INTERNATIONAL MONETARY FUND

ZIMBABWE

STAFF REPORT FOR THE 2017 ARTICLE IV CONSULTATION – DEBT SUSTAINABILITY ANALYSIS

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Approved by
Anne-Marie Gulde-Wolf, Zeine Zeidane (IMF) and Paloma Anós Casero (IDA)

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

Zimbabwe is in debt distress, and its total public and external debt is unsustainable. With longstanding external arrears, foreign financing has been scarce, and large fiscal deficits are lately being financed through domestic borrowing. Domestic debt, which was negligible five years ago, has increased sharply to more than 25 percent of GDP, and is on an unsustainable trajectory. External debt indicators, notably those related to solvency, continue to breach their thresholds under the baseline scenario, while those measuring liquidity (debt service) are deteriorating over time. Attaining debt sustainability would require sharp fiscal consolidation and external support from the international community.[1] The authorities broadly concurred with the staff's assessment, and were confident that the envisaged reengagement with the international community will help restore debt sustainability.

[1] This DSA was prepared jointly by IMF and World Bank staff under the joint Fund-Bank Low-Income Country Debt Sustainability Framework (LIC DSF, 2013). Zimbabwe's Country Policy and Institutional Assessment (CPIA) Rating was 2.9 in 2015, and categorized as weak policy performance. Zimbabwe's fiscal year runs from January 1 to December 31. The result of this DSA were discussed with the authorities and they are in broad agreement with its conclusions.

BACKGROUND AND RECENT DEVELOPMENTS

1. **The economic environment has experienced a major deterioration, further eroding Zimbabwe's already precarious fiscal status.** Real GDP growth in 2016 decreased to 0.7 percent from 1.4 percent in 2015. A severe drought resulted in the lowest maize harvest in 25 years, and foreign exchange inflows declined as key export prices remained depressed and country risk increased. Reforms aiming at fostering fiscal discipline were constrained by political difficulties. As a result, annual fiscal expenditures increased by 5 percent of GDP in 2016, while revenues fell by 2 percent of GDP. Public debt reached almost 70 percent of GDP.

2. **The process of reengagement with external creditors has been slower than anticipated.** Arrears to the IMF-administered Poverty Reduction and Growth Trust were cleared in October 2016, allowing Zimbabwe's PRGT eligibility to be restored and the declaration of noncooperation to be lifted. However, discussions are still ongoing over financing and modalities to clear the arrears to the World Bank and the African Development Bank. As reengagement with international institutions is delayed, and reforms on governance, and human and property rights have not proceeded at the expected pace, debt treatment from bilateral creditors also remains constrained. External obligations are being serviced selectively, and with a view to unlocking additional financing.

3. **With limited access to external resources, large fiscal deficits are being financed domestically through central bank advances and T-bill issuance.** Public domestic debt almost doubled to 25 percent of GDP in 2016. The expansionary fiscal stance led to the government's absorption of domestic capital, exacerbating the dollar scarcity in the economy, and crowding out the private sector. A series of administrative measures on capital and current account transactions was introduced in May 2016.

Figure 1. PPG Debt Development
(U.S. dollars millions)

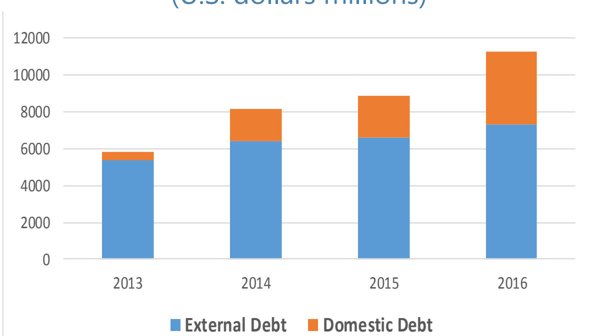
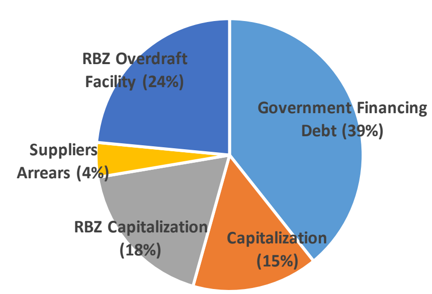


Figure 2. Public Domestic Debt Composition



MACROECONOMIC ASSUMPTIONS

4. The macroeconomic assumptions underlying the previous DSA have been revised to reflect recent developments. The long-term growth outlook has been moderated, reflecting the current challenges, including the crowding out of private sector borrowing, the continued external payment arrears and delays in addressing them, and the perceived difficulties in the investment climate. The fiscal deficit is anticipated to narrow only slowly as the wage and hiring freezes from this year take effect. Equally, the external current account deficit is expected to continue to decline, as import compression persists, and sources of financing remain limited. The private sector is likely to find it hard to attract lines of credit in a context of dollar scarcity. Similarly, a continuation of the country's arrears situation would result in the maintenance of the *status quo* regarding sources of official financing from traditional creditors.

5. Key assumptions: The macroeconomic assumptions that underpin the baseline scenario are as follows:

- **Annual real GDP growth** is projected to be just under 3 percent in 2017, mainly reflecting the rebound in agriculture from a low base last year and some recovery in manufacturing. Over the medium term, however, prospects are weak, with near zero growth (a range of 0.3 to -0.3 percent) through 2022, reflecting subdued private sector activity, a difficult business environment, declining policy credibility, and a likely limited impact of government-led efforts to increase production. Thereafter, the DSA assumes an increase of growth to around 2 percent a year, far lower than its potential under the right policies.

- **Average inflation** is projected to pick up in the short term to 8–9 percent, reflecting sustained monetary financing of the deficit, which in combination with the foreign exchange controls in place would drive up prices of domestically produced and imported goods, before stabilizing at 2 percent over the longer term.

- **Exports** in nominal terms are anticipated to grow at about 3 percent per year over the projection period, reflecting an anticipated production increase in the mining sector, particularly in chrome ore and diamonds.

- **Import** growth is envisaged to be constrained in the near term by the foreign exchange controls, and subsequently reach 3 percent annually in the medium and longer terms.

- **The non-interest current account deficit** is expected to stabilize at around 1 percent of GDP, reflecting limited inward investment and low private sector's capacity to borrow.

- **Government revenues** are projected to reach 21 percent of GDP by 2018, while primary expenditure would fall gradually from 29.8 percent in 2016 to 21 percent by the end of the projection period.

- **A forced fiscal adjustment** is assumed over the medium term. Amid the financing constraint, a continued policy of salary freezes could generate an adjustment in the wage-to-GDP ratio over the medium term. However, the baseline scenario assumes that such an adjustment would be insufficient to restore macroeconomic stability, and thus the persisting deficits, while lower than the current one, would continue to hamper private investment and growth.

- **New external borrowing** is assumed to average just 1½ percent of GDP, with a grant element close to zero, in line with recent trends. Staff assumes that Zimbabwe will continue to receive limited financing from non-traditional creditors only as repayments unlock new credit, especially in the near term. Private sector external borrowing would remain subdued.

- **External arrears** are expected to remain in place, and accumulation of arrears is assumed to be only related to debt currently not being serviced.

- **International reserves** are projected to remain around the current low level, reflecting the difficulties in building buffers under current policies.

DEBT SUSTAINABILITY INDICATORS

A. External DSA

6. Zimbabwe's Public and Publicly Guaranteed (PPG) external debt burden indicators remain elevated, and the external debt overhang is large.[2] PPG external debt is estimated at 44.8 percent of GDP as of end-2016, of which 70 percent stands in arrears (Table 1). Private external debt is estimated at 13 percent of GDP.[3]

7. Zimbabwe remains in external debt distress. As of end-2016, with a present value (PV) of PPG external debt-to-GDP ratio of 41.8 percent, a PV of debt-to-revenue ratio of 192.3 percent, and a PV of debt-to-export ratio of 168.6 percent, Zimbabwe's PPG external debt breached most indicative thresholds. Moreover, per the assumptions in the baseline scenario, external debt in relation to exports remains above the threshold throughout the 20-year projection period by a substantial margin of around 70 percent. (Table 4 and Figure 3). The results suggest that absent much stronger growth or more concessional financing and debt relief, Zimbabwe has little chance of emerging from its debt problems even in the long term. These outturns, together with the existence of substantial arrears and ongoing negotiations on debt restructuring, support the determination that Zimbabwe is in external debt distress.

[2] The external DSA is based on official statistics on the debt contracted and/or guaranteed by the central government, and on estimates for the private sector.

[3] The data on private sector external debt is based on available data and staff estimates; therefore, it might not cover the entirety of the debt stock.

Table 1. Zimbabwe: External Debt Stock as of end-2016
(U.S. dollars million)

	Principal Outstanding	Arrears	Total	Percent of GDP (%)
Public and Publicly Guaranteed	**2,217**	**5,014**	**7,231**	**44.8**
Bilateral Creditors	1,198	2,985	4,183	25.9
Paris Club	223	2,818	3,041	18.9
Non Paris Club	975	167	1,142	7.1
Mutilteral Creditors	448	2,070	2,518	15.6
World Bank	253	1,149	1,402	8.7
AfDB	37	605	642	4.0
EIB	22	228	250	1.6
Others	137	65	202	1.2
RBZ External Debt	530		530	3.3
Private Debtors			**2,117**	**13.1**
Total External Debt			**9,348**	**58.0**

Source: Zimbabwe authorities and IMF staff estimates

Table 2. Zimbabwe: External Debt, 2013–2016
(U.S. dollars million)

	2013	2014	2015	2016
Public and Publicly Guaranteed External Debt	5,389	6,407	6,613	7,231
Medium and Long Term	5,389	6,407	6,613	7,231
Private Sector External Debt	1,862	2,465	2,115	2,117
Medium and Long Term	547	1,404	1,602	1,662
Short Term	1,315	1,061	513	455
Total External Debt Outstanding	**7,251**	**8,872**	**8,728**	**9,348**
Percent of GDP	**47.6**	**56.0**	**54.3**	**58.0**

8. **Declining foreign exchange inflows are a major cause of the weakening external position.** The increase in the stock of external debt has been modest not because of a lower financing need, but due to Zimbabwe's limited access to financing. Nonetheless, weak export competitiveness and the withdrawal of foreign investment have hampered the country's debt service capability. While Zimbabwe may receive some financing from non-traditional creditors, the external financing gaps are projected to widen.

B. Public DSA

9. **Driven by government's rising spending, the stock of domestic debt has increased rapidly.** Central government domestic debt has reached almost 25 percent of GDP, driven mainly by the issuance of T-bills and the use of an overdraft from the Reserve Bank of Zimbabwe (RBZ).

Recapitalization of the RBZ and other public enterprises has also led to an increase in domestic debt, as has the issuance of government paper to commercial banks through the Asset Management Company, ZAMCO, in an effort to reduce the stock of non-performing loans held by the banking system.

Table 3. Zimbabwe: Domestic Debt of Central Government as of end-2016
(U.S. dollars million)

	2013	2014	2015	2016
Government Financing Debt 1/	226	363	748	1,569
Capitalization 2/	-	240	286	611
RBZ Capitalization and Debt 3/	-	801	801	720
Suppliers Arrears	216	233	168	164
RBZ Overdraft Facility	-	126	279	942
Total Domestic Debt	442	1,764	2,282	4,006

Source: Zimbabwean authorities and IMF staff estimates

1/ Includes T-bills issued for budgetary financing, government debt, and statutory reserves.

2/ Includes T-bills and T-bonds issued to recapitalize institutions such as Agribank, ZAMCO, etc.

3/ Includes paper issued to recapitalize RBZ and debts assumed under the RBZ (Debt Assumption Act) of 2015.

10. The projected total public debt (external plus domestic) indicates that the fiscal consolidation assumed in the baseline scenario will prove insufficient. The PV of public-sector debt-to-GDP ratio is projected to increase from 67 percent in 2016 to 80 percent in 2027, a level almost twice as high as the benchmark. The PV of debt-to-revenue ratio and debt service ratios show a similar increasing profile (Table 6 and Figure 4).

STRESS TESTS AND ALTERNATIVE SCENARIOS

11. Stress tests highlight the possibility of an even more challenging debt outlook. Figure 3 presents the results of various stress tests to the baseline scenario, suggesting a worsening of all debt burden indicators. Any scenario based on historical key variables leads to explosive debt levels and unsustainability. Stress tests featuring the use of historic averages of key variables suggest that the PV of external debt-to-GDP ratio could reach 125 percent and the PV of external debt-to-exports ratio could be 654 percent by 2027 (Table 5a). These results suggest the economy is particularly vulnerable to lower-than-anticipated real GDP growth and export growth.

12. An alternative scenario demonstrates the adverse effects of adding to the debt potential liabilities of the broader public sector. While sufficient data is not available to present a full DSA based on the broader public sector, the liabilities of both the local authorities and the

State-Owned Enterprises (SOEs) are high and growing.[4] The debt stock of local governments reached an estimated $555 million in 2015 (3.4 percent of GDP)[5], while the debt of nonfinancial public corporations stood at around $440 million as of end-2016 (2.7 percent of GDP). Contingent liabilities stemming from transport projects are estimated at just under $1 billion (6.2 percent of GDP). For illustrative purposes, if these obligations were to be added to the central government's stock of debt in 2017, the PV of public debt-to-GDP ratio would increase by 12 percentage points to 82 percent. Assuming no adjustment, the gap with the baseline scenario would continue to widen to 22 percent over the projection period, as additional debt service would have to be paid with new borrowing (were the government able to contract such new loans) (Table 7).

CONCLUSION

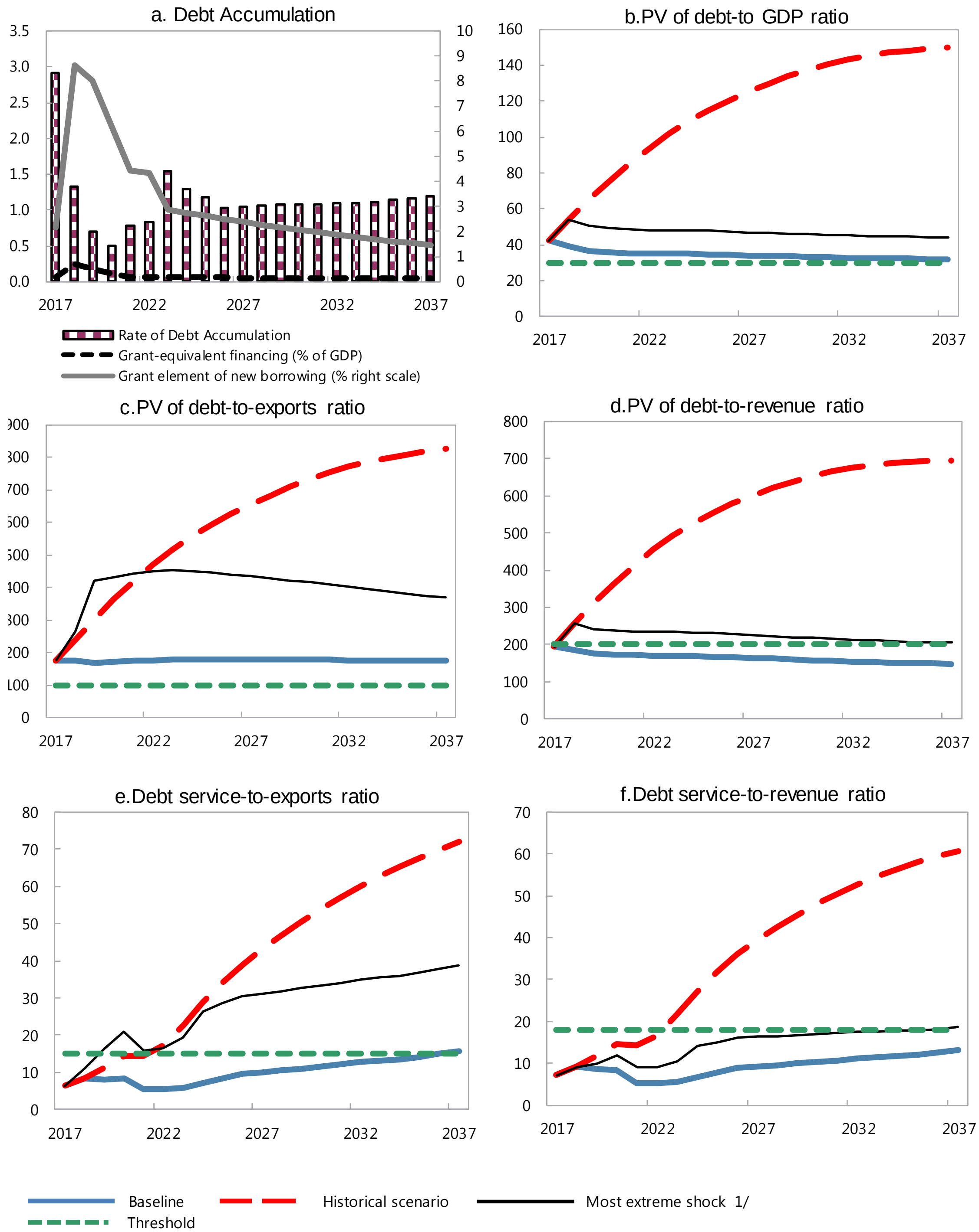
13. Zimbabwe is in debt distress. In addition to the already excessive external debt burden that led the country to incur arrears, Zimbabwe has now accumulated significant domestic debt, to the point where domestic financing of the deficit has begun to undermine the competitiveness of the private sector. Furthermore, the debt indicators are not projected to improve much on current policies, and are estimated to worsen under the various shock scenarios.

14. The adoption of an ambitious set of policies is essential if Zimbabwe is to emerge from its current difficulties. Sharp fiscal adjustment and bold structural reforms to restore growth and attract investment are necessary to this end. Furthermore, external support and debt relief from the international community must be part of the strategy. Supported by a robust reform program, the envisaged reengagement process could bear fruit and restore growth and sustainability.

[4] See Government of Zimbabwe and World Bank (2017), Public Expenditure Review, forthcoming, for a fuller discussion.

[5] ibid.

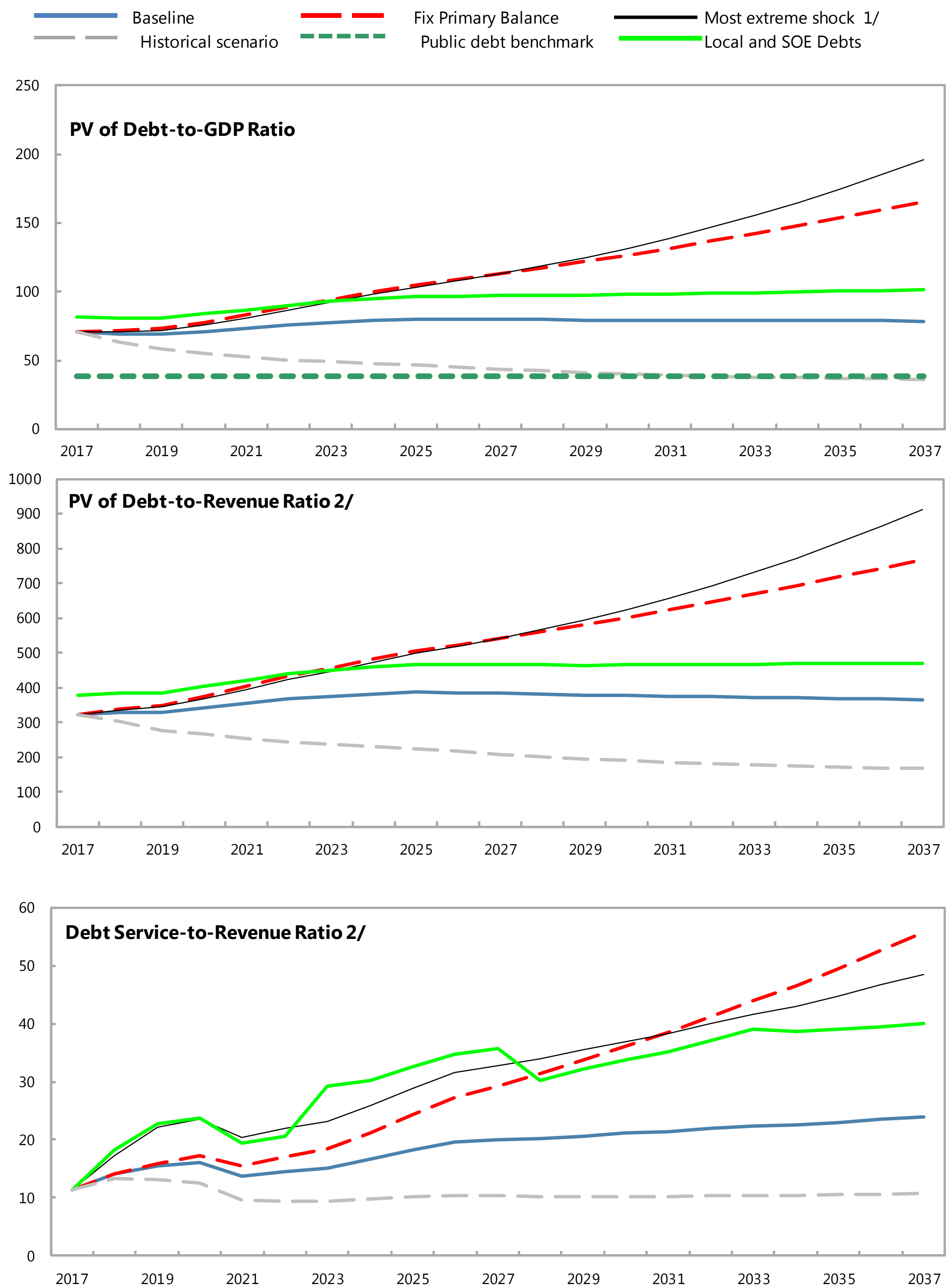
Figure 3. Indicators of Public and Publicly Guaranteed External Debt Under Alternative Scenarios, 2017–2037/[1]



Sources: Country authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio on or before 2027. In figure b. it corresponds to a One-time depreciation shock; in c. to a Exports shock; in d. to a One-time depreciation shock; in e. to a Exports shock and in figure f. to a Exports shock.

Figure 4. Indicators of Public Debt Under Alternative Scenarios, 2017–2037



Sources: Country authorities, and staff estimates and projections.
1/ The most extreme stress test is the tes that yields the highest ratio on or before 2027.
2/ Revenues are defined inclusive of grants.

Table 4. Zimbabwe: External Debt Sustainability Framework, Baseline Scenario, 2014–2037

(In percent of GDP, unless otherwise indicated)

	Actual			Historical [6/]	Standard [6/]	Projections									
				Average	Deviation							2017-2022			2023-2037
	2014	2015	2016			2017	2018	2019	2020	2021	2022	Average	2027	2037	Average
External debt (nominal) 1/	**56.0**	**54.3**	**58.0**			**55.3**	**51.2**	**47.9**	**46.6**	**45.7**	**45.2**	**48.7**	**43.2**	**43.0**	
of which: public and publicly guaranteed (PPG)	40.5	41.1	44.8			44.7	41.6	38.9	37.8	37.2	36.9		35.8	34.6	
Change in external debt	8.4	-1.7	3.7			-2.7	-4.1	-3.3	-1.3	-0.9	-0.5		-0.4	0.3	
Identified net debt-creating flows	10.3	6.0	1.8			1.3	-0.3	-0.3	0.6	1.4	1.8		0.9	1.6	
Non-interest current account deficit	**13.6**	**8.0**	**2.8**	**15.4**	**11.7**	**2.4**	**-0.4**	**-0.9**	**-0.3**	**0.4**	**0.6**		**0.8**	**0.9**	0.8
Deficit in balance of goods and services	23.4	18.6	12.3			11.1	7.7	6.6	6.6	6.5	6.4		6.1	5.7	
Exports	24.3	24.3	24.8			24.1	22.6	21.7	20.8	20.2	19.9		19.1	18.2	
Imports	47.7	42.9	37.1			35.1	30.3	28.4	27.4	26.8	26.3		25.3	23.9	
Net current transfers (negative = inflow)	-12.6	-13.4	-12.1	-14.1	1.5	-11.2	-10.2	-9.3	-8.8	-8.3	-8.0		-6.8	-5.2	-6.4
of which: official	-4.6	-4.9	-4.7			-4.2	-3.8	-3.5	-3.4	-3.4	-3.4		-3.2	-2.9	
Other current account flows (negative = net inflow)	2.8	2.9	2.6			2.5	2.1	1.8	1.9	2.2	2.2		1.5	0.4	
Net FDI (negative = inflow)	**-3.0**	**-2.5**	**-2.1**	**-2.3**	**0.7**	**-0.8**	**-0.7**	**-0.5**	**-0.5**	**-0.6**	**-0.6**		**-0.6**	**-0.5**	-0.5
Endogenous debt dynamics 2/	**-0.3**	**0.4**	**1.1**			**-0.3**	**0.8**	**1.1**	**1.4**	**1.6**	**1.7**		**0.6**	**1.1**	
Contribution from nominal interest rate	1.5	1.3	1.3			1.2	1.2	1.2	1.2	1.3	1.3		1.5	2.0	
Contribution from real GDP growth	-1.3	-0.8	-0.4			-1.5	-0.4	-0.1	0.1	0.3	0.4		-0.8	-0.8	
Contribution from price and exchange rate changes	-0.6	0.0	0.2			...	...	...	...	...	...		...	...	
Residual (3-4) 3/	**-1.9**	**-7.7**	**1.9**			**-4.0**	**-3.8**	**-3.0**	**-1.9**	**-2.3**	**-2.3**		**-1.3**	**-1.2**	
of which: exceptional financing	-1.7	-0.7	1.0			-0.8	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
PV of external debt 4/	...	...	54.9			52.7	48.9	45.8	44.6	43.8	43.4		41.6	40.5	
In percent of exports	...	...	221.6			219.2	215.9	210.5	214.7	216.5	218.3		217.2	222.8	
PV of PPG external debt	**...**	**...**	**41.8**			**42.1**	**39.3**	**36.7**	**35.8**	**35.3**	**35.1**		**34.1**	**32.0**	
In percent of exports	**...**	**...**	**168.6**			**175.1**	**173.7**	**168.9**	**172.2**	**174.2**	**176.3**		**178.1**	**176.4**	
In percent of government revenues	**...**	**...**	**192.3**			**194.0**	**186.7**	**175.8**	**173.2**	**171.2**	**170.7**		**163.5**	**148.7**	
Debt service-to-exports ratio (in percent)	**10.1**	**9.4**	**11.3**			**11.5**	**13.0**	**12.6**	**12.9**	**9.8**	**10.0**		**14.0**	**20.0**	
PPG debt service-to-exports ratio (in percent)	**3.7**	**3.7**	**5.4**			**6.4**	**8.4**	**8.2**	**8.4**	**5.4**	**5.5**		**10.0**	**15.6**	
PPG debt service-to-revenue ratio (in percent)	**3.7**	**3.7**	**6.1**			**7.1**	**9.1**	**8.5**	**8.4**	**5.3**	**5.4**		**9.2**	**13.2**	
Total gross financing need (Millions of U.S. dollars)	3390.6	2317.7	1076.3			1203.9	630.5	541.8	689.2	692.9	738.7		1082.7	1932.3	
Non-interest current account deficit that stabilizes debt ratio	5.2	9.7	-0.9			5.1	3.7	2.4	1.0	1.3	1.2		1.3	0.5	
Key macroeconomic assumptions															
Real GDP growth (in percent)	2.8	1.4	0.7	7.9	6.9	2.8	0.8	0.3	-0.3	-0.7	-0.9	0.3	2.0	2.0	2.0
GDP deflator in US dollar terms (change in percent)	1.2	0.1	-0.3	1.9	1.7	3.2	9.6	8.7	4.3	4.4	4.0	5.7	2.0	2.0	2.0
Effective interest rate (percent) 5/	3.3	2.3	2.4	2.5	0.5	2.2	2.4	2.6	2.7	2.8	2.9	2.6	3.5	4.8	3.9
Growth of exports of G&S (US dollar terms, in percent)	-6.3	1.3	2.4	16.1	37.4	3.0	4.0	4.7	-0.6	1.0	1.1	2.2	3.4	3.5	3.4
Growth of imports of G&S (US dollar terms, in percent)	-5.6	-8.7	-13.2	0.9	20.2	0.4	-4.7	2.1	0.4	1.4	1.2	0.1	3.3	3.5	3.4
Grant element of new public sector borrowing (in percent)	...	...	...	...	...	2.2	8.6	8.0	6.2	4.4	4.3	5.6	2.4	1.5	2.1
Government revenues (excluding grants, in percent of GDP)	23.8	24.3	21.7			21.7	21.1	20.9	20.7	20.6	20.5		20.9	21.5	21.1
Aid flows (in Millions of US dollars) 7/	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
of which: Grants	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
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/	...	...	...			0.1	0.2	0.2	0.1	0.1	0.1		0.1	0.0	0.1
Grant-equivalent financing (in percent of external financing) 8/	...	...	...			2.2	8.6	8.0	6.2	4.4	4.3		2.4	1.5	2.1
Memorandum items:															
Nominal GDP (Millions of US dollars)	15834	16072	16124			17105	18904	20601	21434	22218	22877		27930	41425	
Nominal dollar GDP growth	4.0	1.5	0.3			6.1	10.5	9.0	4.0	3.7	3.0	6.0	4.0	4.0	4.0
PV of PPG external debt (in Millions of US dollars)			6735.6			7206.0	7431.7	7563.0	7665.1	7832.7	8018.9		9521.9	13265.8	
(PVt-PVt-1)/GDPt-1 (in percent)						2.9	1.3	0.7	0.5	0.8	0.8	1.2	1.0	1.2	1.1
Gross workers' remittances (Millions of US dollars)	1166.0	1277.2	1102.8			1105.0	1107.2	1096.1	1041.3	989.3	959.6		881.9	827.2	
PV of PPG external debt (in percent of GDP + remittances)	...	...	39.1			39.6	37.1	34.9	34.1	33.8	33.6		33.0	31.4	
PV of PPG external debt (in percent of exports + remittances)	...	...	132.1			138.1	138.0	135.7	139.6	142.8	145.6		152.9	158.9	
Debt service of PPG external debt (in percent of exports + remittances)	...	...	4.2			5.0	6.7	6.5	6.8	4.4	4.6		8.6	14.1	

Sources: Country authorities and IMF 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 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 5a. Zimbabwe: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2017–2037

(In percent)

	Projections							
	2017	2018	2019	2020	2021	2022	**2027**	2037
PV of debt-to GDP ratio								
Baseline	42	39	37	36	35	35	**34**	32
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2017-2037 1/	42	54	65	75	85	93	**125**	150
A2. New public sector loans on less favorable terms in 2017-2037 2/	42	40	38	37	37	37	**38**	43
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2018-2019	42	39	36	35	35	35	**34**	32
B2. Export value growth at historical average minus one standard deviation in 2018-2019 3/	42	45	52	51	51	51	**47**	38
B3. US dollar GDP deflator at historical average minus one standard deviation in 2018-2019	42	43	43	42	42	42	**40**	38
B4. Net non-debt creating flows at historical average minus one standard deviation in 2018-2019 4/	42	36	29	28	27	27	**27**	29
B5. Combination of B1-B4 using one-half standard deviation shocks	42	39	36	34	34	34	**33**	33
B6. One-time 30 percent nominal depreciation relative to the baseline in 2018 5/	42	54	51	49	49	48	**47**	44
PV of debt-to-exports ratio								
Baseline	175	174	169	172	174	176	**178**	176
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2017-2037 1/	175	239	300	363	418	470	**654**	826
A2. New public sector loans on less favorable terms in 2017-2037 2/	175	176	173	178	182	186	**200**	236
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2018-2019	175	174	169	172	174	176	**178**	176
B2. Export value growth at historical average minus one standard deviation in 2018-2019 3/	175	262	419	432	440	449	**434**	368
B3. US dollar GDP deflator at historical average minus one standard deviation in 2018-2019	175	174	169	172	174	176	**178**	176
B4. Net non-debt creating flows at historical average minus one standard deviation in 2018-2019 4/	175	159	134	135	136	136	**144**	160
B5. Combination of B1-B4 using one-half standard deviation shocks	175	175	174	176	178	179	**185**	193
B6. One-time 30 percent nominal depreciation relative to the baseline in 2018 5/	175	174	169	172	174	176	**178**	176
PV of debt-to-revenue ratio								
Baseline	194	187	176	173	171	171	**163**	149
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2017-2037 1/	194	257	313	365	411	455	**601**	696
A2. New public sector loans on less favorable terms in 2017-2037 2/	194	190	180	179	179	180	**183**	199
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2018-2019	194	186	174	172	170	169	**162**	147
B2. Export value growth at historical average minus one standard deviation in 2018-2019 3/	194	213	248	247	246	247	**226**	176
B3. US dollar GDP deflator at historical average minus one standard deviation in 2018-2019	194	204	208	205	203	202	**194**	176
B4. Net non-debt creating flows at historical average minus one standard deviation in 2018-2019 4/	194	171	139	136	133	132	**132**	135
B5. Combination of B1-B4 using one-half standard deviation shocks	194	184	170	167	164	163	**160**	153
B6. One-time 30 percent nominal depreciation relative to the baseline in 2018 5/	194	257	242	238	236	235	**225**	205

Table 5b. Zimbabwe: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2017–2037 (concluded)

(In percent)

Baseline	6	8	8	8	5	6	**10**	16
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2017-2037 1/	6	8	11	14	14	17	**43**	72
A2. New public sector loans on less favorable terms in 2017-2037 2/	6	8	5	5	5	5	**10**	19
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2018-2019	6	8	8	8	5	6	**10**	16
B2. Export value growth at historical average minus one standard deviation in 2018-2019 3/	6	11	16	21	16	17	**31**	39
B3. US dollar GDP deflator at historical average minus one standard deviation in 2018-2019	6	8	8	8	5	6	**10**	16
B4. Net non-debt creating flows at historical average minus one standard deviation in 2018-2019 4/	6	8	7	7	3	4	**6**	12
B5. Combination of B1-B4 using one-half standard deviation shocks	6	9	9	9	5	5	**9**	16
B6. One-time 30 percent nominal depreciation relative to the baseline in 2018 5/	6	8	8	8	5	6	**10**	16
Debt service-to-revenue ratio								
Baseline	7	9	8	8	5	5	**9**	13
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2017-2037 1/	7	9	12	14	14	17	**39**	61
A2. New public sector loans on less favorable terms in 2017-2037 2/	7	9	5	5	5	5	**9**	16
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2018-2019	7	9	8	8	5	5	**9**	13
B2. Export value growth at historical average minus one standard deviation in 2018-2019 3/	7	9	10	12	9	9	**16**	19
B3. US dollar GDP deflator at historical average minus one standard deviation in 2018-2019	7	10	10	10	6	6	**11**	16
B4. Net non-debt creating flows at historical average minus one standard deviation in 2018-2019 4/	7	9	8	7	3	3	**6**	10
B5. Combination of B1-B4 using one-half standard deviation shocks	7	9	9	8	5	5	**8**	13
B6. One-time 30 percent nominal depreciation relative to the baseline in 2018 5/	7	12	12	12	7	7	**13**	18
Memorandum item:								
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	-2	-2	-2	-2	-2	-2	**-2**	-2

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 6. Zimbabwe: Public Sector Debt Sustainability Framework, Baseline Scenario, 2014–2037

(In percent of GDP, unless otherwise indicated)

	Actual					Estimate	Projections								
	2014	2015	2016	Average 5/	Standard Deviation 5/	2017	2018	2019	2020	2021	2022	2017-22 Average	2027	2037	2023-37 Average
Public sector debt 1/	51.6	55.3	69.7			72.9	71.8	70.9	72.7	74.9	77.4		81.6	81.1	
of which: foreign-currency denominated	51.6	55.3	69.7			72.9	71.8	70.9	72.7	74.9	77.4		81.6	81.1	
Change in public sector debt	13.1	3.7	14.4			3.2	-1.1	-0.9	1.8	2.2	2.6		-0.2	-0.1	
Identified debt-creating flows	-0.6	0.6	8.6			1.9	-2.6	-1.8	1.3	1.5	1.9		0.6	-0.1	
Primary deficit	0.6	0.8	8.1	1.4	2.8	4.7	2.9	2.2	2.1	1.9	1.6	2.6	0.7	-0.5	0.4
Revenue and grants	23.8	24.3	21.7			21.7	21.1	20.9	20.7	20.6	20.5		20.9	21.5	
of which: grants	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Primary (noninterest) expenditure	24.4	25.1	29.8			26.4	24.0	23.1	22.7	22.4	22.2		21.5	21.1	
Automatic debt dynamics	-1.2	-0.2	0.6			-2.8	-5.5	-4.0	-0.7	-0.4	0.2		-0.1	0.4	
Contribution from interest rate/growth differential	-1.2	-0.2	0.6			-2.8	-5.5	-4.0	-0.7	-0.4	0.2		-0.1	0.4	
of which: contribution from average real interest rate	-0.2	0.5	0.9			-0.9	-4.9	-3.8	-0.9	-0.9	-0.5		1.5	2.0	
of which: contribution from real GDP growth	-1.0	-0.7	-0.4			-1.9	-0.6	-0.2	0.2	0.5	0.7		-1.6	-1.6	
Contribution from real exchange rate depreciation	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		...	...	
Other identified debt-creating flows	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Privatization receipts (negative)	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Recognition of implicit or contingent liabilities	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Debt relief (HIPC and other)	0.0	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	13.6	3.2	5.7			1.3	1.5	0.9	0.5	0.7	0.7		-0.8	0.0	
Other Sustainability Indicators															
PV of public sector debt	...	...	66.6			70.4	69.5	68.7	70.7	73.0	75.6		79.9	78.5	
of which: foreign-currency denominated	...	...	66.6			70.4	69.5	68.7	70.7	73.0	75.6		79.9	78.5	
of which: external	...	...	41.8			42.1	39.3	36.7	35.8	35.3	35.1		34.1	32.0	
PV of contingent liabilities (not included in public sector debt)	...	...	...			...	...	...	...	...	...		...	...	
Gross financing need 2/	3.4	4.2	13.7			13.2	12.5	12.6	13.4	13.4	14.1		16.3	16.4	
PV of public sector debt-to-revenue and grants ratio (in percent)	...	...	306.7			324.1	329.9	329.1	342.1	354.3	368.4		383.2	364.5	
PV of public sector debt-to-revenue ratio (in percent)	...	...	306.7			324.1	329.9	329.1	342.1	354.3	368.4		383.2	364.5	
of which: external 3/	...	...	192.3			194.0	186.7	175.8	173.2	171.2	170.7		163.5	148.7	
Debt service-to-revenue and grants ratio (in percent) 4/	4.4	5.6	9.2			11.4	14.2	15.4	16.1	13.6	14.4		19.9	24.0	
Debt service-to-revenue ratio (in percent) 4/	4.4	5.6	9.2			11.4	14.2	15.4	16.1	13.6	14.4		19.9	24.0	
Primary deficit that stabilizes the debt-to-GDP ratio	-12.4	-2.9	-6.3			1.4	4.0	3.1	0.2	-0.3	-0.9		0.9	-0.4	
Key macroeconomic and fiscal assumptions															
Real GDP growth (in percent)	2.8	1.4	0.7	7.9	6.9	2.8	0.8	0.3	-0.3	-0.7	-0.9	0.3	2.0	2.0	2.0
Average nominal interest rate on forex debt (in percent)	0.7	1.1	1.4	0.7	0.4	1.8	2.2	2.9	3.0	3.1	3.3	2.7	3.9	4.5	4.1
Real exchange rate depreciation (in percent, + indicates depreciation)	0.0	0.0	0.0	0.0	0.0	0.0	...	...	...	...	...	...	...	...	...
Inflation rate (GDP deflator, in percent)	1.2	0.1	-0.3	1.9	1.7	3.2	9.6	8.7	4.3	4.4	4.0	5.7	2.0	2.0	2.0
Growth of real primary spending (deflated by GDP deflator, in percent)	-4.5	4.0	19.6	3.0	7.7	-8.9	-8.5	-3.2	-2.0	-1.9	-2.1	-4.4	1.7	1.8	1.7
Grant element of new external borrowing (in percent)	...	...	...	...	...	2.2	8.6	8.0	6.2	4.4	4.3	5.6	2.4	1.5	...

Sources: Country authorities and IMF staff estimates and projections

1/ [Indicate coverage of public sector, e.g., general government or nonfinancial public sector. Also, whether net or 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 7. Zimbabwe: Sensitivity Analysis for Key Indicators of Public Debt 2017–2037

	Projections							
	2017	2018	2019	2020	2021	2022	2027	2037
PV of Debt-to-GDP Ratio								
Baseline	70	69	69	71	73	76	80	79
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	70	64	58	55	52	50	44	36
A2. Primary balance is unchanged from 2017	70	71	73	78	83	89	113	165
A3. Permanently lower GDP growth 1/	70	71	72	76	81	87	113	196
A4. Including Local and SOE Debts	82	81	81	84	87	90	97	101
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2018-2019	70	69	68	70	72	74	78	74
B2. Primary balance is at historical average minus one standard deviations in 2018-2019	70	71	72	74	76	79	84	83
B3. Combination of B1-B2 using one half standard deviation shocks	70	67	64	65	65	66	62	43
B4. One-time 30 percent real depreciation in 2018	70	98	96	98	100	103	111	122
B5. 10 percent of GDP increase in other debt-creating flows in 2018	70	80	79	81	83	86	91	91
PV of Debt-to-Revenue Ratio 2/								
Baseline	324	330	329	342	354	368	383	364
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	324	302	277	265	253	243	209	168
A2. Primary balance is unchanged from 2017	324	339	349	376	403	433	542	768
A3. Permanently lower GDP growth 1/	324	336	344	368	393	423	543	911
A4. Including Local and SOE Debts	377	384	386	405	421	439	465	470
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2018-2019	324	329	325	337	349	362	372	344
B2. Primary balance is at historical average minus one standard deviations in 2018-2019	324	336	345	358	371	385	401	383
B3. Combination of B1-B2 using one half standard deviation shocks	324	318	309	313	317	322	297	197
B4. One-time 30 percent real depreciation in 2018	324	464	458	472	486	503	530	566
B5. 10 percent of GDP increase in other debt-creating flows in 2018	324	379	376	391	404	419	436	422
Debt Service-to-Revenue Ratio 2/								
Baseline	11	14	15	16	14	14	20	24
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	11	13	13	12	10	9	10	11
A2. Primary balance is unchanged from 2017	11	14	16	17	15	17	29	56
A3. Permanently lower GDP growth 1/	11	14	16	17	15	16	28	62
A4. Including Local and SOE Debts	11	18	23	24	19	21	36	40
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2018-2019	11	14	15	16	13	14	19	22
B2. Primary balance is at historical average minus one standard deviations in 2018-2019	11	14	16	17	15	15	22	26
B3. Combination of B1-B2 using one half standard deviation shocks	11	14	14	15	12	13	15	11
B4. One-time 30 percent real depreciation in 2018	11	17	22	24	20	22	33	48
B5. 10 percent of GDP increase in other debt-creating flows in 2018	11	14	18	19	16	17	25	30

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.