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STAFF REPORT FOR THE 2016 ARTICLE IV CONSULTATION, AND FOURTH REVIEW UNDER THE POLICY SUPPORT INSTRUMENT—DEBT SUSTAINABILITY ANALYSIS

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Risk of external debt distress:	Low
Augmented by significant risks stemming from domestic public and/or private external debt?	No

The Debt Sustainability Analysis[1] (DSA) indicates that Tanzania's risk of debt distress is low. Under the baseline scenario, which assumes a scaling up of infrastructure investment, all external debt burden indicators are projected to remain below the policy-dependent thresholds. The public debt outlook also remains favorable. However, stress tests highlight vulnerabilities to exchange rate depreciation and lack of fiscal consolidation. These results highlight the need for Tanzania to continue implementing a prudent fiscal policy, with an overall deficit of about 3 percent of GDP remaining a good long-term fiscal anchor. An appropriate financing mix is also required. The increasing recourse to nonconcessional borrowing needs to be gradual and accompanied by strengthened debt management capacity and sustained reforms to public financial and investment management to preserve debt sustainability.

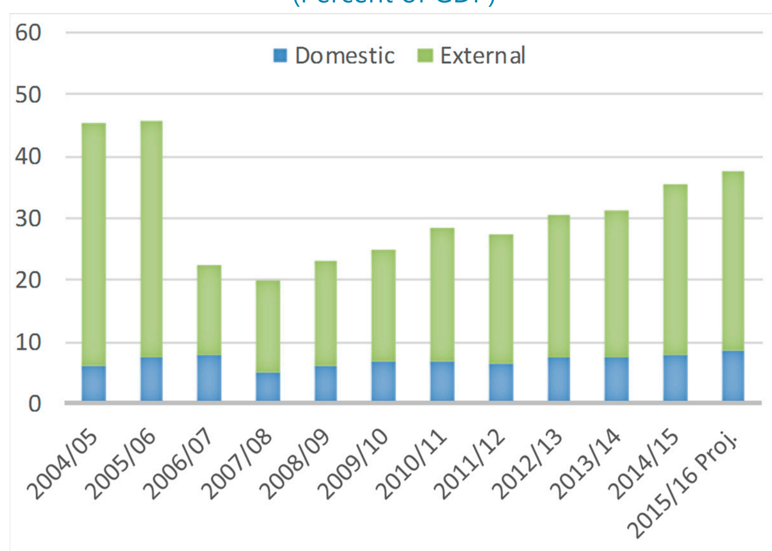
[1] This full Debt Sustainability Analysis replaces the previous update prepared in June 2015 in the context of the second PSI Review (IMF Country Report No. 15/181). The updated three-year average Country Policy and Institutional Assessment (CPIA) rating for 2012-2014 is 3.76 and now breaches the 3.75 boundary for a strong policy performer. However, narrow breaches less than 0.05 require two consecutive years of breach to qualify for an upgrade in the policy performance category. Therefore, as in the June 2015 assessment this DSA uses the policy-dependent thresholds for medium policy performers.

BACKGROUND AND RECENT DEVELOPMENTS

1. **The accumulation of new external public debt has been gradual but steady since debt relief was provided under the Multilateral Debt Relief Initiative**. Total public sector debt (external plus domestic public debt) gradually increased from about 20 percent of GDP in 2007/08 to an estimated 37.5 percent of GDP in 2015/16 (Text Figure 1). Most of the increase is due to public and publicly guaranteed (PPG) external debt.

Text Figure 1. Tanzania Public Debt, 2004/05-2015/16

(Percent of GDP)



Sources: Ministry of Finance and Planning, Bank of Tanzania, and IMF staff calculations.

2. **While Tanzania's PPG external debt is mostly concessional, borrowing on non-concessional terms has increased recently, partly due to the decline in aid from development partners.** At end-2014/15, more than two-thirds of public external debt was owed to multilateral institutions, primarily the International Development Association (IDA) and the African Development Bank (AfDB). Government borrowing from commercial sources amounted to about 30 percent of the public external debt stock at end-2014/15, against about 2 percent at end-2009/10.

3. **Domestic public debt totaled 8 percent of GDP at tend-June 2015.** Domestic debt remains dominated by medium and long-term instruments, with Treasury bonds accounting for over 50 percent of total domestic debt and an average maturity of 7 years. Commercial banks continued to hold the largest share of government domestic debt.

4. **The coverage of public debt in this DSA is restricted to central government obligations owing to data availability.** Local government debt and public enterprise debt are not captured due to lack of reliable and timely data. However, since these entities are often unable to borrow externally without a guarantee from the central government, public debt data captures partially their debt exposure. To get a comprehensive picture of government domestic debt, several

outstanding government liabilities and other contingent liabilities[2] currently not accounted for in the debt stock are added to the first year of projection (2015/16). These are estimated at 7.6 percent of GDP and mainly include arrears to pension funds and loans to government entities, budget expenditure arrears, TANESCO's arrears to its suppliers, and other actual or contingent liabilities.

UNDERLYING ASSUMPTIONS

5. To address the country's infrastructure gap, the authorities have formulated a new Five-Year Development Plan (FYDP II) with large investment in a number of areas, including hydropower plants, roads, a standard gauge railway, the Dar es Salaam Port, and the water and transportation systems. While a significant share of this investment would be on budget, the authorities also intend to resort to public-private partnerships (PPPs) to limit government borrowing and risks to debt sustainability.

6. The current DSA[3] assumes an increase in the fiscal deficit over the medium-term on account of public investment scaling up followed by gradual fiscal consolidation to maintain debt sustainability. The baseline scenario assumes implementation of the authorities' economic and development agenda. In the absence of a detailed quantitative macroeconomic framework for the FYDP II at the time of discussions, staff explored the sustainability of a plausible medium-term investment scaling up scenario. Accordingly, the deficit is projected to increase to 4.6 percent of GDP in 2016/17 and remain at about 4.5 percent of GDP over the medium-term, before returning to slightly below 3 percent of GDP by 2022/23 consistent with regional commitments to converge toward the East African Monetary Union (EAMU) protocol. Domestic revenues are projected to increase in 2016/17 on account of expected gains from tax administration and policy measures and nontax revenue owing to higher contributions of parastatals to the budget (including a large one-off transfer on account of retained earnings) and higher efficiency in the collection of various fees. The revenue ratio is projected to further increase gradually over the medium-term, reflecting additional revenue mobilization efforts. Public investment would almost double in percent of GDP to about 9½ percent of GDP in 2016/17 and would remain high for a few years.

[2] Government guaranteed debt is included in total public debt stock.

[3] The baseline macroeconomic framework underlying the current DSA does not yet factor in the potential impact of possible future natural gas production from emerging offshore projects. Deep water exploration by major petroleum companies has confirmed large natural gas deposits but final investment decisions to construct natural gas terminals are still pending. Thereafter, the development phase would start, and it would take several additional years before commercial production and exports of LNG could begin.

7. The other main macroeconomic assumptions are:

- *Growth* is projected to remain strong in the next few years (about 7 percent), reflecting the scaling up of public investment, mainly in transportation and energy infrastructure. Over the medium term, growth is assumed to revert to its 15-year average of about 6.5 percent; the agriculture sector will remain important, and continued economic transformation through industrialization, human development, and an improved business climate is expected to support economic growth in the long-run.

Selected Macroeconomic Indicators, Current vs. Previous DSA

		2014/15	2015/16	2016/17	2017/18	2018/19	Long term (average 2020-35)
Real GDP growth (percent)	Current DSA	7.0	7.1	7.2	7.0	6.8	6.5
	Previous DSA	7.2	7.2	7.1	7.0	6.9	6.6
Inflation (average)	Current DSA	5.4	6.4	5.4	5.0	5.0	5.0
	Previous DSA	5.2	5.0	5.0	5.0	5.0	5.0
Fiscal balance (% of GDP)	Current DSA	-3.1	-3.3	-4.6	-4.5	-4.5	-2.2
	Previous DSA	-4.0	-4.2	-3.0	-3.0	-2.9	-2.4
Current account (% of GDP)	Current DSA	-8.6	-8.6	-9.1	-8.8	-8.6	-8.0
	Previous DSA	-9.5	-8.2	-7.0	-7.2	-6.9	-8.2
FDI (% of GDP)	Current DSA	4.1	4.5	4.2	4.2	4.2	4.0
	Previous DSA	4.1	4.0	4.0	4.0	4.0	4.0

- *Inflation* is projected at about 5 percent consistent with the authorities' inflation target and assuming a tight monetary stance over the medium-term.

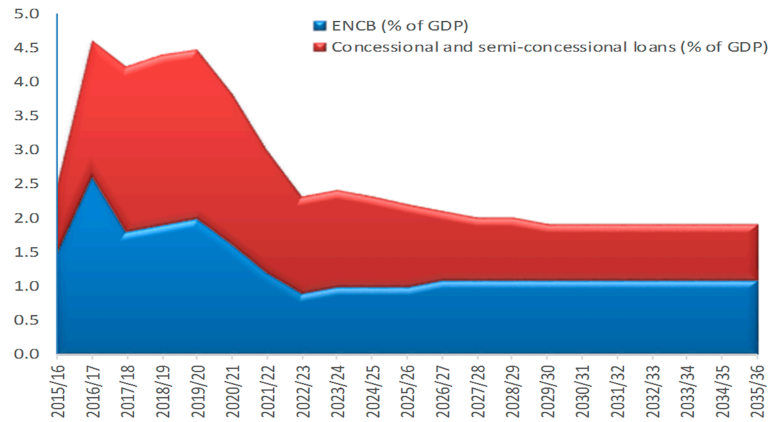
- *The current account deficit* is expected to widen to 9.1 percent of GDP in 2016/17 and remain high at an average of 8½ percent of GDP over the medium-term, reflecting high development and infrastructure needs which will continue to lead to large investment-related imports and current account deficits.

- *Aid and FDI flows.* External grants and concessional loans are assumed to gradually decrease as a share of GDP consistent with the declining aid trends from development partners. FDI is assumed to partly finance some of the envisaged investment scaling up. Therefore, FDI inflows are expected to remain high at over 4 percent of GDP over the medium-term and then to stabilize at about 4 percent of GDP in the long-term.

- *External nonconcessional borrowing.* In line with its medium-term debt management strategy and ongoing discussions with creditors, Tanzania would rely more than assumed in the previous DSA on borrowing from the regular windows of the World Bank and African

Development Bank (whose terms remain much more favorable than available on international markets) and on domestic borrowing.[4] More than 50 percent of the external financing in the long term would come from nonconcessional sources (see Text Figure 2).

Text Figure 2. Foreign Financing Assumptions



Sources: Ministry of Finance and Planning, Bank of Tanzania and IMF staff calculations.

- *Domestic borrowing*. Net domestic borrowing would be maintained at moderate levels (about 1 percent of GDP) throughout the projection period. Real interest rate on new domestic debt would be lower than current levels, but would remain relatively high while the average maturity on domestic debt is assumed to be about seven years.

EXTERNAL DSA

8. **All external debt burden indicators remain below indicative thresholds in the baseline scenario; however, under the most extreme stress test the external debt service-to-revenue ratio slightly breaches its threshold.** The three debt stock indicators (relative to GDP, exports and revenue) all increase slightly in the medium-term before declining below initial levels by the end of the projection period, and remain well below their policy-dependent thresholds under the baseline and all shock scenarios. The debt service-to-revenue ratio, however, increases over the medium-term and remains slightly above initial levels at the end of the projection period. Under the most extreme stress test, external debt service as a ratio to revenue slightly breaches its threshold in 2020–23 in the event of a one-time 30 percent depreciation in the nominal exchange rate. In such a borderline case the probability approach is applied to assess the risk of debt distress.[5] The results show that under this approach, Tanzania's risk of debt distress remains low for all external debt indicators.

[4] Discussions with these two multilateral creditors are well advanced, and significant project financing was already contracted from the African Development Bank and will start disbursing in 2016/17.

[5] The probability approach is applied to a borderline case, which is defined as one where the largest breach or near breach falls within a 10-percent band around the threshold. It incorporates a country's individual CPIA score and average GDP growth rate, whereas the traditional approach uses one of the three discrete CPIA values (3.25 for weak performers, 3.50 for medium performers, and 3.75 for strong performers), and an average growth rate across LICs (for

9. A customized scenario assuming lower growth suggests limited additional debt sustainability risks compared to the baseline scenario (Figure 2). The customized alternative scenario assuming GDP growth of 5 percent, compared to 6.5 percent in the baseline, leads to higher external debt burden indicators, but none of them breaches its threshold.

PUBLIC DSA

10. Public debt and debt service ratios also suggest a low level of vulnerability. In the baseline scenario, the PV of total public debt as a share of GDP is expected to increase modestly in the next few years (to a peak of 34 percent of GDP in 2019) and then to decline gradually over time. It would therefore remain well below the DSF benchmark level of 56 percent of GDP associated with heightened public debt vulnerabilities for medium performers, and the EAMU convergence criterion of 50 percent.

11. Stress tests confirm the importance of continued prudent fiscal policy. Under the historical scenario, the PV of public debt would keep gradually growing and breach the EAMU convergence criterion of 50 percent of PV of debt-to-GDP ratio in 2033/34. The debt service to revenue ratio would also reach much higher levels. The most extreme shock corresponds to a 10 percent of GDP increase in debt-creating flows in 2016. It highlights the sensitivity of debt dynamics to contingent liabilities, a useful reminder in a context where the authorities plan to utilize PPPs for large infrastructure projects. The simulations also suggest that an overall deficit of about 3 percent of GDP remains an appropriate long-term fiscal anchor for Tanzania to safeguard the low risk of debt distress.

CONCLUSION

12. Tanzania's risk of external debt distress remains low with a baseline scenario assuming a prudent scaling up of public investment and temporarily higher fiscal deficits than in the previous DSA. However, creating fiscal space for higher infrastructure investment will necessitate sustained efforts to raise additional domestic revenue and streamline current expenditure, to avoid excessive recourse to debt. Reforms to increase spending efficiency, particularly in the area of public investment and enhancing debt management capacity, will also be needed. More broadly, the targeted high growth and structural transformation of the Tanzanian economy will require sustained efforts to tackle structural reforms.

13. Authorities' views. The authorities agreed with the main results of the DSA, while stressing the need to find the right balance between continued fiscal prudence and addressing Tanzania's large development needs guided by the FYDP II. The authorities' own DSA (conducted in 2015) points to the importance of improving domestic revenue collection and strengthening debt management capacity to address new risks emanating from increased rollover of maturing domestic debt, and financing public investment through external nonconcessional borrowing.

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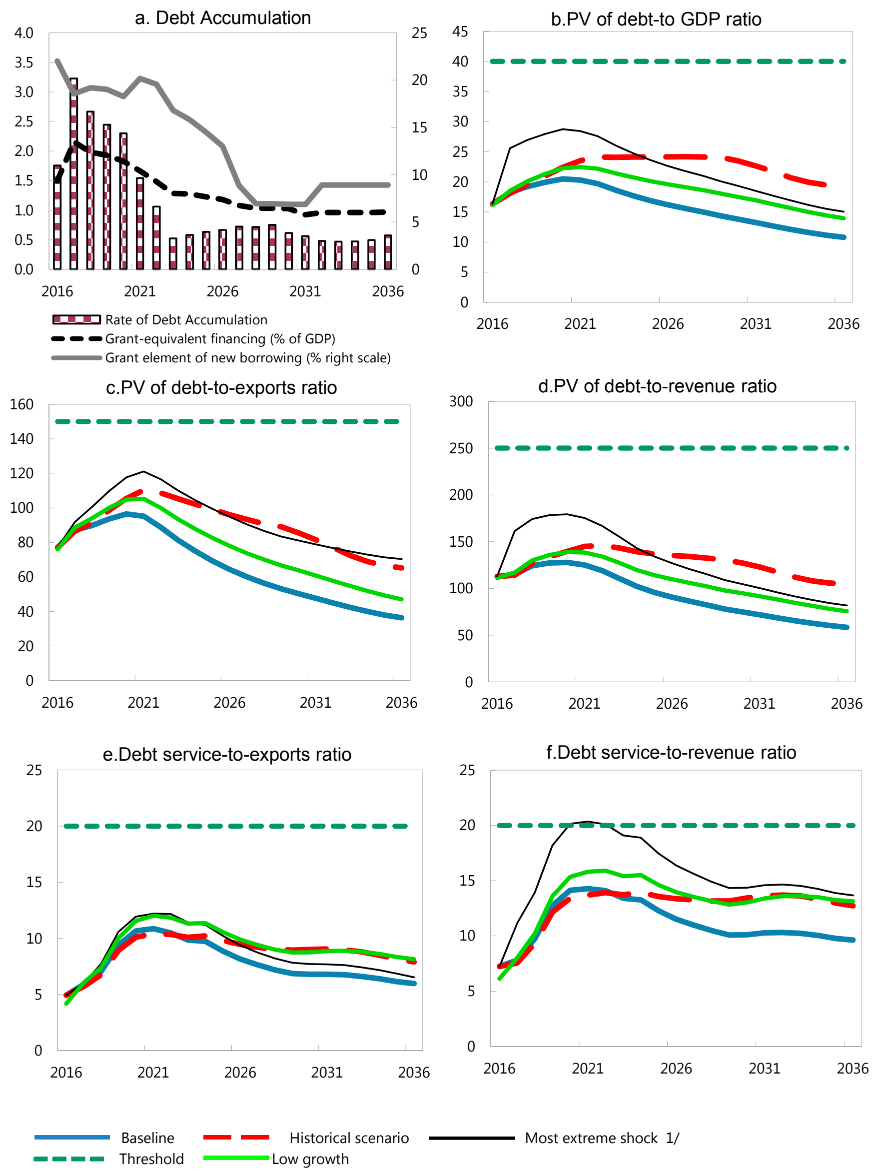
details see the Staff Guidance Note on the Application of the Joint Bank-Fund Debt Sustainability Framework for Low-Income Countries (SM/13/292).

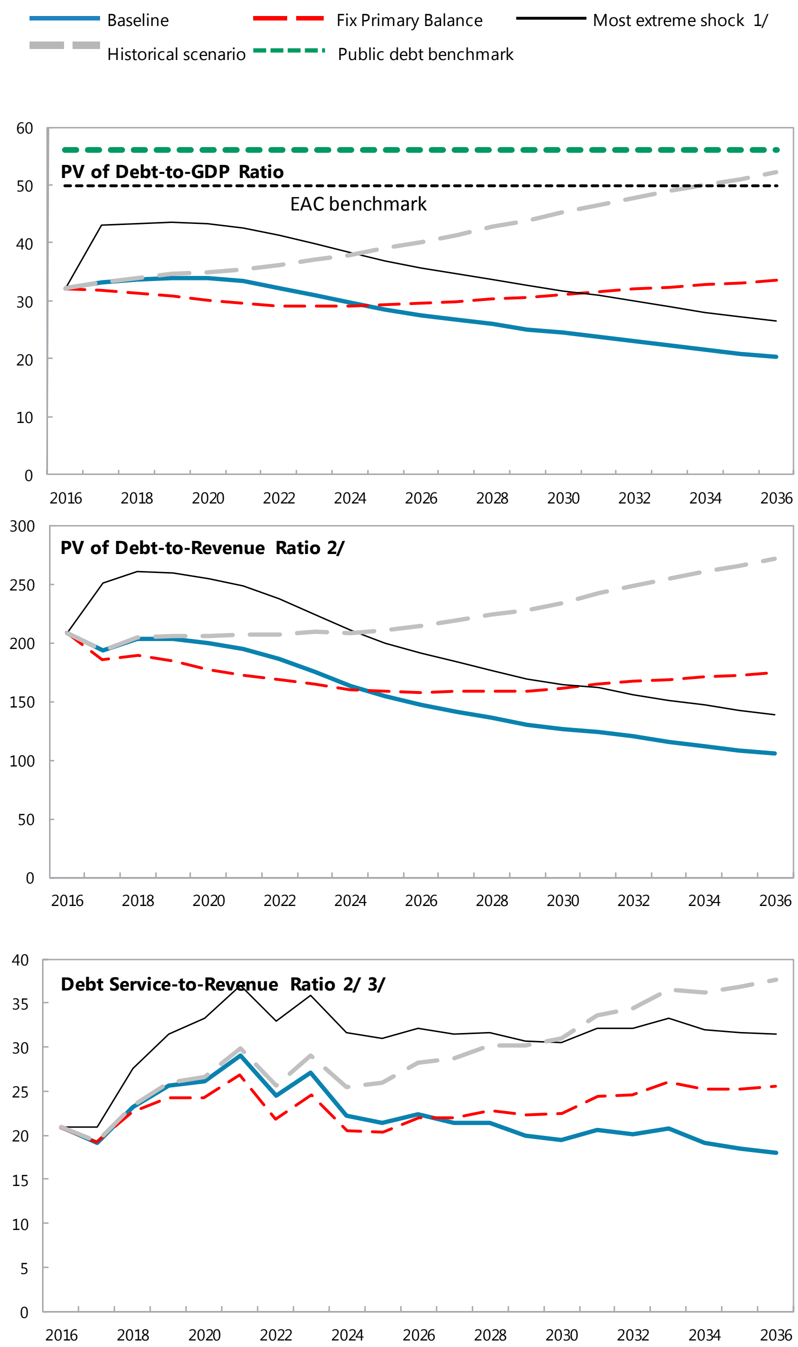
Figure 1. Tanzania: Indicators of Public and Publicly Guaranteed External Debt under Alternatives Scenarios, 2016–2036 1/



Sources: Country authorities; and staff estimates and projections.

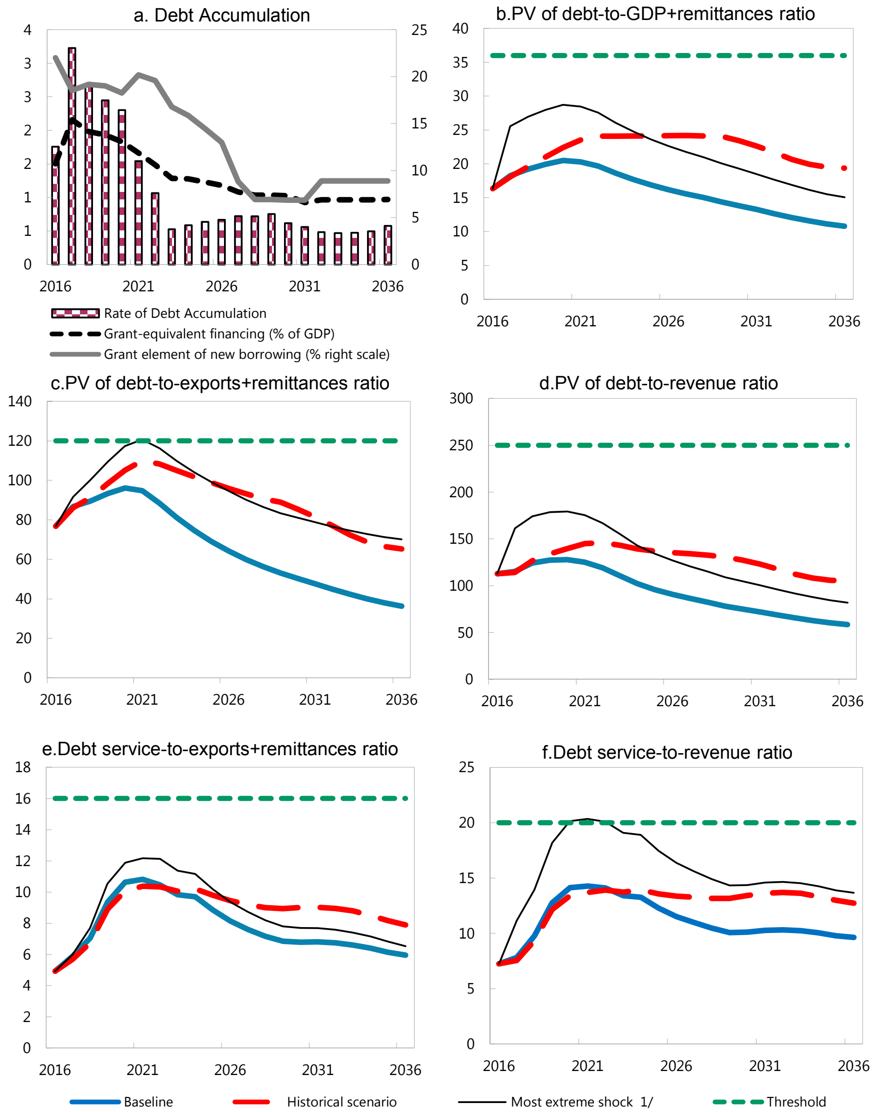
1/ The most extreme stress test is the test that yields the highest ratio on or before 2026. In figure b. it corresponds to a One-time depreciation shock; in c. to a Terms shock; in d. to a One-time depreciation shock; in e. to a Exports shock and in figure f. to a One-time depreciation shock

Figure 2. Tanzania: Indicators of Public Debt under Alternative Scenarios, 2016–2036 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 2026.
2/ Revenues are defined inclusive of grants.
3/ The volatile profile of debt service is due to the projected armotization for public domestic debt.

Figure 3. Tanzania: Probability of Debt Distress of Public and Publicly Guaranteed External Debt under Alternatives Scenarios, 2016–2036 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 2026. In figure b. it corresponds to a One-time depreciation shock; in c. to a Terms shock; in d. to a One-time depreciation shock; in e. to a Exports shock and in figure f. to a One-time depreciation shock

Table 1. Tanzania: External Debt Sustainability Framework, Baseline Scenario, 2013–2036 1/

(Percent of GDP, unless otherwise indicated)

	Actual			Historical 6/ Average	Standard 6/ Deviation	Projections									
	2013	2014	2015			2016	2017	2018	2019	2020	2021	2016-2021 Average	2026	2036	2022-2036 Average
External debt (nominal) 1/	**26.5**	**27.0**	**28.6**			**30.6**	**32.4**	**33.5**	**34.5**	**35.2**	**35.3**		**29.7**	**22.1**	
of which: public and publicly guaranteed (PPG)	22.9	23.7	22.9			24.2	26.4	27.5	28.4	29.0	29.0		23.0	14.6	
Change in external debt	2.0	0.6	1.6			1.9	1.8	1.2	0.9	0.8	0.0		-1.1	-0.4	
Identified net debt-creating flows	2.3	3.6	3.5			1.9	2.9	2.5	2.4	2.2	1.7		1.9	2.6	
Non-interest current account deficit	**10.2**	**10.4**	**8.2**	**8.7**	**2.0**	**7.9**	**8.6**	**8.1**	**7.8**	**7.6**	**7.1**		**7.0**	**7.3**	7.3
Deficit in balance of goods and services	10.8	10.9	8.3			7.6	8.2	8.1	7.9	7.8	7.3		6.8	6.7	
Exports	19.9	19.1	19.3			21.2	20.9	21.4	21.3	21.2	21.3		25.1	29.7	
Imports	30.7	29.9	27.7			28.8	29.2	29.5	29.2	29.1	28.7		32.0	36.4	
Net current transfers (negative = inflow)	-1.9	-1.6	-1.2	-2.6	0.8	-0.9	-0.9	-1.1	-1.1	-1.1	-1.0		-0.8	-0.5	-0.7
of which: official	-1.2	-0.9	-0.6			-0.1	-0.3	-0.3	-0.3	-0.3	-0.3		-0.2	-0.1	
Other current account flows (negative = net inflow)	1.3	1.1	1.1			1.2	1.3	1.1	1.0	0.9	0.8		0.9	1.0	
Net FDI (negative = inflow)	**-4.6**	**-4.4**	**-4.1**	**-3.9**	**0.7**	**-4.5**	**-4.2**	**-4.2**	**-4.2**	**-4.2**	**-4.2**		**-4.0**	**-4.0**	-4.0
Endogenous debt dynamics 2/	**-3.2**	**-2.4**	**-0.5**			**-1.5**	**-1.5**	**-1.4**	**-1.3**	**-1.3**	**-1.2**		**-1.1**	**-0.7**	
Contribution from nominal interest rate	0.3	0.3	0.4			0.7	0.6	0.7	0.8	0.8	0.9		0.7	0.7	
Contribution from real GDP growth	-1.3	-1.7	-1.8			-2.2	-2.0	-2.1	-2.1	-2.1	-2.1		-1.8	-1.3	
Contribution from price and exchange rate changes	-2.2	-1.0	0.9			...	...	...	...	...	...		...	...	
Residual (3-4) 3/	**-0.3**	**-3.0**	**-1.9**			**0.0**	**-1.1**	**-1.3**	**-1.4**	**-1.4**	**-1.6**		**-2.9**	**-2.9**	
of which: exceptional financing	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
PV of external debt 4/	...	...	20.6			22.7	24.2	25.2	26.0	26.7	26.6		22.8	18.3	
In percent of exports	...	...	106.4			107.1	115.6	118.0	122.3	125.5	124.4		90.9	61.7	
PV of PPG external debt	**...**	**...**	**14.8**			**16.3**	**18.2**	**19.2**	**19.9**	**20.5**	**20.3**		**16.2**	**10.8**	
In percent of exports	**...**	**...**	**76.4**			**77.0**	**87.1**	**89.8**	**93.6**	**96.4**	**95.1**		**64.3**	**36.4**	
In percent of government revenues	**...**	**...**	**114.9**			**112.8**	**115.1**	**124.1**	**127.2**	**127.8**	**125.1**		**90.7**	**58.6**	
Debt service-to-exports ratio (in percent)	**3.6**	**3.4**	**4.3**			**7.7**	**8.6**	**9.5**	**11.9**	**13.2**	**13.4**		**10.5**	**8.2**	
PPG debt service-to-exports ratio (in percent)	**2.3**	**2.9**	**3.5**			**4.9**	**5.9**	**7.1**	**9.4**	**10.7**	**10.9**		**8.2**	**6.0**	
PPG debt service-to-revenue ratio (in percent)	**3.6**	**4.1**	**5.2**			**7.2**	**7.8**	**9.8**	**12.8**	**14.1**	**14.3**		**11.5**	**9.6**	
Total gross financing need (Billions of U.S. dollars)	2.6	3.1	2.4			2.3	3.0	3.1	3.6	3.9	3.9		5.7	13.4	
Non-interest current account deficit that stabilizes debt ratio	8.2	9.8	6.6			6.0	6.8	6.9	6.9	6.9	7.0		8.0	7.6	
Key macroeconomic assumptions															
Real GDP growth (in percent)	6.2	7.1	7.0	6.4	0.6	7.1	7.2	7.0	6.8	6.6	6.5	6.9	6.5	6.5	6.5
GDP deflator in US dollar terms (change in percent)	10.0	4.0	-3.1	4.8	6.0	-13.3	0.4	1.8	1.9	1.9	1.9	-0.9	2.0	1.9	2.0
Effective interest rate (percent) 5/	1.4	1.3	1.7	1.0	0.4	2.2	2.0	2.3	2.5	2.7	2.7	2.4	2.6	3.2	2.8
Growth of exports of G&S (US dollar terms, in percent)	4.4	6.6	5.1	12.9	8.2	1.8	6.4	11.3	8.3	8.5	9.1	7.6	12.0	10.0	11.1
Growth of imports of G&S (US dollar terms, in percent)	-0.6	8.5	-4.3	13.9	12.7	-3.4	9.2	10.2	7.9	8.2	6.9	6.5	11.0	9.0	10.4
Grant element of new public sector borrowing (in percent)	...	...	...	...	...	22.0	18.6	19.2	19.0	18.3	20.2	19.5	13.0	8.9	10.7
Government revenues (excluding grants, in percent of GDP)	12.8	13.5	12.8			14.5	15.8	15.5	15.7	16.0	16.2		17.8	18.4	18.0
Aid flows (in Billions of US dollars) 7/	1.1	1.0	0.6			0.8	1.3	1.2	1.3	1.4	1.4		1.3	2.5	
of which: Grants	1.1	1.0	0.6			0.4	0.6	0.6	0.6	0.6	0.6		0.9	1.9	
of which: Concessional loans	0.0	0.0	0.0			0.3	0.7	0.6	0.7	0.7	0.8		0.4	0.7	
Grant-equivalent financing (in percent of GDP) 8/	...	...	...			1.5	2.2	2.0	1.9	1.8	1.7		1.2	1.0	1.1
Grant-equivalent financing (in percent of external financing) 8/	...	...	...			43.9	36.5	36.9	35.2	33.4	35.3		38.0	35.1	36.5
Memorandum items:															
Nominal GDP (Billions of US dollars)	41.9	46.6	48.4			44.9	48.3	52.7	57.3	62.3	67.7		102.2	234.9	
Nominal dollar GDP growth	16.9	11.3	3.7			-7.2	7.7	8.9	8.8	8.7	8.6	5.9	8.6	8.6	8.7
PV of PPG external debt (in Billions of US dollars)			6.4			7.2	8.7	10.0	11.3	12.6	13.5		16.3	25.0	
(PVt-PVt-1)/GDPt-1 (in percent)						5.3	3.2	2.7	2.4	2.3	1.5	2.9	0.7	0.6	0.6
Gross workers' remittances (Billions of US dollars)	0.0	0.1	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.1	0.1	
PV of PPG external debt (in percent of GDP + remittances)	...	...	14.8			16.3	18.2	19.2	19.9	20.5	20.3		16.2	10.8	
PV of PPG external debt (in percent of exports + remittances)	...	...	76.1			76.7	86.8	89.5	93.3	96.1	94.8		64.2	36.3	
Debt service of PPG external debt (in percent of exports + remittanc	...	...	3.4			4.9	5.9	7.0	9.4	10.6	10.8		8.1	6.0	

Sources: Tanzanian 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).

Table 2. Tanzania: Public Sector Debt Sustainability Framework, Baseline Scenario, 2013–2036

(Percent of GDP, unless otherwise indicated)

	Actual			Average 5/	Standard Deviation 5/	Estimate	Projections								
	2013	2014	2015			2016	2017	2018	2019	2020	2021	2016-21 Average	2026	2036	2022-36 Average
Public sector debt 1/	29.7	31.4	30.6			40.3	41.5	42.2	42.6	42.8	42.2		34.6	24.2	
of which: foreign-currency denominated	22.9	23.7	22.9			24.2	26.4	27.5	28.4	29.0	29.0		23.0	14.6	
Change in public sector debt	2.5	1.7	-0.8			9.7	1.2	0.7	0.4	0.2	-0.6		-1.4	-0.7	
Identified debt-creating flows	1.6	1.4	4.2			9.7	1.1	0.7	0.7	0.8	0.0		-0.9	-0.2	
Primary deficit	3.8	2.0	1.6	2.8	1.2	1.7	2.9	2.7	2.6	2.5	1.7	2.3	0.4	0.4	0.4
Revenue and grants	15.4	15.6	14.0			15.4	17.2	16.7	16.8	17.0	17.1		18.7	19.2	
of which: grants	2.6	2.1	1.2			1.0	1.3	1.2	1.1	1.0	0.9		0.9	0.8	
Primary (noninterest) expenditure	19.2	17.6	15.6			17.1	20.1	19.4	19.3	19.5	18.8		19.2	19.6	
Automatic debt dynamics	-2.2	-1.7	1.9			0.1	-1.8	-2.0	-1.8	-1.7	-1.7		-1.3	-0.6	
Contribution from interest rate/growth differential	-1.3	-1.3	-1.3			-1.3	-2.2	-2.1	-1.9	-1.8	-1.7		-1.3	-0.6	
of which: contribution from average real interest rate	0.3	0.6	0.7			0.8	0.5	0.7	0.8	0.9	0.9		0.9	0.9	
of which: contribution from real GDP growth	-1.6	-2.0	-2.0			-2.0	-2.7	-2.7	-2.7	-2.7	-2.6		-2.2	-1.5	
Contribution from real exchange rate depreciation	-0.9	-0.3	3.2			1.4	0.4	0.0	0.1	0.0	0.0		...	...	
Other identified debt-creating flows	0.0	1.0	0.7			7.9	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			7.6	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	1.0	0.7			0.3	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Residual, including asset changes	0.9	0.3	-5.0			0.0	0.1	0.0	-0.4	-0.6	-0.6		-0.5	-0.5	
Other Sustainability Indicators															
PV of public sector debt	...	...	22.6			32.4	33.4	33.9	34.2	34.2	33.5		27.8	20.4	
of which: foreign-currency denominated	...	...	14.8			16.3	18.2	19.2	19.9	20.5	20.3		16.2	10.8	
of which: external	...	...	14.8			16.3	18.2	19.2	19.9	20.5	20.3		16.2	10.8	
PV of contingent liabilities (not included in public sector debt)	...	...	...			...	...	...	...	...	...		...	...	
Gross financing need 2/	5.9	3.9	4.0			4.9	6.2	6.6	6.9	6.9	6.7		4.6	3.8	
PV of public sector debt-to-revenue and grants ratio (in percent)	...	...	160.6			210.1	194.7	203.9	203.7	200.9	195.9		148.4	106.4	
PV of public sector debt-to-revenue ratio (in percent)	...	...	175.6			224.0	210.7	219.4	218.0	213.6	206.6		155.8	111.0	
of which: external 3/	...	...	114.9			112.8	115.1	124.1	127.2	127.8	125.1		90.7	58.6	
Debt service-to-revenue and grants ratio (in percent) 4/	13.8	12.1	16.8			20.9	19.2	23.2	25.6	26.1	29.1		22.3	18.1	
Debt service-to-revenue ratio (in percent) 4/	16.6	14.0	18.4			22.3	20.8	25.0	27.4	27.8	30.7		23.5	18.9	
Primary deficit that stabilizes the debt-to-GDP ratio	1.3	0.3	2.4			-8.0	1.7	2.0	2.2	2.3	2.2		1.9	1.1	
Key macroeconomic and fiscal assumptions															
Real GDP growth (in percent)	6.2	7.1	7.0	6.4	0.6	7.1	7.2	7.0	6.8	6.6	6.5	6.9	6.5	6.5	6.5
Average nominal interest rate on forex debt (in percent)	1.5	1.5	1.8	1.0	0.5	2.3	2.0	2.4	2.7	2.8	2.8	2.5	2.7	3.8	3.1
Average real interest rate on domestic debt (in percent)	6.2	9.5	9.4	4.1	3.8	9.4	3.3	4.0	4.7	5.2	5.6	5.4	6.4	7.2	6.6
Real exchange rate depreciation (in percent, + indicates depreciatior	-4.7	-1.4	14.5	-1.4	7.8	6.5	...	...	...	...	...	...	...	...	...
Inflation rate (GDP deflator, in percent)	9.1	6.3	5.8	9.8	2.2	6.0	5.3	5.0	5.0	5.0	5.0	5.2	5.0	5.0	5.0
Growth of real primary spending (deflated by GDP deflator, in percer	0.1	0.0	-0.1	0.1	0.1	0.2	0.3	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.1
Grant element of new external borrowing (in percent)	...	...	...	...	...	22.0	18.6	19.2	19.0	18.3	20.2	19.5	13.0	8.9	...

Sources: Country authorities; and staff estimates and projections.

1/ Gross public sector debt covers general government or non-financial public sector.

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 3. Tanzania: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2016–2036

(Percent)

	Projections							
	2016	2017	2018	2019	2020	2021	**2026**	2036
PV of debt-to GDP ratio								
Baseline	16	18	19	20	20	20	**16**	11
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2016-2036 1/	16	18	20	21	22	24	**24**	19
A2. New public sector loans on less favorable terms in 2016-2036 2	16	19	22	23	25	26	**24**	21
A3. Alternative Scenario : Low growth	16	19	20	21	22	22	**20**	14
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2017-2018	16	18	19	20	21	20	**16**	11
B2. Export value growth at historical average minus one standard deviation in 2017-2018 3/	16	18	21	21	22	22	**17**	11
B3. US dollar GDP deflator at historical average minus one standard deviation in 2017-2018	16	18	20	21	21	21	**17**	11
B4. Net non-debt creating flows at historical average minus one standard deviation in 2017-2018 4/	16	18	19	20	21	20	**16**	11
B5. Combination of B1-B4 using one-half standard deviation shocks	16	17	18	18	19	19	**15**	11
B6. One-time 30 percent nominal depreciation relative to the baseline in 2017 5/	16	26	27	28	29	28	**23**	15
PV of debt-to-exports ratio								
Baseline	77	87	90	94	96	95	**64**	36
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2016-2036 1/	77	86	91	99	105	110	**96**	65
A2. New public sector loans on less favorable terms in 2016-2036 2	77	92	100	110	118	121	**95**	70
A3. Alternative Scenario : Low growth	76	89	94	100	105	105	**78**	47
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2017-2018	77	86	88	92	95	94	**63**	36
B2. Export value growth at historical average minus one standard deviation in 2017-2018 3/	77	89	105	109	111	110	**73**	39
B3. US dollar GDP deflator at historical average minus one standard deviation in 2017-2018	77	86	88	92	95	94	**63**	36
B4. Net non-debt creating flows at historical average minus one standard deviation in 2017-2018 4/	77	86	90	94	97	95	**64**	36
B5. Combination of B1-B4 using one-half standard deviation shocks	77	79	82	86	89	88	**60**	35
B6. One-time 30 percent nominal depreciation relative to the baseline in 2017 5/	77	86	88	92	95	94	**63**	36
PV of debt-to-revenue ratio								
Baseline	113	115	124	127	128	125	**91**	59
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2016-2036 1/	113	114	126	134	140	145	**135**	105
A2. New public sector loans on less favorable terms in 2016-2036 2	113	121	139	149	156	159	**134**	113
A3. Alternative Scenario : Low growth	111	117	130	136	139	138	**110**	76
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2017-2018	113	115	125	128	129	126	**91**	59
B2. Export value growth at historical average minus one standard deviation in 2017-2018 3/	113	115	134	137	137	133	**95**	58
B3. US dollar GDP deflator at historical average minus one standard deviation in 2017-2018	113	115	128	131	132	129	**93**	60
B4. Net non-debt creating flows at historical average minus one standard deviation in 2017-2018 4/	113	114	125	128	128	125	**90**	58
B5. Combination of B1-B4 using one-half standard deviation shocks	113	106	114	117	118	116	**86**	57
B6. One-time 30 percent nominal depreciation relative to the baseline in 2017 5/	113	161	174	178	179	175	**127**	82

Table 3 Tanzania: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2016–2036 (concluded)

(Percent)

Debt service-to-exports ratio								
Baseline	5	6	7	9	11	11	**8**	6
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2016-2036 1/	5	6	7	9	10	10	**9**	8
A2. New public sector loans on less favorable terms in 2016-2036 2	5	6	7	9	9	10	**9**	10
A3. Alternative Scenario : Low growth	4	6	7	10	12	12	**10**	8
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2017-2018	5	6	7	9	11	11	**8**	6
B2. Export value growth at historical average minus one standard deviation in 2017-2018 3/	5	6	8	11	12	12	**9**	7
B3. US dollar GDP deflator at historical average minus one standard deviation in 2017-2018	5	6	7	9	11	11	**8**	6
B4. Net non-debt creating flows at historical average minus one standard deviation in 2017-2018 4/	5	6	7	9	11	11	**8**	6
B5. Combination of B1-B4 using one-half standard deviation shocks	5	6	7	9	10	10	**8**	6
B6. One-time 30 percent nominal depreciation relative to the baseline in 2017 5/	5	6	7	9	11	11	**8**	6
Debt service-to-revenue ratio								
Baseline	7	8	10	13	14	14	**12**	10
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2016-2036 1/	7	8	9	12	13	14	**13**	13
A2. New public sector loans on less favorable terms in 2016-2036 2	7	8	9	12	11	13	**12**	16
A3. Alternative Scenario : Low growth	6	8	10	14	15	16	**14**	13
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2017-2018	7	8	10	13	14	15	**12**	10
B2. Export value growth at historical average minus one standard deviation in 2017-2018 3/	7	8	10	13	15	15	**12**	10
B3. US dollar GDP deflator at historical average minus one standard deviation in 2017-2018	7	8	10	13	15	15	**12**	10
B4. Net non-debt creating flows at historical average minus one standard deviation in 2017-2018 4/	7	8	10	13	14	14	**12**	10
B5. Combination of B1-B4 using one-half standard deviation shocks	7	8	10	12	14	14	**11**	10
B6. One-time 30 percent nominal depreciation relative to the baseline in 2017 5/	7	11	14	18	20	20	**16**	14
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 4. Tanzania: Sensitivity Analysis for Key Indicators of Public Debt 2016–2036
(Percent)

	Projections							
	2016	2017	2018	2019	2020	2021	2026	2036
PV of Debt-to-GDP Ratio								
Baseline	32	33	34	34	34	34	28	20
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	32	33	34	35	35	36	40	52
A2. Primary balance is unchanged from 2016	32	32	32	31	30	30	30	34
A3. Permanently lower GDP growth 1/	32	33	34	34	35	34	29	25
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2017-2018	32	34	35	36	36	36	32	28
B2. Primary balance is at historical average minus one standard deviations in 2017-2018	32	34	36	36	36	36	30	22
B3. Combination of B1-B2 using one half standard deviation shocks	32	34	36	36	36	36	32	26
B4. One-time 30 percent real depreciation in 2017	32	40	40	40	40	39	35	31
B5. 10 percent of GDP increase in other debt-creating flows in 2017	32	43	44	44	44	43	36	27
PV of Debt-to-Revenue Ratio 2/								
Baseline	210	195	204	204	201	196	148	106
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	210	195	206	207	206	207	215	273
A2. Primary balance is unchanged from 2016	210	188	190	185	178	173	158	176
A3. Permanently lower GDP growth 1/	210	195	205	205	203	199	157	133
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2017-2018	210	198	212	214	213	210	171	145
B2. Primary balance is at historical average minus one standard deviations in 2017-2018	210	201	218	217	214	208	159	114
B3. Combination of B1-B2 using one half standard deviation shocks	210	199	214	215	214	210	168	138
B4. One-time 30 percent real depreciation in 2017	210	235	242	239	234	228	185	162
B5. 10 percent of GDP increase in other debt-creating flows in 2017	210	252	262	261	256	249	192	139
Debt Service-to-Revenue Ratio 2/								
Baseline	21	19	23	26	26	29	22	18
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	21	19	23	26	27	30	28	38
A2. Primary balance is unchanged from 2016	21	19	23	24	24	27	22	26
A3. Permanently lower GDP growth 1/	21	19	23	26	26	29	23	21
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2017-2018	21	19	24	26	27	31	25	23
B2. Primary balance is at historical average minus one standard deviations in 2017-2018	21	19	24	27	28	30	24	19
B3. Combination of B1-B2 using one half standard deviation shocks	21	19	24	27	27	31	25	22
B4. One-time 30 percent real depreciation in 2017	21	21	28	32	33	37	32	32
B5. 10 percent of GDP increase in other debt-creating flows in 2017	21	19	27	32	32	35	28	23

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.