WORLD BANK GROUP

May 2023

GHANA

JOINT WORLD BANK-IMF DEBT SUSTAINABILITY ANALYSIS

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GHANA: JOINT BANK-FUND DEBT SUSTAINABILITY ANALYSIS[1,2]	
Risk of external debt distress	In debt distress
Overall risk of debt distress	In debt distress
Granularity in the risk rating	Unsustainable
Application of judgment	No

Given the ongoing debt restructuring and large and protracted breaches to the DSA thresholds, Ghana is currently in debt distress and the debt sustainability analysis shows that debt is unsustainable.

Ghana's fiscal and external positions have deteriorated significantly in the wake of the Covid-19 pandemic, the tightening in global financial conditions and Russia's invasion of Ukraine. These external shocks, combined with pre-existing fiscal and debt vulnerabilities, have pushed public and external debt up. Ghana lost international market access in late 2021, and the macroeconomic situation became more challenging in 2022, with large losses in international reserves, sharp depreciation of the exchange rate and soaring inflation. The deterioration of market sentiment widened Eurobond spreads to above 2900 bps at end-December 2022, and they have remained in distressed territory. Domestic financing conditions also deteriorated markedly. In this context, the authorities requested support from the IMF in July 2022; they hired financial and legal advisors; and they launched a comprehensive debt restructuring strategy in December 2022.

[1] This DSA is prepared in line with the Guidance Note of the Joint Bank-Fund Debt Sustainability Framework for Low Income Countries, February 2018.

[2] The Composite Indicator (CI) score of 2.82 remains between the cut-off values for weak and strong debt-carrying capacity, 2.69 and 3.05, respectively. The CI is the weighted average of the 10-year average of the World Bank's Country Policy and Institutional Assessment (CPIA) score and macro-economic variables from the October WEO 2022 vintage.

Under the baseline, which does not incorporate the impact of the ongoing debt restructuring, the present value (PV) of external debt-to-GDP and external debt service-to-revenues exceed their respective thresholds throughout the full-time horizon of the DSA. The external debt service-to-exports breaches its thresholds in 2025 for one year and breaches it again in 2029 to remain above it throughout the full remaining horizon. The PV of external debt-to-exports ratio remains below its threshold under the baseline throughout the full-time horizon of the DSA, while temporarily breaching the threshold under the exports shock scenario—the most extreme shock for this indicator. The PV of public debt-to-GDP breaches its 55 percent benchmark throughout the full-DSA horizon. Stress test results show that a one standard deviation deterioration in the primary balance would put overall public debt well above the current unsustainable trajectory throughout the full DSA horizon. Developments over the past few years and stress tests highlight the sensitivity of the debt ratios to growth and exchange rate shocks.

Absent comprehensive debt restructuring and a credible reform plan, underpinned by a feasible and growth-friendly fiscal adjustment, Ghana's public debt is unsustainable. Strong ownership of the IMF-supported program and commitment to reforms by the authorities are key.

BACKGROUND

PUBLIC DEBT COVERAGE

1. The Debt Sustainability Analysis (DSA) covers public and publicly guaranteed (PPG) debt of the central government, with additional important liabilities of the public sector. The DSA also includes (i) *explicitly guaranteed* debt of other public and private sector entities including state-owned enterprises (SOEs) and (ii) certain *implicitly guaranteed* SOEs debt. Key among those are Energy Sector Levy Act (ESLA) debt in the energy sector; Ghana Educational Trust Fund (GETFund/Daakye) debt for education infrastructure; and debt related to the financing of infrastructure projects by Sinohydro, which account altogether for 2.1 percent of GDP. For the first time, the DSA includes: (i) Cocobills which are issued domestically by Cocobod—one of the largest SOEs operating on non-commercial terms and largely engaging in quasi-fiscal activities—and add 1.4 percent of GDP to the public debt as of end-2022 and, (ii) the stock of domestic arrears to suppliers estimated at 4.4 percent of GDP—including 1.7 percent of GDP of reconciled debts to independent power and gas producers (IPPs).[3] A medium-term clearance plan of these arrears is incorporated in the baseline as part of the above-the-line spending projections.

2. The financial sector clean-up and energy sector losses have weighed on government debt and continue to generate significant fiscal risks. The fiscal cost of the financial sector recapitalization (estimated to have reached 7.1 percent of GDP over 2017-21) has led to an increase in the government

[3] In the line with the treatment of SOEs laid out in the LIC DSF GN (appendix III), the debt coverage was expanded to cover Cocobills. Indeed, Cocobod operations pose fiscal risks related to its heavy involvement in extra-budgetary spending. In line the LIC DSF GN (¶25-29), only the end-2021 domestic arrears were included in the stock of debt, as they were recognized by the government and reconciled on this basis. Hence, they are not in dispute anymore and should be included in the debt coverage. However, the increase in the stock of arrears in 2022, tentatively estimated at 2.8 percent of GDP at end-December 2022—of which 1.4 percent constitute unpaid bills to IPPs; and the remaining accounts for unpaid bills to other domestic suppliers—is not included in the stock of debt as the underlying payables build-up has not been verified yet. The DSA baseline assumes repayments over 7 years (with a discount in the case of payables to Independent Power Producers (IPPs), consistent with the authorities' working assumptions, as negotiations with IPPs have been launched).

deficit and debt. Additional recapitalization costs are expected in the coming years resulting from the domestic debt restructuring envisaged in 2023—some 2.6 percent of GDP are included in the DSA's baseline. Regarding the energy sector, the Government has made budgetary transfers to cover the sector's annual shortfalls averaging 1.7 percent of GDP between 2019 and 2021 and has accumulated large stock of arrears, estimated at 3.1 percent of GDP at end-2022.[4] The DSA's baseline assumes the government will continue to cover annual shortfalls with budget transfers going forward.

3. **Remaining potential contingent liabilities from the financial sector, SOEs and PPPs are modeled in a tailored stress test.** These shocks assume an increase of the PPG debt by adding: (i) 2 percent of GDP in non-guaranteed SOE debt;[5] (ii) 5 percent of GDP stemming from further financial sector costs; and (iii) 2.4 percent of GDP, the equivalent to 35 percent of the outstanding public private partnership (PPP) arrangements.

Text Table 1. Ghana: Public Debt Coverage and the Magnitude of the Contingent Liability Tailored

	Subsectors of the public sector	Covered
1	Central government	X
2	State and local government	
3	Other elements in the general government	
4	o/w: Social security fund	
5	o/w: Extra budgetary funds (EBFs)	
6	Guarantees (to other entities in the public and private sector, including to SOEs)	X
7	Central bank (borrowed on behalf of the government)	X
8	Non-guaranteed SOE debt	X

Stress Test

1	The country's coverage of public debt	The central government, central bank, government-guaranteed debt	
		Default	Used for the analysis
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	2.4
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)		9.4

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%.

4. **The DSA classifies debt based on the residency of the creditor**. The stock of local-currency denominated domestic debt *held by non-residents* is included in the external debt in line with the LIC-DSF Guidance Note. Outstanding nonresident holdings of domestic debt decreased from $4.8 billion in 2021 (6.2 percent of GDP; 14.3 percent of public external debt) to $1.6 billion in 2022 (2.2 percent of GDP;5.3 percent of public external debt).

DEBT DEVELOPMENTS AND PROFILE

5. **The compounded effects of large external shocks and pre-existing vulnerabilities have caused a deep economic and financial crisis.** The impact of the COVID-19 pandemic, the tightening in global financial conditions, and Russia's invasion of Ukraine have exacerbated fiscal and debt vulnerabilities. Faced with large development needs and complex social and political situations, the

[4] These arrears cover verified arrears at end-2021 which amount to 1.7 percent of GDP and newly-accumulated non-verified arrears in 2022 which are tentatively estimated at 1.4 percent of GDP.

[5] This figure captures the non-guaranteed SOE debt that is not already included in the baseline, covering mainly non-guaranteed debt of smaller SOEs.

government's fiscal policy response has been insufficient to maintain investors' confidence. This eventually resulted in a loss of international capital market access in late 2021 and increasing difficulties in rolling over domestic debt—forcing the government to rely increasingly on monetary financing by the Bank of Ghana—and triggered an acute crisis. Against this backdrop, the government has requested Fund financial support.

6. **These shocks have led to a sharp deterioration in Ghana's fiscal positions.** After reaching more than 11 percent of GDP in 2020, and notwithstanding the government's efforts to rein in spending and raise additional revenue, the primary deficit measured on a commitment basis remained at 4.8 percent in 2021 and 3.6 percent in 2022.[6] Rising interest payments (to more than 7 percent of GDP) brought the overall fiscal deficit to 12.1 percent of GDP in 2021 and 11 percent in 2022.

Text Table 2. Ghana: Decomposition of Public Debt at end-2022[1]

	Face Value			Present Value[2]	
	(In US$ mn)	*(Percent total debt)*	*(Percent GDP)*	*(In US$ mn)*	*(Percent total debt)*
Total	**63,332**	**100.0**	**88.1**	**64,882**	**100.0**
External	**30,483**	**48.1**	**42.4**	**32,033**	**49.4**
Multilateral creditors	8,055	12.7	11.2	5,529	8.5
IMF	1,710	2.7	2.4	1,379	2.1
World Bank	4,750	7.5	6.6	3,132	4.8
African Development Bank	1,193	1.9	1.7	715	1.1
Other Multilaterals	401	0.6	0.6	303	0.5
Bilateral Creditors	5,438	8.6	7.6	4,982	7.7
Paris Club	2,867	4.5	4.0	2,484	3.8
o/w: Belgium	437	0.7	0.6	425	0.7
o/w United Kingdom	430	0.7	0.6	421	0.6
Non-Paris Club	2,572	4.1	3.6	2,498	3.8
o/w: China	1,900	3.0	2.6	1,816	2.8
o/w: India	475	0.7	0.7	496	0.8
Bonds	13,104	20.7	18.2	16,490	25.4
Commercial creditors	3,886	6.1	5.4	5,033	7.8
o/w local-currency government debt held by non-resider	1,614	2.5	2.2	2,481	3.8
Domestic	**32,849**	**51.9**	**45.7**	**32,849**	**50.6**
Short-term bills	5,009	7.9	7.0	5,009	7.7
Medium-to-long term bonds	18,320	28.9	25.5	18,320	28.2
Loans	76	0.1	0.1	76	0.1
Arrears	3,186	5.0	4.4	3,186	4.9
Other (Overdraft and SDRs on-lent)	6,258	9.9	8.7	6,258	9.6
Memo items:					
Collateralized debt[3]	619				
Contingent liabilities	308				
o/w: Public guarantees	284				
o/w: Other explicit contingent liabilities[4]	24				
Nominal GDP (in GHS mn)	615,259				

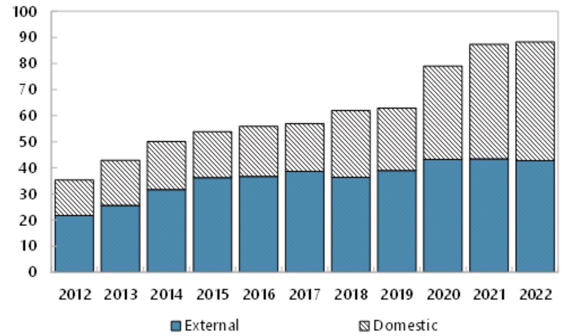
1/ As reported by Country authorities based on disbursements.
2/ The PV of external debt is discounted at 5 percent.
3/ Debt is collateralized when the creditor has rights over an asset or revenue stream that would allow it, if the borrower defaults on its payment obligations, to rely on the asset or revenue stream to secure repayment of the debt. Collateralization entails a borrower granting liens over specific existing assets or future receivables to a lender as security against repayment of the loan. Collateral is "unrelated" when it has no relationship to a project financed by the loan. An example would be borrowing to finance the budget deficit, collateralized by oil revenue receipts. See the joint IMF-World Bank note for the G20 "Collateralized Transactions: Key Considerations for Public Lenders and Borrowers" for a discussion of issues raised by collateral.
4/ Includes other-one off guarantees not included in publicly guaranteed debt (e.g. credit lines) and other explicit contingent liabilities not elsewhere classified (e.g. potential legal claims, payments resulting from PPP arrangements).

7. **Against this backdrop, public debt has increased dramatically over the last three years.** The large fiscal deficits and the economic slowdown in the wake of the pandemic led to an increase in public debt from 63 percent of GDP in 2019 to 88.1 percent of GDP at end-2022. Domestic debt reached 45.7

[6] The fiscal deficit on a commitment basis takes into account the spending that has been committed but remained unpaid, leading to accumulation of payables to domestic suppliers and to IPPs. On a cash basis, the primary deficit declined from 9 percent of GDP in 2020 to close to 1 percent of GDP in 2022.

percent of GDP in 2022, of which 16 percent of GDP was held by the Bank of Ghana,[7] while public external debt stood at 42.4 percent of GDP.

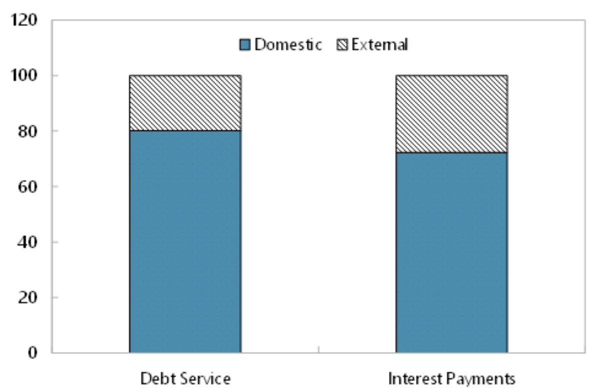
Public Debt
(In percent of GDP)



Sources: Ghanaian Authorities and IMF staff calculations

8. Liquidity pressures have increased over the past few years. The debt service-to-revenue ratio reached an all-time high of 127 percent in 2020, the highest among the SSA countries and among the highest in the world. Despite the increase in debt service—particularly for domestic debt—the debt service-to-revenue indicator declined to 117.6 percent in 2022 reflecting mainly higher government revenues due to the resumption of the economic activity after the pandemic and higher inflation. Debt-service to private external creditors constitutes the largest share of the external debt service payments in 2022 and accounts for 69 percent, followed by debt service to bilateral creditors that represents 20 percent. Gross financing needs (GFN) reached 19.3 percent of GDP in 2022 and are expected to remain well above the market financing risks benchmark of 14 percent over the medium term.

Public Debt Burden
(In percent at end-2022)

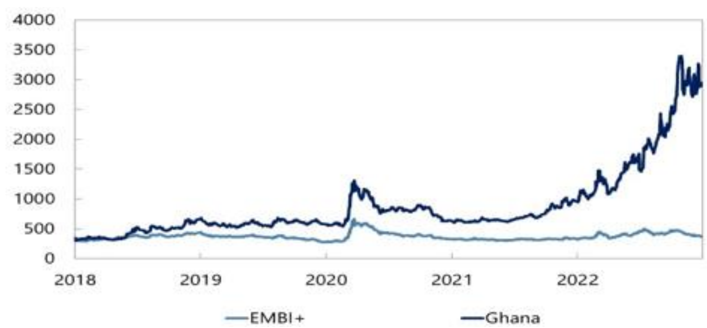


Sources: Ghanaian authorities and IMF staff calculations

[7] Bank of Ghana's holding of domestic debt (marketable, non-marketable, SDRs on-lent and overdraft) increased from 11 percent of GDP in 2019 to 16 percent of GDP in 2022.

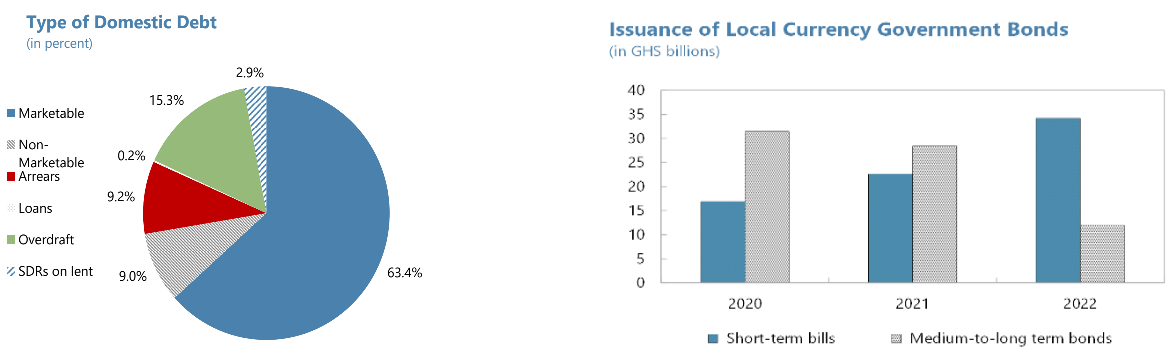
9. These developments led to higher borrowing costs and shorter maturities. Domestic debt increased from 24 percent of GDP in 2019 to 45.7 percent of GDP at end-2022. While the effective interest rate for government debt rose slightly from 10.8 percent in 2021 to 11 percent in 2022 on the back of rising domestic borrowing costs, the average time to maturity of public debt dropped from 8.2 years in 2021 to 7.2 years in 2022, as most of the increase in the local currency marketable debt was at short-term maturities. In addition, domestic debt service rose significantly and accounted for 81.7 percent of the public debt service burden in 2022.

Sovereign Spreads
(In basis points)



Sources: Bloomberg LP.

Composition of Domestic Debt
As of end-December 2022



Sources: Ghanaian Authorities and IMF staff calculations

MACROECONOMIC ASSUMPTIONS AND RISKS

The macroeconomic framework underpinning this DSA—staffs' baseline scenario—is based on the macroeconomic trajectory envisaged under the proposed Fund supported program starting from 2023, intending to restore macroeconomic stability and debt sustainability in the medium term. Particularly, this involves implementing a realistic and feasible fiscal adjustment, appropriately tightening monetary policy, enhancing exchange rate flexibility, and implementing growth-enhancing structural reforms. This DSA is based on a pre-restructuring scenario and does not model any debt relief which would be needed to restore debt sustainability.

10. The deepening economic crisis has led to a significant downgrade in growth and a surge in inflation. With the deterioration in consumer and business confidence, real GDP growth is estimated to have slowed from 5.4 percent in 2021 to 3.2 percent in 2022 on the back of weaker domestic demand. Headline inflation reached 54 percent in December, driven by the residual impact of the large fiscal and monetary stimulus deployed during the pandemic, soaring global energy and food prices, exchange rate depreciation (about 50 percent since end-2021), and the ongoing monetary financing of the deficit. Inflation subsequently declined marginally to 53 percent in February 2023. Gross international reserves have declined by about $5 billion since mid-2021 to $1.1 billion at end-February 2023, corresponding to 0.5 months of prospective imports, on the back of large capital outflows, loss of market access and failure to roll over central bank FX liabilities.[8]

11. Under the proposed Fund-supported program's baseline, there would be a gradual improvement in macroeconomic conditions. Non-extractive growth is projected to dip in 2023 to 0.7 percent—reflecting the impact of the domestic debt restructuring and the proposed fiscal tightening under the program (see below)—before recovering to its long-term potential starting from 2026 onwards (Text Table 3) as the drag from fiscal consolidation slows, the economy stabilizes, structural reforms start bearing fruit, and consumer and business confidence recovers. Growth in extractive activities is expected to remain robust at about 6 percent on average in the next five years, buoyed by high commodity prices, recovery in the small-scale gold mining sector and the development of new gold and oil fields. Overall, real GDP growth is expected to slow down to 1.5 percent in 2023—the lowest on record since the 1980s—and to recover gradually to reach 5 percent in 2026. This 5-percent growth rate is projected to be sustained over the long-term, as growth-enhancing structural reforms under the Government Post Covid Program for Economic Growth (PCPEG) boost productivity and help attract private investment, thereby offsetting the short-term impact of the crisis on the economy. These reforms include steps to improve the business environment and export competitiveness, promote entrepreneurship, strengthen public sector management, and accelerate the transition to the digital economy, as well as policies to adapt to climate change. As the tightening in macroeconomic policies takes effect, inflation is projected to gradually fall to the central bank's 6-10 percent target range by 2025, while the fiscal and external positions strengthen. The current account deficit is projected to stabilize at around 2.6 percent of GDP over the medium term; and official reserves would gradually rise to 3 months of prospective imports (US$7.8 billion) by 2026.

[8] International reserve data exclude oil funds, encumbered and pledged assets.

Text Table 3. Ghana: Macroeconomic Assumptions, 2021–43

	2021	2022	2023	2024	2025	2026	2027	2028-43 1/
				Annual Percentage Change				
Real GDP growth								
2021 Article IV	4.7	6.2	4.7	5.0	5.8	5.2	5.1	4.5
2023 Program	5.4	3.2	1.5	2.8	4.7	5.0	5.0	5.0
Inflation GDP deflator								
2021 Article IV	11.2	7.7	7.2	6.9	6.1	6.4	5.9	6.2
2023 Program	11.2	29.8	39.9	20.1	10.9	7.6	7.6	7.7
Nominal GDP (in Billion of USD)								
2021 Article IV	75.5	82.0	87.7	94.0	101.0	108.4	115.9	198.3
2023 Program	79.2	72.8	66.5	67.6	71.5	75.9	80.9	146.7
Exports, Goods & Services								
2021 Article IV	12.5	4.8	1.9	3.7	8.5	7.5	8.0	6.5
2023 Program	9.1	7.7	1.0	4.7	4.3	5.0	4.0	6.6
Imports, Goods & Services								
2021 Article IV	6.6	8.8	5.1	5.0	4.4	6.7	5.9	6.5
2023 Program	5.8	1.4	0.2	3.9	3.3	5.5	4.5	6.5
				In percent of GDP				
Non-interest Current Account Deficit								
2021 Article IV	-0.6	0.8	1.6	1.9	1.0	1.1	0.7	0.1
2023 Program	-0.4	-0.2	-0.1	-0.5	-0.3	0.3	0.4	1.0
Revenue and Grants								
2021 Article IV	14.9	15.0	15.0	15.2	15.3	15.5	15.9	16.4
2023 Program	15.3	15.7	16.8	17.3	17.8	18.7	18.7	18.7
Primary Expenditure 2/								
2021 Article IV	20.8	16.4	15.2	14.9	14.0	14.2	14.1	14.2
2023 Program	17.2	16.5	18.0	17.5	16.9	17.7	17.7	17.7
Primary Deficit 2/								
2021 Article IV	5.9	1.4	0.2	-0.3	-1.3	-1.4	-1.8	-2.2
2023 Program	1.9	0.8	1.2	0.2	-0.9	-0.9	-1.0	-1.0
				In percent				
Average real interest rate on domestic debt								
2021 Article IV	6.7	9.8	9.9	10.3	10.4	9.4	9.3	6.2
2023 Program	3.5	-12.8	-20.6	-1.0	6.3	5.5	4.6	4.8
Average real interest rate on external debt								
2021 Article IV	3.3	3.3	3.8	4.2	4.4	4.4	4.6	4.9
2023 Program	4.5	-2.5	1.6	2.9	3.0	2.9	2.8	3.6

Source: Ghanaian Authorities; and IMF staff estimates and projections.

1/ For 2021 Article IV: 2028-41

2/Primary expenditure and deficit are computed on a cash basis.

12. **The DSA's baseline scenario assumes a large and frontloaded, yet feasible, fiscal adjustment.** The primary balance on a commitment basis—the key fiscal anchor under the proposed IMF-supported program—would improve by 5 percent of GDP between 2022 and 2026, to reach a surplus of 1.5 percent of GDP in 2025, which should be maintained at least until 2028. The consolidation would be based on a large revenue mobilization over the program period, given Ghana's low tax-to-GDP ratio compared to its potential. The authorities' objective is to raise the government revenue-to-GDP ratio to over 18.5 percent by the end of the program from 15.7 percent in 2022. Possible revenue measures, beyond those included in the 2023 Budget, could include the streamlining of large VAT exemptions (estimated at around 2 percent of GDP), the strengthening of excise taxes, measures to improve the extractive industry tax regime and reforms to reinforce tax compliance and revenue administration. Expenditure will need to be streamlined, particularly in the short term, while preserving growth-enhancing public investment, expanding social safety nets and eliminating extra-budgetary spending and arrears buildup. Additional savings over the medium term will come from a more efficient spending allocation and

a reduction in the large subsidies to the energy sector through tariff adjustments and cost reduction measures—with the latter included in the baseline's projected spending.[9] A plan to clear the large stock of domestic arrears to suppliers is being prepared.

13. The 2023 Budget is consistent with the proposed IMF-supported program's fiscal policy objectives. Revenue measures adopted in this context aim to permanently improve the non-oil revenue-to-GDP ratio by 1 percent of GDP—including (i) increasing the VAT rate by 2.5 percent, (ii) strengthening personal and corporate income taxes as well as the existing levy on mobile money transactions (the e-levy), (iii) removing customs exemptions, and (iv) strengthening some excise taxes and improving VAT compliance. While the domestic debt exchange will likely temporarily reduce income taxes paid by financial institutions given its impact on their profit, this will be partly offset by the projected temporary increase in oil-related revenue in 2023.[10] Primary expenditure will be reduced by 2 percent of GDP, with most savings coming from (i) lower capital expenditures thanks to reprioritization of projects, (ii) a compression of real public sector wages, (iii) a reduction of transfers to statutory funds, and (iv) streamlining of purchases of goods and services. To achieve these objectives, the authorities will strictly tighten expenditure commitment controls of both MDAs and statutory funds. The government has also taken steps—including through an upfront electricity price increase of close to 30 percent implemented in January 2023—to reduce the size of the energy sector shortfall, and thus of budgetary transfers to energy producers. Overall, the primary balance (on a commitment basis) will be reduced by about 3 percent of GDP in 2023.[11]

14. The DSA's baseline scenario does not include the impact of the ongoing debt restructuring, although returning to debt sustainability will require the combination of a successful implementation of the Fund-supported program and debt restructuring. The authorities have announced a comprehensive debt restructuring—covering domestic as well as external commercial and bilateral debt—that aims at achieving debt sustainability and a moderate risk of debt distress under the LIC-DSF framework by bringing debt stock and flow ratios down to their respective thresholds. In particular, this includes a reduction in the PV of total debt-to-GDP and external debt service-to-revenue ratios to 55 and 18 percent, respectively, by 2028. On the domestic front, the government launched a debt exchange program in early-December, opting for a voluntary approach, seeking to swap outstanding medium- and long-term domestic bonds for lower-coupon and longer maturity bonds. The exchange, which covered about 65 percent of total outstanding domestic bonds (and excluded bonds held by pension funds to protect pensioners' savings), received about 85 percent participation. The government is pursuing further exchanges of domestic debt denominated in US dollars and Cocobills issued by Cocobod. (see Box 1 below). The authorities have also made progress with respect to their external debt restructuring process.

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[9] Transfers to the energy sector are projected to increase in 2023, despite the reforms, due to the large depreciation of the currency relative to 2022. In subsequent years they will decrease gradually thanks to continuous reform efforts.

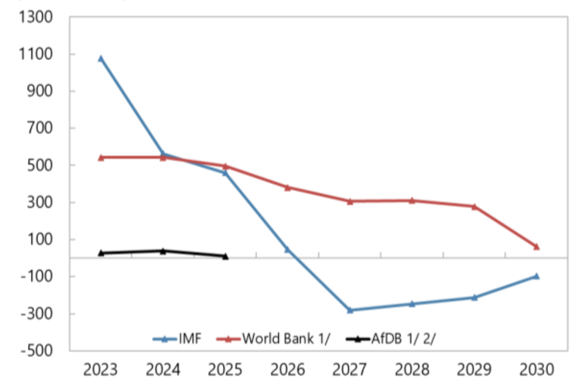
[10] Given the existing provisions to allow corporates to carry forward losses, the baseline builds in an associated temporary annual reduction in incomes taxes of 0.5 percent of GDP over 2023-25.

[11] Under the Sustainable Development Finance Policy (SDFP), the FY23 World Bank Performance and Policy Actions (PPAs – in the process of being approved) promote fiscal sustainability through supporting the adoption of the 2023 Budget (including key revenue mobilization measures), the completion of the COVID-19 spending audit and Cabinet approval of the sales of assets of identified defunct SOEs. A non-concessional debt ceiling will be designed with alignment with the IMF Debt Limits Policy for FY24.

They announced a standstill on external commercial and bilateral debt in late December and formally requested a debt treatment under the G20's Common Framework.

15. Financing assumptions under the baseline scenario are conservative. The DSA scenario assumes that the government will not regain external market access until 2027. External disbursements over the period 2023-26 are thus limited to the World Bank, IMF, and other bilateral development partners (see text Table 4). The World Bank[12] is assumed to disburse US$3 billion of which US$1.45 billion for project loans, US$1.15 billion for budget support, US$ 0.15 billion for support to social safety nets and US$0.25 billion for emergency support to the financial sector[13]. The scenario assumes new exceptional financing of US$3 billion from the IMF in 2023-26, conditional on the receipt of credible and specific financing assurances from official creditors and a credible process towards debt restructuring of private claims. Other bilateral development partners are expected to contribute by US$0.33 billion. Under the-pre-restructuring baseline, the residual financing gap is assumed to be filled through accumulation of further arrears.[14] The Central Bank financing is assumed to end in 2023. Given the current situation in the domestic debt market and the government's ongoing debt operation, domestic financing needs in 2023 and 2024 are assumed to be met through issuance of T-bills[15] as the T-bill market remains functional. Starting in 2025, a gradually increasing share of domestic financing needs is projected to be met through issuance of longer-term Cedi debt as the T-bond market functionality is restored.

Net Official External Financing
(In $US, million)



Source: IMF and World Bank staff projections.
1/ Includes project grants.
2/ Financing commitment unavailable beyond 2025. This does not include possible additional budget support.

[12] Consistent with IDA20's new financing terms, the DSA assumes that 24 percent of the allocation are concessional Shorter Maturity Loans (SMLs), with a 12-year maturity, 6-year grace period, zero interest or service charge and a grant element of 36 percent. The remaining 76 percent continue to be blend-term credits.

[13] Beyond the IDA20 period, IDA financing figures are based on assumptions; actuals will depend on IDA replenishment volumes, country performance, and other operational factors. Delivery of DPFs will be dependent on an agreement with the government on a strong program of policy and institutional reforms, and adequacy of the macroeconomic policy framework.

[14] Through the simulated issuance of stylized "arrears bonds" at 5 percent interest rate and 10-year maturity.

[15] Domestic interest rates are expected to decline over time as inflation is expected to return to its target by end-2025, with real interest rate remaining positive.

Text Table 4. Ghana: Summary Table of External Borrowing Program [1/]
(January - December 2023)

PPG external debt	Volume of new debt in 2023		Present value of new debt	
	USD million	Percent	USD million	Percent
Sources of debt financing	80	100	66	100
Concessional debt, of which	0	0	0	0
Multilateral debt	0	0	0	0
Bilateral debt	0	0	0	0
Non-concessional debt, of which	80	100	66	100
Semi-concessional debt	65	81	51	77
Commercial terms	15	19	15	23
Uses of debt financing	80	100	66	100
Infrastructure	80	100	66	100
Budget financing	0	0	0	0
Memorandum items				
Indicative projections				
Year 2	100		85	
Year 3	100		85	

[1/] The proposed Fund-supported program will include a debt ceiling on the PV of newly contracted or guaranteed external debt by the government and SOEs. In line with the TMU definition of the debt ceiling, figures in the table do not include new financing from the IMF, World Bank, AfDB and projected issuances of local currency debt to non-residents. They reflect only debt from bilateral development partners with commercial terms.

Source: IMF staff calculations based on the authorities' reported data.

Box 1. Ghana: Domestic Debt Exchange (DDE)

The government launched on December 5, 2022, a DDE covering all medium- and long-term debt issued in local currency by the Government of Ghana, Daakye and ESLA. Government-issued T-bills have been excluded from the DDE perimeter. The initial exchange did not yet include domestic debt denominated in U.S. dollars and Cocobills issued by Cocobod. Over the course of discussions with bondholders the government also agreed that pension funds (representing about 20 of the debt eligible for the exchange) would not be expected to participate in the exchange.

The DDE settled on February 21, 2023. In total, 85 percent of the face value of bonds held by investors other than pension funds was exchanged in the DDE, equivalent to 28 percent of all outstanding domestic debt (which includes, among others, nonmarketable debt, verified arrears and Cocobills). The government offered most bondholders a set of new bonds at fixed exchange proportions with a combined average maturity of 8.2 years and coupons up to 10 percent (with part of the coupons capitalized rather than paid in cash in 2023 and 2024). At a 16-18 percent discount rate, the final terms of the DDE imply an average NPV reduction of about 30 percent for these bondholders. Individual bondholders[1/] were offered an exchange into shorter term debt with higher coupons. Crucially, the completed DDE has also produced very large cash debt relief for the government of almost GHS 50 billion in 2023, relieving pressure on the domestic financing market.

The government is pursuing further exchanges of domestic debt denominated in US dollars and Cocobills issued by Cocobod. While these two types of debt account for only about 5 percent of total domestic debt, they also represent about GHS 15 billion in debt service in 2023.

[1/] Individual bondholders refer to non-institutional investors.

PROJECTIONS REALISM

16. Staffs' projections have historically tended to overestimate fiscal adjustment and thus have underestimated overall and external debt growth. Compared to the five-year projection in the 2017 DSA, total public debt exceeded estimates by 28 percentage points of GDP on average due to higher-than-expected fiscal deficits and other factors. This is a reflection of the unexpected impact of the COVID-19 pandemic and other shocks, the financial sector cleanup costs, and a rising interest bill due to deteriorating economic conditions and Ghana's creditworthiness. The average five-year gap between the actual and projected overall debt growth amounts to 9 percentage points of GDP in 2022. External debt has also exceeded the 2017-DSA 5-year projections by 6.3 percentage points of GDP due mainly to higher-than-expected external borrowing costs and currency depreciation.[16]

17. The baseline's projected primary balance adjustment of 5 percent of GDP over three years is feasible. Under the program, projections assume achievement of a primary balance surplus of 1.5 percent of GDP by 2025 on a commitment basis—expected to be maintained over the medium term. The consolidation falls within the top quartile for peers, but is 4 percent of GDP lower than the top of the distribution, underlining the consolidation plan's realism.[17] Moreover, the authorities firmly committed to the fiscal adjustment to restore fiscal sustainability and macroeconomic balances. This has been evidenced by the adoption of revenue measures such as the VAT rate increase, elimination of discounts at customs, an increase in an existing levy; and the implementation of other expenditure measures (public

[16] Relatively large unexplained residuals are significantly contributing to the accumulation of PPG debt and external debt during 2017-22. They reflect mainly the external private sector debt and the enlargement of the debt coverage to include domestic arrears and implicitly guaranteed SOEs debt (ESLA, GETFund/Daakye, Sinohydro).

[17] This is computed as the change in the primary deficit on a commitment basis. Figure 4 shows a much lower adjustment since the DSA is based on the primary balance on a cash basis.

sector wage bill growth kept well below inflation, reduction of capital expenditures, lower cap on transfers to statutory funds, upfront energy tariff adjustment), accompanied by reforms to strengthen expenditure commitment controls.

18. Downside risks to the baseline are significant. Baseline projections are contingent on successful program implementation and adequate financing from development partners. Delays in implementing the needed adjustment and reforms, compounded with weak interagency coordination, lower agricultural and commodity production and deterioration in global conditions may lead to a further weakening of the macro-financial situation. Policy slippages and reversals also represent risks that could be exacerbated by the upcoming 2024 elections. Finally, the need to support Cocobod and larger-than-expected needed financial sector support due to the domestic debt exchange program could also adversely affect debt dynamics. However, strong political support for the program constitutes an important mitigating factor.

DEBT-CARRYING CAPACITY AND DETERMINATION OF STRESS TESTS

19. Ghana's debt carrying capacity is assessed as "*medium*", unchanged from the last DSA. Although higher than its level in the 2021 DSA, the Composite Indicator (CI) score of 2.82 remains between the cut-off values for weak and strong debt-carrying capacity, 2.69 and 3.05, respectively, suggesting a medium debt carrying capacity. The CI is the weighted average of the 10-year average of the World Bank's Country Policy and Institutional Assessment (CPIA) score and macro-economic variables from the October WEO 2022 vintage.

Text Table 5. Ghana: Debt Carrying Capacity

Components	Coefficients (A)	10-year average values (B)	CI Score components (A*B) = (C)	Contribution of components
CPIA	0.385	3.569	1.37	49%
Real growth rate (in percent)	2.719	4.765	0.13	5%
Import coverage of reserves (in percent)	4.052	30.335	1.23	44%
Import coverage of reserves^2 (in percent)	-3.990	9.202	-0.37	-13%
Remittances (in percent)	2.022	3.173	0.06	2%
World economic growth (in percent)	13.520	2.898	0.39	14%
CI Score			2.82	100%
CI rating			Medium	

Final	Classification based on current vintage	Classification based on the previous vintage
Medium	Medium 2.82	Medium 2.73

Source: CI score calculations based on LIC DSF.

20. Stress tests applied to public and external debt show that the primary balance, exchange rate and exports are the most relevant for debt dynamics. A set of *standard shock scenarios* affecting GDP growth, the primary balance, exports and FDI are calibrated at 1 standard deviation in 2024 from their respective historical averages, while the exchange rate is stressed with a one-time 30 percent depreciation in 2025. A combined shock including all the above at half magnitude is also applied. *Tailored stress tests* are carried out on commodity prices—with interactions with other macroeconomic variables—since commodities represent over 70 percent of exports; and on market access due to a large stock of outstanding Eurobonds. The tailored commodity price test simulates a one standard deviation drop in both fuel and non-fuel commodity export prices, while the market financing shock simulates a 400 bps increase in the cost of borrowing for 3 years, a shortening of average maturities on external debt by 2 years and a 15-percent exchange rate depreciation.

EXTERNAL DSA ASSESSMENT

21. Under the baseline, three external debt burden indicators breach their thresholds, with one of them doing so over the full horizon and by large margins (Figure 1). The debt service-to-revenue ratio exceeds its thresholds of 18 percent by large margins throughout the entire forecast horizon, while the PV of PPG external debt-to-GDP remains above its 40 percent threshold under the baseline until 2040. The debt service-to-exports ratio breaches its 15 percent threshold briefly in 2025 and breaches it again in 2032 to remain above it throughout the projection horizon. The one-off 30-percent nominal depreciation of the cedi is the most extreme shock for the PV of PPG external debt-to-GDP and the debt service-to-revenue ratios, while the exports shock seems to have the highest impact on the debt service-to-exports indicator. The fourth indicator—the PV of external debt-to-exports ratio—does not breach its 180 percent threshold under the baseline, while it breaches it in 2025-31 under an exports shock scenario—the most extreme shock for this indicator.

PUBLIC DSA ASSESSMENT

22. Under the baseline, the PV of total PPG debt-to-GDP breaches its 55 percent benchmark throughout the medium and long term (Figure 2). Although public debt declines gradually over time, it remains above 55 percent throughout the full horizon. A one standard deviation deterioration in the primary balance has the most severe impact on public debt to GDP indicator, followed by an adverse exports shock and a one standard deviation decline in real GDP growth. For other public debt indicators, the commodity price shock is the most severe.

23. With the loss of market access, the market financing risks are assessed as “high”, signaling further liquidity pressures amid worsening market sentiment over the forecasting horizon. Both market financing risks indicators breach their respective thresholds. Gross financing needs (GFN), at 19.3 percent of GDP in 2022, are expected to remain significantly above the 14 percent benchmark over 3-year baseline projection horizon and increase further to reach 30 percent of GDP in 2025 and start declining gradually towards 16.8 percent of GDP in 2028. Eurobond spreads surged since mid-2021 and surpassed 2900 bps by end 2022, well above the 570 bps benchmark, as rollover and liquidity risks have materialized (see Figure 5).

SUSTAINABILITY ASSESSMENT AND CONCLUSION

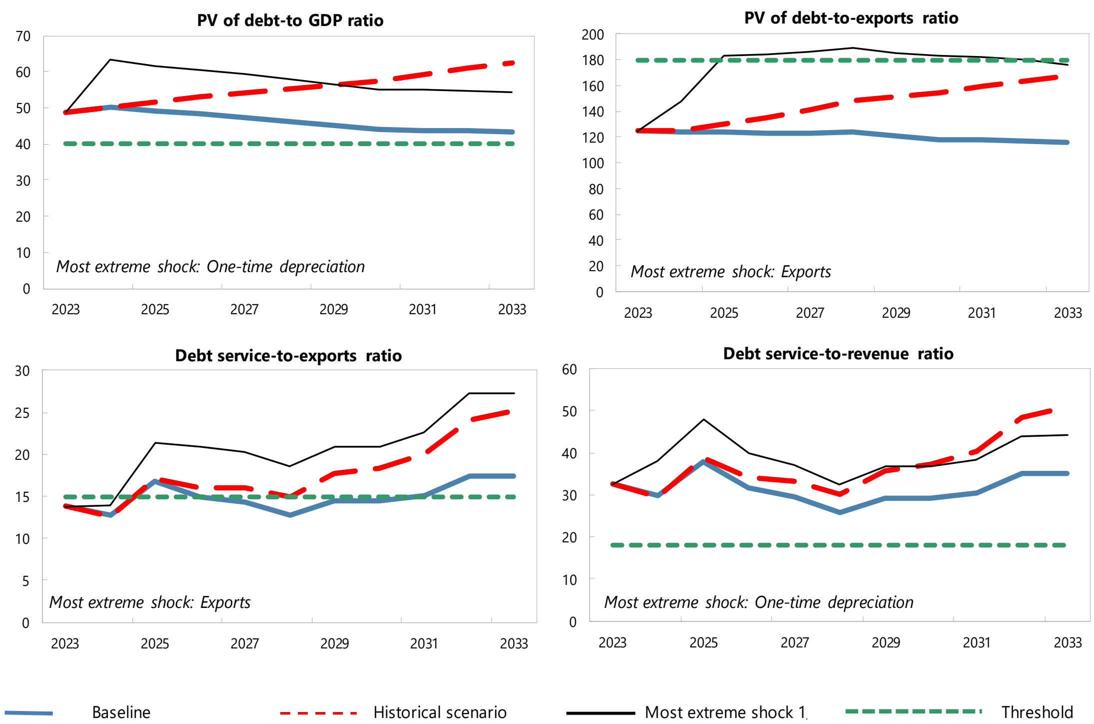
24. Ghana’s external and overall public debt are assessed to be in distress and debt to be unsustainable. There are extended and large breaches of most debt burden indicators, despite the assumption of maximum feasible fiscal adjustment under the baseline, which does not incorporate the impact of the ongoing debt restructuring. The country lost international market access in 2021 amid a sharp deterioration in market sentiment and a surge in market spreads. The sovereign bond spread accelerated from 660 bps in mid-2021 to exceed 2900 bps at end-December 2022, with several consecutive downgrades by global rating agencies reflecting the continued deterioration of Ghana's public finances and external position. The authorities requested financial support from the IMF in July 2022. They have hired financial and legal advisors and have launched a comprehensive debt restructuring strategy. Progress is being made on domestic debt restructuring. An external debt service standstill is in place.

25. A comprehensive public debt restructuring, and the successful implementation of a credible reform program underpinned by a feasible and growth-friendly fiscal adjustment, will be necessary to restore debt sustainability. The baseline assumes strong program ownership and the authorities' full commitment to implement the Fund-supported program in order to restore debt sustainability and bring the debt risk rating to "moderate" in the medium term. This includes in particular reducing the PV of total debt-to-GDP and external debt service-to-revenue ratios to 55 and 18 percent, respectively, by 2028. This entails a revenue-based fiscal consolidation with higher spending efficiency and stronger social safety nets and structural reforms to support greater exchange rate flexibility, a more diversified economy and more inclusive growth.

26. Enhancing debt data and transparency are essential to better identify PPG debt and contingent liabilities and allow for a more accurate assessment of debt vulnerabilities. Materialization of contingent liabilities, off-budget operations, and domestic arrears have been drivers of debt accumulation in the past (along with rapid cedi depreciation, underlining the need to restore macroeconomic stability). Furthermore, SOEs represent a potential source of government obligations, either in the form of undisclosed debt or contingent liabilities.[18] A more comprehensive coverage of SOEs debt and guarantees—particularly those that engage in quasi-fiscal activities—should allow for a more accurate assessment of fiscal risks and enhance debt coverage.

[18] As part of its Sustainable Development Finance Policy (SDFP), the World Bank supported the publication of the 2020 State Ownership Report in 2022, to provide a better picture on large SOEs' financial liabilities.

Figure 1. Ghana: Indicators of Public and Publicly Guaranteed External Debt Under Alternative Scenarios, 2023–33 2/



Customization of Default Settings		
	Size	Interactions
Standardized Tests	Yes	
Tailored Stress		
Combined CL	No	
Natural disaster	n.a.	n.a.
Commodity price	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	5.3%	9.0%
USD Discount rate	5.0%	5.0%
Avg. maturity (incl. grace period)	14	14
Avg. grace period	6	6

* 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.

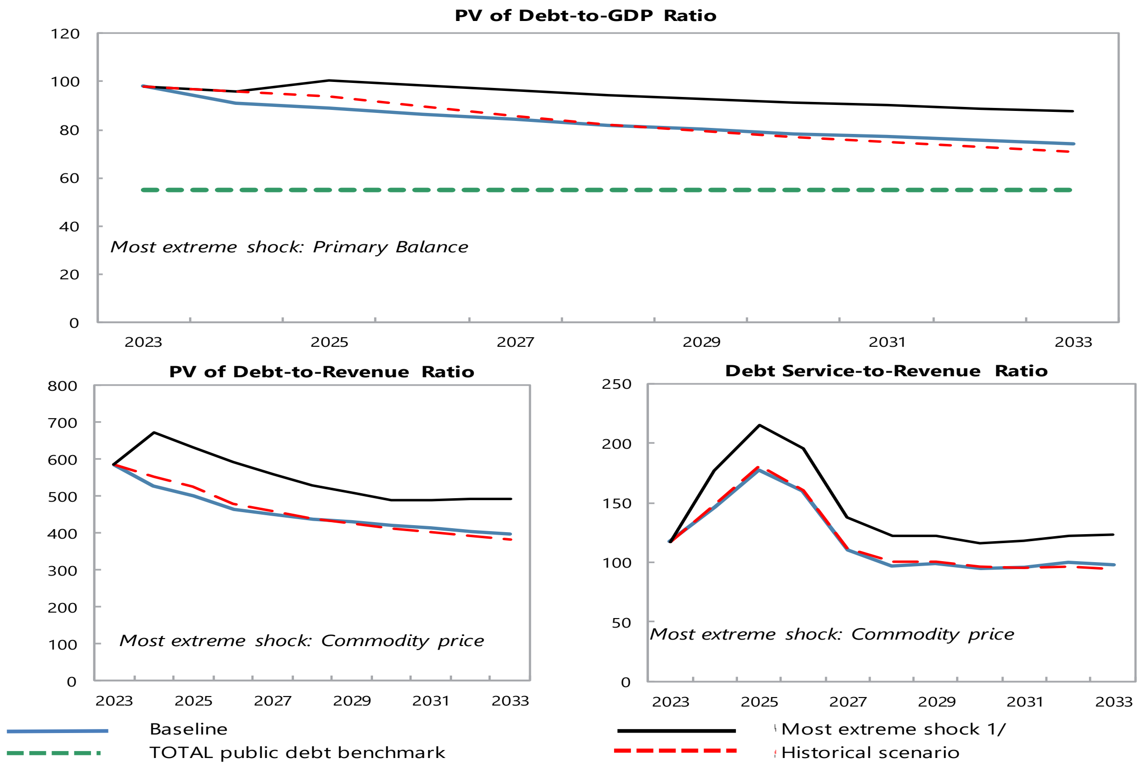
Sources: Country authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio in or before 2033. 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.

Note: Interest rate on additional borrowing resulting from the stress test is estimated at 9 percent (higher than the default rate of 4.9 percent) to reflect deterioration in Ghana's creditworthiness and loss of market access.

Figure 2. Ghana: Indicators of Public Debt Under Alternative Scenarios, 2023-33



Borrowing assumptions on additional financing needs resulting from the stress tests*	Default	User defined
Shares of marginal debt		
External PPG medium and long-term	29%	29%
Domestic medium and long-term	41%	41%
Domestic short-term	30%	30%
Terms of marginal debt		
External MLT debt		
Avg. nominal interest rate on new borrowing in USD	5.3%	9%
Avg. maturity (incl. grace period)	14	14
Avg. grace period	6	6
Domestic MLT debt		
Avg. real interest rate on new borrowing	1.8%	5.0%
Avg. maturity (incl. grace period)	6	6
Avg. grace period	0	0
Domestic short-term debt		
Avg. real interest rate	2.8%	2.8%

* 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.

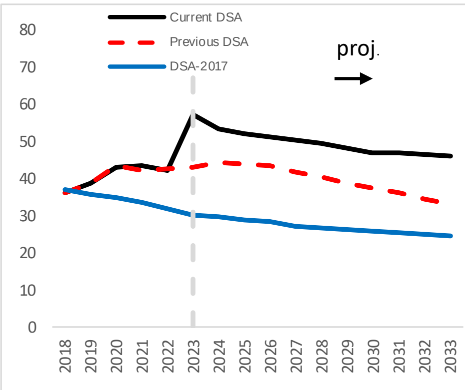
Sources: Country authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio in or before 2033. 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.

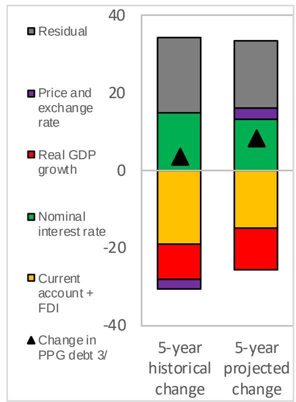
Note: Interest rate on additional borrowing resulting from the stress test is estimated at 9 percent (higher than the default rate of 4.9 percent) to reflect deterioration in Ghana’s creditworthiness and loss of market access.

Figure 3. Ghana: Drivers of Debt Dynamics – Baseline Scenario

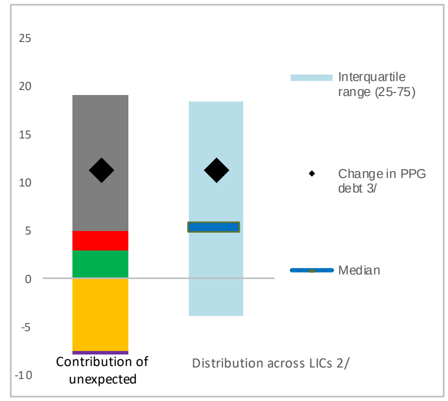
Gross Nominal PPG External Debt
(in percent of GDP; DSA vintages)



Debt-creating flows
(percent of GDP)

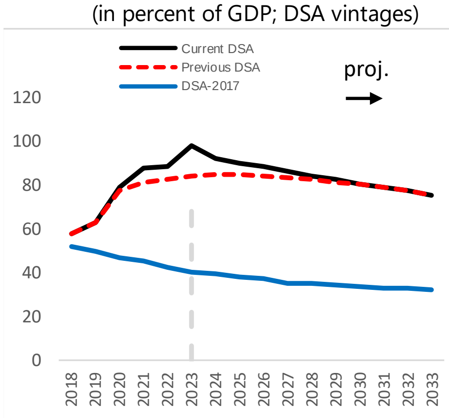


Unexpected Changes in Debt 1/
(past 5 years, percent of GDP)

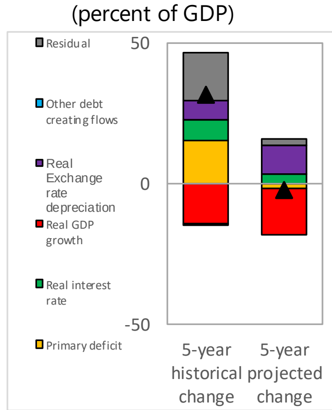


Public debt

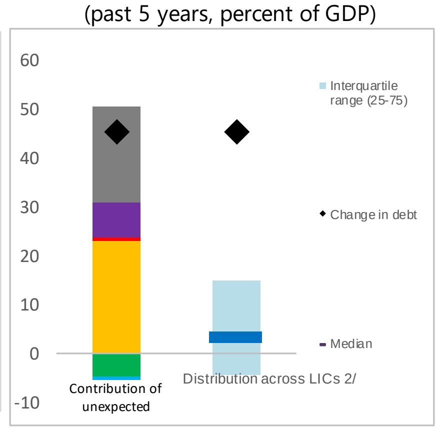
Gross Nominal Public Debt
(in percent of GDP; DSA vintages)



Debt-creating flows
(percent of GDP)



Unexpected Changes in Debt 1/
(past 5 years, percent of GDP)



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

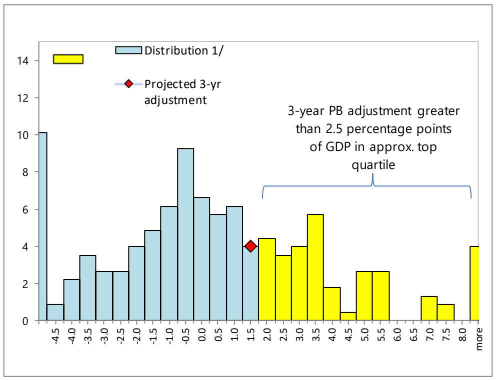
2/ Distribution across LICs for which LIC DSAs were produced.

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.

Note: Interest rate on additional borrowing resulting from the stress test is estimated at 9 percent (higher than the default rate of 4.9 percent) to reflect deterioration in Ghana's creditworthiness and loss of market access.

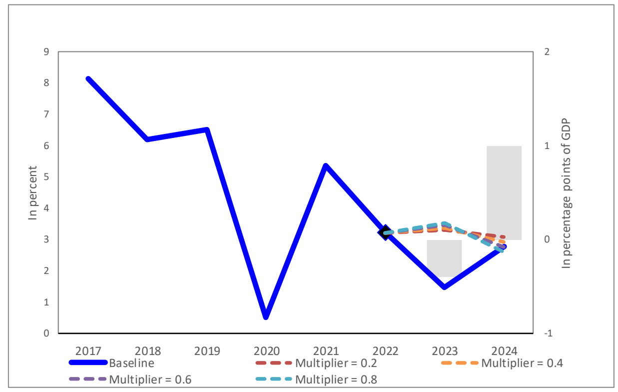
Figure 4. Ghana: Realism Tools

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



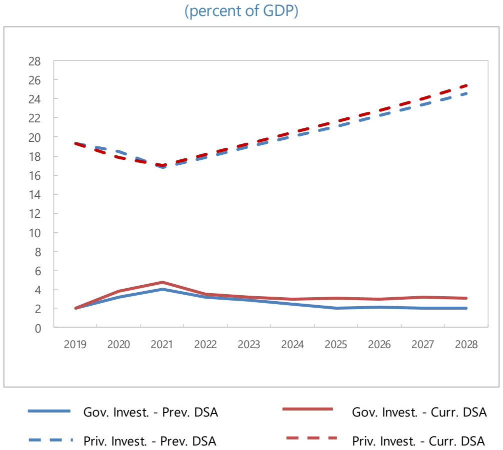
1/ Data cover Fund-supported programs for LICs (excluding emergency financing) approved since 1990. The size of 3-year adjustment from program inception is found on the horizontal axis; the percent of sample is found on the vertical axis.

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)

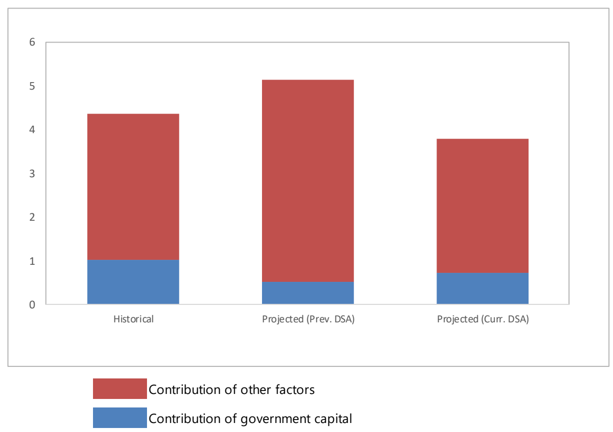
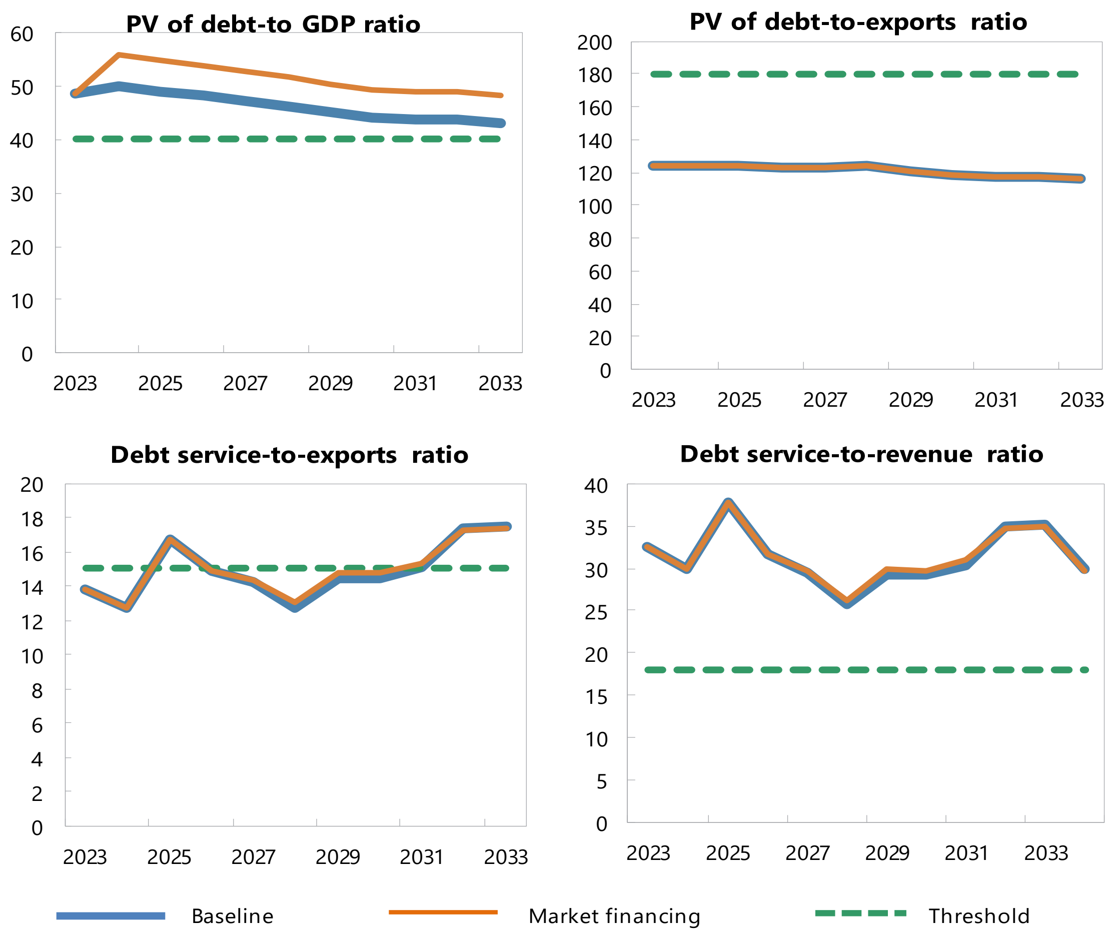


Figure 5. Ghana: Market-Financing Risk Indicators

	GFN 1/	EMBI 2/
Benchmarks	14	570
Values	30	2936
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.



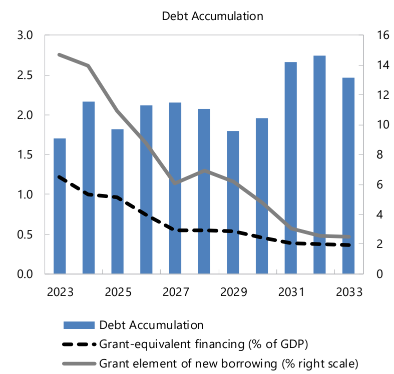
Sources: Country authorities; and staff estimates and projections.

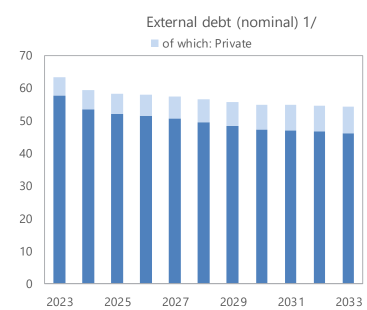
Note: Both the baseline and market financing shock scenarios display very similar paths for PV of debt-to-exports, debt service-to-exports and debt service-to-revenue ratios due to the low level of new envisaged commercial borrowing in the 3 years from the second year of the projection (2024-26).

Table 1. Ghana: External Debt Sustainability Framework, Baseline Scenario, 2022–43
(In percent of GDP, unless otherwise indicated)

	Actual	Projections								Average 8/	
	2022	2023	2024	2025	2026	2027	2028	2033	2043	Historical	Projections
External debt (nominal) 1/	47.8	63.2	59.2	58.2	57.9	57.3	56.6	54.4	49.6	41.7	56.9
of which: public and publicly guaranteed (PPG)	42.4	57.5	53.3	52.0	51.4	50.5	49.6	46.0	39.6	37.3	49.9
Change in external debt	-0.8	15.4	-4.0	-1.0	-0.4	-0.6	-0.7	-0.3	-1.0		
Identified net debt-creating flows	2.1	0.1	-2.2	-3.7	-3.2	-3.1	-3.0	-2.5	-1.8	-2.0	-2.6
Non-interest current account deficit	-0.2	0.0	-0.4	-0.2	0.4	0.5	0.6	0.9	1.3	2.0	0.4
Deficit in balance of goods and services	0.8	0.6	0.3	0.0	0.2	0.4	0.4	0.5	0.1	4.2	0.4
Exports	35.3	39.1	40.2	39.7	39.3	38.3	37.3	37.2	37.4		
Imports	36.1	39.7	40.6	39.7	39.4	38.7	37.7	37.7	37.5		
Net current transfers (negative = inflow)	-4.9	-5.5	-5.5	-5.3	-5.1	-4.9	-4.7	-4.1	-3.2	-4.2	-4.8
of which: official	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)	3.9	4.8	4.7	5.1	5.3	5.0	4.9	4.5	4.3	2.0	4.8
Net FDI (negative = inflow)	-2.0	-2.0	-2.8	-3.5	-3.5	-3.4	-3.4	-3.4	-3.4	-4.5	-3.2
Endogenous debt dynamics 2/	4.3	2.1	1.0	0.0	-0.1	-0.2	-0.2	0.0	0.4		
Contribution from nominal interest rate	2.3	2.8	2.8	2.7	2.6	2.5	2.5	2.6	2.7		
Contribution from real GDP growth	-1.7	-0.8	-1.7	-2.6	-2.7	-2.7	-2.7	-2.6	-2.4		
Contribution from price and exchange rate changes	3.7	...	...	...	...	...	...	...	...		
Residual 3/	-2.8	15.3	-1.8	2.7	2.8	2.5	2.3	2.2	0.8	4.4	3.2
of which: exceptional financing	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	42.8	48.7	50.1	49.1	48.2	47.3	46.3	43.2	37.4		
PV of PPG external debt-to-exports ratio	121.1	124.7	124.4	123.6	122.8	123.3	124.1	116.1	100.1		
PPG debt service-to-exports ratio	12.3	13.8	12.7	16.8	14.9	14.2	12.7	17.5	13.1		
PPG debt service-to-revenue ratio	28.1	32.5	29.9	37.9	31.6	29.6	25.7	35.2	26.4		
Gross external financing need (Million of U.S. dollars)	2554.8	3186.2	2275.5	3197.7	3300.2	3397.9	3149.8	7188.0	11870.4		
Key macroeconomic assumptions											
Real GDP growth (in percent)	3.2	1.5	2.8	4.7	5.0	5.0	5.0	5.0	5.0	4.6	4.4
GDP deflator in US dollar terms (change in percent)	-10.9	-10.0	-1.1	0.9	1.2	1.4	1.6	1.6	1.7	-1.5	0.2
Effective interest rate (percent) 4/	4.3	5.4	4.4	4.8	4.7	4.6	4.6	5.1	5.8	5.6	4.8
Growth of exports of G&S (US dollar terms, in percent)	7.7	1.0	4.7	4.3	5.0	4.0	3.7	6.7	6.9	4.8	5.1
Growth of imports of G&S (US dollar terms, in percent)	1.4	0.3	3.9	3.3	5.5	4.7	3.8	6.7	6.6	2.0	5.0
Grant element of new public sector borrowing (in percent)	...	14.7	13.9	10.9	8.8	6.0	6.9	2.5	2.2	...	7.3
Government revenues (excluding grants, in percent of GDP)	15.5	16.6	17.1	17.6	18.4	18.5	18.5	18.5	18.5	13.6	18.1
Aid flows (in Million of US dollars) 5/	132.4	884.0	932.9	942.0	875.6	845.2	883.8	692.8	842.9		
Grant-equivalent financing (in percent of GDP) 6/	...	1.2	1.0	1.0	0.7	0.6	0.5	0.4	0.3	...	0.6
Grant-equivalent financing (in percent of external financing) 6/	...	17.4	17.3	13.8	12.1	9.7	11.0	5.3	6.0	...	10.6
Nominal GDP (Million of US dollars)	72,839	66,499	67,621	71,480	75,920	80,851	86,225	119,188	228,880		
Nominal dollar GDP growth	-8.0	-8.7	1.7	5.7	6.2	6.5	6.6	6.7	6.8	3.0	4.7
Memorandum items:											
PV of external debt 7/	48.2	54.4	56.0	55.3	54.7	54.0	53.3	51.6	47.4		
In percent of exports	136.2	139.1	139.1	139.2	139.2	140.8	142.9	138.6	126.8		
Total external debt service-to-exports ratio	16.1	17.4	16.3	20.6	18.9	18.5	17.3	23.0	19.7		
PV of PPG external debt (in Million of US dollars)	31165.9	32404.8	33846.3	35080.0	36591.8	38223.2	39901.6	51510.3	85666.2		
(PVt-PVt-1)/GDPt-1 (in percent)		1.7	2.2	1.8	2.1	2.1	2.1	2.5	1.6		
Non-interest current account deficit that stabilizes debt ratio	0.6	-15.4	3.5	0.8	0.8	1.1	1.3	1.2	2.3		

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.

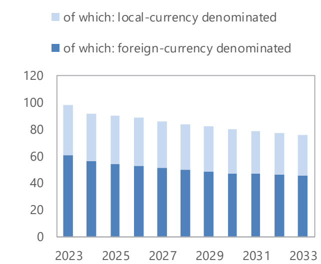
8/ Historical averages are generally derived over the past 10 years, subject to data availability, whereas projections averages are over the first year of projection and the next 10 years.

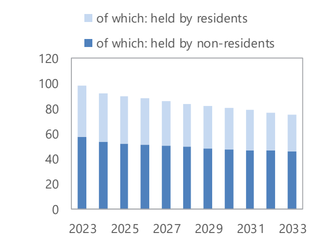
Table 2. Ghana: Public Sector Debt Sustainability Framework, Baseline Scenario, 2022–43
(In Percent of GDP, unless otherwise indicated)

	Actual	Projections								Average 6/	
	2022	2023	2024	2025	2026	2027	2028	2033	2043	Historical	Projections
Public sector debt 1/	**88.1**	**98.1**	**92.0**	**90.2**	**88.4**	**86.1**	**83.9**	**75.5**	**61.8**	**63.3**	**84.8**
of which: external debt	**42.4**	**57.5**	**53.3**	**52.0**	**51.4**	**50.5**	**49.6**	**46.0**	**39.6**	**37.3**	**49.9**
Change in public sector debt	0.8	10.0	-6.1	-1.8	-1.8	-2.3	-2.2	-1.6	-1.5		
Identified debt-creating flows	**-2.2**	**-8.2**	**-1.1**	**-1.3**	**-1.8**	**-2.2**	**-2.2**	**-1.8**	**-1.6**	**2.9**	**-2.4**
Primary deficit	**0.8**	**1.2**	**0.2**	**-0.9**	**-0.9**	**-1.0**	**-1.0**	**-1.0**	**-1.0**	**2.4**	**-0.7**
Revenue and grants	15.7	16.8	17.3	17.8	18.7	18.7	18.7	18.7	18.7	**14.1**	**18.3**
of which: grants	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2		
Primary (noninterest) expenditure	16.5	18.0	17.5	16.9	17.7	17.7	17.7	17.7	17.7	**16.5**	**17.7**
Automatic debt dynamics	**-3.0**	**-9.4**	**-1.3**	**-0.4**	**-0.9**	**-1.3**	**-1.2**	**-0.8**	**-0.6**		
Contribution from interest rate/growth differential	-9.6	-9.4	-1.3	-0.4	-0.9	-1.3	-1.2	-0.8	-0.6		
of which: contribution from average real interest rate	-6.9	-8.2	1.4	3.8	3.4	2.9	2.9	2.9	2.4		
of which: contribution from real GDP growth	-2.7	-1.3	-2.7	-4.2	-4.3	-4.2	-4.1	-3.7	-3.0		
Contribution from real exchange rate depreciation	6.6	...	...	...	...	...	...	...	...		
Other identified debt-creating flows	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**-0.1**	**0.0**
Privatization receipts (negative)	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		
Debt relief (HIPC and other)	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		
Residual	**3.0**	**18.2**	**-5.0**	**-0.6**	**0.0**	**-0.1**	**0.0**	**0.2**	**0.0**	**2.4**	**1.3**
Sustainability indicators											
PV of public debt-to-GDP ratio 2/	**89.1**	**98.1**	**91.2**	**88.8**	**86.7**	**84.3**	**82.0**	**74.0**	**60.8**		
PV of public debt-to-revenue and grants ratio	**567.5**	**584.5**	**527.2**	**499.3**	**464.3**	**450.9**	**438.6**	**396.1**	**325.3**		
Debt service-to-revenue and grants ratio 3/	**117.6**	**117.3**	**146.6**	**177.0**	**159.6**	**110.0**	**97.3**	**97.8**	**72.0**		
Gross financing need 4/	19.3	23.1	24.9	30.0	28.3	19.0	16.8	17.3	12.5		
Key macroeconomic and fiscal assumptions											
Real GDP growth (in percent)	3.2	1.5	2.8	4.7	5.0	5.0	5.0	5.0	5.0	**4.6**	**4.4**
Average nominal interest rate on external debt (in percent)	4.3	5.5	5.2	5.0	4.8	4.7	4.7	5.3	6.2	**5.9**	**5.0**
Average real interest rate on domestic debt (in percent)	-12.8	-20.6	-1.0	6.3	5.5	4.6	4.6	4.8	3.8	**5.0**	**2.1**
Real exchange rate depreciation (in percent, + indicates depreciation)	17.5	...	...	...	...	...	...	...	...	**4.4**	**...**
Inflation rate (GDP deflator, in percent)	29.8	39.9	20.1	10.9	7.6	7.6	7.7	7.7	7.8	**14.7**	**12.0**
Growth of real primary spending (deflated by GDP deflator, in percent)	-0.9	10.6	0.0	1.0	10.1	4.8	4.7	5.0	5.0	**4.1**	**5.1**
Primary deficit that stabilizes the debt-to-GDP ratio 5/	0.0	-8.8	6.3	1.0	0.8	1.3	1.2	0.6	0.5	**-4.5**	**0.5**
PV of contingent liabilities (not included in public sector debt)	7.4	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, central bank, government-guaranteed 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 stabilizes 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. Ghana: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2023–33
(In Percent)

	Projections 1/										
	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
PV of debt-to GDP ratio											
Baseline	**49**	**50**	**49**	**48**	**47**	**46**	**45**	**44**	**44**	**44**	**43**
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2023-2033 2/	**49**	**50**	**52**	**53**	**54**	**55**	**56**	**57**	**59**	**61**	**62**
B. Bound Tests											
B1. Real GDP growth	**49**	**52**	**53**	**52**	**51**	**50**	**49**	**48**	**47**	**47**	**47**
B2. Primary balance	**49**	**51**	**54**	**54**	**54**	**53**	**52**	**52**	**52**	**52**	**52**
B3. Exports	**49**	**55**	**62**	**61**	**61**	**60**	**59**	**58**	**58**	**57**	**56**
B4. Other flows 3/	**49**	**54**	**57**	**56**	**55**	**55**	**53**	**53**	**52**	**52**	**51**
B5. Depreciation	**49**	**63**	**62**	**61**	**59**	**58**	**56**	**55**	**55**	**55**	**54**
B6. Combination of B1-B5	**49**	**55**	**59**	**58**	**57**	**57**	**56**	**55**	**54**	**54**	**53**
C. Tailored Tests											
C1. Combined contingent liabilities	**49**	**52**	**52**	**52**	**52**	**52**	**51**	**50**	**51**	**51**	**51**
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	**49**	**51**	**52**	**52**	**52**	**51**	**50**	**49**	**49**	**48**	**48**
C4. Market Financing	**49**	**56**	**55**	**54**	**53**	**52**	**50**	**49**	**49**	**49**	**48**
Threshold	40	40	40	40	40	40	40	40	40	40	40
PV of debt-to-exports ratio											
Baseline	125	124	124	123	123	124	121	118	118	117	116
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2023-2033 2/	125	124	130	135	141	149	151	154	159	164	167
B. Bound Tests											
B1. Real GDP growth	125	124	124	123	123	124	121	118	118	117	116
B2. Primary balance	125	126	135	137	140	143	141	140	140	140	139
B3. Exports	125	147	**183**	**184**	**186**	**189**	**186**	**183**	**182**	180	176
B4. Other flows 3/	125	134	143	143	144	146	143	141	140	139	136
B5. Depreciation	125	124	122	121	122	123	119	117	116	116	115
B6. Combination of B1-B5	125	142	144	158	160	162	159	156	155	153	151
C. Tailored Tests											
C1. Combined contingent liabilities	125	130	132	133	136	139	137	135	136	136	136
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	125	125	129	131	134	137	134	131	130	130	128
C4. Market Financing	125	124	124	123	123	124	121	118	118	117	116
Threshold	180	180	180	180	180	180	180	180	180	180	180
Debt service-to-exports ratio											
Baseline	14	13	**17**	15	14	13	15	14	**15**	**17**	**17**
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2023-2033 2/	14	13	**17**	**16**	**16**	15	**18**	**18**	**20**	**24**	**25**
B. Bound Tests											
B1. Real GDP growth	14	13	**17**	15	14	13	15	14	**15**	**17**	**17**
B2. Primary balance	14	13	**17**	**16**	**16**	14	**16**	**16**	**17**	**20**	**20**
B3. Exports	14	14	**21**	**21**	**20**	**19**	**21**	**21**	**23**	**27**	**27**
B4. Other flows 3/	14	13	**18**	**17**	**16**	15	**16**	**16**	**18**	**21**	**21**
B5. Depreciation	14	13	**17**	15	14	13	14	14	15	**17**	**17**
B6. Combination of B1-B5	14	13	**20**	**18**	**18**	**16**	**18**	**18**	**20**	**23**	**23**
C. Tailored Tests											
C1. Combined contingent liabilities	14	13	**17**	**16**	**15**	14	**16**	**16**	**17**	**19**	**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	14	13	**17**	**16**	**15**	14	**16**	**16**	**17**	**19**	**19**
C4. Market Financing	14	13	**17**	15	14	13	15	15	**15**	**17**	**17**
Threshold	15	15	15	15	15	15	15	15	15	15	15
Debt service-to-revenue ratio											
Baseline	**32**	**30**	**38**	**32**	**30**	**26**	**29**	**29**	**30**	**35**	**35**
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2023-2033 2/	**32**	**30**	**39**	**34**	**33**	**30**	**36**	**37**	**40**	**48**	**51**
B. Bound Tests											
B1. Real GDP growth	**32**	**31**	**41**	**34**	**32**	**28**	**32**	**32**	**33**	**38**	**38**
B2. Primary balance	**32**	**30**	**39**	**34**	**32**	**29**	**33**	**32**	**35**	**40**	**41**
B3. Exports	**32**	**30**	**41**	**38**	**36**	**32**	**36**	**36**	**39**	**47**	**47**
B4. Other flows 3/	**32**	**30**	**40**	**35**	**33**	**29**	**33**	**33**	**36**	**42**	**42**
B5. Depreciation	**32**	**38**	**48**	**40**	**37**	**32**	**37**	**37**	**38**	**44**	**44**
B6. Combination of B1-B5	**32**	**30**	**41**	**36**	**34**	**30**	**34**	**34**	**38**	**44**	**44**
C. Tailored Tests											
C1. Combined contingent liabilities	**32**	**30**	**39**	**33**	**31**	**28**	**32**	**32**	**33**	**38**	**38**
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	**32**	**37**	**47**	**40**	**37**	**31**	**34**	**32**	**34**	**39**	**39**
C4. Market Financing	**32**	**30**	**38**	**32**	**30**	**26**	**30**	**30**	**31**	**35**	**35**
Threshold	18	18	18	18	18	18	18	18	18	18	18

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. Ghana: Sensitivity Analysis for Key Indicators of Public Debt, 2023–33
(In Percent)

	Projections 1/										
	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
PV of Debt-to-GDP Ratio											
Baseline	**98**	**91**	**89**	**87**	**84**	**82**	**80**	**78**	**77**	**75**	**74**
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2023-2033 2/	**98**	**96**	**94**	**90**	**86**	**82**	**79**	**77**	**75**	**73**	**71**
B. Bound Tests											
B1. Real GDP growth	**98**	**95**	**97**	**97**	**95**	**95**	**94**	**94**	**94**	**94**	**94**
B2. Primary balance	**98**	**96**	**101**	**99**	**96**	**94**	**93**	**91**	**90**	**89**	**88**
B3. Exports	**98**	**95**	**100**	**98**	**96**	**94**	**92**	**91**	**90**	**87**	**85**
B4. Other flows 3/	**98**	**95**	**97**	**95**	**93**	**90**	**89**	**87**	**86**	**84**	**82**
B5. Depreciation	**98**	**100**	**96**	**92**	**89**	**86**	**84**	**81**	**80**	**78**	**76**
B6. Combination of B1-B5	**98**	**92**	**96**	**94**	**92**	**90**	**89**	**87**	**86**	**85**	**83**
C. Tailored Tests											
C1. Combined contingent liabilities	**98**	**100**	**98**	**96**	**94**	**91**	**90**	**88**	**87**	**86**	**85**
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	**98**	**97**	**94**	**93**	**92**	**91**	**91**	**91**	**91**	**92**	**92**
C4. Market Financing	**98**	**91**	**89**	**87**	**84**	**82**	**80**	**78**	**77**	**76**	**74**
TOTAL public debt benchmark	55	55	55	55	55	55	55	55	55	55	55
PV of Debt-to-Revenue Ratio											
Baseline	585	527	499	464	451	439	429	420	412	404	396
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2023-2033 2/	585	554	527	480	458	440	426	413	401	391	381
B. Bound Tests											
B1. Real GDP growth	585	549	547	517	510	506	504	502	503	503	503
B2. Primary balance	585	554	566	528	516	505	497	488	483	475	469
B3. Exports	585	550	562	526	514	503	495	487	479	467	456
B4. Other flows 3/	585	551	544	508	495	484	476	467	459	448	438
B5. Depreciation	585	577	538	495	477	461	448	436	427	417	409
B6. Combination of B1-B5	585	533	539	504	492	481	474	466	460	453	446
C. Tailored Tests											
C1. Combined contingent liabilities	585	580	551	514	501	490	482	473	467	460	453
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	585	671	633	591	558	530	508	488	490	491	493
C4. Market Financing	585	527	499	464	451	439	430	420	413	404	396
Debt Service-to-Revenue Ratio											
Baseline	117	147	177	160	110	97	99	95	96	100	98
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2023-2033 2/	117	148	181	160	112	100	101	96	96	97	95
B. Bound Tests											
B1. Real GDP growth	117	149	191	176	126	115	119	117	119	125	125
B2. Primary balance	117	144	188	182	128	116	118	114	115	119	117
B3. Exports	117	147	179	165	115	102	104	101	103	110	108
B4. Other flows 3/	117	147	179	163	114	101	103	99	102	107	105
B5. Depreciation	117	139	174	159	114	102	105	102	103	109	108
B6. Combination of B1-B5	117	140	176	167	118	106	109	105	106	109	107
C. Tailored Tests											
C1. Combined contingent liabilities	117	144	199	174	124	112	114	111	110	113	111
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	117	177	216	196	138	123	122	116	118	123	123
C4. Market Financing	117	147	177	160	110	98	100	96	97	99	98

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.