 2014	87	116	110	99	92	86	90	89
B5. 10 percent of GDP increase in other debt-creating flows in 2014	87	119	115	107	103	97	98	89
Debt Service-to-Revenue Ratio 2/								
Baseline	7	8	7	7	7	7	5	5
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	7	8	7	7	7	6	5	4
A2. Primary balance is unchanged from 2013	7	8	7	7	7	7	6	5
A3. Permanently lower GDP growth 1/	7	8	7	7	7	7	6	6
B. Bound tests								
B1. GDP growth is at historical average minus one std deviation in 2014-2015	7	8	7	7	7	7	5	5
B2. Primary balance is at historical average minus one std deviation in 2014-2015	7	8	7	7	7	7	6	5
B3. Combination of B1-B2 using one half standard deviation shocks	7	8	7	7	7	7	6	5
B4. One-time 30 percent real depreciation in 2014	7	9	10	10	10	9	8	7
B5. 10 percent of GDP increase in other debt-creating flows in 2014	7	8	8	7	7	7	7	5

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.