INTERNATIONAL MONETARY FUND

ZIMBABWE

STAFF REPORT FOR THE 2012 ARTICLE IV CONSULTATION—DEBT SUSTAINABILITY ANALYSIS[1]

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Based on the external LIC DSA, Zimbabwe is in debt distress. The public DSA suggests that Zimbabwe's overall public debt remains unsustainable in light of current fiscal policies and the current size and evolution of the debt stock. The authorities broadly agreed with these conclusions. Under a country-specific alternative upside scenario, debt burden indicators would decline faster but the country's external debt ratios would still remain above indicative thresholds.

[1] This exercise was guided by the Staff Guidance Note on the Application of the Joint Fund Bank Debt Sustainability Framework for Low Income Countries (SM/10/16),

BACKGROUND

1. **Large advances are being made in the reliability of Zimbabwe's debt data.** Commendably, the authorities' recently established Debt Management Office (ZADMO) is expecting to conclude by September its debt stock taking exercise by completing the current reconciliation of their debt stock and debt service data with individual creditors, with the assistance of UNCTAD. Given some delays during the process and in receiving creditors' responses, preliminary data for end-2011 debt stocks are expected to become available upon completion of the stock taking exercise. This debt sustainability analysis is therefore still based on mostly estimated figures. A comprehensive data base is expected to be completed by end 2012.

2. **Zimbabwe is in debt distress, with arrears to most of its creditors continuing to accumulate.** At end-2011, total external debt is estimated at $10.7 billion or 113½ percent of GDP (Text Table 1). While total external debt increased by $1.7 billion compared to end-2010, the debt-to-GDP ratio declined by 8 percentage points on account of higher GDP growth. Total public and publicly-guaranteed (PPG) external debt at end-2011 is estimated at 84 percent of GDP, of which 65 percent of GDP were in arrears. Most PPG external debt is medium- to long-term and owed to official creditors. Zimbabwe's overdue financial obligations to IFIs include the World Bank ($911 million), African Development Bank ($587 million), EIB ($244 million) and the IMF ($138 million) (Text Table 2).

Table 1. Zimbabwe: Total External Debt Stock by Creditor, 2010-11 1/

	2010		2011	
	in millions of USD	in percent of GDP	in millions of USD	in percent of GDP
Total	**9,018**	**121.3**	**10,726**	**113.4**
MLT Debt	**6,927**	**93.2**	**8,207**	**86.8**
Bilateral Creditors	3,107	41.8	3,311	35.0
Paris Club	2,680	36.1	2,758	29.2
Non-Paris Club	427	5.7	553	5.8
Multilateral institutions	2,687	36.1	2,828	29.9
IMF	133	1.8	138	1.5
AfDB	582	7.8	645	6.8
WB	1,279	17.2	1,336	14.1
EIB	305	4.1	305	3.2
Others	388	5.2	404	4.3
Private Creditors	1,133	15.2	2,068	21.9
Suppliers credits	**313**	**4.2**	**273**	**2.9**
Short-Term Debt	**1,673**	**22.5**	**1,921**	**20.3**
Unidentified financing gap (public sector)	**105**	**1.4**	**325**	**3.4**

Sources: WB, AfDB, Zimbabwean authorities, and staff estimates.
1/ For the multilateral institutions, short-term debt, and suppliers credits, estimates reflect compound factor; late interest is included under interest arrears.

Text Table 2. Zimbabwe: 2011 External Debt Stock by Servicing Status (in million US dollars) 1/

	Remaining Principal Due	Total Arrears	Principal Arrears	Total Debt
Total	**4,383**	**6,344**	**3,671**	**10,727**
MLT Debt	2,848	5,360	2,847	**8,208**
Bilateral Creditors	881	2,430	1,341	**3,311**
Paris Club	487	2,271	1,242	**2,758**
Non-Paris Club	394	159	99	**553**
Multilateral institutions	600	2,228	1,371	**2,829**
IMF	0	138	112	**138**
AfDB	58	587	314	**645**
WB	425	911	556	**1,336**
EIB	62	244	149	**306**
Others	55	349	240	**404**
Private Creditors	1,366	702	135	**2,068**
Suppliers credits	0	273	228	**273**
Short-term debt	1,210	711	595	**1,921**
Unidentified financing gap (public sector)	325	0	0	**325**

Sources: WB, AfDB, Zimbabwean authorities, and staff estimates.
1/ For the multilateral institutions, short-term debt, and suppliers credits, estimates reflect compound factor; late interest is included under interest arrears.

3. **While domestic public debt remains a comparatively small component of total debt, it is, nevertheless, another source of vulnerability.** Total domestic government debt is estimated at $507 million at end-2011. The domestic debt incurred by the Reserve Bank of Zimbabwe (RBZ) accounts for the largest part of this ($342 million), but also some other expenditure arrears of $160 million have accumulated.[2] Unidentified domestic contingent liabilities within the parastatal sector or related to RBZ restructuring are another source of potential debt.

[2] These figures are provisional estimates, and could rise if additional liabilities of the central bank and its subsidiaries are identified.

MACROECONOMIC AND FINANCING ASSUMPTIONS

4. **The baseline scenario assumes a slightly more positive macroeconomic outlook compared with the previous DSA.**[3] This is due mostly to relatively robust prices for Zimbabwe's key exports and increased diamond production. However, downside risks from commodity prices and potentially weaker policy implementation remain. During the first half of 2012 fiscal policy implementation experienced significant slippages. Implementation of the fast-tracked indigenization policy has created uncertainties and may further discourage new private capital inflows. Annual real GDP growth is projected to slow under the baseline scenario in light of the weak business environment, including erratic electricity supply, an unfavorable agricultural season, absence of ambitious growth-oriented reforms, and potential political uncertainty surrounding the pending elections. Growth is projected to be lower than in the recent past, averaging 4.7 percent for the period 2012–17 and 3 percent for 2018–32 (Box 1). The external current account deficit is projected to halve from 36¼ percent of GDP in 2011 to about 18½ percent in 2017, as a large 2011 spike in car imports is reversed[4] and exports would continue to be underpinned by still solid commodity price.

5. **The central government is projected to run cash deficits through 2015.** These deficits are expected to be financed by non-concessional loans from Chinese creditors contracted in 2011 and 2012.[5] It is assumed that the central government cash balance would shift from a deficit to a surplus in 2016, as external loan disbursements cease while amortizations remain. Central government revenues are projected to rise to around 33¼ percent in 2012 on the back of improved tax collection. Customs revenues may decline somewhat over the medium term as Zimbabwe simplifies its tariff structure in line with its commitments under regional trade agreements. Other revenues are expected to remain broadly unchanged relative to GDP. Central government cash expenditures are expected to peak at around 36½ percent of GDP in 2012, before leveling off at around

[3] See the Joint IMF/World Bank Debt Sustainability Analysis (IMF Country Report No. 11/135, Supplement). The baseline scenario is referred to as the unchanged policies scenario in the 2012 Article IV report.

[4] Anticipation in 2011 of a policy, subsequently shelved, banning imports of older used cars caused many agents to bring purchases forward. Consequently machinery and transport equipment import value surged by 68 percent in 2011. Import data for the first months of 2012 suggests that this spike is now being largely reversed.

[5] Total non-concessional loans contracted with Chinese creditors amounted to $817 million, to finance (i) agricultural equipment; (ii) medical equipment and supplies; (iii) the rehabilitation of municipal water and sewage treatment for Harare; (iv) the National Defense College; (v) rehabilitation of Victoria Falls Airport; and (iv) working capital for NetOne – a telecommunication company. Newly contracted nonconcessional external borrowing was comprised of a loan from China for renovation of Victoria Falls Airport ($161 million) and a facility from South Africa for parastatal development banks to finance on-lending for agricultural and industrial equipment ($31 million).

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32 percent in the medium term. Current expenditures are expected to gradually level off to 30 percent of GDP after from 30½ percent of GDP in 2012. Employment costs would remain a large share of the government budget at 22½ percent of GDP over the medium term. Meanwhile capital expenditure is expected to be the item to adjust—after the non-concessional loans have fully disbursed—to bring expenditure in line with revenues and achieve slight cash budget surpluses after 2016. Therefore, both nonwage current expenditure and public investment would remain constrained over the medium- to long-term.

Box 1. Key Macroeconomic Assumptions: Baseline Scenario

- Real GDP is projected to grow by about 4.7 percent in the medium term and 3 percent in the long term. After rises in mining production including diamond production in the near term, growth is projected to decelerate in the medium term. Slow progress in addressing structural bottlenecks, including relatively high public wage costs, poorly maintained infrastructure, liquidity problems in the financial sector, and a poor business climate, is expected to pose constraints to higher growth in other sectors. Inflation would remain contained at an average of about 4½ percent in the medium to long term.
- Donor support is assumed to remain confined to humanitarian assistance. Zimbabwe is expected to remain in debt distress– even after accounting for higher mineral receipts and increased FDI, except in the context of a comprehensive arrears clearance and debt relief strategy. No debt relief is expected under the baseline scenario.
- FDI will remain limited in the medium and long term against the backdrop of uncertainty relating to the implementation of the indigenization policy. The balance of payments would remain financed largely by debt-related inflows. The possibility of their drying up constitutes an important downside risk.
- Import growth would gradually decline in line with slower economic growth, with limited private capital inflows and lack of access to non-humanitarian assistance also posing constraints.
- Fiscal cash deficits of 1½, 2 and ¾ percent of GDP are projected in 2012, 2013 and 2014, respectively, given already-contracted external borrowing from Chinese creditors for capital spending projects. Thereafter, it is assumed that small cash surpluses of ¼ to ½ percent of GDP would be attained and no further external loans would be contracted.

RESULTS OF BASELINE DEBT SUSTAINABILITY ANALYSIS

Public and Publicly-Guaranteed External Debt Sustainability

6. **Under the baseline scenario, at end-2011, all PPG external debt indicators exceed thresholds for LICs that have low Country Policy and Institutional Assessment (CPIA) scores (Figure 1).**[6] All ratios are projected to continue to exceed their respective thresholds by

[6] Zimbabwe is considered as a country with weak institutions for the purpose of this LIC DSA with a CPIA score of 2.0. The policy-based thresholds for the present value (PV) of PPG external debt are as follows: 200 percent of revenue; 100 percent of exports; and

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a wide margin in the medium term, and decline only gradually over the long term. The present values of debt relative to GDP and exports remain above the thresholds throughout 2032. Continued PPG external debt accumulation of about 4 percent of GDP in the medium term is a result of most debt service payments continuing to build up into arrears.[7]

7. **The sensitivity analysis illustrates that Zimbabwe's unsustainable debt situation could worsen further (Table 4).** Analysis shows that, if key variables returned to recent historical averages even temporarily, external debt indicators could deteriorate rapidly compared to the baseline scenario. In particular, the country's debt is highly susceptible to renewed growth shocks. However, in the short term, a combination shock would be the most damaging, increasing present value of debt-to-GDP could increase by more than 70 percentage points by 2015.[8]

Public Debt Sustainability

8. **While Zimbabwe's overall public debt indicators are expected to improve over the long term, they will remain elevated.** The schedule of debt service payments will remain high and rise throughout the next several years as financing gaps in the balance of payments are assumed to be filled through public sector short-term borrowing.[9] Under the baseline scenario no sizable primary surpluses are expected, and growth is expected to weaken in the medium term. Nevertheless, on account of nominal GDP growth, the debt-to-GDP ratio is projected to gradually decline from 89.2 percent of GDP in 2011 to 74.5 percent of GDP in 2017, but ratios would remain elevated and above indicative benchmarks.[10] Debt service, including arrears, would continue to rise and remain unaffordable due to the large size of arrears. Continued reforms to underpin high growth would be essential for debt sustainability alongside a comprehensive arrears clearance framework. Results of the most extreme stress test show that the present value of the public debt-to-GDP ratio could more than double over the next ten years if Zimbabwe suffers another large growth shock in the near future (Table 3).[11]

30 percent of GDP. For debt service indicators, the ratios are 15 percent of exports and 18 percent of revenue.

[7] Some loans from these Chinese creditors are the only ones that are currently serviced, with all other public debt service going into arrears. This assumption is maintained for the projection period.

[8] The combination shock assumes that real GDP and export growth, the GDP deflator and net non-debt creating flows would be at their historical averages less ½ standard deviation in 2013 and 2014.

[9] These BOP financing gaps result in residuals remaining large over the medium term in Table 1.

[10] World Bank and IMF staff estimations suggest that for countries with a low CPIA rating, public debt in excess of 50 percent of GDP signals heightened debt vulnerabilities ("Revisiting the Debt Sustainability Framework for Low-Income Countries," January 2012, PIN No. 12/17).

[11] The most extreme stress test assumes that real GDP growth is at historical average minus one standard deviation in 2013-14.

ALTERNATIVE SCENARIO

9. An alternative active scenario[12] assumes that the government would implement strong policy measures to address existing impediments to sustainable growth. Under this scenario, the country's external debt ratios would decline much faster than under the baseline scenario and all indicators would be within prudent thresholds by 2023. If the government strengthens fiscal discipline, improves the quality of expenditures, ensures that the implementation of the indigenization legislation takes into account investors' concerns, presses ahead with key structural reforms, and takes forceful steps to address financial sector vulnerabilities, the country could potentially boost growth performance by about 2–3 percentage points relative to the baseline scenario over the medium term. Alongside the achievement of cash surpluses over the medium term, this would allow debt indicators to decline substantially faster (Tables 5–8 and Figures 3 and 4). Higher growth would be supported by a positive response of private investment in mining and industry to a better business climate. In addition, a lower wage bill would help contain wage costs and leave more resources for higher public spending on infrastructure.

Box 2. Key Macroeconomic Assumptions: Alternative Scenario

- Real GDP is projected to grow at an average of 7 percent over the medium term driven by mainly by increased investment in mining and strong growth in construction, electricity and manufacturing as the business environment improves. Inflation would remain contained at an average of about 4½ percent in the medium to long term.

- The external account is expected to benefit from increased capital inflows as the business climate improves. The current account deficit would decrease to around 14 percent of GDP by 2017, largely financed by foreign direct investment. No debt relief is assumed under the alternative scenario.

- The fiscal path is projected to generate cash surpluses averaging 1½ percent over the medium term, mainly reflecting higher diamond revenue as transparency in the sector improves, a declining wage bill (as a percent of GDP) reflecting payroll control measures and containment of wage increases at or below inflation. This would enable a more sustainable fiscal path allowing for the rebuilding of fiscal buffers and the international reserves, while improving service provision.

- Enforcement of prudential requirements and fast-tracking of the restructuring of the central bank to enhance financial sector stability.

[12] The alternative scenario is referred to as the active policy scenario in the 2012 Article IV report.

CONCLUSION

10. **Zimbabwe is likely to remain in debt distress for the foreseeable future.** The country's debt overhang remains a serious impediment to macroeconomic stability and sustainable growth and development. It will need to be addressed in the context of a comprehensive arrears clearance framework and will also require a further considerable strengthening of economic policies, as described in the staff report.

Table 1. Zimbabwe: External Debt Sustainability Framework, Baseline Scenario, 2009–32 1/

(In percent of GDP, unless otherwise indicated)

	Actual			Historical 6/	Standard 6/	Projections									
				Average	Deviation							2012-2017			2018-2032
	2009	2010	2011			2012	2013	2014	2015	2016	2017	Average	2022	2032	Average
External debt (nominal) 1/	**124.0**	**121.3**	**113.4**			**116.0**	**119.6**	**124.4**	**126.8**	**128.2**	**128.7**		**142.4**	**131.1**	
o/w public and publicly guaranteed (PPG)	108.7	97.9	83.9			79.5	78.4	78.1	76.6	74.6	72.4		70.6	57.2	
Change in external debt	-10.0	-2.7	-7.9			2.6	3.6	4.8	2.4	1.4	0.5		1.1	-2.1	
Identified net debt-creating flows	-11.3	5.5	6.3			13.8	11.4	11.3	11.1	11.2	10.8		6.5	1.6	
Non-interest current account deficit	**16.3**	**23.9**	**31.4**	**10.9**	**10.2**	**15.3**	**14.8**	**13.8**	**13.1**	**12.7**	**12.4**		**5.6**	**0.3**	4.8
Deficit in balance of goods and services	30.4	30.8	39.2			24.0	22.8	21.0	19.5	18.4	17.4		6.5	-6.2	
Exports	29.3	47.6	50.4			51.1	49.7	48.8	47.7	46.3	44.6		44.5	44.2	
Imports	59.7	78.5	89.7			75.1	72.5	69.8	67.2	64.6	62.0		51.0	38.0	
Net current transfers (negative = inflow)	-15.1	-7.7	-8.5	-7.2	4.4	-9.2	-8.6	-8.0	-7.4	-6.8	-6.4		-5.3	-3.4	-4.7
o/w official	-10.6	-3.0	-2.6			-3.5	-3.0	-2.6	-2.3	-2.0	-1.8		-1.3	-0.7	
Other current account flows (negative = net inflow)	1.0	0.8	0.7			0.5	0.5	0.8	1.0	1.2	1.3		4.3	9.9	
Net FDI (negative = inflow)	**-1.7**	**-1.6**	**-3.9**	**-1.2**	**1.1**	**-1.6**	**-2.5**	**-2.6**	**-2.7**	**-2.9**	**-3.0**		**-2.2**	**-2.0**	-2.2
Endogenous debt dynamics 2/	**-25.9**	**-16.8**	**-21.1**			**0.1**	**-0.8**	**0.1**	**0.8**	**1.4**	**1.4**		**3.1**	**3.3**	
Contribution from nominal interest rate	5.9	4.9	4.8			5.1	5.3	5.6	5.8	5.9	6.0		7.0	7.0	
Contribution from real GDP growth	-6.4	-9.8	-8.9			-5.0	-6.1	-5.4	-5.0	-4.6	-4.6		-4.0	-3.7	
Contribution from price and exchange rate changes	-25.3	-11.8	-17.0			…	…	…	…	…	…		…	…	
Residual (3-4) 3/	**1.3**	**-8.1**	**-14.2**			**-11.3**	**-7.8**	**-6.5**	**-8.7**	**-9.8**	**-10.2**		**-5.3**	**-3.7**	
o/w exceptional financing	-17.7	-7.9	-5.0			-4.2	-4.1	-3.8	-3.3	-3.1	-3.0		-3.0	-2.1	
PV of external debt 4/	...	...	125.9			126.3	127.6	131.0	132.1	132.4	132.1		142.2	130.4	
In percent of exports	...	...	249.6			247.3	256.6	268.4	276.8	286.3	295.9		319.9	295.2	
PV of PPG external debt	**...**	**...**	**96.4**			**89.8**	**86.4**	**84.7**	**81.9**	**78.8**	**75.7**		**70.4**	**56.5**	
In percent of exports	**...**	**...**	**191.1**			**175.9**	**173.7**	**173.6**	**171.6**	**170.4**	**169.7**		**158.5**	**127.9**	
In percent of government revenues	**...**	**...**	**312.1**			**270.1**	**270.0**	**264.7**	**257.2**	**248.6**	**240.3**		**230.8**	**198.0**	
Debt service-to-exports ratio (in percent)	**33.1**	**15.7**	**16.4**			**19.9**	**22.3**	**26.4**	**30.1**	**33.9**	**37.5**		**50.1**	**47.0**	
PPG debt service-to-exports ratio (in percent)	**26.8**	**17.8**	**9.9**			**15.1**	**17.1**	**21.0**	**24.0**	**27.5**	**30.5**		**41.0**	**37.4**	
PPG debt service-to-revenue ratio (in percent)	**51.6**	**28.7**	**16.2**			**23.2**	**26.6**	**32.0**	**36.0**	**40.1**	**43.2**		**59.7**	**58.0**	
Total gross financing need (Billions of U.S. dollars)	2.0	3.0	4.7			4.3	5.2	6.2	7.3	8.5	9.7		15.3	27.0	
Non-interest current account deficit that stabilizes debt ratio	26.3	26.6	39.3			12.7	11.1	9.0	10.7	11.4	11.8		4.5	2.4	
Key macroeconomic assumptions															
Real GDP growth (in percent)	6.3	9.6	9.4	-3.8	9.9	5.0	6.0	5.0	4.5	4.0	4.0	4.7	3.0	3.0	3.0
GDP deflator in US dollar terms (change in percent)	23.3	10.6	16.3	7.7	7.6	8.7	7.4	5.1	5.9	6.0	6.0	6.5	3.8	3.6	3.7
Effective interest rate (percent) 5/	5.7	4.8	5.1	4.7	1.0	5.1	5.2	5.1	5.1	5.1	5.2	5.2	5.3	5.6	5.4
Growth of exports of G&S (US dollar terms, in percent)	-1.8	97.2	34.7	10.7	33.3	15.5	10.9	8.3	8.1	6.7	6.4	9.3	6.8	6.6	6.8
Growth of imports of G&S (US dollar terms, in percent)	21.8	59.3	45.4	15.9	21.5	-4.5	10.0	6.2	6.4	5.9	5.8	5.0	3.7	1.1	3.4
Grant element of new public sector borrowing (in percent)	...	...	...	...	...	14.1	0.1	-11.3	-11.3	-11.0	-11.0	-5.1	-11.0	-11.0	-11.0
Government revenues (excluding grants, in percent of GDP)	15.2	29.6	30.9			33.2	32.0	32.0	31.9	31.7	31.5		30.5	28.5	29.9
Aid flows (in Billions 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	
o/w Grants	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
o/w 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/ 9/	...	...	...			0.1	0.0	-0.2	-0.1	0.0	0.0		0.0	0.0	0.0
Grant-equivalent financing (in percent of external financing) 8/ 9/	...	...	...			14.1	0.1	-11.3	-11.3	-11.0	-11.0		-11.0	-11.0	-11.0
Memorandum items:															
Nominal GDP (Billions of US dollars)	6.1	7.4	9.5			10.8	12.3	13.6	15.0	16.5	18.2		25.0	49.1	
Nominal dollar GDP growth	31.0	21.2	27.2			14.2	13.9	10.3	10.6	10.2	10.2	11.6	6.9	6.7	6.8
PV of PPG external debt (in Billions of US dollars)			9.1			9.7	10.6	11.5	12.3	13.0	13.8		17.6	27.8	
(PVt-PVt-1)/GDPt-1 (in percent)						6.1	8.6	7.1	5.9	4.9	4.7	6.2	3.4	2.1	3.2
Gross workers' remittances (Billions of US dollars)	0.2	0.3	0.5			0.5	0.6	0.6	0.7	0.7	0.7		0.9	1.2	
PV of PPG external debt (in percent of GDP + remittances)	...	...	91.8			85.6	82.4	80.9	78.4	75.7	72.9		68.1	55.1	
PV of PPG external debt (in percent of exports + remittances)	...	...	173.9			160.5	158.4	158.2	157.0	156.3	155.9		147.0	121.1	
Debt service of PPG external debt (in percent of exports + remittances)	...	...	9.0			13.8	15.6	19.1	22.0	25.2	28.1		38.0	35.5	

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 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).

9/ Negative grant-equivalent financing stems from zero grants and negative grant elements of new borrowing, the latter of which result from higher interest rates (about 7 percent) than the assumed discount rate (4 percent). The higher interest rate assumption is based on the non-concessional loans contracted in 2011.

Table 2. Zimbabwe: Public Sector Debt Sustainability Framework, Baseline Scenario, 2009–32

(In percent of GDP, unless otherwise indicated)

	Actual			Average 5/	Standard Deviation 5/	Projections									
	2009	2010	2011			2012	2013	2014	2015	2016	2017	2012-17 Average	2022	2032	2018-32 Average
Public sector debt 1/	117.5	104.1	89.2			83.8	82.0	81.2	79.2	76.9	74.5		72.2	58.0	
o/w foreign-currency denominated	117.5	104.1	89.2			83.8	82.0	81.2	79.2	76.9	74.5		72.2	58.0	
Change in public sector debt	-17.4	-13.4	-14.9			-5.3	-1.9	-0.8	-2.0	-2.3	-2.4		-1.0	-1.7	
Identified debt-creating flows	-27.1	-16.4	-17.7			-6.5	-4.9	-3.6	-4.3	-4.2	-4.0		-1.3	-0.3	
Primary deficit	-0.5	0.0	1.1	-0.4	1.7	1.1	2.0	0.6	-0.1	-0.4	-0.4	0.5	-0.5	-0.3	-0.4
Revenue and grants	15.9	29.6	30.9			33.2	32.0	32.0	31.9	31.7	31.5		30.5	28.5	
of which: grants	0.7	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Primary (noninterest) expenditure	15.4	29.6	32.0			34.4	34.0	32.7	31.8	31.3	31.1		30.1	28.2	
Automatic debt dynamics	-26.6	-16.4	-18.8			-7.6	-6.8	-4.2	-4.3	-3.8	-3.6		-0.9	0.0	
Contribution from interest rate/growth differential	-26.6	-16.4	-18.8			-7.6	-6.8	-4.2	-4.3	-3.8	-3.6		-0.9	0.0	
of which: contribution from average real interest rate	-18.6	-6.0	-9.9			-3.4	-2.1	-0.3	-0.8	-0.8	-0.7		1.3	1.7	
of which: contribution from real GDP growth	-8.0	-10.3	-8.9			-4.3	-4.8	-3.9	-3.5	-3.0	-2.9		-2.1	-1.7	
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	9.7	2.9	2.8			1.2	3.0	2.8	2.4	2.0	1.6		0.3	-1.4	
Other Sustainability Indicators															
PV of public sector debt	...	...	101.7			94.2	90.0	87.8	84.5	81.2	77.9		72.0	57.3	
o/w foreign-currency denominated	...	...	101.7			94.2	90.0	87.8	84.5	81.2	77.9		72.0	57.3	
o/w external	...	...	96.4			89.8	86.4	84.7	81.9	78.8	75.7		70.4	56.5	
PV of contingent liabilities (not included in public sector debt)	...	...	...			...	...	...	...	...	...		...	...	
Gross financing need 2/	19.9	15.7	12.1			16.5	18.9	20.6	22.3	24.1	25.8		33.9	30.7	
PV of public sector debt-to-revenue and grants ratio (in percent)	…	…	329.3			283.2	281.3	274.4	265.3	256.0	247.0		235.8	200.7	
PV of public sector debt-to-revenue ratio (in percent)	…	…	329.3			283.2	281.3	274.4	265.3	256.0	247.0		235.8	200.7	
o/w external 3/	…	…	312.1			270.1	270.0	264.7	257.2	248.6	240.3		230.8	198.0	
Debt service-to-revenue and grants ratio (in percent) 4/	49.7	28.6	16.2			23.2	26.6	32.0	36.0	40.1	43.3		59.7	58.0	
Debt service-to-revenue ratio (in percent) 4/	51.9	28.7	16.2			23.2	26.6	32.0	36.0	40.1	43.3		59.7	58.0	
Primary deficit that stabilizes the debt-to-GDP ratio	16.9	13.4	16.0			6.5	3.8	1.4	1.9	1.8	2.0		0.5	1.4	
Key macroeconomic and fiscal assumptions															
Real GDP growth (in percent)	6.3	9.6	9.4	-3.8	9.9	5.0	6.0	5.0	4.5	4.0	4.0	4.7	3.0	3.0	3.0
Average nominal interest rate on forex debt (in percent)	5.2	4.3	4.3	4.6	1.0	4.4	4.6	4.6	4.8	4.9	5.0	4.7	5.6	6.6	5.9
Average real interest rate on domestic debt (in percent)	...	...	...	…	…	...	...	...	...	...	...	…	...	...	…
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)	23.3	10.6	16.3	7.7	7.6	8.7	7.4	5.1	5.9	6.0	6.0	6.5	3.8	3.6	3.7
Growth of real primary spending (deflated by GDP deflator, in percent)	5.5	1.1	0.2	-0.2	3.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Grant element of new external borrowing (in percent) 6/	...	...	...	…	…	14.1	0.1	-11.3	-11.3	-11.0	-11.0	-5.1	-11.0	-11.0	...

Sources: Country authorities; and staff estimates and projections.

1/ Coverage of public sector is 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.

6/ Negative grant elements result from higher interest rates (about 7 percent) than the assumed discount rate (4 percent). The higher interest rate assumption is based on the non-concessional loans contracted in 2011.

Table 3. Zimbabwe: Sensitivity Analysis for Key Indicators of Public Debt 2012-2032

		Projections						
	2012	2013	2014	2015	2016	2017	2022	2032
PV of Debt-to-GDP Ratio								
Baseline	94	90	88	85	81	78	72	57
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	94	96	101	104	108	112	142	208
A2. Primary balance is unchanged from 2012	94	89	87	85	83	81	81	79
A3. Permanently lower GDP growth 1/	94	92	93	94	95	96	130	274
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2013-2014	94	119	159	170	181	191	269	411
B2. Primary balance is at historical average minus one standard deviations in 2013-2014	94	89	87	84	80	76	68	48
B3. Combination of B1-B2 using one half standard deviation shocks	94	102	114	122	129	135	184	274
B4. One-time 30 percent real depreciation in 2013	94	127	123	118	114	110	114	146
B5. 10 percent of GDP increase in other debt-creating flows in 2013	94	101	98	94	90	86	78	59
PV of Debt-to-Revenue Ratio 2/								
Baseline	283	281	274	265	256	247	236	201
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	283	300	314	328	341	354	464	729
A2. Primary balance is unchanged from 2012	283	278	272	266	261	256	267	277
A3. Permanently lower GDP growth 1/	283	289	292	294	298	305	427	960
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2013-2014	283	371	496	535	571	607	880	1440
B2. Primary balance is at historical average minus one standard deviations in 2013-2014	283	278	273	263	252	242	222	169
B3. Combination of B1-B2 using one half standard deviation shocks	283	320	356	382	406	428	603	960
B4. One-time 30 percent real depreciation in 2013	283	398	386	372	360	350	373	511
B5. 10 percent of GDP increase in other debt-creating flows in 2013	283	317	308	296	285	273	256	207
Debt Service-to-Revenue Ratio 2/								
Baseline	23	27	32	36	40	43	60	58
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	23	29	38	46	54	63	125	248
A2. Primary balance is unchanged from 2012	23	27	32	36	40	44	66	77
A3. Permanently lower GDP growth 1/	23	27	34	39	45	50	92	198
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2013-2014	23	33	50	59	72	86	171	292
B2. Primary balance is at historical average minus one standard deviations in 2013-2014	23	27	32	36	40	43	60	58
B3. Combination of B1-B2 using one half standard deviation shocks	23	31	42	48	55	61	122	203
B4. One-time 30 percent real depreciation in 2013	23	32	46	53	61	68	115	176
B5. 10 percent of GDP increase in other debt-creating flows in 2013	23	27	34	38	46	49	65	65

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.

Table 4. Zimbabwe: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2012-2032

(In percent)

	Projections							
	2012	2013	2014	2015	2016	2017	**2022**	2032
PV of debt-to GDP ratio								
Baseline	90	86	85	82	79	76	**70**	56
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2012-2032 1/	90	91	91	92	92	94	**120**	188
A2. New public sector loans on less favorable terms in 2012-2032 2	90	87	85	82	79	76	**71**	56
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2013-2014	90	106	127	123	118	113	**105**	84
B2. Export value growth at historical average minus one standard deviation in 2013-2014 3/	90	103	129	122	111	101	**74**	57
B3. US dollar GDP deflator at historical average minus one standard deviation in 2013-2014	90	93	96	92	89	85	**79**	64
B4. Net non-debt creating flows at historical average minus one standard deviation in 2013-2014 4/	90	96	102	97	91	86	**72**	57
B5. Combination of B1-B4 using one-half standard deviation shocks	90	123	171	161	148	136	**103**	79
B6. One-time 30 percent nominal depreciation relative to the baseline in 2013 5/	90	120	118	114	109	105	**98**	78
PV of debt-to-exports ratio								
Baseline	176	174	174	172	170	170	**158**	128
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2012-2032 1/	176	182	187	192	200	210	**270**	425
A2. New public sector loans on less favorable terms in 2012-2032 2	176	174	174	172	171	170	**159**	127
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2013-2014	176	174	174	172	170	170	**158**	128
B2. Export value growth at historical average minus one standard deviation in 2013-2014 3/	176	298	529	511	483	456	**336**	257
B3. US dollar GDP deflator at historical average minus one standard deviation in 2013-2014	176	174	174	172	170	170	**158**	128
B4. Net non-debt creating flows at historical average minus one standard deviation in 2013-2014 4/	176	192	210	204	198	192	**162**	128
B5. Combination of B1-B4 using one-half standard deviation shocks	176	242	339	328	312	296	**226**	174
B6. One-time 30 percent nominal depreciation relative to the baseline in 2013 5/	176	174	174	172	170	170	**158**	128
PV of debt-to-revenue ratio								
Baseline	270	270	265	257	249	240	**231**	198
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2012-2032 1/	270	284	285	288	291	297	**393**	658
A2. New public sector loans on less favorable terms in 2012-2032 2	270	271	266	258	249	241	**231**	197
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2013-2014	270	332	396	385	372	359	**345**	296
B2. Export value growth at historical average minus one standard deviation in 2013-2014 3/	270	323	402	382	351	322	**244**	198
B3. US dollar GDP deflator at historical average minus one standard deviation in 2013-2014	270	290	298	290	280	271	**260**	223
B4. Net non-debt creating flows at historical average minus one standard deviation in 2013-2014 4/	270	299	320	306	289	272	**236**	198
B5. Combination of B1-B4 using one-half standard deviation shocks	270	384	533	506	468	432	**338**	277
B6. One-time 30 percent nominal depreciation relative to the baseline in 2013 5/	270	375	367	357	345	333	**320**	275

Table 4a. Zimbabwe: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2012-2032

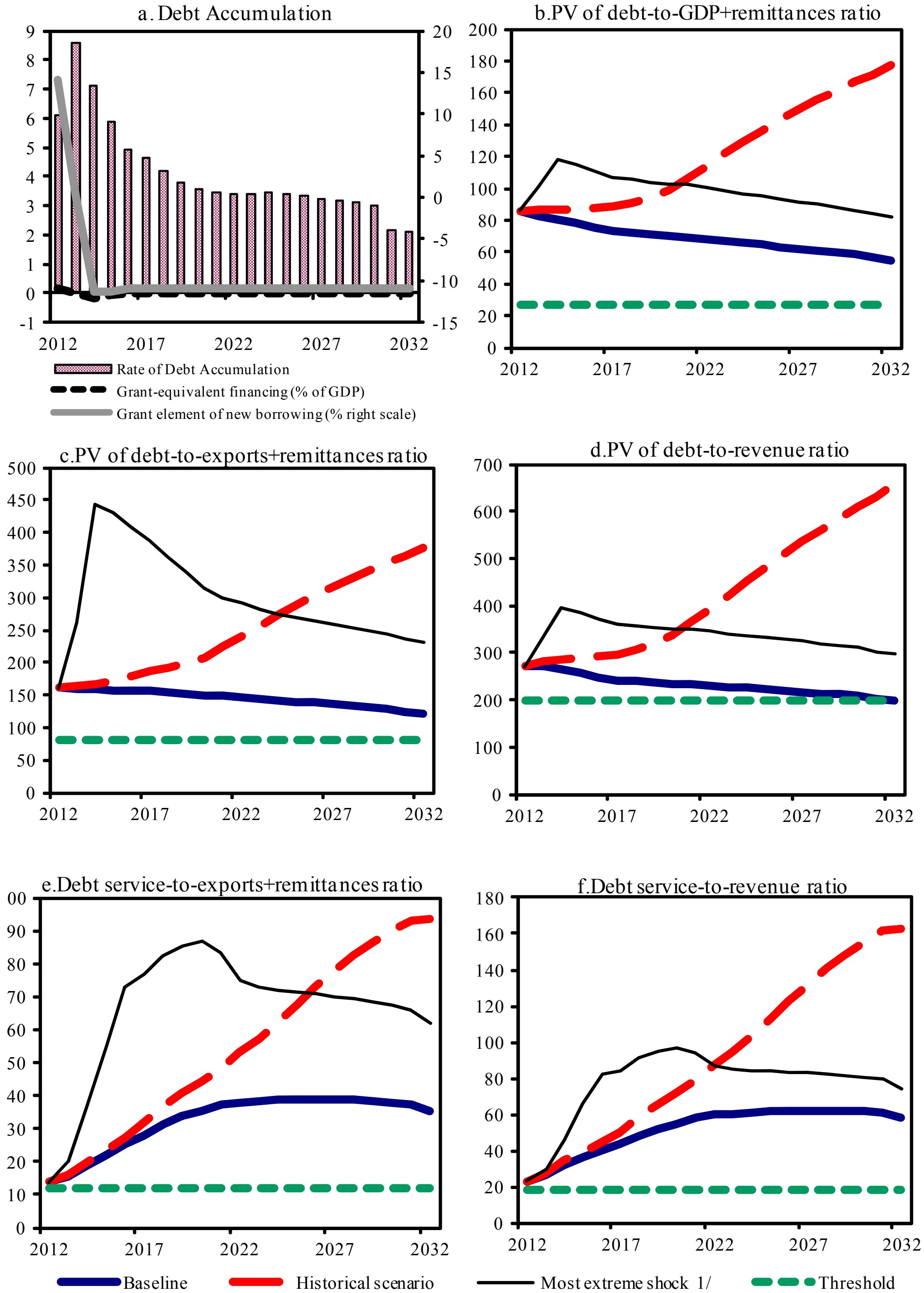
(In percent)

Debt service-to-exports ratio								
Baseline	15	17	21	24	27	31	**41**	37
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2012-2032 1/	15	18	22	26	31	36	**60**	105
A2. New public sector loans on less favorable terms in 2012-2032 2	15	16	19	23	26	29	**39**	34
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2013-2014	15	16	20	23	26	29	**39**	34
B2. Export value growth at historical average minus one standard deviation in 2013-2014 3/	15	23	43	65	86	90	**87**	69
B3. US dollar GDP deflator at historical average minus one standard deviation in 2013-2014	15	16	20	23	26	29	**39**	34
B4. Net non-debt creating flows at historical average minus one standard deviation in 2013-2014 4/	15	16	21	27	33	35	**41**	34
B5. Combination of B1-B4 using one-half standard deviation shocks	15	19	29	43	55	58	**58**	47
B6. One-time 30 percent nominal depreciation relative to the baseline in 2013 5/	15	16	20	23	26	29	**39**	34
Debt service-to-revenue ratio								
Baseline	23	27	32	36	40	43	**60**	58
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2012-2032 1/	23	27	34	39	45	50	**87**	163
A2. New public sector loans on less favorable terms in 2012-2032 2	23	25	30	34	38	41	**56**	52
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2013-2014	23	30	45	51	57	61	**86**	79
B2. Export value growth at historical average minus one standard deviation in 2013-2014 3/	23	25	33	49	62	64	**63**	53
B3. US dollar GDP deflator at historical average minus one standard deviation in 2013-2014	23	27	34	38	43	46	**65**	60
B4. Net non-debt creating flows at historical average minus one standard deviation in 2013-2014 4/	23	25	32	41	48	50	**60**	53
B5. Combination of B1-B4 using one-half standard deviation shocks	23	30	46	66	82	84	**87**	75
B6. One-time 30 percent nominal depreciation relative to the baseline in 2013 5/	23	34	41	47	53	57	**80**	74
Memorandum item:								
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	-14	-14	-14	-14	-14	-14	**-14**	-14

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.

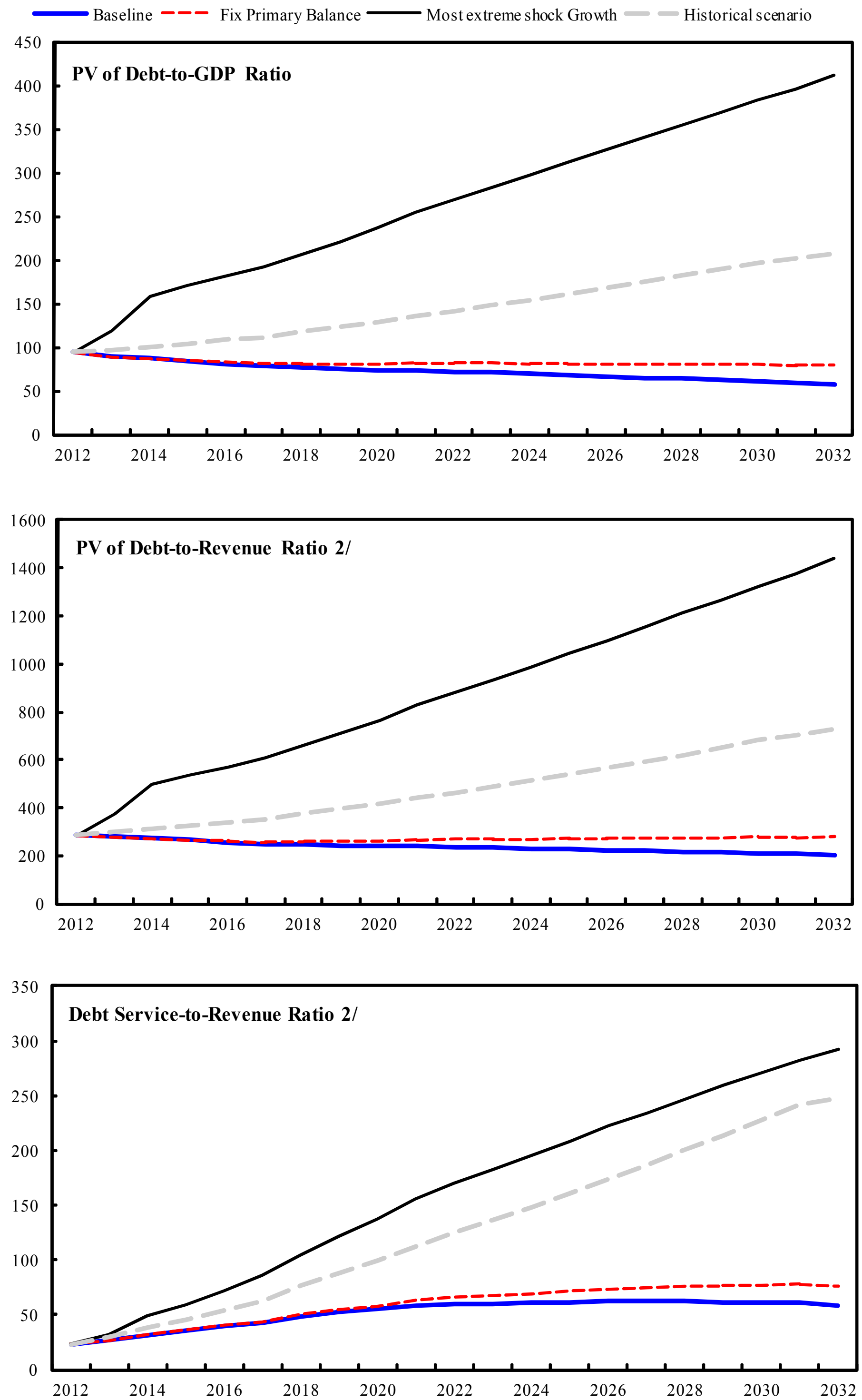
Figure 1. Zimbabwe: Indicators of Public and Publicly Guaranteed External Debt under Baseline Scenario, 2012-2032



Sources: Country authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio in 2022. In figure b. it corresponds to a Growth shock; in c. to a Exports shock; in d. to a Growth shock; in e. to a Exports shock and in figure f. to a Combination shock

Figure 2. Zimbabwe: Indicators of Public Debt Under Baseline Scenario, 2012-2032



Sources: Country authorities; and staff estimates and projections.
1/ The most extreme stress test is the test that yields the highest ratio in 2022.
2/ Revenues are defined inclusive of grants.

Table 5. Zimbabwe: External Debt Sustainability Framework, Alternative Scenario, 2009–32 1/

(In percent of GDP, unless otherwise indicated)

	Actual			Historical Average 6/	Standard Deviation 6/	Projections									
	2009	2010	2011			2012	2013	2014	2015	2016	2017	2012-2017 Average	2022	2032	2018-2032 Average
External debt (nominal) 1/	**124.0**	**121.3**	**113.4**			**116.0**	**115.6**	**113.3**	**109.1**	**104.3**	**99.5**		**87.5**	**58.6**	
o/w public and publicly guaranteed (PPG)	108.7	97.9	83.9			79.5	74.7	68.2	61.3	54.7	48.8		32.5	17.0	
Change in external debt	-10.0	-2.7	-7.9			2.6	-0.5	-2.3	-4.1	-4.8	-4.8		-2.7	-3.2	
Identified net debt-creating flows	-11.3	5.5	6.3			13.8	7.1	3.1	0.6	-0.6	-1.6		3.1	5.4	
Non-interest current account deficit	**16.3**	**23.9**	**31.4**	**10.9**	**10.2**	**15.3**	**13.1**	**10.8**	**9.4**	**8.9**	**8.5**		**9.9**	**11.0**	10.3
Deficit in balance of goods and services	30.4	30.8	39.2			24.0	21.1	17.5	14.6	12.7	11.0		10.7	9.8	
Exports	29.3	47.6	50.4			51.1	50.5	50.8	50.9	50.7	50.4		50.6	51.5	
Imports	59.7	78.5	89.7			75.1	71.6	68.2	65.5	63.4	61.4		61.4	61.3	
Net current transfers (negative = inflow)	-15.1	-7.7	-8.5	-7.2	4.4	-9.2	-8.5	-7.8	-7.0	-6.3	-5.7		-4.0	-1.9	-3.4
o/w official	-10.6	-3.0	-2.6			-3.5	-3.0	-2.5	-2.1	-1.8	-1.6		-1.0	-0.4	
Other current account flows (negative = net inflow)	1.0	0.8	0.7			0.5	0.5	1.1	1.8	2.5	3.2		3.2	3.2	
Net FDI (negative = inflow)	**-1.7**	**-1.6**	**-3.9**	**-1.2**	**1.1**	**-1.6**	**-4.1**	**-5.9**	**-7.2**	**-8.2**	**-9.0**		**-7.6**	**-6.5**	-7.3
Endogenous debt dynamics 2/	**-25.9**	**-16.8**	**-21.1**			**0.1**	**-1.8**	**-1.8**	**-1.6**	**-1.3**	**-1.1**		**0.8**	**0.8**	
Contribution from nominal interest rate	5.9	4.9	4.8			5.1	5.2	5.4	5.5	5.4	5.4		5.3	3.9	
Contribution from real GDP growth	-6.4	-9.8	-8.9			-5.0	-7.1	-7.2	-7.0	-6.7	-6.5		-4.5	-3.1	
Contribution from price and exchange rate changes	-25.3	-11.8	-17.0			…	…	…	…	…	…		…	…	
Residual (3-4) 3/	**1.3**	**-8.1**	**-14.2**			**-11.2**	**-7.6**	**-5.4**	**-4.8**	**-4.2**	**-3.2**		**-5.8**	**-8.7**	
o/w exceptional financing	-17.7	-7.9	-5.0			-4.2	-4.0	-3.7	-3.1	-2.8	-2.6		-2.1	-1.1	
PV of external debt 4/	...	...	125.9			126.4	123.6	119.8	114.2	108.3	102.6		87.3	58.2	
In percent of exports	...	...	249.6			247.5	244.8	235.9	224.3	213.4	203.8		172.5	112.9	
PV of PPG external debt	**...**	**...**	**96.4**			**89.9**	**82.7**	**74.7**	**66.4**	**58.7**	**51.9**		**32.4**	**16.5**	
In percent of exports	**...**	**...**	**191.1**			**176.1**	**163.8**	**147.1**	**130.5**	**115.6**	**103.0**		**64.0**	**32.1**	
In percent of government revenues	**...**	**...**	**312.1**			**270.4**	**258.7**	**229.0**	**199.8**	**174.4**	**153.6**		**99.0**	**53.9**	
Debt service-to-exports ratio (in percent)	**33.1**	**15.7**	**16.4**			**19.9**	**21.8**	**19.4**	**13.2**	**8.5**	**5.1**		**-3.8**	**-5.4**	
PPG debt service-to-exports ratio (in percent)	**26.8**	**17.8**	**9.9**			**15.1**	**16.8**	**14.3**	**7.7**	**3.1**	**-0.4**		**-9.9**	**-10.1**	
PPG debt service-to-revenue ratio (in percent)	**51.6**	**28.7**	**16.2**			**23.2**	**26.5**	**22.3**	**11.8**	**4.7**	**-0.6**		**-15.3**	**-17.0**	
Total gross financing need (Billions of U.S. dollars)	2.0	3.0	4.7			4.3	4.8	4.6	3.9	3.3	2.9		3.0	7.3	
Non-interest current account deficit that stabilizes debt ratio	26.3	26.6	39.3			12.7	13.6	13.1	13.5	13.7	13.3		12.6	14.3	
Key macroeconomic assumptions															
Real GDP growth (in percent)	6.3	9.6	9.4	-3.8	9.9	5.0	7.0	7.0	7.0	7.0	7.0	6.7	5.5	5.5	5.5
GDP deflator in US dollar terms (change in percent)	23.3	10.6	16.3	7.7	7.6	8.7	7.3	4.9	5.7	5.9	5.8	6.4	4.5	4.5	4.5
Effective interest rate (percent) 5/	5.7	4.8	5.1	4.7	1.0	5.1	5.2	5.2	5.4	5.6	5.8	5.4	6.5	7.0	6.7
Growth of exports of G&S (US dollar terms, in percent)	-1.8	97.2	34.7	10.7	33.3	15.5	13.5	13.0	13.5	12.9	12.4	13.5	10.4	10.5	10.4
Growth of imports of G&S (US dollar terms, in percent)	21.8	59.3	45.4	15.9	21.5	-4.5	9.5	7.1	8.6	9.7	9.6	6.7	10.2	10.2	10.2
Grant element of new public sector borrowing (in percent)	...	...	...	...	...	8.8	-0.5	-12.1	-12.1	-11.0	-11.0	-6.3	-11.0	-11.0	-11.0
Government revenues (excluding grants, in percent of GDP)	15.2	29.6	30.9			33.2	32.0	32.6	33.3	33.6	33.8		32.7	30.7	32.1
Aid flows (in Billions 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	
o/w Grants	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
o/w 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/ 9/	...	...	...			0.1	0.0	-0.2	-0.1	0.0	0.0		0.0	0.0	0.0
Grant-equivalent financing (in percent of external financing) 8/ 9/	...	...	...			8.8	-0.5	-12.1	-12.1	-11.0	-11.0		-11.0	-11.0	-11.0
Memorandum items:															
Nominal GDP (Billions of US dollars)	6.1	7.4	9.5			10.8	12.4	13.9	15.8	17.8	20.2		32.9	87.2	
Nominal dollar GDP growth	31.0	21.2	27.2			14.2	14.8	12.3	13.1	13.3	13.2	13.5	10.2	10.2	10.2
PV of PPG external debt (in Billions of US dollars)			9.1			9.7	10.3	10.4	10.5	10.5	10.5		10.7	14.4	
(PVt-PVt-1)/GDPt-1 (in percent)						6.2	5.0	1.2	0.5	0.0	0.1	2.2	0.2	1.1	0.5
Gross workers' remittances (Billions of US dollars)	0.2	0.3	0.5			0.5	0.6	0.6	0.7	0.7	0.7		0.9	1.2	
PV of PPG external debt (in percent of GDP + remittances)	...	...	91.8			85.7	78.9	71.4	63.7	56.5	50.1		31.6	16.3	
PV of PPG external debt (in percent of exports + remittances)	...	...	173.9			160.7	149.6	134.8	120.5	107.4	96.2		60.8	31.3	
Debt service of PPG external debt (in percent of exports + remittances)	...	...	9.0			13.8	15.3	13.1	7.1	2.9	-0.4		-9.4	-9.8	

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 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).

9/ Negative grant-equivalent financing stems from zero grants and negative grant elements of new borrowing, the latter of which result from higher interest rates (about 7 percent) than the assumed discount rate (4 percent). The higher interest rate assumption is based on the non-concessional loans contracted in 2011.

Table 6. Zimbabwe: Public Sector Debt Sustainability Framework, Alternative Scenario, 2009–32 1/

(In percent of GDP, unless otherwise indicated)

	Actual			Average 5/	Standard Deviation 5/	Projections									
	2009	2010	2011			2012	2013	2014	2015	2016	2017	2012-17 Average	2022	2032	2018-32 Average
Public sector debt 1/	117.5	104.1	89.2			83.9	77.4	70.6	63.5	56.6	50.5		33.6	17.4	
o/w foreign-currency denominated	117.5	104.1	89.2			83.9	77.4	70.6	63.5	56.6	50.5		33.6	17.4	
Change in public sector debt	-17.4	-13.4	-14.9			-5.3	-6.5	-6.8	-7.1	-6.9	-6.2		-2.8	-0.6	
Identified debt-creating flows	-27.1	-16.4	-17.7			-6.5	-7.5	-5.9	-6.8	-6.9	-6.4		-3.5	-2.1	
Primary deficit	-0.5	0.0	1.1	-0.4	1.7	1.1	0.0	-0.6	-1.6	-2.2	-2.2	-0.9	-1.9	-1.5	-1.8
Revenue and grants	15.9	29.6	30.9			33.2	32.0	32.6	33.3	33.6	33.8		32.7	30.7	
of which: grants	0.7	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Primary (noninterest) expenditure	15.4	29.6	32.0			34.4	32.0	32.0	31.7	31.4	31.5		30.8	29.2	
Automatic debt dynamics	-26.6	-16.4	-18.8			-7.6	-7.5	-5.3	-5.2	-4.7	-4.2		-1.6	-0.6	
Contribution from interest rate/growth differential	-26.6	-16.4	-18.8			-7.6	-7.5	-5.3	-5.2	-4.7	-4.2		-1.6	-0.6	
of which: contribution from average real interest rate	-18.6	-6.0	-9.9			-3.4	-2.0	-0.2	-0.6	-0.6	-0.4		0.3	0.3	
of which: contribution from real GDP growth	-8.0	-10.3	-8.9			-4.3	-5.5	-5.1	-4.6	-4.1	-3.7		-1.9	-0.9	
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	9.7	2.9	2.8			1.2	1.0	-0.9	-0.3	0.1	0.2		0.8	1.5	
Other Sustainability Indicators															
PV of public sector debt	...	...	101.7			94.3	85.4	77.1	68.6	60.6	53.5		33.4	16.9	
o/w foreign-currency denominated	...	...	101.7			94.3	85.4	77.1	68.6	60.6	53.5		33.4	16.9	
o/w external	...	...	96.4			89.9	82.7	74.7	66.4	58.7	51.9		32.4	16.5	
PV of contingent liabilities (not included in public sector debt)	...	...	...			...	...	...	...	...	...		...	...	
Gross financing need 2/	19.9	15.7	12.1			16.5	16.9	12.7	5.3	-0.1	-3.8		-13.5	-13.1	
PV of public sector debt-to-revenue and grants ratio (in percent)	…	…	329.3			283.5	267.3	236.5	206.3	180.1	158.6		102.2	55.2	
PV of public sector debt-to-revenue ratio (in percent)	…	…	329.3			283.5	267.3	236.5	206.3	180.1	158.6		102.2	55.2	
o/w external 3/	…	…	312.1			270.4	258.7	229.0	199.8	174.4	153.6		99.0	53.9	
Debt service-to-revenue and grants ratio (in percent) 4/	49.7	28.6	16.2			23.2	26.5	22.3	11.8	4.7	-0.6		-15.3	-17.0	
Debt service-to-revenue ratio (in percent) 4/	51.9	28.7	16.2			23.2	26.5	22.3	11.8	4.7	-0.6		-15.3	-17.0	
Primary deficit that stabilizes the debt-to-GDP ratio	16.9	13.4	16.0			6.4	6.5	6.2	5.5	4.7	3.9		0.8	-0.9	
Key macroeconomic and fiscal assumptions															
Real GDP growth (in percent)	6.3	9.6	9.4	-3.8	9.9	5.0	7.0	7.0	7.0	7.0	7.0	6.7	5.5	5.5	5.5
Average nominal interest rate on forex debt (in percent)	5.2	4.3	4.3	4.6	1.0	4.4	4.6	4.7	4.7	4.8	4.9	4.7	5.5	6.6	5.8
Average real interest rate on domestic debt (in percent)	...	...	...	…	…	...	...	...	...	...	...	…	...	...	…
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)	23.3	10.6	16.3	7.7	7.6	8.7	7.3	4.9	5.7	5.9	5.8	6.4	4.5	4.5	4.5
Growth of real primary spending (deflated by GDP deflator, in percent)	5.5	1.1	0.2	-0.2	3.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
Grant element of new external borrowing (in percent) 6/	...	...	...	…	…	8.8	-0.5	-12.1	-12.1	-11.0	-11.0	-6.3	-11.0	-11.0	...

Sources: Country authorities; and staff estimates and projections.
1/ Coverage of public sector is 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.
6/ Negative grant elements result from higher interest rates (about 7 percent) than the assumed discount rate (4 percent). The higher interest rate assumption is based on the non-concessional loans contracted in 2011.

Table 7. Zimbabwe: Sensitivity Analysis for Key Indicators of Public Debt, (Alternative Scenario) 2012–2032

		Projections						
	2012	2013	2014	2015	2016	2017	2022	2032
PV of Debt-to-GDP Ratio								
Baseline	94	85	77	69	61	54	33	17
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	94	94	95	96	98	101	135	329
A2. Primary balance is unchanged from 2012	94	87	80	74	70	66	63	71
A3. Permanently lower GDP growth 1/	94	88	82	77	73	71	87	204
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2013-2014	94	115	149	154	160	166	222	332
B2. Primary balance is at historical average minus one standard deviations in 2013-2014	94	87	80	72	63	56	37	23
B3. Combination of B1-B2 using one half standard deviation shocks	94	100	108	110	113	116	151	227
B4. One-time 30 percent real depreciation in 2013	94	123	112	101	90	81	56	25
B5. 10 percent of GDP increase in other debt-creating flows in 2013	94	97	88	78	70	63	43	27
PV of Debt-to-Revenue Ratio 2/								
Baseline	284	267	237	206	180	159	102	55
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	284	295	291	289	291	299	412	1072
A2. Primary balance is unchanged from 2012	284	271	245	224	208	197	193	230
A3. Permanently lower GDP growth 1/	284	275	252	232	218	210	266	663
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2013-2014	284	359	457	465	476	493	678	1080
B2. Primary balance is at historical average minus one standard deviations in 2013-2014	284	271	246	215	189	167	114	74
B3. Combination of B1-B2 using one half standard deviation shocks	284	314	330	332	336	344	463	739
B4. One-time 30 percent real depreciation in 2013	284	384	343	303	269	241	170	80
B5. 10 percent of GDP increase in other debt-creating flows in 2013	284	303	269	236	208	185	131	88
Debt Service-to-Revenue Ratio 2/								
Baseline	23	26	22	12	5	-1	-15	-17
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	23	29	27	16	7	0	-25	-14
A2. Primary balance is unchanged from 2012	23	26	22	12	6	2	-3	10
A3. Permanently lower GDP growth 1/	23	27	23	13	6	1	-4	58
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2013-2014	23	33	36	24	19	20	49	136
B2. Primary balance is at historical average minus one standard deviations in 2013-2014	23	26	23	12	6	1	-14	-16
B3. Combination of B1-B2 using one half standard deviation shocks	23	31	31	17	9	5	21	83
B4. One-time 30 percent real depreciation in 2013	23	32	32	18	9	2	-20	-37
B5. 10 percent of GDP increase in other debt-creating flows in 2013	23	26	24	14	10	4	-11	-13

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.

Table 8. Zimbabwe: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, (Alternative Scenario) 2012–2032

	Projections							
	2012	2013	2014	2015	2016	2017	**2022**	2032
PV of debt-to GDP ratio								
Baseline	90	83	75	66	59	52	**32**	17
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2012-2032 1/	90	91	94	99	104	111	**116**	116
A2. New public sector loans on less favorable terms in 2012-2032 2	90	83	75	67	59	52	**33**	17
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2013-2014	90	103	115	102	90	80	**50**	25
B2. Export value growth at historical average minus one standard deviation in 2013-2014 3/	90	101	123	109	92	78	**36**	17
B3. US dollar GDP deflator at historical average minus one standard deviation in 2013-2014	90	89	84	75	66	58	**36**	19
B4. Net non-debt creating flows at historical average minus one standard deviation in 2013-2014 4/	90	94	97	86	74	64	**34**	17
B5. Combination of B1-B4 using one-half standard deviation shocks	90	123	174	154	131	111	**51**	24
B6. One-time 30 percent nominal depreciation relative to the baseline in 2013 5/	90	115	104	92	81	72	**45**	23
PV of debt-to-exports ratio								
Baseline	176	164	147	130	116	103	**64**	32
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2012-2032 1/	176	181	185	194	206	219	**228**	225
A2. New public sector loans on less favorable terms in 2012-2032 2	176	164	148	131	116	104	**64**	32
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2013-2014	176	164	147	130	116	103	**64**	32
B2. Export value growth at historical average minus one standard deviation in 2013-2014 3/	176	293	517	457	390	331	**152**	69
B3. US dollar GDP deflator at historical average minus one standard deviation in 2013-2014	176	164	147	130	116	103	**64**	32
B4. Net non-debt creating flows at historical average minus one standard deviation in 2013-2014 4/	176	186	191	169	146	127	**67**	32
B5. Combination of B1-B4 using one-half standard deviation shocks	176	243	347	306	261	222	**102**	47
B6. One-time 30 percent nominal depreciation relative to the baseline in 2013 5/	176	164	147	130	116	103	**64**	32
PV of debt-to-revenue ratio								
Baseline	270	259	229	200	174	154	**99**	54
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2012-2032 1/	270	286	288	297	310	327	**353**	377
A2. New public sector loans on less favorable terms in 2012-2032 2	270	260	230	201	175	155	**100**	54
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2013-2014	270	321	352	307	268	236	**152**	83
B2. Export value growth at historical average minus one standard deviation in 2013-2014 3/	270	316	376	327	274	230	**110**	54
B3. US dollar GDP deflator at historical average minus one standard deviation in 2013-2014	270	277	258	225	196	173	**111**	61
B4. Net non-debt creating flows at historical average minus one standard deviation in 2013-2014 4/	270	293	298	259	221	189	**104**	54
B5. Combination of B1-B4 using one-half standard deviation shocks	270	385	534	464	390	328	**157**	78
B6. One-time 30 percent nominal depreciation relative to the baseline in 2013 5/	270	359	318	277	242	213	**137**	75

Table 8a. Zimbabwe: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, (Alternative Scenario) 2012–2032 (continued)

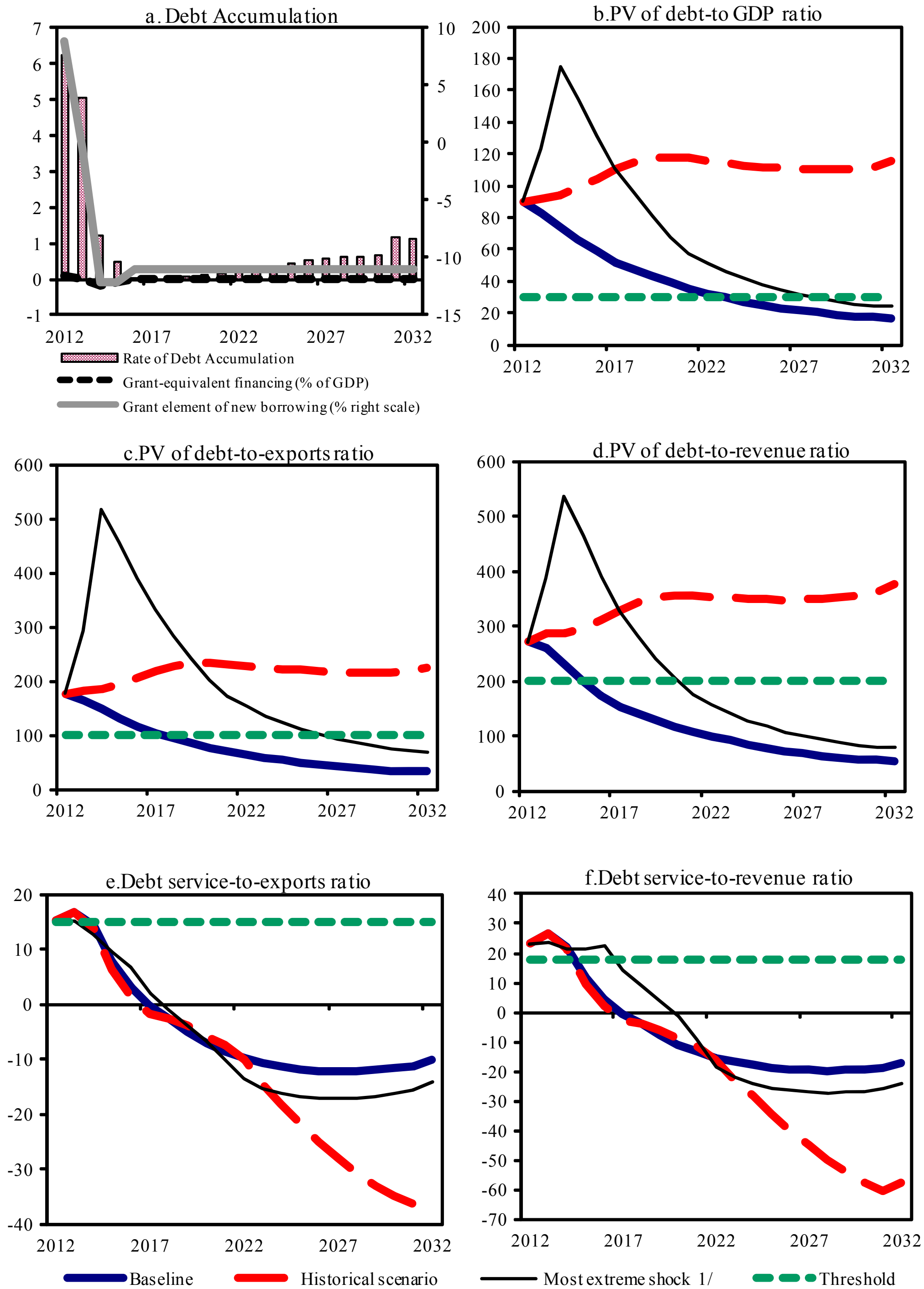
(In percent)

Debt service-to-exports ratio								
Baseline	15	17	14	8	3	0	**-10**	-10
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2012-2032 1/	15	17	14	6	1	-2	**-10**	-34
A2. New public sector loans on less favorable terms in 2012-2032 2	15	15	11	4	-1	-5	**-15**	-14
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2013-2014	15	15	12	4	-1	-5	**-15**	-14
B2. Export value growth at historical average minus one standard deviation in 2013-2014 3/	15	22	29	30	32	21	**-26**	-31
B3. US dollar GDP deflator at historical average minus one standard deviation in 2013-2014	15	15	12	4	-1	-5	**-15**	-14
B4. Net non-debt creating flows at historical average minus one standard deviation in 2013-2014 4/	15	15	13	10	7	2	**-14**	-14
B5. Combination of B1-B4 using one-half standard deviation shocks	15	18	20	20	21	13	**-18**	-21
B6. One-time 30 percent nominal depreciation relative to the baseline in 2013 5/	15	15	12	4	-1	-5	**-15**	-14
Debt service-to-revenue ratio								
Baseline	23	26	22	12	5	-1	**-15**	-17
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2012-2032 1/	23	26	22	10	2	-3	**-16**	-58
A2. New public sector loans on less favorable terms in 2012-2032 2	23	24	18	7	-1	-7	**-23**	-24
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2013-2014	23	30	28	10	-2	-11	**-35**	-37
B2. Export value growth at historical average minus one standard deviation in 2013-2014 3/	23	24	21	22	23	14	**-19**	-24
B3. US dollar GDP deflator at historical average minus one standard deviation in 2013-2014	23	26	20	8	-1	-8	**-26**	-27
B4. Net non-debt creating flows at historical average minus one standard deviation in 2013-2014 4/	23	24	20	15	10	3	**-21**	-24
B5. Combination of B1-B4 using one-half standard deviation shocks	23	29	31	31	32	20	**-27**	-34
B6. One-time 30 percent nominal depreciation relative to the baseline in 2013 5/	23	33	25	9	-2	-10	**-32**	-33
Memorandum item:								
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	-14	-14	-14	-14	-14	-14	**-14**	-14

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.

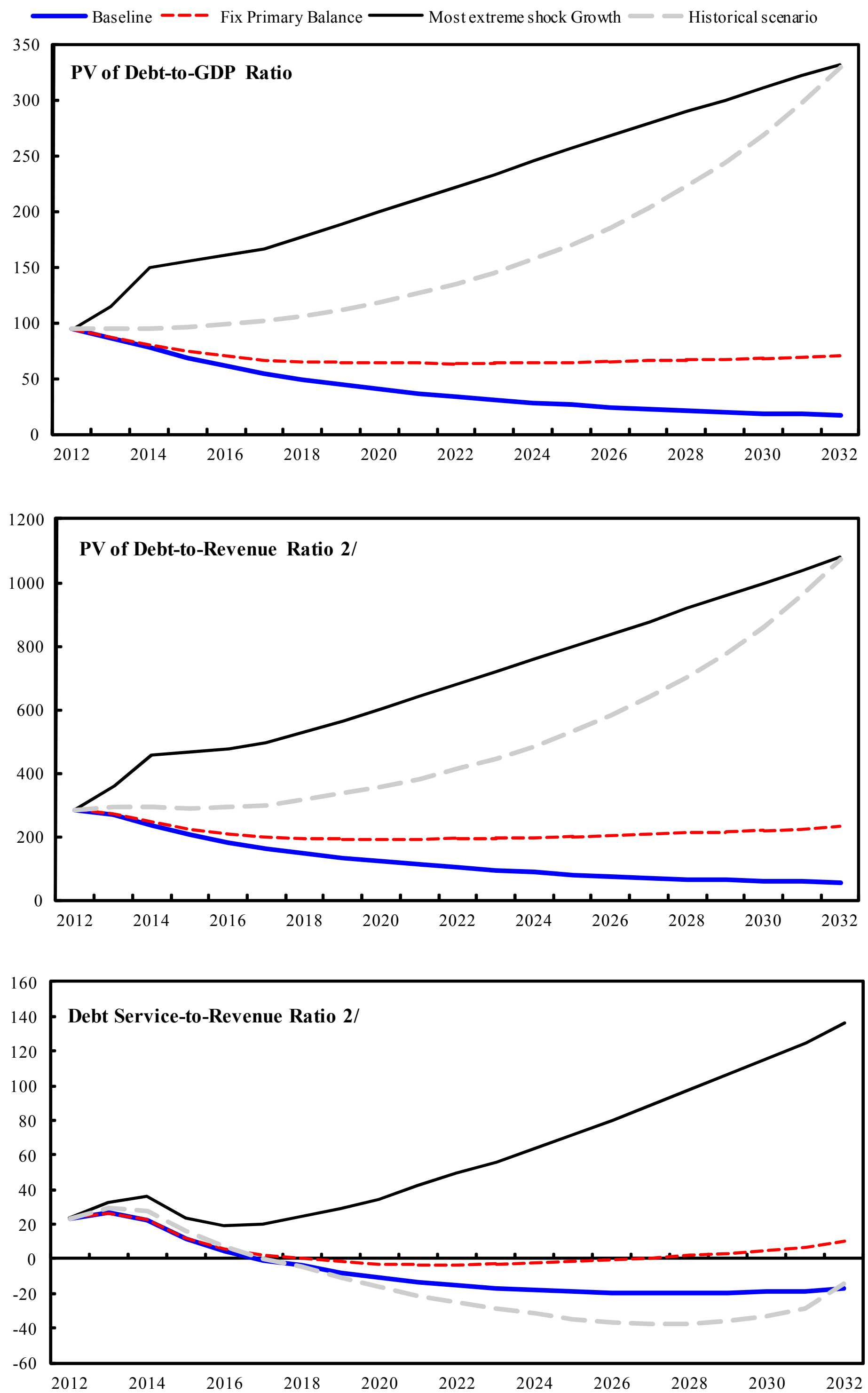
Figure 3. Zimbabwe: Indicators of Public and Publicly Guaranteed External Debt under Alternative Scenario, 2012-2032



Sources: Country authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio in 2022. In figure b. it corresponds to a Combination shock; in c. to a Exports shock; in d. to a Combination shock; in e. to a Non-debt flows shock and in figure f. to a Exports shock

Figure 4. Zimbabwe: Indicators of Public Debt under Alternative Scenario, 2012-2032



Sources: Country authorities; and staff estimates and projections.
1/ The most extreme stress test is the test that yields the highest ratio in 2022.
2/ Revenues are defined inclusive of grants.