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NINTH REVIEW UNDER THE EXTENDED CREDIT FACILITY ARRANGEMENT AND REQUEST FOR WAIVERS FOR NONOBSERVANCE OF PERFORMANCE CRITERIA—DEBT SUSTAINABILITY ANALYSIS

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The Debt Sustainability Analysis has been prepared jointly by IMF and International Development Association staff using the debt sustainability framework for low-income countries approved by the Boards of both institutions.

Malawi faces a moderate risk of debt distress based on an assessment of public external debt, with heightened vulnerabilities related to domestic debt.[1] Malawi's debt situation is somewhat better than indicated in the last DSA[2] mostly because of low disbursement in 2016 and fiscal tightening, but the debt level and interest expense remains high. All baseline external debt burden indicators remain below their indicative thresholds, but public external debt remains vulnerable to exogenous shocks, notably shocks to export revenues and exchange rate. The projected borrowing path and debt policies remain broadly unchanged since the last DSA, but close attention will need to be paid to the financing terms of any proposed infrastructure investments given the limited headroom for further borrowing.

[1] The DSA was prepared by Pranav Gupta (Economist, IMF) and Richard Record (Senior Economist, IDA)

[2] IMF Country Report No. 16/182, June, 2016.

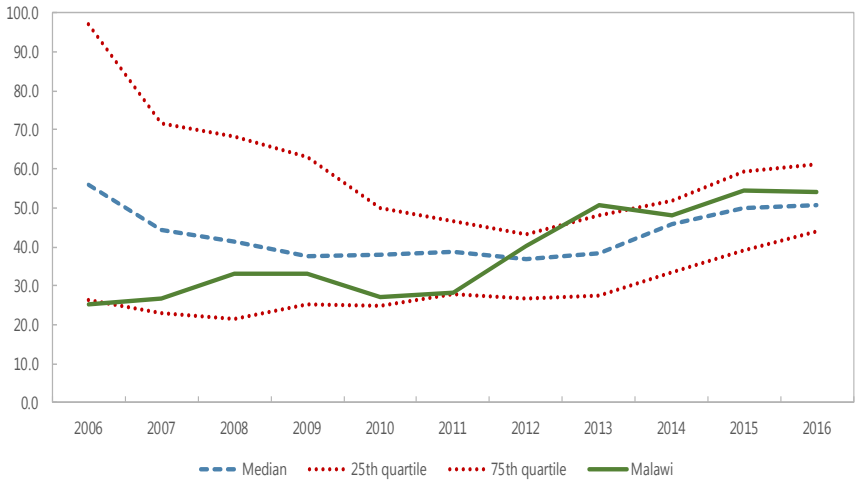
BACKGROUND

1. **The last Low Income Country Debt Sustainability Analysis (DSA) conducted in June 2016 concluded that Malawi's external public debt faced moderate risk of debt distress.** Malawi's external debt situation has shown a slight improvement since the last DSA on account of lower disbursement and tighter fiscal policies.

2. **Malawi's score under the World Bank's Country Policy and Institutional Assessment (CPIA), which measures the quality of a country's present policy and institutional framework, remained stable in 2016.** The CPIA assesses how conducive that framework is to fostering poverty reduction, sustainable growth, and the effective use of development assistance. Malawi's score peaked at 3.4 in 2007 before deteriorating to 3.1 in 2013. The country saw a modest improvement in its CPIA score to 3.2 in 2015, which was maintained in 2016. Malawi performs above the average for Sub-Saharan Africa (SSA) in the areas of social inclusion and equity (with a score of 3.5, higher than the 3.2 average for SSA), and broadly consistent with regional average for public sector management and institutions (3.1 vs. 3.0 of SSA). Structural policies are also at par with the average of SSA (3.2), while economic management stands well below regional averages at 2.8 (compared to 3.2 for SSA). Since 2014, Malawi has been subject to the tighter debt thresholds for DSA analysis reflecting a weakening policy and institutional framework.

3. **Malawi has accumulated debt at a fast rate over the recent years, and the country's debt level is high compared to its SSA peers[3]**. Since the HIPC and MDRI debt relief in 2006, Malawi's debt has more than doubled, and now stands at 54.3 percent of GDP compared to 26.7 percent of GDP in 2007, just after the debt relief. This is one of the fastest pace of accumulation of debt amongst countries which received HIPC and MDRI debt relief. Malawi's debt now stands significantly above the median debt levels of SSA PRGT eligible countries (Figure 1).

Figure 1. Total Public Debt—SSA PRGT Eligible Countries (Percent of GDP)



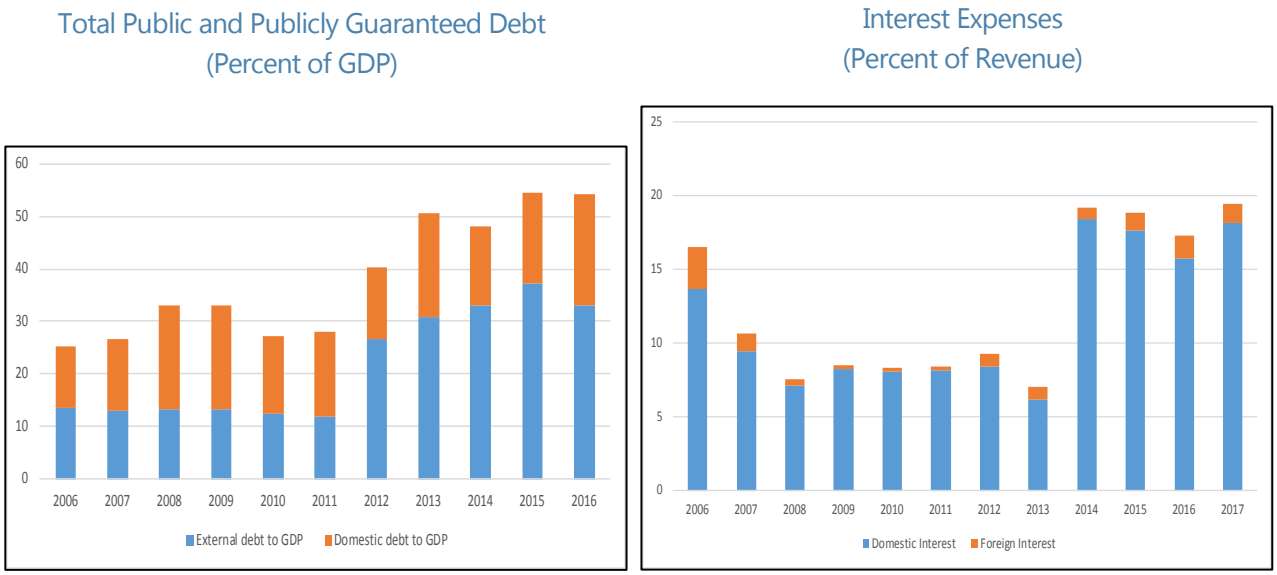
Source: WEO data and IMF staff calculation.

[3] We only include Poverty Reduction Growth Trust (PRGT) eligible SSA countries for comparison.

4. **In recent years, the composition of debt has shifted progressively from external to domestic borrowing**. This is due to the sustained large fiscal deficits incurred during 2013–17, the securitization of domestic arrears, and the withdrawal of donor financing. Notwithstanding the 2014 PTA debt restructuring transaction which converted part of domestic debt into external debt, the stock of government domestic debt has increased significantly in recent years (Figure 2). In 2014, the government sold to Preferential Trade Area (PTA) Bank, a non-resident identity, equivalent of US$250 million. This transaction led to a conversion of domestic debt into external debt since external debt in the DSA is defined in terms of creditor's residency. As these T-bills mature, they will be rolled over into new government securities, hence reversing the above conversion.

5. **The interest expense as a share of revenue has risen significantly in recent years and stands at around 20 percent of government revenues in FY2016/17 (Figure 2)**. This change reflects the much higher servicing cost of Malawi's domestic debt, compared to external debt which is predominantly on highly concessional terms. In particular, interest expense on domestic debt increased sharply in 2014 as the Reserve Bank of Malawi (RBM) tightened its policy to anchor inflation expectations. Debt service to revenue ratio is also expected to remain high at around 30 percent in 2017. Going forward, as the inflation declines, it is expected that the interest expense would be on the declining path.

Figure 2. Total Public and Publicly Guaranteed Debt and Interest Expense



Sources: Malawian authorities and IMF staff calculation.

RECENT DEBT DEVELOPMENTS

6. **Malawi's public and publicly guaranteed (PPG) external debt stood at about US$1.79 billion (33.1 percent of GDP) in 2016, compared to US$1.45 billion (30.8 percent of GDP) in 2013**.
At the end of 2015, the nominal value of PPG external debt stood at US$1.78 billion, which increase

marginally to US$1.79 billion in 2016 due to lower external borrowing by the central government and the exchange rate depreciation in 2016[4], which reduced the face value of PTA debt outstanding. The PTA debt restructuring loan[5] was contracted in 2014 in U.S. dollars with the repayment to be made in Kwacha. This means that as the exchange rate depreciates, the dollar denominated face value of PTA debt declines.

7. **The external debt of Malawi is held mainly by multilateral creditors (76 percent of the total in 2016), and the remainder held by bilateral creditors** (Text Table 1). The main provider of loans to Malawi is the International Development Association (IDA) (35.9 percent), followed by the African Development Fund (ADF) (13 percent) and the IMF (11 percent). China and India are the main holders among bilateral creditors, with China accounting for about 12 percent of total debt. Data on private external debt remains unavailable, but the amounts are not believed to be large.

Text Table 1: Malawi: Composition of Public and Publicly Guaranteed External Debt
(Million U.S. dollars)

	2014		2015		2016	
	Actual	Share	Actual	Share	Actual	Share
Multilaterals	1357.40	75.22	1343.10	75.33	1362.34	76.17
IMF	176.00	9.75	162.81	9.13	206.06	11.52
IDA	501.40	27.79	589.90	33.09	642.21	35.91
ADF	226.00	12.52	228.77	12.83	247.91	13.86
IFAD	77.40	4.29	71.80	4.03	72.49	4.05
other multilateral & PTA	376.60	20.87	289.83	16.26	193.66	10.83
		0.00		0.00		0.00
Bilateral	432.60	23.97	439.48	24.65	426.23	23.83
France	3.30	0.18	0.00	0.00	0.00	0.00
Belgium	1.90	0.11	1.72	0.10	1.65	0.09
People's Republic of China	244.00	13.52	242.74	13.61	226.90	12.69
India	141.80	7.86	151.74	8.51	147.29	8.23
others	41.60	2.31	43.28	2.43	50.40	2.82
		0.00		0.00		0.00
Commercial	14.49	0.80	0.39	0.02	0.00	0.00
Total	**1804.49**	**100.00**	**1782.97**	**100.00**	**1788.57**	**100.00**

Sources: Malawian authorities and IMF staff estimates.

8. **Gross domestic debt increased from MK206.6 billion (13.8 percent of the new rebased GDP) at the end of 2012 to MK865.3 billion (21.1 percent of GDP) at the end-2016**. As illustrated in Text Table 2, this increase is largely due to:

[4] The nominal effective exchange rate depreciated by around 27 percent in 2016.

[5] An equivalent to 6 percent of GDP of RBM advances was converted into Treasury notes and sold to a regional non-resident bank (PTA) bank in December 2014-January 2015. The PTA debt restructuring loan was considered as an external loan, despite repayments in local currency since the lender (PTA bank) is a foreign entity. At the time of contracting the loan, the government sold to PTA three-year maturity Treasury bills, equivalent to US$250 million. The U.S. dollar value of Treasury notes held by PTA was revised downwards following the steep depreciation of the Kwacha.

- The rise in government net domestic financing (NDF) during FY13/14 and FY14/15, following the drop in external financing in the wake of the "cashgate" scandal; NDF averaged 3.7 percent of GDP during these two fiscal years and was covered by a mix of issuance of treasury bills and accumulation of ways and means advances from the RBM.

- The issuance of promissory notes in 2013–14 in the amount of MK58 billion (2.3 percent of the 2014 GDP) by the government to recapitalize RBM following losses that arose from the 2012 devaluation of the exchange rate. An additional amount of promissory notes (MK6.07 billion, or 0.2 percent of GDP) was issued in mid-2015 to cover bad loans of a public bank that was being privatized.

- The securitization of domestic arrears in March 2013 (2.2 percent of GDP) and in 2015–16 (2.9 percent of GDP). The 2013 issuance securitized close to MK38.7 billion of verified arrears, through promissory notes at the T-bill rates plus 200 basis points to be paid off by mid-2017. The 2015–16 issuance is related to a stock of domestic arrears accumulated before FY14/15 (about MK157 billion). Of that stock, MK115 billions of issued zero-coupon promissory notes had not yet matured by end-2016.

- The issuance of a substantial amount of Treasury notes over 2012–15 with maturity ranging from two to ten years, mostly for the conversion of ways and means and maturing Treasury bills into longer-term government securities.

Text Table 2. Composition of Gross Domestic Debt
(Percent of GDP)

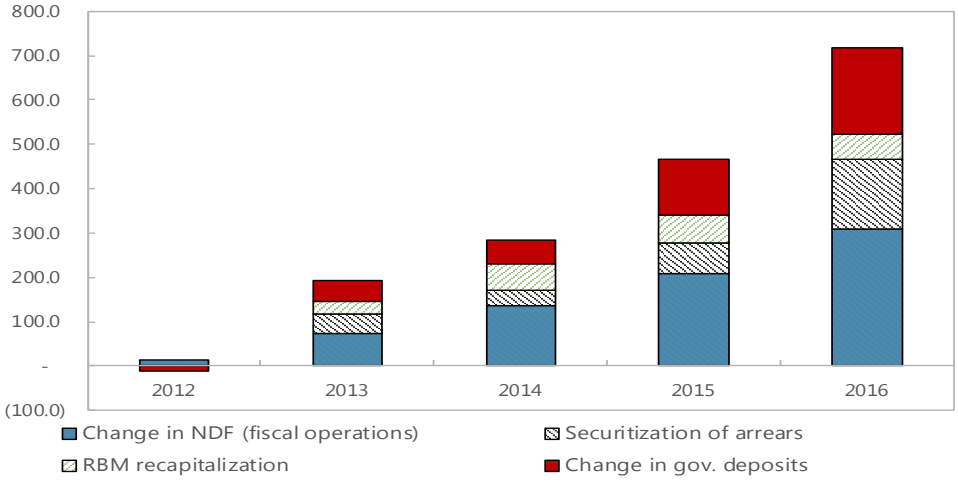
	2012	2013	2014	2015	2016
			Actual		
Treasury bills at cost value	9.0	9.1	6.9	6.2	5.8
Treasury notes	2.7	1.8	1.3	6.0	11.5
Local registered stocks (LRS)	0.2	0.1	0.1	0.0	0.0
Ways and means advances from RBM	1.7	5.2	3.0	0.9	0.9
Promissory notes for recapitalization of banks	0.1	1.5	2.3	2.0	0.7
Promisory notes for clearance of arrears	0.0	2.2	1.4	2.2	3.1
Commercial bank advances	0.1	0.0	0.0	0.0	0.0
Total	13.8	19.8	14.9	17.3	22.1

Sources: Malawian authorities and IMF staff estimates.

9. **On the other side of the government's financial balance sheet, the accumulation of gross domestic debt originates from four elements (Figure 3)**. The net domestic financing of the fiscal deficit (43 percent), followed by the accumulation of deposits (27 percent), the securitization of old arrears (22 percent) and the recapitalization of the central bank and one public bank (8 percent) resulted in the gross domestic debt reaching MK718 billion between 2011 to 2016. The accumulation of deposits is generated by an accumulation of gross domestic debt when issued new government securities are higher

than the amount required by a simple rolled-over of maturing securities or do not correspond to a conversion of ways and means.

Figure 3. Components of Cumulative Changes in Gross Domestic Debt (Billions Kwacha)



Sources: Malawian authorities and IMF staff estimates.

10. **Following two years of weather-related humanitarian crisis, the government is placing a strong emphasis on prioritizing external borrowing around investments that boost resilience and close the infrastructure gap**. Plans to invest heavily in irrigation in the Shire Valley with IDA and ADF resources aim to help mitigate the risk of climate variability. A large-scale investment in the Nacala rail corridor by a consortium of private financiers led by the International Finance Corporation will help boost connectivity for international trade, while minimizing the risks to external debt sustainability. However, given the limited headroom available to Malawi it is critical that careful attention be paid to the financing terms of any large infrastructure investments under consideration to avoid any change in the risk of debt distress.

UNDERLYING DSA ASSUMPTIONS

11. **Malawi's economy has been hit hard by weather-related shocks for a second consecutive year resulting in several areas of underperformance relative to the June 2016 DSA**. Owing to one of the worst weather related shocks, GDP growth in Malawi is expected to decline to 2.3 percent in 2016 compared to 3.0 percent in 2015[6]. The Kwacha, like most currencies in the region, experienced a sharp depreciation against the U.S. dollar in 2016, albeit with some stabilization in the latter half of the year. Despite robust tobacco exports, overall exports dropped because of lower exports of crops such as sugar and tea. The current account is estimated to have widened substantially due to largescale maize imports for the humanitarian relief operation, carried out by the World Food Program as well as a number of private importers. The baseline maintains the assumption of a gradual reduction in the external current account

[6] IMF staff estimates.

deficit beyond 2017 through a recovery in agricultural (especially maize) production, as well as a degree of export diversification and productivity improvements in the exportable sectors. It also assumes a gradual lowering of the reliance on grants and concessional financing over the long-term. End-of-period inflation is projected to drop to single digits by end-2018. The key macroeconomic assumptions are summarized in Box 1.

12. **It is assumed that the current policy mix aimed at restoring macroeconomic stability will be pursued over the medium-term**. These policies will consist of tighter fiscal and monetary policies to keep inflation on a declining trend, PFM reforms to improve the quality of spending and mobilization of revenues, prudent external borrowing, and structural reforms to address supply-side bottlenecks and improve factor productivity.

Box 1. Baseline Macroeconomic Assumptions

Real GDP growth is projected to gradually recover from 2.3 percent in 2016 to 4.5 percent in 2017 and to remain close to 5.5 percent over the medium term, driven by agriculture, improved productivity across sectors and the population growth rate. This is also consistent with the historic growth average over the past 10 years.

Inflation (end-of period) is projected to gradually decline from 20.0 percent at end-2016 to 13.0 percent by December 2017 and to reach single digits by 2018 in the absence of other weather-related shocks. The continuation of tight fiscal and monetary policies should help anchor inflation expectations based on the decline in nonfood inflation for five consecutive months.

The exchange rate is projected to remain constant in real terms in the medium to long term.

The tax revenue to GDP ratio is expected to increase in FY16/17 and FY17/18 due to higher tax collection in international trade following, the recent depreciation and improved efficiency of tax administration. The increase is expected to be higher than what was assumed at the time of last DSA. In the long run, we assume that tax revenue will gradually increase from 17.9 percent of GDP in FY17/18 to around 19 percent of GDP in FY35/36, as a result of progressive reforms to tax administration and policy.

External debt will be mainly contracted over the medium term from multilateral creditors on concessional terms, with the remainder being bilateral on broadly similar terms. Budget support from multilateral and bilateral donors is assumed to remain subdued for FY 2016/17 and into the medium term. For FY 2017/18, the baseline assumes US$ 80 million budget support from the World Bank.

The current account deficit is projected to increase in 2016 due to higher imports of food supplies to compensate for domestic food shortages on account of the drought, which would be financed by higher donor support. Going forward from 2017, the current account is projected to remain on a gradual declining path.

New disbursements on external loans. For 2017, new disbursements on external loans are taken from the authorities' fiscal framework, which projects capital spending covered by external loans to reach 4.1 of GDP in FY16/17 and 3.6 percent in FY17/18. It is assumed that external project loans will remain close to 3 percent of GDP in subsequent fiscal years.

Net domestic financing. It is assumed that government net domestic financing will be limited to less than 1 percent of GDP in each fiscal year beyond FY17/18, thus contributing marginally to the change in domestic debt.

Text Table 3. Macroeconomic Forecast and Assumptions (Previous and Current DSAs)

	Real GDP growth		Primary deficit (percent of GDP)		Change in public debt (percent of GDP)	
Year	Previous	Current	Previous	Current	Previous	Current
2014	5.7	5.7	0.3	0.2	-2.6	-2.6
2015	3.0	2.9	2.0	2.1	5.8	6.6
2016	2.7	2.3	2.5	1.9	-1.7	-0.3
2017	4.5	4.5	0.2	1.3	-5.0	-4.4
2018	5.0	5.0	0.6	-0.6	-2.4	-1.0
2019	5.5	5.5	0.3	-0.1	-2.1	-1.7
2020	5.5	5.5	0.7	-0.1	-1.0	-2.4
2021	5.5	5.5	1.1	-0.1	-0.3	-1.5
2022	5.5	5.5	1.6	-0.3	-0.4	-1.3
Avg 2023-2037	5.5	5.5	1.3	0.4	-0.3	-0.6

Sources: Malawian authorities and IMF staff calculations and projections.

1/ Base year for previous DSA was 2015 and 2016 for the current DSA.

EXTERNAL PUBLIC DEBT SUSTAINABILITY

13. **All baseline external debt burden indicators remain below their indicative thresholds, but public external debt remains vulnerable to exogenous shocks, notably shocks to export revenues and the exchange rate**. Debt service is high in 2016 because of large amortization related to the debt restructuring operation with the PTA bank, but the ratio falls significantly once the PTA related amortization is completed. In 2017 the nominal value of PPG external debt is projected to fall further on account of a further large amortization repayment related to the PTA loan.

A. Stress Tests

14. **Standard tests indicate that a weaker debt outcome is possible under certain conditions.** The strongest impact on the indicators arises under scenario of one-time depreciation of 30 percent in 2018 causing the PV of debt to GDP, PV of debt to revenue and debt service to revenue to breach the thresholds and remain at elevated levels. Another risk arises under the historical scenario, when the average current account deficit was around 10.1 percent of GDP and low foreign direct investment (around 1.5 percent of GDP), causing all ratios to breach the thresholds and remain at elevated levels. In addition, the team has moved to the IMF BPM6 classification affecting the historical scenario. In the past, project and dedicated grants were classified on the current account but are now subsequently reclassified to the capital account leading to significant increase in historical values of the current account deficit[7]. However, Malawi

[7] Average of current account over last 10 years was around -5.5 percent, compared to -10.1 percent under the revised classification. For example, under the reclassification, current account for 2011 and 2012 were revised from -5.9 percent and -3.5 percent to -9.3 and -8.7 percent respectively.

is unlikely to run high and protracted current account deficits in medium-long term because (i) prior to 2012, Malawi had a pegged exchange rate regime, with a highly overvalued exchange rate, which has now been removed; and, (ii) as macroeconomic stability is regained and the business environment improves, we expect increases in FDI inflows, especially in the energy sector.

PUBLIC DEBT SUSTAINABILITY

15. **Gross total debt as a percentage of GDP is projected to decline from 54.3 percent at end-2016 to around 33 percent by end-2037.** The levels and path for total public debt are in line with the June 2016 DSA, with present value of debt to GDP indicator marginally higher than desirable benchmarks (Figure 6). The marginal breach is caused due to increase in domestic debt related to PTA amortization and the issuance of zero coupon promissory notes. Standard tests suggest that the debt dynamics would deteriorate relative to the baseline (Figure 6 and Table 5) in the presence of shocks. The strongest impact is under the fixed primary balance scenario, where we assume that the primary deficit would remain constant at the 2016 level (1.2 percent of GDP) for the remainder of projection period.

16. **Gross domestic debt as a percentage of GDP is projected to gradually decline over the medium term from 21.2 percent of GDP at end-2016 to around 12 percent of GDP at end-2022**. These projections assume that (i) the cost value of all maturing T-bills and the face-value of all maturing Treasury notes will be continuously rolled over; (ii) the government net domestic financing will be limited to less than 1 percent of GDP in each fiscal year after 2016; (iii) the issuance of zero coupon promissory notes for the payment of domestic arrears uncovered in late 2014 will be gradually completed by mid-2017, after verification and audit; and (iv) all maturing promissory notes, including those sold to PTA bank, will also be automatically converted into advances from the central Bank and ultimately rolled over into T-bill of varying maturities (91, 182 and 364 days) or T-notes of longer than one year maturity which could then be tradable in the secondary market.

B. Policy Implications

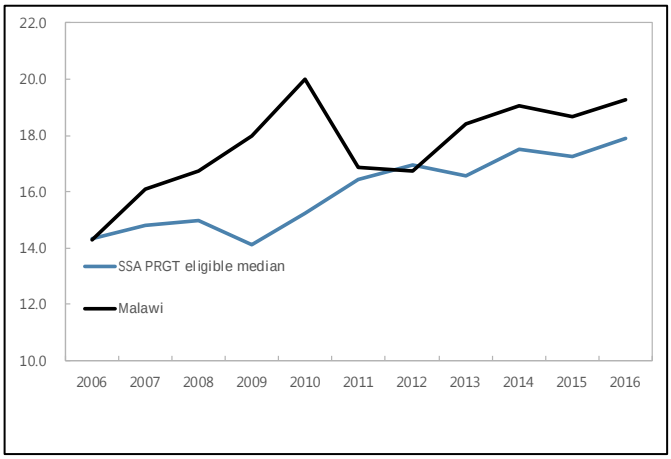
17. **Malawi continues to face a number of external financing risks that can only be addressed by increased fiscal restraint** in order to ensure that growth in the country's debt takes place at a sustainable pace. As such, fiscal tightening is expected to be the policy response to unexpected negative financing shocks (such as delayed or lower donor support, lower tax revenue or growth shocks). Higher than assumed domestic borrowing would bring additional pressures on the exchange rate and on non-food inflation, and crowd out private sector borrowing and investment, while also eroding perceptions of government commitment to policy reforms and maintaining macroeconomic stability.

18. **Reorientation of government expenditure from current spending to capital expenditure could lead to both higher and more resilient economic growth**. In recent years, the composition of government spending has shifted from capital spending to current spending. Expenditure related to wages and interest expense has overshadowed much needed capital expenditure (Figure 4). In addition, Malawi suffers from vulnerabilities related to a dependency on a short and predominantly rain-fed agricultural season in order to meet food security needs and an increased frequency of climate-induced weather

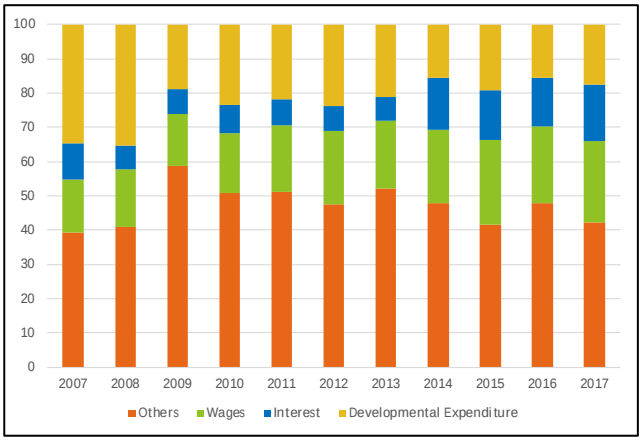
shocks. These vulnerabilities can be mitigated by long-term investments in infrastructure and diversification of the economy. In particular, increased capital investments in better irrigation and water management could help to both boost agricultural productivity and mitigate against climate change. Efforts to improve agricultural commercialization and address energy shortages will also be needed. But considering recent increase in debt vulnerabilities, government needs to prioritize projects with high returns and rely on concessional borrowing. On revenue side, the Malawi Revenue Authority is performing well and the revenue collection in Malawi is well above the median of SSA low income countries.

Figure 4. Revenue and Composition of Government Expenditure

Revenue (excl. grants) (Percent of GDP)



Decomposition of Government Expenditure



Sources: Malawian authorities and IMF staff estimates.

C. Authorities' Views

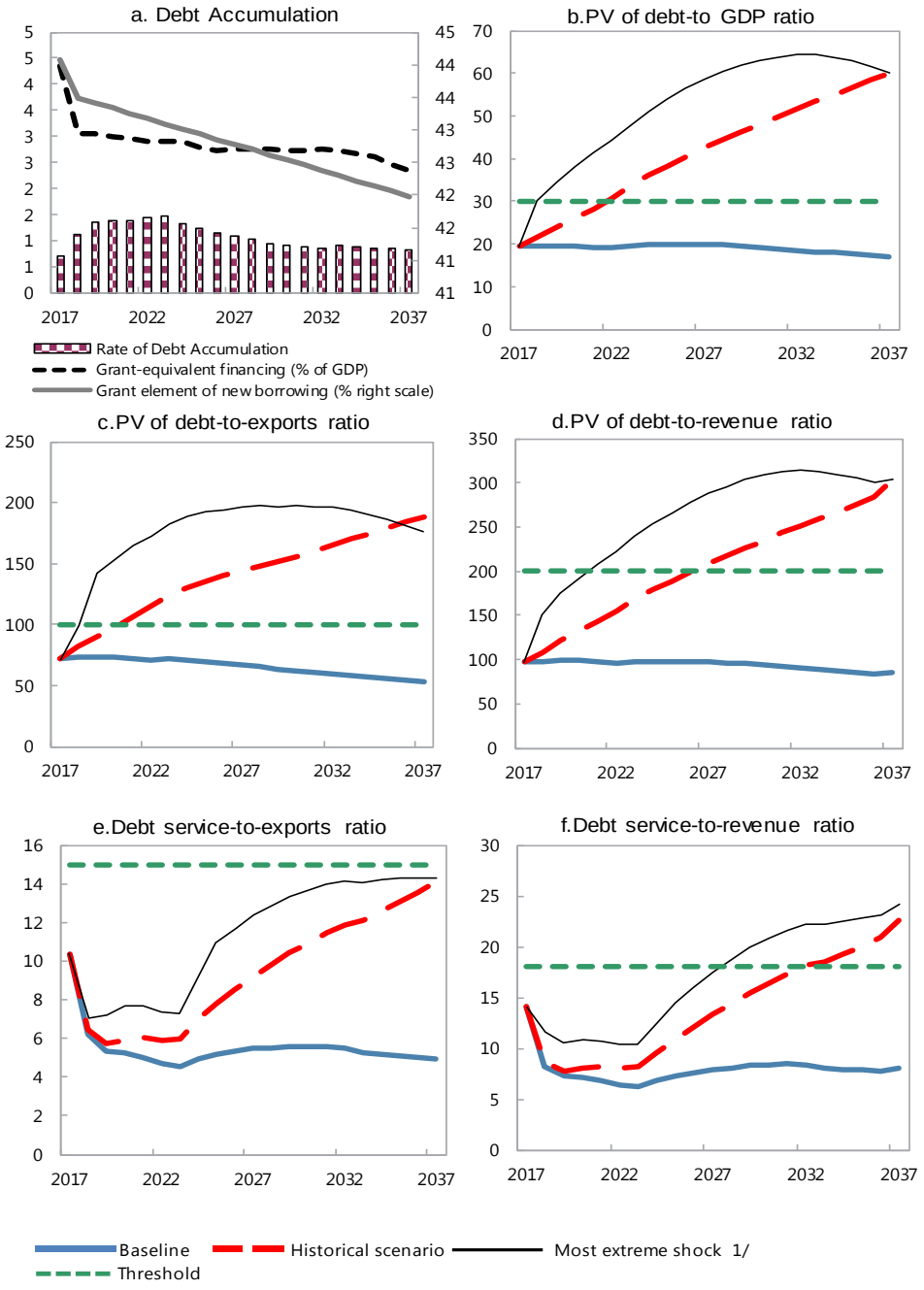
19. **The Malawian authorities concurred with the analysis and conclusion of this DSA.** They agreed with staff that a prudent external borrowing and a consolidated fiscal position limiting domestic financing needs will be key to maintaining total debt sustainability. Achieving this objective will require strengthening debt management and relying on concessional debt to the extent possible. The authorities have placed a strong emphasis on maintaining debt sustainability, particularly when considering value-for-money and the financing terms of any new infrastructure investment projects.

CONCLUSIONS

20. **Malawi remains at moderate risk of debt distress, based on an assessment of external public debt, but heightened overall risks remain, reflecting vulnerabilities to domestic debt and external conditions.** Risks of export-related and weather shocks remain, and have materialized since the last DSA. Absorption of weather shocks while maintaining macroeconomic stability and debt sustainability will require careful macroeconomic management and difficult policy choices. Close attention will need to be

paid to the financing terms of any proposed infrastructure investments given the limited headroom for further borrowing. Similarly, risks of negative financing shocks in the form of delayed donor support, or lower-than-expected revenue collections also remain, given Malawi's high aid dependency. In such an environment, further efforts to maximize the impact of finite domestic resources are required. This calls for further efforts to broaden the tax base and strengthen public procurement and public financial management.

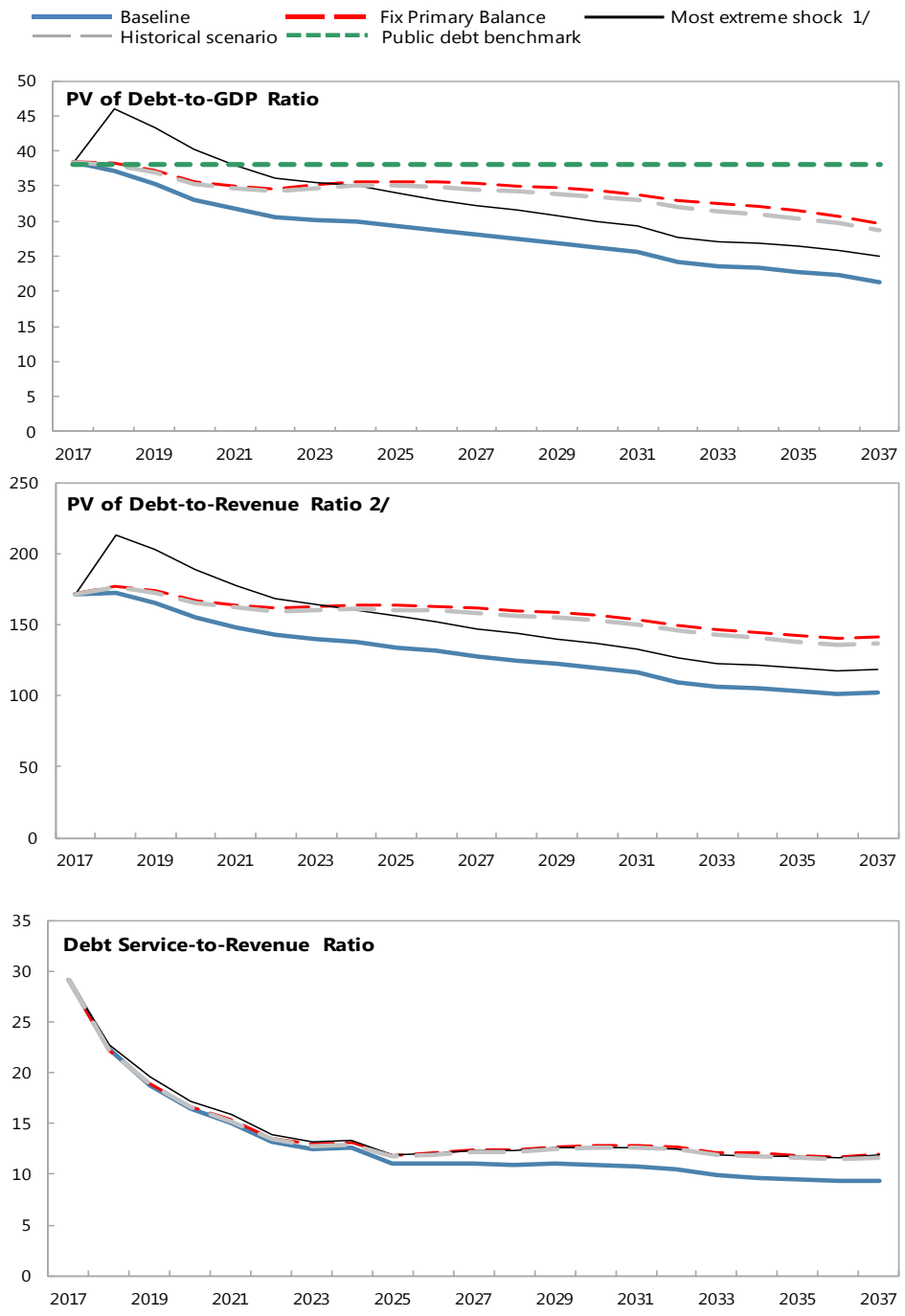
Figure 5. Malawi: Indicators of Public and Publicly Guaranteed External Debt under Alternatives Scenarios, 2017–37 1/



Sources: Country authorities; and staff estimates and projections.

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

Figure 6. Malawi: Indicators of Public Debt Under Alternative Scenarios, 2017–37 1/



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

Table 1. Malawi: External Debt Sustainability Framework, Baseline Scenario, 2014–37

(Percent of GDP, unless otherwise indicated)[8]

	Actual			Historical[6/] Average	Standard[6/] Deviation	Projections									
	2014	2015	2016			2017	2018	2019	2020	2021	2022	2017-2022 Average	2027	2037	2023-2037 Average
External debt (nominal) 1/	**36.7**	**40.7**	**37.2**			**34.6**	**34.6**	**34.9**	**34.5**	**34.0**	**33.6**		**34.5**	**30.2**	
of which: public and publicly guaranteed (PPG)	33.1	37.3	33.1			30.9	31.2	31.5	31.3	31.0	30.6		31.9	28.5	
Change in external debt	1.9	4.0	-3.5			-2.6	0.0	0.3	-0.4	-0.5	-0.5		-0.1	-0.5	
Identified net debt-creating flows	4.1	5.7	8.5			4.9	4.2	3.6	3.5	3.3	3.0		2.7	1.4	
Non-interest current account deficit	**8.0**	**8.7**	**12.8**	**9.7**	**2.3**	**8.9**	**7.9**	**7.5**	**7.3**	**7.1**	**6.7**		**6.3**	**4.6**	5.8
Deficit in balance of goods and services	10.6	11.1	16.6			12.2	11.0	10.4	10.2	9.9	9.5		9.1	7.4	
Exports	28.9	25.5	29.1			27.0	26.7	26.8	26.7	26.6	26.9		29.6	31.8	
Imports	39.6	36.6	45.7			39.2	37.6	37.2	36.9	36.6	36.4		38.7	39.2	
Net current transfers (negative = inflow)	-5.1	-4.9	-5.7	-5.7	1.4	-5.3	-5.0	-4.9	-4.8	-4.7	-4.6		-4.5	-4.4	-4.5
of which: official	0.0	-0.4	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Other current account flows (negative = net inflow)	2.5	2.5	2.0			2.0	1.9	1.9	1.9	1.8	1.8		1.7	1.6	
Net FDI (negative = inflow)	**-0.8**	**-1.8**	**-3.1**	**-1.9**	**1.1**	**-3.0**	**-2.5**	**-2.4**	**-2.4**	**-2.3**	**-2.3**		**-2.2**	**-1.9**	-2.1
Endogenous debt dynamics 2/	**-3.2**	**-1.2**	**7.6**			**-1.0**	**-1.3**	**-1.5**	**-1.4**	**-1.4**	**-1.4**		**-1.4**	**-1.3**	
Contribution from nominal interest rate	0.4	0.8	0.8			0.4	0.3	0.3	0.3	0.3	0.3		0.4	0.3	
Contribution from real GDP growth	-1.8	-1.0	-1.1			-1.5	-1.6	-1.8	-1.8	-1.8	-1.7		-1.8	-1.6	
Contribution from price and exchange rate changes	-1.8	-1.0	7.9			...	...	...	...	...	...		...	...	
Residual (3-4) 3/	**-2.2**	**-1.7**	**-12.1**			**-2.5**	**0.4**	**1.2**	**0.4**	**0.4**	**0.5**		**1.2**	**0.1**	
of which: exceptional financing	-3.7	-2.6	-2.6			-4.0	-3.2	-3.2	-3.2	-3.1	-3.0		-3.0	-2.7	
PV of external debt 4/	...	...	25.7			23.1	22.9	23.0	22.7	22.3	22.0		22.3	18.6	
In percent of exports	...	...	88.3			85.5	86.0	85.8	84.9	83.8	81.8		75.5	58.5	
PV of PPG external debt	**...**	**...**	**21.6**			**19.4**	**19.5**	**19.6**	**19.4**	**19.2**	**19.1**		**19.8**	**16.8**	
In percent of exports	**...**	**...**	**74.1**			**72.0**	**73.0**	**73.2**	**72.8**	**72.2**	**70.9**		**67.0**	**53.0**	
In percent of government revenues	**...**	**...**	**114.2**			**97.5**	**97.3**	**99.4**	**98.7**	**97.2**	**95.9**		**97.0**	**85.0**	
Debt service-to-exports ratio (in percent)	**4.7**	**7.4**	**12.3**			**10.4**	**6.2**	**5.3**	**5.2**	**5.0**	**4.7**		**5.5**	**5.0**	
PPG debt service-to-exports ratio (in percent)	**4.7**	**7.4**	**12.3**			**10.4**	**6.2**	**5.3**	**5.2**	**5.0**	**4.7**		**5.5**	**5.0**	
PPG debt service-to-revenue ratio (in percent)	**7.2**	**10.2**	**19.0**			**14.0**	**8.2**	**7.2**	**7.1**	**6.8**	**6.3**		**7.9**	**8.0**	
Total gross financing need (Billions of U.S. dollars)	0.5	0.6	0.8			0.6	0.5	0.5	0.5	0.5	0.5		0.7	1.0	
Non-interest current account deficit that stabilizes debt ratio	6.1	4.7	16.4			11.5	7.9	7.2	7.7	7.6	7.2		6.4	5.1	
Key macroeconomic assumptions															
Real GDP growth (in percent)	5.7	2.9	2.3	5.5	2.6	4.5	5.0	5.5	5.5	5.5	5.5	5.2	5.5	5.5	5.5
GDP deflator in US dollar terms (change in percent)	5.5	2.8	-16.2	-1.3	12.8	10.1	3.3	-0.1	1.7	1.9	2.1	3.2	0.4	1.5	0.8
Effective interest rate (percent) 5/	1.2	2.3	1.8	1.0	0.6	1.4	1.0	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Growth of exports of G&S (US dollar terms, in percent)	5.1	-6.7	-2.3	11.3	16.9	6.9	7.0	6.1	6.8	7.2	8.8	7.1	8.0	7.4	7.5
Growth of imports of G&S (US dollar terms, in percent)	3.6	-2.1	6.9	6.4	15.4	-1.2	4.0	4.3	6.3	6.6	7.2	4.5	7.1	6.7	6.9
Grant element of new public sector borrowing (in percent)	...	...	...	...	...	44.1	43.5	43.4	43.3	43.3	43.2	43.5	42.8	42.0	42.5
Government revenues (excluding grants, in percent of GDP)	18.6	18.5	18.9			19.9	20.0	19.7	19.7	19.8	19.9		20.4	19.8	20.4
Aid flows (in Billions of US dollars) 7/	0.4	0.4	0.3			0.3	0.2	0.2	0.3	0.3	0.3		0.4	0.6	
of which: Grants	0.2	0.2	0.1			0.2	0.1	0.1	0.1	0.1	0.1		0.2	0.3	
of which: Concessional loans	0.2	0.1	0.1			0.2	0.1	0.1	0.1	0.1	0.1		0.2	0.3	
Grant-equivalent financing (in percent of GDP) 8/	...	...	...			4.4	3.1	3.1	3.0	3.0	2.9		2.7	2.3	2.7
Grant-equivalent financing (in percent of external financing) 8/	...	...	...			63.9	62.7	62.7	62.7	62.7	62.8		61.6	60.0	61.9
Memorandum items:															
Nominal GDP (Billions of US dollars)	6.1	6.4	5.5			6.3	6.9	7.2	7.7	8.3	9.0		11.9	22.6	
Nominal dollar GDP growth	11.5	5.8	-14.3			15.1	8.4	5.4	7.3	7.5	7.8	8.6	5.9	7.1	6.4
PV of PPG external debt (in Billions of US dollars)			1.2			1.2	1.3	1.4	1.5	1.6	1.7		2.3	3.7	
(PVt-PVt-1)/GDPt-1 (in percent)						0.7	1.1	1.3	1.4	1.4	1.4	1.2	1.1	0.8	1.0
Gross workers' remittances (Billions of US dollars)	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
PV of PPG external debt (in percent of GDP + remittances)	...	...	21.6			19.4	19.5	19.6	19.4	19.2	19.1		19.8	16.8	
PV of PPG external debt (in percent of exports + remittances)	...	...	74.1			72.0	73.0	73.2	72.8	72.2	70.9		67.0	53.0	
Debt service of PPG external debt (in percent of exports + remittanc	...	...	12.3			10.4	6.2	5.3	5.2	5.0	4.7		5.5	5.0	

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

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. Malawi: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2017–37

	Projections							
	2017	2018	2019	2020	2021	2022	**2027**	2037
PV of debt-to GDP ratio								
Baseline	19	19	20	19	19	19	**20**	17
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2017-2037 1/	19	22	24	26	28	31	**43**	60
A2. New public sector loans on less favorable terms in 2017-2037 2	19	19	21	21	22	23	**27**	29
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2018-2019	19	22	26	28	31	33	**44**	45
B2. Export value growth at historical average minus one standard deviation in 2018-2019 3/	19	23	30	32	34	36	**45**	44
B3. US dollar GDP deflator at historical average minus one standard deviation in 2018-2019	19	26	34	38	41	44	**58**	60
B4. Net non-debt creating flows at historical average minus one standard deviation in 2018-2019 4/	19	23	27	30	32	34	**44**	43
B5. Combination of B1-B4 using one-half standard deviation shocks	19	26	36	38	41	44	**55**	54
B6. One-time 30 percent nominal depreciation relative to the baseline in 2018 5/	19	30	35	38	41	44	**59**	60
PV of debt-to-exports ratio								
Baseline	72	73	73	73	72	71	**67**	53
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2017-2037 1/	72	82	89	98	106	114	**144**	189
A2. New public sector loans on less favorable terms in 2017-2037 2	72	73	77	80	83	85	**92**	92
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2018-2019	72	80	91	101	110	117	**141**	134
B2. Export value growth at historical average minus one standard deviation in 2018-2019 3/	72	99	142	154	165	172	**196**	176
B3. US dollar GDP deflator at historical average minus one standard deviation in 2018-2019	72	80	91	101	110	117	**141**	134
B4. Net non-debt creating flows at historical average minus one standard deviation in 2018-2019 4/	72	86	102	111	120	126	**147**	136
B5. Combination of B1-B4 using one-half standard deviation shocks	72	91	115	125	134	141	**162**	147
B6. One-time 30 percent nominal depreciation relative to the baseline in 2018 5/	72	80	91	101	110	117	**141**	134
PV of debt-to-revenue ratio								
Baseline	97	97	99	99	97	96	**97**	85
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2017-2037 1/	97	109	121	132	143	155	**208**	303
A2. New public sector loans on less favorable terms in 2017-2037 2	97	97	105	109	112	115	**133**	148
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2018-2019	97	109	130	143	154	165	**213**	225
B2. Export value growth at historical average minus one standard deviation in 2018-2019 3/	97	117	152	164	174	183	**222**	221
B3. US dollar GDP deflator at historical average minus one standard deviation in 2018-2019	97	129	174	191	207	221	**286**	301
B4. Net non-debt creating flows at historical average minus one standard deviation in 2018-2019 4/	97	115	138	151	161	171	**213**	218
B5. Combination of B1-B4 using one-half standard deviation shocks	97	131	180	195	208	219	**270**	272
B6. One-time 30 percent nominal depreciation relative to the baseline in 2018 5/	97	151	175	193	208	222	**288**	303

Table 3. Malawi: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2017–37 (cont.)

	Projections							
	2017	2018	2019	2020	2021	2022	**2027**	2037
Debt service-to-exports ratio								
Baseline	10	6	5	5	5	5	**5**	5
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2017-2037 1/	10	6	6	6	6	6	**9**	14
A2. New public sector loans on less favorable terms in 2017-2037 2	10	6	5	5	5	5	**6**	7
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2018-2019	10	6	6	6	6	5	**9**	11
B2. Export value growth at historical average minus one standard deviation in 2018-2019 3/	10	7	7	8	8	7	**12**	14
B3. US dollar GDP deflator at historical average minus one standard deviation in 2018-2019	10	6	6	6	6	5	**9**	11
B4. Net non-debt creating flows at historical average minus one standard deviation in 2018-2019 4/	10	6	6	6	6	6	**9**	11
B5. Combination of B1-B4 using one-half standard deviation shocks	10	6	6	6	6	6	**10**	12
B6. One-time 30 percent nominal depreciation relative to the baseline in 2018 5/	10	6	6	6	6	5	**9**	11
Debt service-to-revenue ratio								
Baseline	14	8	7	7	7	6	**8**	8
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2017-2037 1/	14	9	8	8	8	8	**13**	23
A2. New public sector loans on less favorable terms in 2017-2037 2	14	8	7	7	7	7	**9**	11
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2018-2019	14	8	8	8	8	8	**13**	18
B2. Export value growth at historical average minus one standard deviation in 2018-2019 3/	14	8	8	8	8	8	**14**	18
B3. US dollar GDP deflator at historical average minus one standard deviation in 2018-2019	14	10	10	11	11	10	**17**	24
B4. Net non-debt creating flows at historical average minus one standard deviation in 2018-2019 4/	14	8	8	8	8	8	**13**	18
B5. Combination of B1-B4 using one-half standard deviation shocks	14	9	9	10	10	10	**17**	22
B6. One-time 30 percent nominal depreciation relative to the baseline in 2018 5/	14	12	11	11	11	10	**17**	24
Memorandum item:								
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	38	38	38	38	38	38	**38**	38

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
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 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. Malawi: Public Sector Debt Sustainability Framework, Baseline Scenario, 2014–37

(Percent of GDP, unless otherwise indicated)

	Actual					Estimate	Projections							
	2014	2015	2016	Average 5/	Standard Deviation 5/	2017	2018	2019	2020	2021	2022	2017-22 Average	2027	2037	2023-37 Average
Public sector debt 1/	48.0	54.6	54.3			49.9	48.9	47.3	44.9	43.4	42.1		40.1	33.0	
of which: foreign-currency denominated	33.1	37.3	33.1			30.9	31.2	31.5	31.3	31.0	30.6		31.9	28.5	
Change in public sector debt	-2.6	6.6	-0.3			-4.4	-1.0	-1.7	-2.4	-1.5	-1.3		-0.6	-1.0	
Identified debt-creating flows	-3.9	7.7	-0.9			-2.1	-1.4	-1.3	-2.0	-1.8	-2.0		-1.1	-0.8	
Primary deficit	0.2	2.1	1.9	1.2	1.6	1.3	-0.6	-0.1	-0.1	-0.1	-0.3	0.0	0.3	0.9	0.4
Revenue and grants	21.4	21.7	21.3			22.4	21.6	21.4	21.3	21.4	21.5		21.9	21.0	
of which: grants	2.8	3.2	2.4			2.4	1.7	1.7	1.6	1.6	1.6		1.5	1.2	
Primary (noninterest) expenditure	21.5	23.8	23.2			23.6	21.0	21.3	21.3	21.3	21.2		22.2	21.9	
Automatic debt dynamics	-4.0	5.6	-2.5			-3.4	-0.8	-1.2	-2.0	-1.7	-1.8		-1.4	-1.7	
Contribution from interest rate/growth differential	-1.8	-0.3	0.4			-1.0	-1.2	-1.7	-1.8	-1.6	-1.5		-1.9	-1.8	
of which: contribution from average real interest rate	0.9	1.0	1.6			1.3	1.2	0.9	0.6	0.8	0.8		0.3	0.0	
of which: contribution from real GDP growth	-2.7	-1.4	-1.2			-2.3	-2.4	-2.6	-2.5	-2.3	-2.3		-2.1	-1.8	
Contribution from real exchange rate depreciation	-2.2	6.0	-2.9			-2.4	0.4	0.5	-0.1	-0.2	-0.3		...	...	
Other identified debt-creating flows	0.0	0.0	-0.3			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Privatization receipts (negative)	0.0	0.0	-0.3			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	1.2	-1.1	0.6			-2.2	0.5	-0.4	-0.3	0.4	0.7		0.5	-0.2	
Other Sustainability Indicators															
PV of public sector debt	...	...	42.7			38.4	37.2	35.4	33.0	31.7	30.6		28.0	21.4	
of which: foreign-currency denominated	...	...	21.6			19.4	19.5	19.6	19.4	19.2	19.1		19.8	16.8	
of which: external	...	...	21.6			19.4	19.5	19.6	19.4	19.2	19.1		19.8	16.8	
PV of contingent liabilities (not included in public sector debt)	...	...	...			...	...	...	...	...	...		...	...	
Gross financing need 2/	5.7	6.9	9.7			7.8	4.2	3.9	3.4	3.1	2.6		2.7	2.9	
PV of public sector debt-to-revenue and grants ratio (in percent)	...	...	200.7			171.7	171.8	165.2	154.9	148.0	142.3		127.9	101.7	
PV of public sector debt-to-revenue ratio (in percent)	...	...	226.3			192.5	186.1	179.1	167.7	160.1	153.8		137.0	107.9	
of which: external 3/	...	...	114.2			97.5	97.3	99.4	98.7	97.2	95.9		97.0	85.0	
Debt service-to-revenue and grants ratio (in percent) 4/	25.7	22.3	35.7			29.2	22.3	18.8	16.4	15.0	13.2		11.1	9.4	
Debt service-to-revenue ratio (in percent) 4/	29.5	26.1	40.2			32.7	24.1	20.4	17.8	16.3	14.2		11.9	10.0	
Primary deficit that stabilizes the debt-to-GDP ratio	2.8	-4.5	2.2			5.6	0.4	1.6	2.3	1.4	1.0		0.9	1.9	
Key macroeconomic and fiscal assumptions															
Real GDP growth (in percent)	5.7	2.9	2.3	5.5	2.6	4.5	5.0	5.5	5.5	5.5	5.5	5.2	5.5	5.5	5.5
Average nominal interest rate on forex debt (in percent)	2.7	5.2	4.0	2.3	1.4	3.1	2.2	2.3	2.3	2.4	2.4	2.5	2.4	2.4	2.4
Average real interest rate on domestic debt (in percent)	3.2	-2.1	3.4	2.0	5.3	4.3	6.4	5.4	3.9	5.6	5.8	5.2	1.6	-3.2	0.9
Real exchange rate depreciation (in percent, + indicates depreciatior	-7.5	17.8	-7.7	5.9	25.6	-7.4	...	...	...	...	...	...	...	...	...
Inflation rate (GDP deflator, in percent)	20.9	21.0	19.7	15.7	6.9	13.5	10.4	8.9	8.7	6.7	4.9	8.8	3.9	5.1	4.3
Growth of real primary spending (deflated by GDP deflator, in percer	-12.8	13.9	-0.5	0.1	6.3	6.4	-6.5	6.9	5.2	5.8	5.0	3.8	6.3	1.7	5.8
Grant element of new external borrowing (in percent)	...	...	...	...	...	44.1	43.5	43.4	43.3	43.3	43.2	43.5	42.8	42.0	...

Sources: Country authorities; and staff estimates and projections.

1/ [Indicate coverage of public sector, e.g., general government or nonfinancial public sector. Also whether net or gross debt is used.]

2/ Gross financing need is defined as the primary deficit plus debt service plus the stock of short-term debt at the end of the last period.

3/ Revenues excluding grants.

4/ Debt service is defined as the sum of interest and amortization of medium and long-term debt.

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

Table 5. Malawi: Sensitivity Analysis for Key Indicators of Public Debt 2017–37

	Projections							
	2017	2018	2019	2020	2021	2022	2027	2037
PV of Debt-to-GDP Ratio								
Baseline	38	37	35	33	32	31	28	21
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	38	38	37	35	35	34	35	29
A2. Primary balance is unchanged from 2017	38	38	37	36	35	35	35	30
A3. Permanently lower GDP growth 1/	38	37	36	34	33	32	33	36
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2018-20	38	38	38	36	35	34	34	31
B2. Primary balance is at historical average minus one standard deviations in 2018-201	38	39	39	37	35	34	31	23
B3. Combination of B1-B2 using one half standard deviation shocks	38	39	39	37	35	34	33	27
B4. One-time 30 percent real depreciation in 2018	38	46	43	40	38	36	32	25
B5. 10 percent of GDP increase in other debt-creating flows in 2018	38	43	41	39	37	36	33	24
PV of Debt-to-Revenue Ratio 2/								
Baseline	172	172	165	155	148	142	128	102
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	172	176	173	165	162	159	158	136
A2. Primary balance is unchanged from 2017	172	177	174	167	163	161	161	141
A3. Permanently lower GDP growth 1/	172	173	168	159	154	150	151	171
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2018-20	172	176	176	167	163	159	155	145
B2. Primary balance is at historical average minus one standard deviations in 2018-201	172	181	182	171	164	158	141	110
B3. Combination of B1-B2 using one half standard deviation shocks	172	180	181	171	165	159	148	126
B4. One-time 30 percent real depreciation in 2018	172	213	203	188	178	169	147	119
B5. 10 percent of GDP increase in other debt-creating flows in 2018	172	199	192	181	173	166	149	115
Debt Service-to-Revenue Ratio 2/								
Baseline	29	22	19	16	15	13	11	9
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	29	22	19	17	15	13	12	12
A2. Primary balance is unchanged from 2017	29	22	19	17	15	14	12	12
A3. Permanently lower GDP growth 1/	29	22	19	17	15	14	12	13
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2018-20	29	23	20	17	16	14	12	12
B2. Primary balance is at historical average minus one standard deviations in 2018-201	29	22	19	17	15	14	12	10
B3. Combination of B1-B2 using one half standard deviation shocks	29	22	19	17	16	14	12	11
B4. One-time 30 percent real depreciation in 2018	29	25	23	20	19	17	16	16
B5. 10 percent of GDP increase in other debt-creating flows in 2018	29	22	19	17	16	14	13	11

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.