INTERNATIONAL DEVELOPMENT ASSOCIATION

INTERNATIONAL MONETARY FUND

# ZAMBIA

## Joint World Bank-IMF Debt Sustainability Analysis

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Prepared jointly by the staffs of the International Development Association (IDA)

and the International Monetary Fund (IMF)

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**Zambia: Joint Bank-Fund Debt Sustainability Analysis**

| | |
|---|---|
| Risk of external debt distress | High |
| Overall risk of debt distress | High |
| Granularity in the risk rating | Public debt under current policies is on an unsustainable path |
| Application of judgment | No |

An updated DSA is prepared using the revised Low-income Countries Debt Sustainability Framework (LIC DSF) to assess Zambia's current debt situation. Debt burden indicators have deteriorated considerably since the October 2017 DSA mainly on account of large fiscal deficits as the authorities made use of available financing to boost infrastructure spending, weaker growth and exchange rate, and a worsened external environment (terms of trade and financial conditions). Rising debt service costs (both externally and domestically) and a large pipeline of contracted and to-be-disbursed loans place Zambia's public debt on an unsustainable path under current policies while budget expenditure arrears have risen. Zambia's debt-carrying capacity has also weakened with its FX reserves' import coverage declining from 4.7 months in 2015 to 1.7 months in May 2019. All four external debt burden indicators breach their indicative thresholds, three of them by large margins and throughout the medium-term under the baseline scenario. Total public debt is projected to increase somewhatin the near-term as, under unchanged policies, fiscal deficits remain large, before gradually declining as large debt-financed public projects are completed and forced fiscal adjustment occurs given financing constraints. As a frontier market, Zambia's high gross financing needs (peaking at 19 percent of GDP over the next three years), combined with wide EMBI spreads (1,575 basis points on June 11, 2019) and high domestic borrowing costs, expose it to significant market-financing risks. Despite the challenging fiscal situation, Zambia has remained current on all its debt obligations—domestic and external—and has not experienced a debt distress event. The authorities remain committed to prioritizing debt service payments and have identified resources to continue meeting debt obligations in the near-term. However, staff assess the risk of external and overall public debt distress for Zambia as very high at this juncture, and that a large upfront and sustained fiscal adjustment is essential to begin reducing debt vulnerabilities.

## Debt coverage

1. **The public debt definition used in this DSA covers the central government direct and guaranteed debt (including budget expenditure arrears) as well as the nonguaranteed external debt of a fiscally important state-owned enterprise (SOE) (Text Table 1)**. This is a broader debt metric than the authorities' official debt definition which, as in many other developing economies, covers the central government direct and guaranteed debt including budget expenditure arrears, and stood at $18.3 billion (78.1 percent of GDP) at end-2018. The nonguaranteed debt (including borrowings and arrears to foreign IPPs) of the financially challenged state-owned utility company—ZESCO—is for the first time included in the debt perimeter for DSA purposes, justified by the significant fiscal risks posed by the company and in accordance with the LIC DSF Guidance.[1] These contingent liabilities to the central government added about US$0.7 billion (or 2⅔ percent of GDP) at end-2018. To ensure stock-flow consistency, ZESCO's net profit (calculated as revenue minus cost of sales and operating expense, which was estimated by staff at roughly 1 percent of GDP in 2018 and is assumed to remain constant in GDP terms going forward) is included as public sector revenue for the computation of liquidity indicators.[2] The authorities reported no outstanding nonguaranteed external debt of other nonfinancial SOEs as they generally lack the capacity to borrow externally without guarantees. Central bank external debt (including outstanding Fund credit) is included in the debt coverage. Local governments in Zambia currently do not have the capacity to borrow without the central government's backstop, and their outstanding debt (expenditure arrears) is currently captured under the central government. The debt of social security funds is guaranteed by the central government and therefore included. The authorities confirmed that no extrabudgetary funds currently exist with outstanding debt. Limitied data on domestic debt of SOEs suggest the stock is insignificant and is adequately captured through the default SOE shock (2 percent of GDP) in the contingent liability stress test. The authorities have recently started regular collections of SOEs' financial data in an effort to gradually broaden the debt coverage going forward.

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[1] ZESCO and other SOEs' guaranteed debt has always been included in DSAs and is now also part of the authorities' officially published debt metric. ZESCO's contingent risks to the sovereign relate to its persistent and large cash deficits. Several reform options are under consideration for improving ZESCO's financial viability (tariff increases, a cost of service study, and renegotiation of PPAs), and its inclusion in the debt perimeter will be reassessed in future DSA updates.

[2] As historical series of ZESCO's liabilities and cash flows are not available, their inclusion (starting in 2018) in the DSA result in a timeseries break between 2017 and 2018.

**Text Table 1. Zambia: Stock of Public and Publicly Guaranteed (PPG) Debt**

(End-2018, billions of U.S. dollars)

| | Official debt coverage | DSA debt coverage |
|---|---|---|
| **Total PPG debt** | **18.3** | **18.9** |
| **External PPG debt** | **11.3** | **12.6** |
| **1. Central government direct external debt** | **10.0** | **10.0** |
| Multi/pluri-laterals | 1.9 | 1.9 |
| o.w. IMF | 0.1 | 0.1 |
| o.w. WB/AfDB | 1.6 | 1.6 |
| Bilaterals | 3.0 | 3.0 |
| Paris Club | 0.1 | 0.1 |
| Non-Paris Club | 2.9 | 2.9 |
| Commercial | 5.1 | 5.1 |
| o.w. Eurobonds | 3.0 | 3.0 |
| **2. Central government guaranteed external debt** | **1.2** | **1.2** |
| **3. SOE external debt (nonguaranteed)** | *Not included* | **0.6** |
| **4. Nonresident holdings of local currency debt** | *Treated as domestic* | **0.7** |
| **Domestic PPG debt** | **7.0** | **6.3** |
| **1. Central government direct domestic debt** | **7.0** | **6.3** |
| Treasury bills | 1.548 | 1.544 |
| Treasury bonds | 3.3 | 2.7 |
| Others | 2.1 | 2.1 |
| o.w. budget expenditure arrears | 1.6 | 1.6 |
| Memo: nonresident holdings of treasury bills | 0.004 | 0.004 |
| Memo: nonresident holdings of treasury bonds | 0.7 | 0.7 |
| Memo: total PPG debt to GDP (%) | 78.1 | 80.8 |

Note: the main differences between the official and DSA debt coverages can be attributed to the treatment of nonresident holdings of local currency government debt and nonguaranteed SOE external debt. These items are highlighted in the table.

Sources: Zambian authorities and IMF staff estimates.

**Public Debt Coverage and the Magnitude of the Contingent Liability Tailored Stress Test**

Public debt coverage and the magnitude of the contingent liability tailored stress test

B. Please customize elements of the contingent liability tailored test, as applicable.

| | | | | |
|---|---|---|---|---|
| 1 | The country's coverage of public debt | The central government plus social security, central bank, government-guaranteed debt, non-guaranteed SOE debt | | |
| | | Default | Used for the analysis | Reasons for deviations from the default settings |
| 2 | Other elements of the general government not captured in 1. | 0 percent of GDP | 0 | |
| 3 | SoE's debt (guaranteed and not guaranteed by the government) 1/ | 2 percent of GDP | 2 | |
| 4 | PPP | 35 percent of PPP stock | 1.39 | |
| 5 | Financial market (the default value of 5 percent of GDP is the minimum value) | 5 percent of GDP | 5 | |
| | Total (2+3+4+5) (in percent of GDP) | | 8.4 | |

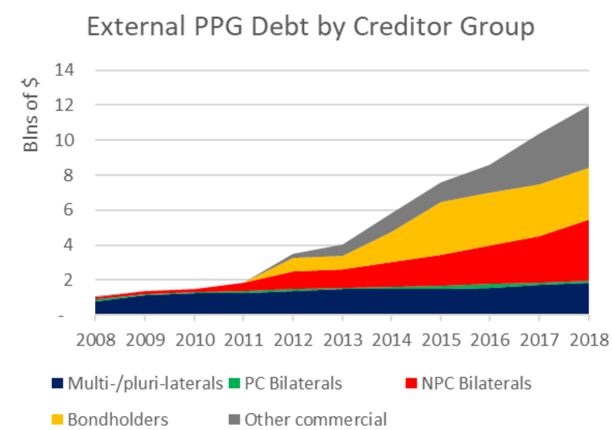
1/ The default shock of 2% of GDP will be triggered for countries whose government-guaranteed debt is not fully captured under the country's public debt definition (1.). If it is already included in the government debt (1.) and risks associated with SoE's debt not guaranteed by the government is assessed to be negligible, a country team may reduce this to 0%.

2. **The DSA is conducted on a residency basis**. Pursuant to the LIC DSF Guidance Note, foreign holdings of local currency debt issued domestically are now treated as external debt. The stock of such holdings as of end-2018 was about US$670 million or 14 percent of total outstanding domestic government securities.

## Background

**3. Increased borrowing to finance large capital expenditure has led to a sharp increase in external debt and a shift in the creditor composition (Text Figure 1).** External central government and government guaranteed debt has tripled (relative to GDP) during the past five years and is estimated to have reached US$12 billion or 51 percent of GDP by end-2018. There has also been a noticeable shift toward more non-concessional borrowing.[3] Non-Paris Club official creditors hold about 29 percent of total outstanding external PPG debt, followed by Eurobond holders (25 percent), foreign banks (19 percent), and foreign investors holding local currency debt (6 percent). The rest is largely held by traditional multilaterals (15 percent), while plurilateral creditors and the Paris Club together account for another 1.3 percent.[4] Domestically, the debt stock largely consists of treasury securities (21 percent of GDP) and budget expenditure arrears on non-debt obligations (7 percent of GDP, including VAT backlogs).

**Text Figure 1. Creditor Landscape of Zambia's External Central Government and Government Guaranteed Debt**




Sources: Zambian authorities and IMF staff estimates.

**4. Market-financing risks have heightened during the past 12 months**. Zambia's Eurobonds have performed worse than most frontier markets since early-2018, with spreads around 1,575 basis points on June 11, 2019. The widening of Eurobond spreads and pressures on domestic interest rates have come at a time of rising gross financing needs (GFNs). Project-related inflows meanwhile surged to 6.4 percent of GDP in 2018. The new DSF market-financing module flags a high liquidity risk (Figure 5).

**5. Refinancing risks have started to materialize in domestic debt markets**. Tightening financing conditions in the domestic debt market with frequent undersubscriptions in auctions and structural weaknesses in PFM led to a reemergence of budget financing gaps in 2018 and contributed to further accumulation of budget expenditure arrears.[5] Private placements with

[3] Nonguaranteed SOE external debt is not included in Text Figure 1 due to a lack of historical data.

[4] The Zambian authorities are in the process of clearing some *de minimis* arrears recently reported to the Paris Club by Belgium. The authorities' were confirming *de minimis* sovereign arrears reported to the Paris Club by France. There is an ongoing internal reconciliation exercise to prevent such arrears from reoccurring. In addition, some pre-HIPC arrears to Iraq still exist but an agreement in principle has been reached and is currently pending finalization.

[5] Per Zambia's Constitution, public debt claims constitute a charge on the government's consolidated fund and are therefore given explicit priority over most other government spending mandates.

domestic institutions totalled 4.2 billlion Kwacha in 2018, of which roughly half was to the state-run pension, NAPSA.

**6. Liquidity pressures also stem from large external debt payments**. External debt service (on public and publicly guaranteed debt plus foreign-held LC debt) is projected to reach $1.6 billion in 2019 (increased from about $1 billion in 2018), larger than the current FX reserves level (as of May 2019). A total of $4.9 billion (principal + interest) are due to external creditors over 2019-21, of which US$4.6 billion on already disbursed debt (Text Table 2). To compensate anticipated external debt payments, the central bank has recently stepped up its efforts in opportunistically purchasing FX from the market.

**Text Table 2: External Debt Service by Creditor Class**

(on already disbursed debt as of end 2018)

| Millions of U.S. dollars | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|
| **Total debt service on external PPG debt** | **1592** | **1489** | **1525** | **2104** | **1082** |
| **Central government** | **1226** | **1170** | **1116** | **1822** | **822** |
| Multi/pluri-laterals | 80 | 66 | 66 | 72 | 76 |
| Paris Club bilaterals | 10 | 12 | 16 | 17 | 16 |
| Non-Paris Club bilaterals | 276 | 299 | 338 | 357 | 370 |
| Eurobonds | 237 | 237 | 237 | 987 | 197 |
| Other commercial creditors | 623 | 555 | 459 | 389 | 163 |
| **SOEs** | **261** | **215** | **208** | **190** | **182** |
| o.w. guaranteed | 164 | 152 | 148 | 133 | 128 |
| **Foreign holdings of LC debt** | **105** | **105** | **201** | **92** | **77** |

Sources: Zambian authorities and IMF staff calculations.

## Macroeconomic and debt assumptions

**7. The economic outlook on current policies has deteriorated, compared to the October 2017 DSA (Text Table 2)**. Growth is lower and projected to remain subdued over the medium-term as financing contraints force a disorderly fiscal adjustment and increasingly weigh on economic activity, and the kwacha has depreciated by 30 percent since end-2017. Fiscal deficits have been larger than previously anticipated. However, financing constraints are becoming increasingly binding, forcing a larger adjustment than envisaged in the 2019 budget. The current account deficit is expected to further widen due to lower copper exports and higher imports and interest payments associated with foreign-financed public investment before narrowing as large government projects are completed and domestic demand weakens with slowing growth and a large forced fiscal consolidation. FDI is ebbing due to an uncertain outlook, leaving public sector project flows and FX reserves as the predominant sources for external financing.

**8. Large external loan disbursements are envisaged by the 2019–21 MTEF (Text Table 3)**. The total amount of contracted but undisbursed debt was estimated at around US$9.7 billion (including guarantees) or 40 percent of 2018 GDP as of April 2019, which is projected to be fully disbursed within the next 5 years (6.7 percent of GDP anticipated in 2019) under the baseline scenario. Of that total, roughly 45 percent is understood to be for projects that had not begun disbursing as of April 2019. New external borrowing is expected to restart in 2022 to rollover the maturing Eurobonds and to support public sector investment. Prospective projects under the World Bank's recently approved Country Partnership Framework (2019–21) for Zambia will be added to the projections as they are incorporated into the authorities' borrowing plans.

**9. Domestic financing is expected from net issuance of government securities and further arrears accumulation**. Banks are expected to be the main buyers for bills while pension/insurance funds are the key players in bond markets (Text Figure 2). Foreign exposure is expected to remain flat in nominal terms absent an improvement in the outlook.[6] Any residual financing needs would be met by further accumulation of supplier arrears. No direct central bank financing is assumed.

**10. Risks to the baseline scenario (current policies) are tilted to the downside**. Government arrears on domestic payments are adding to economy-wide liquidity strains and risk undermining financial stability through rising NPLs and deepening sovereign-financial linkages. The realism tools (Figure 3, 4) suggest the forced adjustment envisaged under the baseline is of a large scale. If the government instead resorted to additional accumulation of supplier arrears, the further delay in fiscal adjustment and sharp rise in debt could drag down investor sentiment, trigger large scale capital outflows, and further disrupt private sector activity. There is also a risk that financing conditions could further deteriorate due to both external and domestic factors, which could intensify already elevated liquidity pressures. However, staff assess that the macro assumptions underpinning the baseline scenario are already very conservative. Upside risks stem mainly from the positive impact of a large up-front and sustained fiscal adjustment as recommended by staff, a successful debt operation and higher copper production and prices.

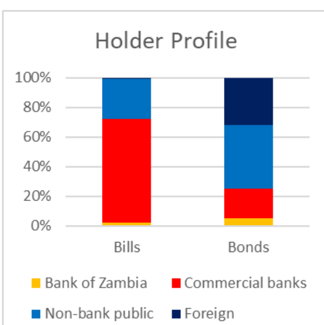
[6] While foreign investors have not participated in the primary market since the third quarter of 2018, secondary market purchases have kept the total stock of LC debt held by foreign investors broadly unchanged in kwacha terms since end-2017.

## Text Table 3. Macro and Debt Assumptions

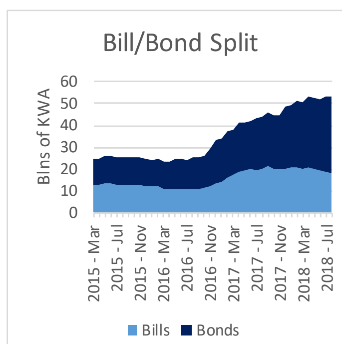
| | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024-28 |
|---|---|---|---|---|---|---|---|---|
| | (Annual percentage change) | | | | | | | |
| **Real growth** | | | | | | | | |
| 2017 DSA | 4.0 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 5.0 | 5.0 |
| Current policies | 3.5 | 3.7 | 2.0 | 1.7 | 1.7 | 1.6 | 1.5 | 1.5 |
| **GDP deflator** | | | | | | | | |
| 2017 DSA | 7.9 | 8.1 | 8.1 | 7.8 | 8.0 | 7.9 | 7.5 | 5.9 |
| Current policies | 10.1 | 9.5 | 10.0 | 9.7 | 8.2 | 8.3 | 8.0 | 7.4 |
| | (Percent of GDP) | | | | | | | |
| **Primary deficit (on commitment basis)** | | | | | | | | |
| 2017 DSA | 2.0 | 2.8 | 2.5 | 1.6 | 1.3 | 0.5 | -0.1 | -0.1 |
| Current policies (excl. SOE revenues) | 3.0 | 6.1 | 4.1 | 0.4 | -1.3 | -2.4 | -2.9 | -3.7 |
| **Non-interest current account deficit** | | | | | | | | |
| 2017 DSA | 1.7 | 1.1 | -0.4 | -1.7 | -1.6 | -1.3 | 1.2 | 1.4 |
| Current policies | 0.8 | 0.9 | 0.3 | 0.1 | -0.6 | -1.2 | -1.9 | -2.7 |
| **Net FDI inflows** | | | | | | | | |
| 2017 DSA | 6.3 | 6.1 | 6.0 | 5.8 | 5.8 | 5.8 | 5.8 | 5.8 |
| Current policies | 4.6 | 2.0 | 2.0 | 2.9 | 3.7 | 4.4 | 4.4 | 4.4 |
| | (percent) | | | | | | | |
| **Avg. nominal interest rate on external debt** | | | | | | | | |
| 2017 DSA | 4.6 | 4.5 | 4.4 | 3.8 | 3.5 | 3.7 | 3.9 | 3.8 |
| Current policies | 5.4 | 6.4 | 4.8 | 4.9 | 4.7 | 4.7 | 5.1 | 5.6 |
| **Avg. real interest rate on domestic debt** | | | | | | | | |
| 2017 DSA | 2.1 | 3.3 | 3.1 | 3.1 | 3.7 | 3.7 | 4.0 | 5.4 |
| Current policies | -0.9 | 1.2 | 0.6 | 2.0 | 4.2 | 4.5 | 5.0 | 6.6 |
| | (Millions of dollars) | | | | | | | |
| **Project loan disbursements (incl. guarantees)** | | | | | | | | |
| 2017 DSA | 1269 | 1675 | 1732 | 1494 | 1240 | 980 | 903 | 5567 |
| Current policies, o.w. | 873 | 2189 | 2773 | 2224 | 1740 | 1251 | 1100 | 6095 |
| Central government | 739 | 1709 | 1603 | 1716 | 1384 | 1251 | 1100 | 6095 |
| Guarantees | 134 | 480 | 1171 | 508 | 356 | 0 | 0 | 0 |

Source: IMF staff projections.

## Text Figure 2. Central Government LC Debt Profile




Sources: Zambia authorities and IMF staff estimates




Sources: Zambia authorities and IMF staff estimates

## Debt-Carrying Capacity

11. **Zambia's debt-carrying capacity under the Composite Indicator (CI) rating is assessed as weak**.[7] In the 2017 DSA, which used the World Bank's CPIA score to determine policy-dependent thresholds for the DSA, Zambia was assessed as a "medium" performer. The weaker debt-carrying capacity is predominantly attributed to the low level of FX reserves on current policies. This lowers the debt burden thresholds for Zambia.

| Components | Coefficients (A) | 10-year average values (B) | CI Score components (A*B) = (C) | Contribution of components |
|---|---|---|---|---|
| CPIA | 0.385 | 3.317 | 1.28 | 56% |
| Real growth rate (in percent) | 2.719 | 3.234 | 0.09 | 4% |
| Import coverage of reserves (in percent) | 4.052 | 12.337 | 0.50 | 22% |
| Import coverage of reserves^2 (in percent) | -3.990 | 1.522 | -0.06 | -3% |
| Remittances (in percent) | 2.022 | 0.027 | 0.00 | 0% |
| World economic growth (in percent) | 13.520 | 3.559 | 0.48 | 21% |
| CI Score | | | 2.29 | 100% |
| CI rating | | | Weak | |

## External DSA Assessment

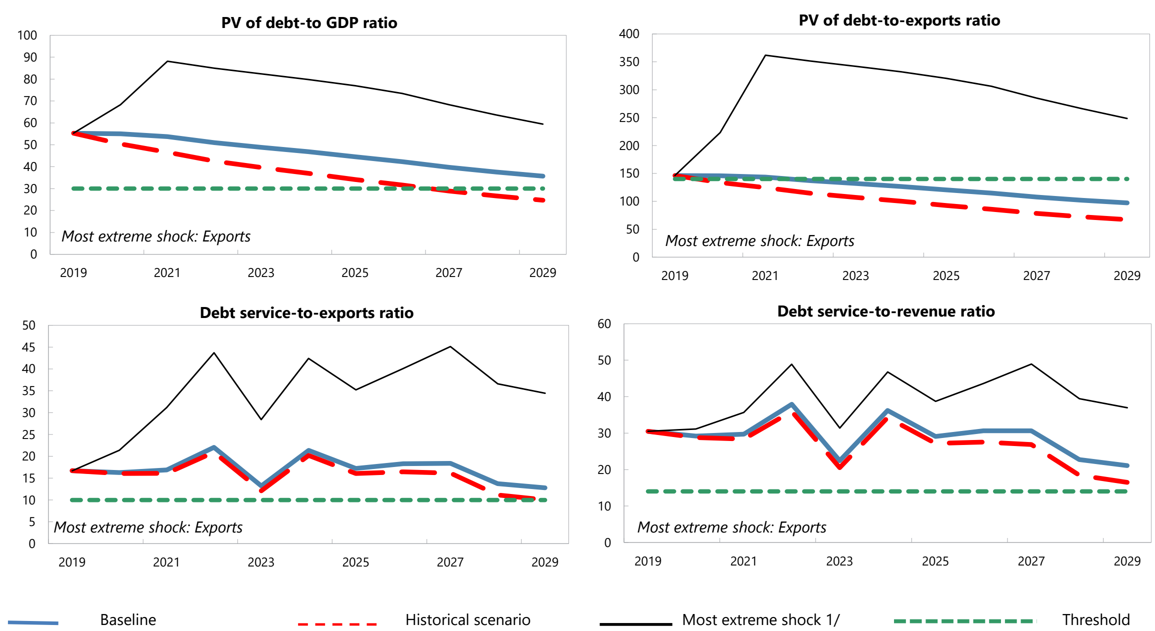
12. **Baseline breaches are persistent and significant for both solvency and liquidity indicators (Figure 1)**. All four external debt burden indicators breach their indicative thresholds and three of them by large margins and throughout the medium-term. This marks an important deterioration compared to the October 2017 DSA, reflecting a worsened macroeconomic/debt situation (namely, lower growth, weaker currency, larger deficits and external loan disbursements). Even if compared to the indicative thresholds for a *medium* performer, the baseline breaches of PV of PPG debt to GDP (peaking at 67 percent) and PPG debt service to revenue (peaking above 30 percent, net of Eurobond amortization) are significant and would endure for the next 10 years, though breaches of the debt service to exports ratio become less pronounced.

13. **Containing Zambia's external debt vulnerabilities requires large adjustment efforts and a coherent policy framework to strengthen debt-carrying capacity**. The staff-proposed adjustment scenario envisages a cumulative 8½ percent of GDP fiscal adjustment (on a commitment basis) over the next five years (with 4½ percent of GDP front-loaded for 2019 centered on substantial scaling back of the recent surge in foreign-financed capital expenditure). Under this scenario, the government is expected to regain investor confidence which would lead to improved growth prospects and support the authorities' efforts in rebuilding FX reserves and strengthening debt-carrying capacity. While some improvements are observed for the solvency indicators, the threshold breach of the PPG debt service to revenue indicator would remain significant and persistent (Text Figure 3), as a large part of the external debt payments is associated with already disbursed debt (¶6). Enhanced domestic revenue mobilization would be essential to

[7] The composite indicator is calculated using data from the April 2019 WEO.

improve the liquidity indicators but could take time to bear fruit. As a cross-check, the historical scenario suggests the adjustment is within reach and the external debt burden indicators would significantly improve if (with adjustment) the economy reverts to its historical trends (e.g. contribution from growth, exchange rate movements, and foreign borrowing).

**Text Figure 3. Zambia: External PPG DSA under Staff-Proposed Adjustment Scenario**




Source: IMF staff projections.

## Public DSA Assessment

**14. Public debt is projected to steadily increase in the near-term before declining over the medium-term as financing constraints force a fiscal adjustment**. The PV of debt to GDP ratio is projected to increase from 81 percent in 2018 to 95 percent by 2021, more than twice the prudent benchmark (35 percent of GDP) for a weak performer. The rising debt stock and increasing roll-over needs (in part due to a larger portion of short-term bills) would keep the debt service-to-revenue ratio at elevated levels over the projection horizon. A regularization/clearance plan is needed for the sizeable budget expenditure arrears, which should be accommodated to the extent possible within the budget envelope. With the baseline scenario already identifying significant and sustained macroeconomic pressures, the debt situation remains vulnerable to various macro-fiscal shocks as found by the stress tests. The standardized exports shock is the most extreme shock for all the external and overall public debt burden indicators in this DSA.

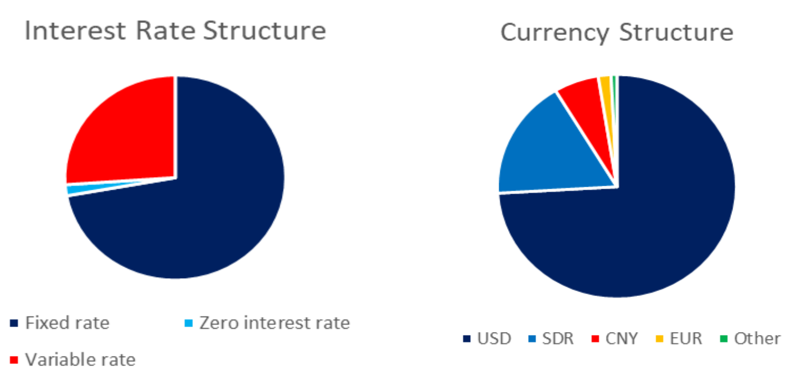
**Sustainability Assessment**

**15. Zambia's public debt under current policies is on an unsustainable path and large upfront and sustained fiscal adjustment is essential to contain debt vulnerabilities**. There are significant and persistent breaches in multiple debt burden indicators under the baseline scenario, which place Zambia's public debt on an unsustainable path. Tight financing constraints (both externally and domestically) are forcing the government to adjust while budget expenditure arrears continue to accumulate. While the government has been current on its debt payments, a large upfront and sustainable fiscal adjustment is essential to contain debt vulnerabilities and allow the government to meet its future financial obligations. The staff-proposed adjustment scenario (centered on substantial scaling back of the recent surge in foreign-financed capital expenditure) is anchored on putting the debt trajectory on a firmly downward path, which is expected to restore investor confidence, improve financing conditions, and revive FX inflows (including to roll over the 2022 Eurobonds). The risk of debt distress is however expected to remain extremely elevated (with heightened liquidity risks) even under the adjustment scenario.

**Final Risk Rating and Application of Judgment**

**16. Significant near-term breaches of the liquidity indicators suggest an elevated probability of a future distress event**. The sharp increase in external debt payments weighs heavily on government revenue (averaging 34 percent of revenue over 2019-21) and FX reserves, and is susceptible to interest rate and exchange rate risks which have already started to materialize (Text Figure 4). A standard exports shock (to which Zambia is susceptible as a commodity producer) would push the ratio up to 40 percent.[8]

**Text Figure 4. Central Government External Debt Structure**




Sources: Zambian authorities and IMF staff estimates.

**17. Zambia's ability to borrow has been increasingly hampered by the loosening fiscal stance against rising debt vulnerabilities**. The government continues to issue in the domestic

[8] During 2015-16, a period of a large decline in copper prices and a depreciating exchange rate, the external PPG debt service to revenue ratio averaged 16 percent with the government accumulating a large amount of arrears to domestic suppliers while fully meeting priority spending mandates (including debt payments).

debt market. While auctions have been frequently undersubscribed, private placements have provided some support, and the secondary market remains active. The majority of foreign investment exposure in the LC debt market has so far been maintained, although interest in additional exposure has receded. Zambia also continues to receive very large positive net inflows from commercial banks on contracted project loans.

**18. In staff's judgment, the risk of external and overall public debt distress for Zambia is currently very high**. While the threshold-based analysis points to elevated liquidity risks and a relatively high probability of a distress event over the projection horizon, the government has remained current on its external and domestic debt obligations, with no default or arrears on any debt obligation.[9] The stock of outstanding budget expenditure arrears in part reflects chronic structural weaknesses in PFM and budget execution which in staff's judgment are not forced borrowing undertaken to circumvent liquidity constraints and thus are not by themselves a signal of debt distress. In addition, several mitigating factors in staff's judgment could help avert a distress event in the near term. First, the authorities are determined to prioritize debt payments over other obligations and in line with the constitutional priority of debt service payments are proactively identifying resources (including through central bank FX purchases to replenish reserves) to achieve this. Second, the authorities are discussing relief measures on a voluntary basis with a bilateral creditor, which could be a protracted process but would ease somewhat near-term liquidity pressures.[10] Third, FX reserves appear still sufficient to cover the next 12 months' external debt payments, provided there is no sharp reversal in capital flows. Lastly, in the domestic markets, some "nonmarket" players (e.g. pension funds) still possess resources to continue participating in government debt auctions and have space to augment their portfolio allocations in the near-term. With these, staff assess that the risk of debt distress is elevated in Zambia, with strong actions needed to begin reducing debt-related vulnerabilities.

***Authorities' Views***

The authorities agreed with staff's assessment of the current debt situation and the sustainability of the debt position under current policies. They also concurred with staff on the need for large upfront adjustment targeted directly at reducing external debt accumulation to contain debt vulnerabilities. While they expected the large investment in infrastructure to pay off over the long-term so that growth over the medium-term could be significantly higher than projected by staff, they recognized that near-term debt service pressures need to be carefully managed. In this context, following a Cabinet meeting in May 2019 they announced plans to prepare a list of projects to be slowed down, postponed, or cancelled in accordance with contract provisions. They also stressed the importance of dismantling budget expenditure arrears to release liquidity and of revenue mobilization in strengthening debt repayment capacity and highlighted that several revenue enhancing initiatives are already underway

[9] With the exception of the *de minimis* arrears reported in footnote 5, which are in the process of being cleared.

[10] Per LIC DSF guidance, voluntary reprofiling discussions (i.e. not expected to result in a distressed debt exchange) are not to be considered a distress event.

including notably the planned introduction of the new sales tax.

**Figure 1. Zambia: Indicators of Public and Publicly Guaranteed External Debt Under Alternatives Scenarios, 2019–29**


| Customization of Default Settings | | |
|---|---|---|
| | Size | Interactions |
| **Tailored Stress** | | |
| Combined CL | No | |
| Natural disaster | n.a. | n.a. |
| Commodity price 2/ | No | No |
| Market financing | No | No |

Note: "Yes" indicates any change to the size or interactions of the default settings for the stress tests. "n.a." indicates that the stress test does not apply.

| Borrowing assumptions on additional financing needs resulting from the stress tests* | | |
|---|---|---|
| | Default | User defined |
| **Shares of marginal debt** | | |
| External PPG MLT debt | 100% | |
| **Terms of marginal debt** | | |
| Avg. nominal interest rate on new borrowing in USD | 6.0% | 6.0% |
| USD Discount rate | 5.0% | 5.0% |
| Avg. maturity (incl. grace period) | 15 | 15 |
| Avg. grace period | 5 | 5 |

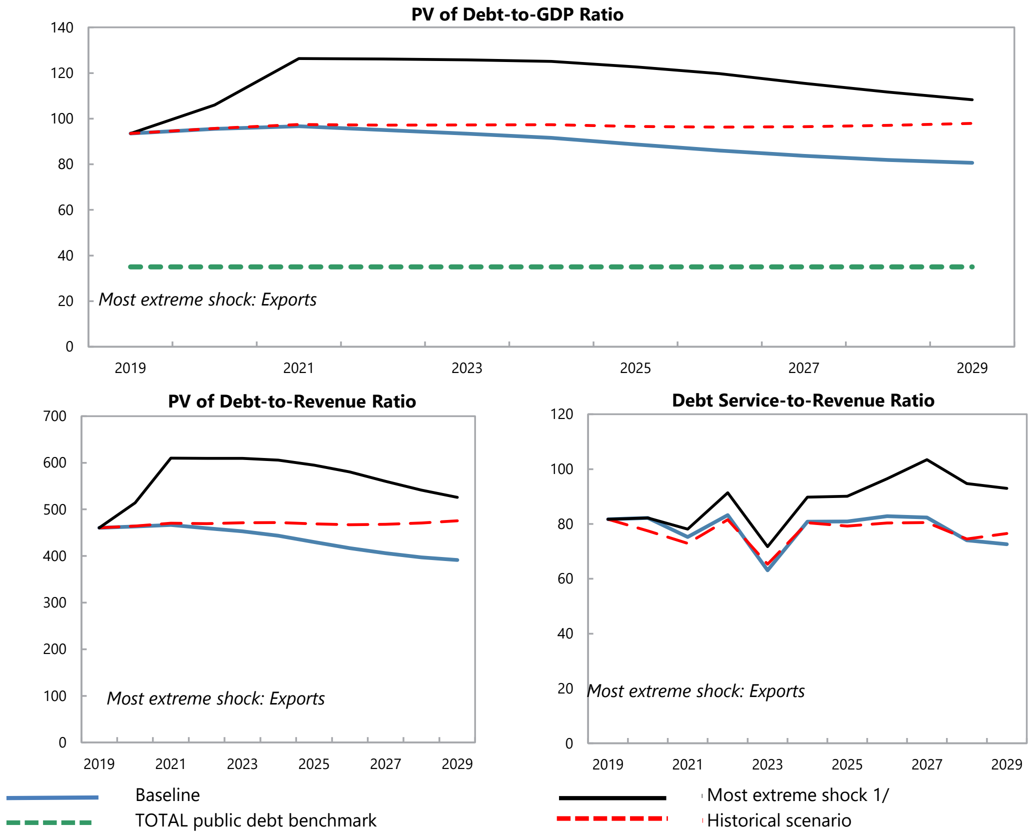
* Note: All the additional financing needs generated by the shocks under the stress tests are assumed to be covered by PPG external MLT debt in the external DSA. Default terms of marginal debt are based on baseline 10-year projections.

Sources: Country authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio in or before 2029. The stress test with a one-off breach is also presented (if any), while the one-off breach is deemed away for mechanical signals. When a stress test with a one-off breach happens to be the most exterme shock even after disregarding the one-off breach, only that stress test (with a one-off breach) would be presented.

2/ The magnitude of shocks used for the commodity price shock stress test are based on the commodity prices outlook prepared by the IMF research department.

**Figure 2. Zambia: Indicators of Public Debt Under Alternative Scenarios, 2019–29**



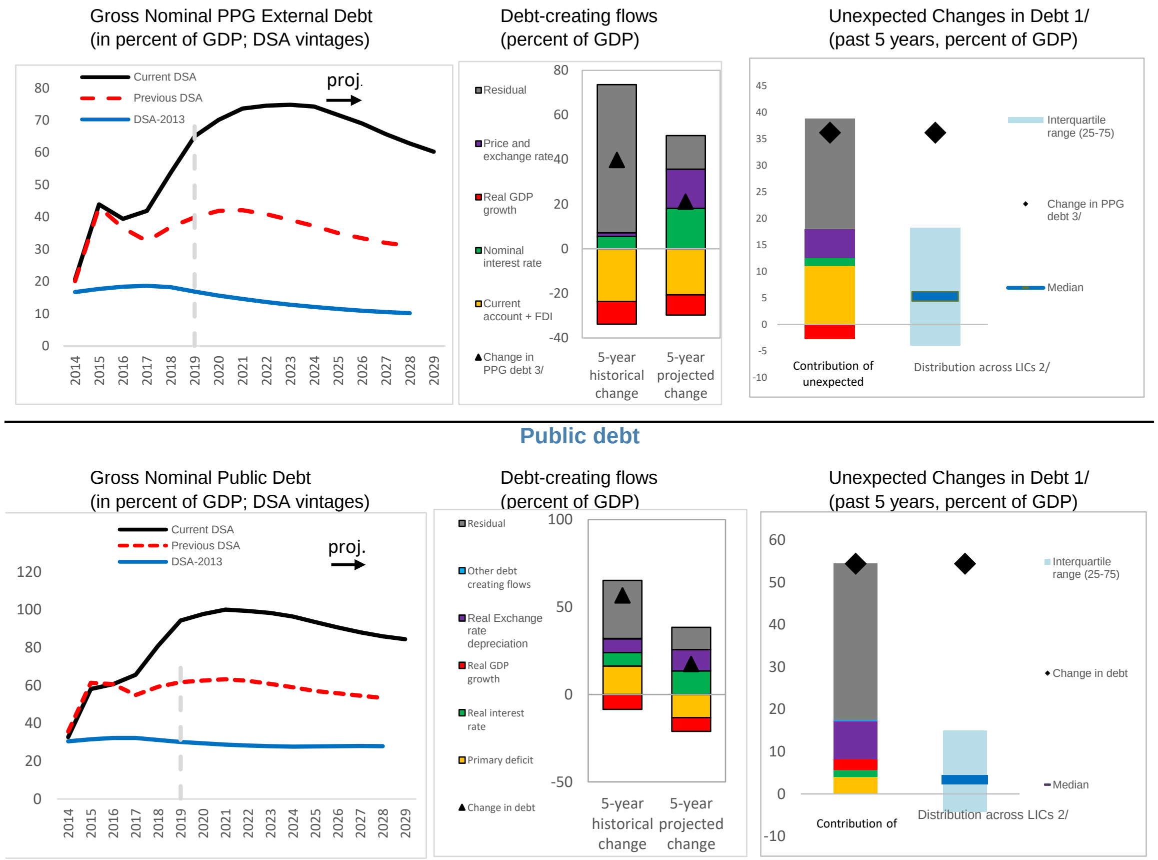

| Borrowing assumptions on additional financing needs resulting from the stress tests* | Default | User defined |
|---|---|---|
| **Shares of marginal debt** | | |
| **External PPG medium and long-term** | 54% | 54% |
| **Domestic medium and long-term** | 23% | 23% |
| **Domestic short-term** | 23% | 23% |
| **Terms of marginal debt** | | |
| **External MLT debt** | | |
| **Avg. nominal interest rate on new borrowing in USD** | 6.0% | 6.0% |
| **Avg. maturity (incl. grace period)** | 15 | 15 |
| **Avg. grace period** | 5 | 5 |
| **Domestic MLT debt** | | |
| **Avg. real interest rate on new borrowing** | 10.0% | 10.0% |
| **Avg. maturity (incl. grace period)** | 9 | 9 |
| **Avg. grace period** | 8 | 8 |
| **Domestic short-term debt** | | |
| **Avg. real interest rate** | 8.3% | 8.3% |

* Note: The public DSA allows for domestic financing to cover the additional financing needs generated by the shocks under the stress tests in the public DSA. Default terms of marginal debt are based on baseline 10-year projections.

Sources: Country authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio in or before 2029. The stress test with a one-off breach is also presented (if any), while the one-off breach is deemed away for mechanical signals. When a stress test with a one-off breach happens to be the most exterme shock even after disregarding the one-off breach, only that stress test (with a one-off breach) would be presented.

**Figure 3. Zambia: Drivers of Debt Dynamics – Baseline Scenario**



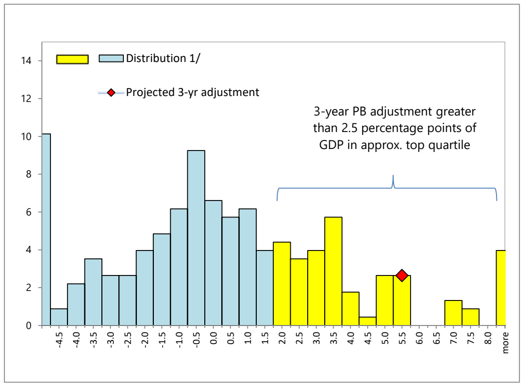

1/ Difference between anticipated and actual contributions on debt ratios.

2/ Distribution across LICs for which LIC DSAs were produced.

3/ Given the relatively low private external debt for average low-income countries, a ppt change in PPG external debt should be largely explained by the drivers of the external debt dynamics equation.

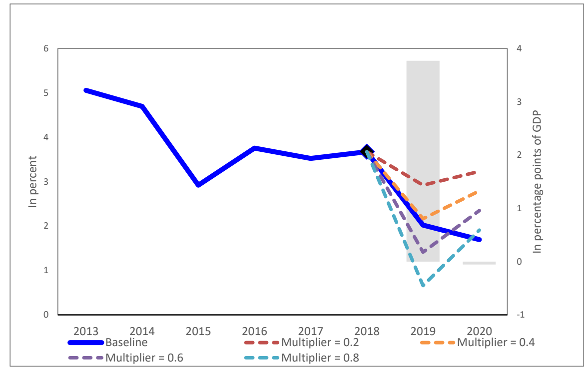
# Figure 4. Zambia: Realism Tools

**3-Year Adjustment in Primary Balance**
**(Percentage points of GDP)**



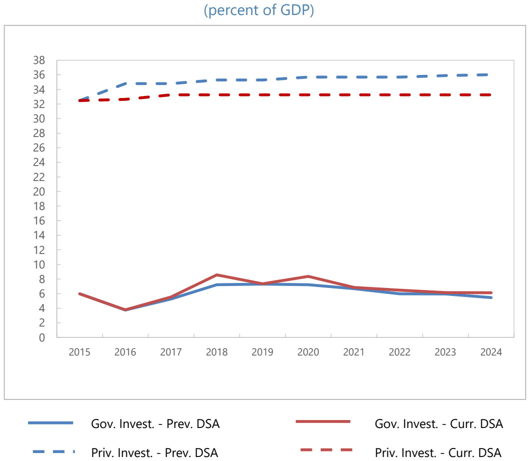

1/ Data cover Fund-supported programs for LICs (excluding emergency financing) approved since 1990. The size of 3-year adjustment from program inception is found on the horizontal axis; the percent of sample is found on the vertical axis.

**Fiscal Adjustment and Possible Growth Paths 1/**




1/ Bars refer to annual projected fiscal adjustment (right-hand side scale) and lines show possible real GDP growth paths under different fiscal multipliers (left-hand side scale).

**Public and Private Investment Rates**
(percent of GDP)




**Contribution to Real GDP growth**
(percent, 5-year average)

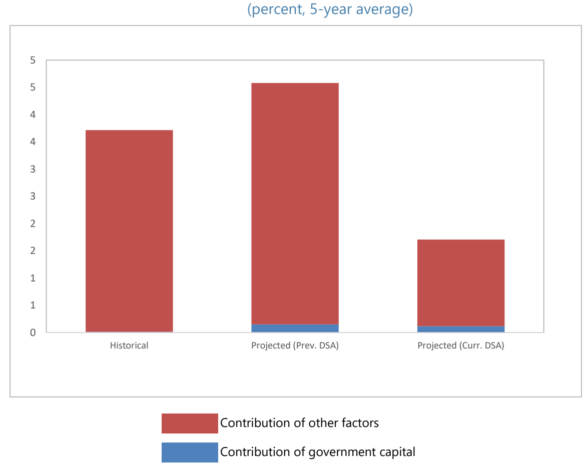
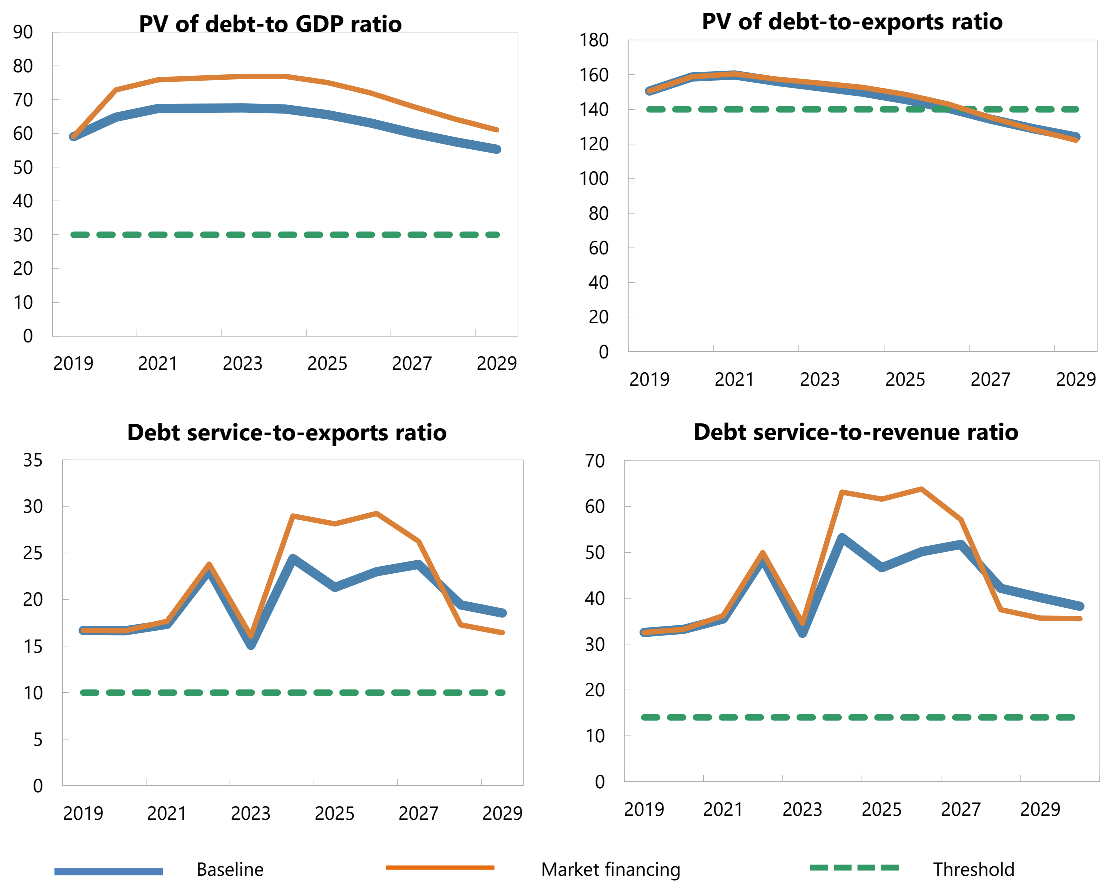


**Figure 5. Zambia: Market-Financing Risk Indicators**

| | GFN 1/ | EMBI 2/ |
|---|---|---|
| Benchmarks | 14 | 570 |
| Values | 19 | 1575 |
| Breach of benchmark | Yes | Yes |
| Potential heightened liquidity needs | High | |

1/ Maximum gross financing needs (GFN) over 3-year baseline projection horizon.
2/ EMBI spreads correspond to the latest available data.



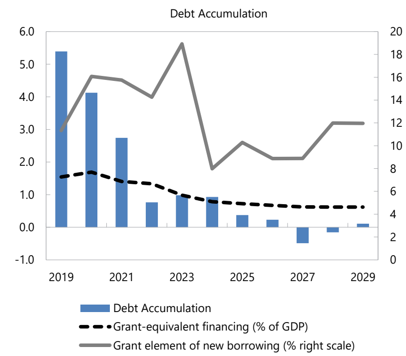

Sources: Country authorities; and staff estimates and projections.

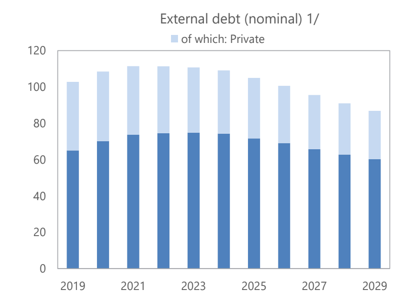
# Table 1. Zambia: External Debt Sustainability Framework, Baseline Scenario, 2016–39

(In Percent of GDP, unless otherwise indicated)

| | Actual | | | Projections | | | | | | | | Average 8/ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2029 | 2039 | Historical | Projections |
| **External debt (nominal) 1/** | **83.4** | **74.5** | **87.9** | **102.8** | **108.5** | **111.4** | **111.4** | **110.7** | **109.1** | **86.8** | **61.5** | **44.9** | **103.0** |
| ***of which: public and publicly guaranteed (PPG)*** | **39.5** | **41.9** | **53.7** | **65.0** | **70.2** | **73.7** | **74.5** | **74.8** | **74.3** | **60.3** | **47.9** | **25.1** | **69.3** |
| Change in external debt | 1.5 | -9.0 | 13.5 | 14.9 | 5.7 | 3.0 | 0.0 | -0.6 | -1.6 | -4.1 | -1.5 | | |
| **Identified net debt-creating flows** | **2.1** | **-18.6** | **-2.1** | **-0.4** | **-1.3** | **-2.7** | **-3.5** | **-3.6** | **-4.0** | **-4.1** | **-4.4** | **-8.4** | **-3.2** |
| **Non-interest current account deficit** | **2.1** | **0.8** | **0.9** | **0.3** | **0.1** | **-0.6** | **-1.2** | **-1.9** | **-2.1** | **-2.9** | **-2.6** | **-2.2** | **-1.8** |
| Deficit in balance of goods and services | 1.2 | -1.4 | 0.8 | 1.3 | 0.2 | -0.5 | -1.0 | -1.4 | -1.7 | -1.9 | -1.9 | **-3.3** | **-1.1** |
| Exports | 35.4 | 35.1 | 37.4 | 39.2 | 40.9 | 42.1 | 43.2 | 44.2 | 44.8 | 44.5 | 43.5 | | |
| Imports | 36.6 | 33.7 | 38.2 | 40.6 | 41.0 | 41.6 | 42.2 | 42.7 | 43.2 | 42.6 | 41.5 | | |
| Net current transfers (negative = inflow) | -1.0 | -1.4 | -1.0 | -1.0 | -1.0 | -1.0 | -1.0 | -1.0 | -1.0 | -1.0 | -1.0 | **-1.6** | **-1.0** |
| *of which: official* | 0.0 | -0.1 | 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) | 1.9 | 3.5 | 1.1 | 0.1 | 0.9 | 0.9 | 0.8 | 0.6 | 0.6 | 0.0 | 0.3 | **2.7** | **0.4** |
| **Net FDI (negative = inflow)** | **-2.3** | **-4.6** | **-2.0** | **-2.0** | **-2.9** | **-3.7** | **-4.4** | **-4.4** | **-4.4** | **-4.4** | **-4.4** | **-5.2** | **-3.9** |
| **Endogenous debt dynamics 2/** | **2.3** | **-14.8** | **-0.9** | **1.2** | **1.6** | **1.7** | **2.0** | **2.6** | **2.5** | **3.2** | **2.6** | | |
| Contribution from nominal interest rate | 1.1 | 0.9 | 1.8 | 3.2 | 3.3 | 3.6 | 3.8 | 4.3 | 4.1 | 4.6 | 3.7 | | |
| Contribution from real GDP growth | -3.1 | -2.4 | -2.6 | -2.0 | -1.8 | -1.9 | -1.8 | -1.6 | -1.6 | -1.4 | -1.1 | | |
| Contribution from price and exchange rate changes | 4.3 | -13.3 | 0.0 | ... | ... | ... | ... | ... | ... | ... | ... | | |
| **Residual 3/** | **-0.7** | **9.6** | **15.5** | **15.3** | **6.9** | **5.6** | **3.5** | **3.0** | **2.4** | **0.0** | **2.9** | **15.9** | **3.1** |
| *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 | | |
| **Sustainability indicators** | | | | | | | | | | | | | |
| **PV of PPG external debt-to-GDP ratio** | **...** | **...** | **47.5** | **59.1** | **64.8** | **67.4** | **67.5** | **67.6** | **67.2** | **55.3** | **43.9** | | |
| **PV of PPG external debt-to-exports ratio** | **...** | **...** | **127.2** | **150.5** | **158.7** | **159.9** | **156.2** | **153.0** | **150.0** | **124.2** | **101.0** | | |
| **PPG debt service-to-exports ratio** | **10.1** | **8.8** | **11.7** | **16.7** | **16.6** | **17.3** | **23.2** | **15.1** | **24.4** | **18.5** | **14.5** | | |
| **PPG debt service-to-revenue ratio** | **19.9** | **17.8** | **22.1** | **32.6** | **33.2** | **35.5** | **48.7** | **32.4** | **53.2** | **40.2** | **30.5** | | |
| Gross external financing need (Million of U.S. dollars) | 904.2 | -503.0 | 729.7 | 1402.5 | 1070.1 | 848.8 | 1240.8 | 303.7 | 1327.3 | 635.8 | 188.1 | | |
| **Key macroeconomic assumptions** | | | | | | | | | | | | | |
| Real GDP growth (in percent) | 3.8 | 3.5 | 3.7 | 2.0 | 1.7 | 1.7 | 1.6 | 1.5 | 1.5 | 1.6 | 1.8 | **5.6** | **1.6** |
| GDP deflator in US dollar terms (change in percent) | -5.0 | 19.3 | -0.4 | -12.2 | -4.1 | -1.4 | -0.6 | -0.1 | 0.4 | 2.6 | 2.6 | **-0.4** | **-0.6** |
| Effective interest rate (percent) 4/ | 1.4 | 1.3 | 2.5 | 3.3 | 3.2 | 3.3 | 3.4 | 3.9 | 3.8 | 5.3 | 6.2 | **2.4** | **4.1** |
| Growth of exports of G&S (US dollar terms, in percent) | -9.8 | 22.4 | 10.0 | -5.9 | 1.5 | 3.5 | 3.5 | 3.5 | 3.5 | 4.0 | 4.3 | **8.3** | **2.6** |
| Growth of imports of G&S (US dollar terms, in percent) | -10.9 | 13.8 | 16.9 | -4.8 | -1.4 | 1.8 | 2.4 | 2.5 | 3.0 | 4.0 | 4.3 | **8.6** | **2.0** |
| Grant element of new public sector borrowing (in percent) | ... | ... | ... | 11.3 | 16.1 | 15.8 | 14.3 | 18.9 | 8.0 | 12.0 | 11.2 | **...** | **12.4** |
| Government revenues (excluding grants, in percent of GDP) | 18.0 | 17.3 | 19.8 | 20.1 | 20.5 | 20.6 | 20.6 | 20.5 | 20.6 | 20.5 | 20.6 | **17.0** | **20.5** |
| Aid flows (in Million of US dollars) 5/ | 497.0 | 431.8 | 407.0 | 308.2 | 314.4 | 242.8 | 269.7 | 226.9 | 187.6 | 136.6 | 206.2 | | |
| Grant-equivalent financing (in percent of GDP) 6/ | ... | ... | ... | 1.5 | 1.7 | 1.4 | 1.3 | 1.0 | 0.8 | 0.6 | 0.6 | **...** | **1.0** |
| Grant-equivalent financing (in percent of external financing) 6/ | ... | ... | ... | 13.0 | 17.2 | 17.0 | 15.3 | 20.5 | 8.9 | 12.9 | 11.5 | **...** | **13.5** |
| Nominal GDP (Million of US dollars) | 20,941 | 25,868 | 26,720 | 23,946 | 23,342 | 23,415 | 23,636 | 23,951 | 24,401 | 29,691 | 45,642 | | |
| Nominal dollar GDP growth | -1.4 | 23.5 | 3.3 | -10.4 | -2.5 | 0.3 | 0.9 | 1.3 | 1.9 | 4.2 | 4.5 | **5.3** | **1.1** |
| **Memorandum items:** | | | | | | | | | | | | | |
| PV of external debt 7/ | ... | ... | 81.8 | 96.8 | 103.1 | 105.1 | 104.3 | 103.5 | 102.0 | 81.8 | 57.5 | | |
| In percent of exports | ... | ... | 218.8 | 246.7 | 252.3 | 249.3 | 241.4 | 234.4 | 227.6 | 183.8 | 132.3 | | |
| Total external debt service-to-exports ratio | 12.7 | 5.2 | 10.2 | 19.1 | 18.1 | 18.9 | 25.0 | 17.1 | 26.6 | 21.2 | 17.0 | | |
| PV of PPG external debt (in Million of US dollars) | | | 12704.2 | 14145.7 | 15134.1 | 15774.5 | 15953.0 | 16184.5 | 16406.7 | 16415.7 | 20035.1 | | |
| (PVt-PVt-1)/GDPt-1 (in percent) | | | | 5.4 | 4.1 | 2.7 | 0.8 | 1.0 | 0.9 | 0.1 | 1.6 | | |
| Non-interest current account deficit that stabilizes debt ratio | 0.7 | 9.8 | -12.6 | -14.5 | -5.6 | -3.6 | -1.2 | -1.3 | -0.5 | 1.2 | -1.1 | | |

| | |
|---|---|
| **Definition of external/domestic debt** | **Residency-based** |
| **Is there a material difference between the two criteria?** | **Yes** |




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) + Ɛα (1+r)]/(1+g+ρ+gρ) times previous period debt ratio, with r = nominal interest rate; g = real GDP growth rate, ρ = growth rate of GDP deflator in U.S. dollar terms, Ɛ=nominal appreciation of the local currency, and α= share of local currency-denominated external debt in total external debt.

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

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

6/ 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).

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

8/ Historical averages are generally derived over the past 10 years, subject to data availability, whereas projections averages are over the first year of projection and the next 10 years.

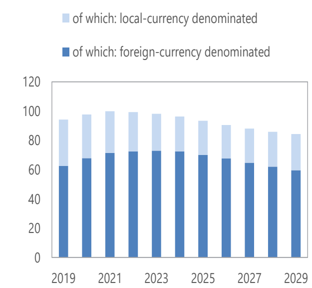
## Table 2. Zambia: Public Sector Debt Sustainability Framework, Baseline Scenario, 2016–39

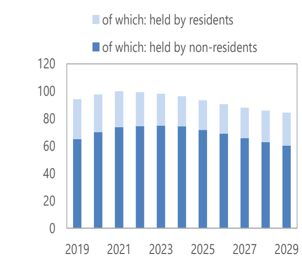
(In Percent of GDP, unless otherwise indicated)

| | Actual | | | Projections | | | | | | | | Average 6/ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2029 | 2039 | Historical | Projections |
| **Public sector debt 1/** | **60.7** | **65.6** | **80.8** | **94.2** | **97.7** | **100.0** | **99.3** | **98.2** | **96.4** | **84.4** | **76.3** | **40.0** | **93.5** |
| **of which: external debt** | **39.5** | **41.9** | **53.7** | **65.0** | **70.2** | **73.7** | **74.5** | **74.8** | **74.3** | **60.3** | **47.9** | **25.1** | **69.3** |
| Change in public sector debt | 2.6 | 4.9 | 15.3 | 13.4 | 3.5 | 2.3 | -0.6 | -1.1 | -1.8 | -1.5 | -0.1 | | |
| **Identified debt-creating flows** | **-6.8** | **-0.2** | **6.9** | **4.4** | **1.3** | **0.7** | **-0.1** | **-0.5** | **-1.2** | **-2.3** | **-1.4** | **2.8** | **-0.7** |
| **Primary deficit** | **2.2** | **3.5** | **2.7** | **-1.1** | **-1.0** | **-2.8** | **-3.3** | **-3.8** | **-4.1** | **-4.8** | **-4.0** | **2.7** | **-3.6** |
| Revenue and grants | 18.2 | 17.5 | 20.0 | 20.3 | 20.6 | 20.7 | 20.7 | 20.6 | 20.7 | 20.6 | 20.7 | **17.9** | **20.6** |
| *of which: grants* | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | | |
| Primary (noninterest) expenditure | 20.5 | 21.0 | 22.7 | 19.2 | 19.6 | 17.9 | 17.4 | 16.8 | 16.6 | 15.8 | 16.6 | **20.6** | **17.0** |
| **Automatic debt dynamics** | **-9.1** | **-3.7** | **4.2** | **5.5** | **2.4** | **3.5** | **3.2** | **3.3** | **2.8** | **2.5** | **2.6** | | |
| Contribution from interest rate/growth differential | -0.3 | -1.1 | -0.5 | 0.0 | 0.8 | 1.3 | 1.5 | 2.0 | 1.8 | 2.8 | 2.9 | | |
| *of which: contribution from average real interest rate* | 1.8 | 1.0 | 1.8 | 1.6 | 2.3 | 3.0 | 3.1 | 3.5 | 3.3 | 4.2 | 4.2 | | |
| *of which: contribution from real GDP growth* | -2.1 | -2.1 | -2.3 | -1.6 | -1.6 | -1.7 | -1.6 | -1.4 | -1.5 | -1.4 | -1.4 | | |
| Contribution from real exchange rate depreciation | -8.7 | -2.7 | 4.7 | ... | ... | ... | ... | ... | ... | ... | ... | | |
| **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** | **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 contingent liabilities (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 | | |
| 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 debt creating or reducing flow (please specify) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | |
| **Residual** | **9.5** | **5.1** | **8.3** | **14.5** | **3.7** | **3.8** | **1.2** | **0.7** | **0.4** | **0.5** | **1.1** | **3.4** | **2.1** |
| **Sustainability indicators** | | | | | | | | | | | | | |
| **PV of public debt-to-GDP ratio 2/** | **...** | **...** | **81.3** | **93.5** | **95.5** | **96.7** | **95.1** | **93.4** | **91.6** | **80.6** | **73.3** | | |
| **PV of public debt-to-revenue and grants ratio** | **...** | **...** | **405.9** | **460.6** | **463.1** | **466.6** | **459.4** | **452.8** | **443.5** | **391.4** | **354.8** | | |
| **Debt service-to-revenue and grants ratio 3/** | **58.6** | **57.8** | **71.2** | **81.7** | **82.2** | **75.2** | **83.2** | **63.1** | **80.8** | **72.6** | **77.0** | | |
| Gross financing need 4/ | 12.9 | 13.6 | 17.0 | 19.5 | 16.0 | 13.0 | 13.6 | 8.8 | 12.3 | 11.1 | 13.3 | | |
| **Key macroeconomic and fiscal assumptions** | | | | | | | | | | | | | |
| Real GDP growth (in percent) | 3.8 | 3.5 | 3.7 | 2.0 | 1.7 | 1.7 | 1.6 | 1.5 | 1.5 | 1.6 | 1.8 | **5.6** | **1.6** |
| Average nominal interest rate on external debt (in percent) | 5.5 | 5.4 | 6.4 | 4.8 | 4.9 | 4.7 | 4.7 | 5.1 | 4.8 | 6.0 | 5.7 | **3.1** | **5.3** |
| Average real interest rate on domestic debt (in percent) | -0.6 | -0.9 | 1.2 | 0.6 | 2.0 | 4.2 | 4.5 | 5.0 | 5.5 | 7.8 | 9.2 | **4.1** | **5.2** |
| Real exchange rate depreciation (in percent, + indicates depreciation) | -19.8 | -7.3 | 12.3 | ... | ... | ... | ... | ... | ... | ... | ... | **3.7** | **...** |
| Inflation rate (GDP deflator, in percent) | 13.6 | 10.1 | 9.5 | 10.0 | 9.7 | 8.2 | 8.3 | 8.0 | 7.7 | 7.2 | 7.3 | **9.3** | **8.0** |
| Growth of real primary spending (deflated by GDP deflator, in percent) | -14.3 | 6.1 | 12.3 | -13.7 | 3.6 | -7.0 | -1.3 | -2.0 | 0.1 | 2.1 | 2.7 | **8.5** | **-1.6** |
| Primary deficit that stabilizes the debt-to-GDP ratio 5/ | -0.4 | -1.4 | -12.6 | -14.5 | -4.5 | -5.1 | -2.7 | -2.7 | -2.3 | -3.3 | -4.0 | **-4.8** | **-4.0** |
| PV of contingent liabilities (not included in public sector debt) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | |

| | |
|---|---|
| Definition of external/domestic debt | Residency-based |
| Is there a material difference between the two criteria? | Yes |

Public sector debt 1/




Sources: Country authorities; and staff estimates and projections.

1/ Coverage of debt: The central government plus social security, central bank, government-guaranteed debt, non-guaranteed SOE debt . Definition of external debt is Residency-based.

2/ The underlying PV of external debt-to-GDP ratio under the public DSA differs from the external DSA with the size of differences depending on exchange rates projections.

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

4/ 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 and other debt creating/reducing flows.

5/ Defined as a primary deficit minus a change in the public debt-to-GDP ratio ((-): a primary surplus), which would stabilize the debt ratio only in the year in question.

6/ Historical averages are generally derived over the past 10 years, subject to data availability, whereas projections averages are over the first year of projection and the next 10 years.

## Table 3. Zambia: Sensitivity Analysis for Key Indicators and Publicly Guaranteed External Debt, 2019–29 (In Percent)

| | Projections 1/ | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 |
| **PV of debt-to GDP ratio** | | | | | | | | | | | |
| **Baseline** | **59** | **65** | **67** | **67** | **68** | **67** | **66** | **63** | **60** | **58** | **55** |
| **A. Alternative Scenarios** | | | | | | | | | | | |
| A1. Key variables at their historical averages in 2019-2029 2/ | **59** | **55** | **52** | **47** | **43** | **39** | **35** | **32** | 28 | 25 | 22 |
| **B. Bound Tests** | | | | | | | | | | | |
| B1. Real GDP growth | **59** | **68** | **73** | **73** | **73** | **73** | **71** | **69** | **65** | **62** | **60** |
| B2. Primary balance | **59** | **65** | **75** | **76** | **78** | **78** | **77** | **75** | **72** | **69** | **67** |
| B3. Exports | **59** | **81** | **109** | **111** | **113** | **114** | **113** | **110** | **104** | **99** | **94** |
| B4. Other flows 3/ | **59** | **69** | **75** | **76** | **76** | **76** | **75** | **72** | **69** | **66** | **63** |
| B5. Depreciation | **59** | **82** | **84** | **84** | **84** | **84** | **81** | **78** | **75** | **71** | **69** |
| B6. Combination of B1-B5 | **59** | **75** | **81** | **82** | **83** | **83** | **82** | **79** | **76** | **73** | **70** |
| **C. Tailored Tests** | | | | | | | | | | | |
| C1. Combined contingent liabilities | **59** | **67** | **71** | **71** | **72** | **72** | **71** | **69** | **66** | **63** | **61** |
| C2. Natural disaster | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| C3. Commodity price | **59** | **67** | **71** | **71** | **72** | **72** | **70** | **68** | **64** | **62** | **59** |
| C4. Market Financing | **59** | **73** | **76** | **76** | **77** | **77** | **75** | **72** | **68** | **64** | **61** |
| **Threshold** | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| **PV of debt-to-exports ratio** | | | | | | | | | | | |
| **Baseline** | **151** | **159** | **160** | **156** | **153** | **150** | **146** | **141** | 134 | 129 | 124 |
| **A. Alternative Scenarios** | | | | | | | | | | | |
| A1. Key variables at their historical averages in 2019-2029 2/ | **151** | 136 | 123 | 109 | 98 | 88 | 78 | 70 | 62 | 55 | 49 |
| **B. Bound Tests** | | | | | | | | | | | |
| B1. Real GDP growth | **151** | **159** | **160** | **156** | **153** | **150** | **146** | **141** | 134 | 129 | 124 |
| B2. Primary balance | **151** | **160** | **177** | **177** | **176** | **174** | **171** | **167** | **161** | **155** | **150** |
| B3. Exports | **151** | **242** | **396** | **392** | **389** | **387** | **382** | **373** | **355** | **338** | **322** |
| B4. Other flows 3/ | **151** | **168** | **179** | **176** | **173** | **170** | **167** | **161** | **154** | **147** | **141** |
| B5. Depreciation | **151** | **158** | **156** | **152** | **149** | **146** | **141** | 136 | 130 | 125 | 120 |
| B6. Combination of B1-B5 | **151** | **200** | **181** | **231** | **229** | **226** | **222** | **215** | **206** | **197** | **190** |
| **C. Tailored Tests** | | | | | | | | | | | |
| C1. Combined contingent liabilities | **151** | **164** | **167** | **165** | **163** | **161** | **157** | **153** | **147** | **141** | 137 |
| C2. Natural disaster | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| C3. Commodity price | **151** | **169** | **173** | **169** | **165** | **162** | **157** | **152** | **145** | 139 | 134 |
| C4. Market Financing | **151** | **159** | **160** | **157** | **155** | **153** | **149** | **143** | 135 | 128 | 122 |
| **Threshold** | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 |
| **Debt service-to-exports ratio** | | | | | | | | | | | |
| **Baseline** | **17** | **17** | **17** | **23** | **15** | **24** | **21** | **23** | **24** | **19** | **19** |
| **A. Alternative Scenarios** | | | | | | | | | | | |
| A1. Key variables at their historical averages in 2019-2029 2/ | **17** | **15** | **15** | **19** | **11** | **18** | **15** | **15** | **15** | **11** | 9 |
| **B. Bound Tests** | | | | | | | | | | | |
| B1. Real GDP growth | **17** | **17** | **17** | **23** | **15** | **24** | **21** | **23** | **24** | **19** | **19** |
| B2. Primary balance | **17** | **16** | **18** | **25** | **17** | **26** | **23** | **25** | **27** | **22** | **22** |
| B3. Exports | **17** | **22** | **33** | **47** | **33** | **50** | **44** | **51** | **58** | **50** | **49** |
| B4. Other flows 3/ | **17** | **17** | **18** | **24** | **16** | **26** | **22** | **25** | **27** | **22** | **21** |
| B5. Depreciation | **17** | **17** | **17** | **23** | **15** | **24** | **21** | **23** | **23** | **19** | **18** |
| B6. Combination of B1-B5 | **17** | **19** | **24** | **32** | **22** | **34** | **30** | **34** | **35** | **30** | **29** |
| **C. Tailored Tests** | | | | | | | | | | | |
| C1. Combined contingent liabilities | **17** | **16** | **18** | **24** | **16** | **25** | **22** | **24** | **25** | **20** | **19** |
| C2. Natural disaster | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| C3. Commodity price | **17** | **17** | **18** | **24** | **16** | **25** | **22** | **24** | **25** | **21** | **20** |
| C4. Market Financing | **17** | **17** | **18** | **24** | **16** | **29** | **28** | **29** | **26** | **17** | **16** |
| **Threshold** | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| **Debt service-to-revenue ratio** | | | | | | | | | | | |
| **Baseline** | **33** | **33** | **35** | **49** | **32** | **53** | **47** | **50** | **52** | **42** | **40** |
| **A. Alternative Scenarios** | | | | | | | | | | | |
| A1. Key variables at their historical averages in 2019-2029 2/ | **33** | **31** | **30** | **39** | **24** | **39** | **32** | **32** | **32** | **23** | **20** |
| **B. Bound Tests** | | | | | | | | | | | |
| B1. Real GDP growth | **33** | **35** | **39** | **53** | **35** | **58** | **51** | **54** | **56** | **46** | **44** |
| B2. Primary balance | **33** | **33** | **36** | **52** | **36** | **57** | **49** | **54** | **58** | **49** | **47** |
| B3. Exports | **33** | **36** | **44** | **65** | **47** | **71** | **64** | **73** | **83** | **72** | **69** |
| B4. Other flows 3/ | **33** | **33** | **37** | **51** | **35** | **56** | **49** | **54** | **58** | **48** | **46** |
| B5. Depreciation | **33** | **43** | **45** | **62** | **41** | **67** | **59** | **63** | **65** | **52** | **50** |
| B6. Combination of B1-B5 | **33** | **35** | **41** | **56** | **39** | **61** | **54** | **61** | **64** | **53** | **51** |
| **C. Tailored Tests** | | | | | | | | | | | |
| C1. Combined contingent liabilities | **33** | **33** | **36** | **50** | **33** | **54** | **48** | **52** | **53** | **44** | **42** |
| C2. Natural disaster | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| C3. Commodity price | **33** | **34** | **37** | **52** | **35** | **56** | **49** | **53** | **55** | **45** | **43** |
| C4. Market Financing | **33** | **33** | **36** | **50** | **35** | **63** | **62** | **64** | **57** | **37** | **36** |
| **Threshold** | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 |

Sources: Country authorities; and staff estimates and projections.
1/ A bold value indicates a breach of the threshold.
2/ Variables include real GDP growth, GDP deflator (in U.S. dollar terms), non-interest current account in percent of GDP, and non-debt creating flows.
3/ Includes official and private transfers and FDI.

## Table 4. Zambia: Sensitivity Analysis for Key Indicators of Public Debt, 2019–29

| | Projections 1/ | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 |
| **PV of Debt-to-GDP Ratio** | | | | | | | | | | | |
| **Baseline** | **94** | **96** | **97** | **95** | **93** | **92** | **89** | **86** | **84** | **82** | **81** |
| **A. Alternative Scenarios** | | | | | | | | | | | |
| A1. Key variables at their historical averages in 2019-2029 2/ | **94** | **96** | **97** | **97** | **97** | **97** | **97** | **96** | **96** | **97** | **98** |
| **B. Bound Tests** | | | | | | | | | | | |
| B1. Real GDP growth | **94** | **100** | **106** | **106** | **106** | **105** | **104** | **103** | **102** | **102** | **103** |
| B2. Primary balance | **94** | **101** | **111** | **110** | **109** | **108** | **105** | **103** | **101** | **100** | **99** |
| B3. Exports | **94** | **106** | **126** | **126** | **126** | **125** | **123** | **120** | **116** | **112** | **108** |
| B4. Other flows 3/ | **94** | **100** | **105** | **104** | **103** | **101** | **98** | **95** | **93** | **90** | **88** |
| B5. Depreciation | **94** | **105** | **104** | **101** | **99** | **96** | **93** | **90** | **87** | **85** | **84** |
| B6. Combination of B1-B5 | **94** | **97** | **106** | **105** | **103** | **102** | **99** | **97** | **95** | **93** | **92** |
| **C. Tailored Tests** | | | | | | | | | | | |
| C1. Combined contingent liabilities | **94** | **104** | **105** | **103** | **102** | **100** | **97** | **95** | **92** | **91** | **90** |
| C2. Natural disaster | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| C3. Commodity price | **94** | **97** | **100** | **99** | **99** | **99** | **97** | **96** | **95** | **95** | **95** |
| C4. Market Financing | **94** | **96** | **97** | **96** | **94** | **93** | **90** | **87** | **84** | **82** | **80** |
| **TOTAL public debt benchmark** | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 |
| **PV of Debt-to-Revenue Ratio** | | | | | | | | | | | |
| **Baseline** | 461 | 463 | 467 | 459 | 453 | 443 | 430 | 417 | 406 | 397 | 391 |
| **A. Alternative Scenarios** | | | | | | | | | | | |
| A1. Key variables at their historical averages in 2019-2029 2/ | 461 | 464 | 470 | 470 | 471 | 472 | 469 | 467 | 468 | 471 | 476 |
| **B. Bound Tests** | | | | | | | | | | | |
| B1. Real GDP growth | 461 | 484 | 513 | 512 | 512 | 510 | 503 | 498 | 495 | 495 | 499 |
| B2. Primary balance | 461 | 488 | 538 | 533 | 529 | 522 | 510 | 499 | 490 | 484 | 480 |
| B3. Exports | 461 | 514 | 610 | 610 | 610 | 606 | 595 | 580 | 560 | 541 | 526 |
| B4. Other flows 3/ | 461 | 483 | 507 | 502 | 497 | 489 | 477 | 463 | 449 | 437 | 429 |
| B5. Depreciation | 461 | 508 | 503 | 490 | 479 | 466 | 450 | 435 | 423 | 414 | 408 |
| B6. Combination of B1-B5 | 461 | 471 | 511 | 506 | 501 | 493 | 481 | 469 | 459 | 451 | 447 |
| **C. Tailored Tests** | | | | | | | | | | | |
| C1. Combined contingent liabilities | 461 | 502 | 506 | 499 | 493 | 484 | 471 | 458 | 448 | 440 | 435 |
| C2. Natural disaster | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| C3. Commodity price | 461 | 486 | 496 | 495 | 492 | 486 | 476 | 466 | 462 | 461 | 463 |
| C4. Market Financing | 461 | 463 | 468 | 462 | 457 | 450 | 437 | 422 | 408 | 396 | 387 |
| **Debt Service-to-Revenue Ratio** | | | | | | | | | | | |
| **Baseline** | 82 | 82 | 75 | 83 | 63 | 81 | 81 | 83 | 82 | 74 | 73 |
| **A. Alternative Scenarios** | | | | | | | | | | | |
| A1. Key variables at their historical averages in 2019-2029 2/ | 82 | 77 | 73 | 82 | 65 | 80 | 79 | 80 | 81 | 75 | 77 |
| **B. Bound Tests** | | | | | | | | | | | |
| B1. Real GDP growth | 82 | 83 | 81 | 91 | 71 | 92 | 92 | 95 | 95 | 85 | 87 |
| B2. Primary balance | 82 | 80 | 82 | 98 | 73 | 90 | 89 | 92 | 94 | 85 | 88 |
| B3. Exports | 82 | 82 | 78 | 91 | 72 | 90 | 90 | 96 | 103 | 95 | 93 |
| B4. Other flows 3/ | 82 | 82 | 76 | 86 | 66 | 83 | 83 | 87 | 88 | 80 | 78 |
| B5. Depreciation | 82 | 79 | 77 | 88 | 67 | 89 | 88 | 90 | 91 | 80 | 79 |
| B6. Combination of B1-B5 | 82 | 78 | 75 | 94 | 70 | 87 | 87 | 88 | 87 | 76 | 77 |
| **C. Tailored Tests** | | | | | | | | | | | |
| C1. Combined contingent liabilities | 82 | 80 | 86 | 88 | 67 | 85 | 85 | 87 | 87 | 76 | 80 |
| C2. Natural disaster | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| C3. Commodity price | 82 | 83 | 77 | 86 | 68 | 86 | 86 | 88 | 89 | 79 | 81 |
| C4. Market Financing | 82 | 82 | 76 | 84 | 65 | 91 | 96 | 96 | 88 | 69 | 68 |

Sources: Country authorities; and staff estimates and projections.

1/ A bold value indicates a breach of the benchmark.

2/ Variables include real GDP growth, GDP deflator and primary deficit in percent of GDP.

3/ Includes official and private transfers and FDI.