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LIBERIA

JOINT WORLD BANK-IMF DEBT SUSTAINABILITY ANALYSIS

Approved by:

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Prepared by the staff of the International Development Association[1] (IDA) and the International Monetary Fund (IMF).

LIBERIA: JOINT BANK-FUND DEBT SUSTAINABILITY ANALYSIS[2]	
Risk of external debt distress	Moderate
Overall risk of debt distress	High
Granularity in the risk rating	Limited space to absorb shocks
Application of judgement	No

The Debt Sustainability Analysis (DSA) assesses Liberia at moderate risk of external debt and high risk of overall public debt distress with limited space to accommodate shocks. Staff judges public debt to be sustainable. More than 90 percent of external debt is on highly concessional terms and held by multilateral lenders. The bulk of domestic debt is owed to the Central Bank of Liberia (CBL) at favorable terms (interest rate of 4 percent with principal repayments starting in 2029). The breach of the threshold for the present value (PV) of public debt relative to GDP is small and projected to end in 2026. Total debt distress risk would then become moderate. To keep debt distress vulnerabilities contained, it will be important that the authorities maintain prudent fiscal policy that keeps the deficit at 3-4 percent of GDP and prioritize concessional financing. Shocks to the real economic growth rate, exports, or several parameters at once are the main downside risks to debt sustainability.

PUBLIC DEBT COVERAGE

1. **The DSA includes central government debt, central government guaranteed debt, and central bank debt contracted on behalf of the government (Text Table 1).**[3]

[1]Debt coverage has remained the same as in the previous DSA.
[2]Liberia's debt-carrying capacity based on the Composite Indicator (CI), which is based on the October 2021 WEO data and the 2020 Country Policy and Institutional Assessment (CPIA), is assessed as weak. The CI score is 2.72 which points to medium CI ranking. However, to change the debt carrying capacity to medium two consecutive signals are needed.
[3]The definition of external and domestic debt uses a residency criterion.

Text Table 1. Coverage of Public Sector Debt

	Subsectors of the public sector	Check box
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	

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

		Default	Used for the analysis	Reasons for deviations from the default settings
1	The country's coverage of public debt	The central government, central bank, government-guaranteed debt		
2	Other elements of the general government not captured in 1.	0.5 percent of GDP	0.5	
3	SoE's debt (guaranteed and not guaranteed by the government) 1/	2 percent of GDP	2	
4	PPP	35 percent of PPP stock	12.70	
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)		20.2	

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%.

- The external and the domestic debt of the central government is fully covered in the DSA. The external debt includes US$1,191 million debt to multilateral lenders, US$62 million debt to bilateral lenders, and US$51 million debt to commercial lenders. The domestic debt mostly consists of US$382 million in government borrowing from the CBL and US$49 million in sovereign bonds held by commercial banks. Both reflect legacy debt that was restructured, securitized, and fully recognized in 2019.[4] In addition, banks hold local currency government bonds equivalent to US$48 million that the government issued to finance budget over time.

- The bulk of State-Owned Enterprise (SOE) debt is guaranteed by the government or reflects funds borrowed externally by the government and on-lent to SOEs and as such is captured by the DSA. Liberian SOEs are unable to secure external funding without government guarantees. However, there could be SOE debt owed to domestic banks that escapes the DSA. The government is making efforts to improve SOE debt transparency. The Quarterly Debt Management Report includes detailed information on SOE debt,[5] guaranteed and non-guaranteed, direct and on-lent.

- The CBL debt is all external and is included in the DSA. The IMF credit to the CBL, amounting to US$280 million at end-2021, is captured and recorded as external debt, whether on-lent to the government or not. On-lent funds that are repaid by the CBL but not yet reimbursed by the government are recorded as domestic debt.

- Local governments have no access to external financing. Hence, it is only domestic borrowing by SOEs and local governments, as well as private sector external borrowing that escape the DSA. The amounts involved are deemed to be small.[6]

[4]The stock of domestic debt to the CBL has declined from US$487 million in the last DSA after removing old IMF loans, that are also included in the external debt, from this consolidated debt of the government to the CBL.

[5]In May 2022, the Government published its Quarterly Debt Management Report for the quarter ending December 31, 2021, with coverage of detailed debt data (on-lent, guaranteed and non-guaranteed) reported by 12 SOEs representing 95 percent of SOE consolidated liabilities by end December 2021, as part of the SDFP PPAs for FY22. The report includes the information on issuance dates, maturity dates, interest rates, issuance currency, disbursed amounts, repaid principals, and current stocks are provided for loans contracted with commercial banks and on-lent debt.

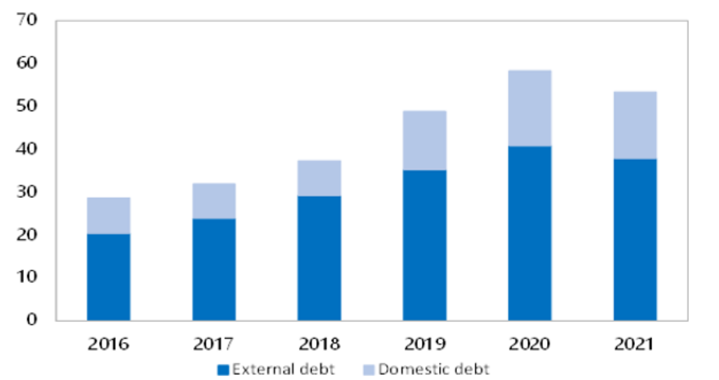
[6]The contingent liabilities shock from the SOE debt is kept at the default value of 2 percent to reflect risks associated with non-guaranteed SOE debt, excluded from the analysis due to data availability constraints. The SOE Reporting and Coordination Unit (SOERCU) of the MFDP monitors and reports on the performance of 15 out of 39 registered SOEs in

BACKGROUND

2. **This DSA is being conducted in the context of the 2022 Article IV consultation and the fourth review of the four-year arrangement under the ECF**. The last Low-Income Country DSA (LIC-DSF) was considered by the Executive Board in December 2020 as part of the combined first and second reviews of the ECF arrangement.[7] Liberia continues to be subject to the IDA Sustainable Development Finance Policy (SDFP) regardless of the risk of debt distress.

3. **In 2021, total public debt reached US$1,866 million (53.2 percent of GDP), up from US$1,781 million (58.7 percent of GDP) in 2020**. External borrowing accounted for most of the increase. Debt ratios nonetheless declined, reflecting a sharp rise of nominal GDP in U.S. dollar terms.[8] Debt accumulated rapidly after the completion of the HIPC initiative in 2010 as the government scaled up infrastructure spending and responded to a series of adverse shocks. Public debt increased strongly in 2019 and 2020, because of the recognition of the legacy debt.

Figure 1. Stock of Public Debt, 2016-21
(Percent of GDP)



Sources: Liberian authorities and IMF Staff calculations

4. **The stock of external debt increased by 21.4 percent during the pandemic years 2020-21, while Liberia benefited at the same time from non-debt-creating international support**. External debt increased from US$1,075 million to US$1,305 million between December 2019 and December 2021. This reflects US$124.7 million in borrowing from the IMF under the ECF arrangement

Liberia, but the reports do not provide any specific information about non-guaranteed SOE debt. The amended PFM Act strengthens requirements for reporting and monitoring of SOE debt, including non-guaranteed debt. Going forward, the external debt coverage will be expanded as the government plans to include SOE's non-guaranteed debt into public sector debt. The authorities' efforts to expand and improve SOE debt transparency have been supported by the World Bank's SDFP for the past two years.

[7]This DSA is prepared jointly by the staff of the IMF and the World Bank, in collaboration with the authorities of Liberia. The current DSA follows the revised Debt Sustainability Framework (DSF) for LICs and Guidance Note (2017) in effect as of July 1, 2018. The last joint DSA can be found in IMF Country Report No. 21/9, January 2021.

[8]In 2021, nominal GDP in U.S. dollar grew 15.5 percent, reflecting to a large extent a valuation effect in the wake of the strong real appreciation of the Liberian dollar.

and the RCF disbursement. Indebtedness to other multilateral lenders increased by US$176.1 million, with the World Bank accounting for US$139 million. Much other support from the international community did not create debt, notably relief of US$65 million under the IMF's CCRT,[9] US$353 million in general SDR allocation to Liberia, and US$55 million in grants from the World Bank. Liberia's external debt is projected to increase to 42.4 percent of GDP in 2024 and decline to 39.2 percent of GDP by 2042. Text Table 2 compares external debt stock at end-2020 in the DSA with the DRS data. The main source of difference between the two datasets is the treatment of debt to the IMF. The DRS includes the SDR allocation of 2009, but the DSA does not.

Text Table 2. Comparison of the External Debt in DSA and DRS datasets

	DRS Data[1,2]	DSA Data	Difference[3]
	2020 (million USD)	2020 (million USD)	
External Debt	1,439	1,247	192
Bilateral	133	113	20
China	59	54	4
India	1	1	0
Kuwait	27	20	7
Saudi Arabia	45	37	8
Taiwan, China	1	0	1
Multilateral	1,306	1,134	172
African Dev. Fund	146	178	-32
IDA	550	547	3
IMF	473	294	179
Intl Fund Arg (IFAD)	23	19	4
OPEC Fund for Intl Development	18	12	5
European Invest Bank	57	49	8
BADEA /ABEDA	31	27	5
ECOWAS / CEDEAO	2	2	0
African Export-Import Bank	7	0	7

1/2020 is the last year for which DRS data is available.

2/DRS only includes external debt data.

3/The main difference is because the DRS dataset includes the SDR allocation of 2009 in debt to IMF.

5. **The stock of domestic debt increased by 5 percent in 2021 as domestic debt repayments offset most of the new domestic borrowing**. Domestic debt increased by US$26.5 million in 2021 as the government issued US$12 million of short-term treasury bills and US$9 million of treasury bonds and recognized around US$25 million of old debt to a few domestic vehicle dealers and construction corporations, which was offset by servicing US$24.6 million of the USD-denominated bonds held by commercial banks and LD treasury bonds, reducing arrears by US$9 million (all arrears are domestic and

[9]The DSA and macro-framework assume CCRT debt service relief through April 2022.

account for less than 1 percent of GDP), and settling some government debt toward the National Social Security and Welfare Corporation (NASSCORP).

6. At end-2021, nearly two third of Liberia's debt was held by multilateral lenders (Text Table 3). The World Bank and the IMF are Liberia's two largest external creditors. At end-2021, the outstanding stock of debt to the World Bank and the IMF accounted for 32.5 percent and 14.9 percent of total public debt, respectively. Liberia's domestic debt is all held by residents. The CBL is the largest among them, holding 20.4 percent of total public debt. Total debt service in 2022 will amount to US$151 million of which nearly half is external debt service.

Text Table 3. Decomposition of Public Debt and Debt Service by Creditor, 2020-23[1]

	Debt Stock (end of period)						Debt Service							
	2020			2021			2020	2021	2022	2023	2020	2021	2022	2023
	million USD	Percent total debt	Percent GDP	million USD	Percent total debt	Percent GDP	million USD				Percent GDP			
Total	1781.5	100.0	58.7	1865.7	100.0	53.2	81.2	117.3	151.0	129.6	2.7	3.3	3.8	3.1
External	1246.9	70.0	41.1	1304.6	69.9	37.2	49.2	54.0	69.5	76.4	1.6	1.5	1.8	1.8
Multilateral creditors[3]	1134.2	63.7	37.3	1191.4	63.9	34.0	48.7	53.4	65.9	69.8	1.6	1.5	1.7	1.6
IMF	293.9	16.5	9.7	278.0	14.9	7.9	32.8	32.4	37.1	38.5	1.1	0.9	1.0	1.0
World Bank	546.7	30.7	18.0	606.9	32.5	17.3	4.5	7.6	13.6	18.6	0.1	0.2	0.4	0.5
ADB/AfDB/IADB	177.9	10.0	5.9	193.9	10.4	5.5								
Other Multilaterals	115.8	6.5	3.8	112.5	6.0	3.2								
o/w: European Investment Bank	49.3	2.8	0.9	45.6	2.4	0.8								
o/w: Arab Bank for Economic Development in Af	26.7	1.5	1.6	26.7	1.4	1.3								
list of additional large creditors[2]		0.0	0.0		0.0	0.0								
Bilateral Creditors	61.8	3.5	2.0	62.5	3.3	1.8	2.7	1.3	2.2	3.0	0.1	0.0	0.1	0.1
Paris Club	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	0.0
o/w: list largest two creditors		0.0	0.0		0.0	0.0								
o/w: list largest two creditors		0.0	0.0		0.0	0.0								
list of additional large creditors[2]		0.0	0.0		0.0	0.0								
Non-Paris Club	61.8	3.5	2.0	62.5	3.3	1.8	2.7	1.3	2.2	3.0	0.1	0.0	0.1	0.1
o/w: Saudia Arabia	36.9	2.1	1.2	37.0	2.0	1.1								
o/w: Kuwait	19.9	1.1	0.7	20.5	1.1	0.6								
list of additional large creditors[2]		0.0	0.0		0.0	0.0								
Bonds	0.0	0.0	0.0	0.0	0.0	0.0								
Commercial creditors	50.9	2.9	1.7	50.9	2.7	1.5	0.9	1.1	1.2	1.8	0.0	0.0	0.0	0.0
o/w: China EXIM	49.5	2.8	1.6	49.5	2.7	1.4								
o/w: India EXIM	1.4	0.1	0.0	1.4	0.1	0.0								
list of additional large creditors[2]		0.0	0.0		0.0	0.0								
Other international creditors		0.0	0.0		0.0	0.0								
o/w: list largest two creditors		0.0	0.0		0.0	0.0								
list of additional large creditors[2]		0.0	0.0		0.0	0.0								
Domestic	534.6	30.0	17.6	561.1	30.1	16.0	32.0	63.3	81.4	53.2	1.1	1.8	2.1	1.3
Held by residents, total	534.6	30.0	17.6	561.1	30.1	16.0	32.0	63.3	57.2	43.7	1.1	1.8	1.5	1.0
Held by non-residents, total	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	0.0
T-Bills	39.4	2.2	1.3	48.1	2.6	1.4	2.0	24.0	22.8	0.0	0.1	0.7	0.6	0.0
Bonds	437.5	24.6	14.4	442.8	23.7	12.6	23.2	26.5	26.5	30.1	0.8	0.8	0.7	0.7
Loans	57.8	3.2	1.9	70.1	3.8	2.0	6.8	12.8	7.9	13.6	0.2	0.4	0.2	0.3
Memo items:														
Collateralized debt[4]	0.0	0.0	0.0	0.0	0.0	0.0								
o/w: Related	0.0	0.0	0.0	0.0	0.0	0.0								
o/w: Unrelated	0.0	0.0	0.0	0.0	0.0	0.0								
Contingent liabilities	0.0	0.0	0.0	0.0	0.0	0.0								
o/w: Public guarantees	0.0	0.0	0.0	0.0	0.0	0.0								
o/w: Other explicit contingent liabilities[5]	0.0	0.0	0.0	0.0	0.0	0.0								
Nominal GDP	3037.2			3508.9										

1/As reported by Country authorities according to their classification of creditors, including by official and commercial. Debt coverage is the same as the DSA.

2/ Individual creditors accounting for more than 5 percent of total debt.

3/ "Multilateral creditors" are simply institutions with more than one official shareholder and may not necessarily align with creditor classification under other IMF policies (e.g. Lending Into Arrears)

4/ 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.

5/ 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).

MACROECONOMIC ASSUMPTIONS

7. **Macroeconomic assumptions are consistent with the baseline in the Staff Report and in line with recent economic developments and the government's policy commitments**. The DSA assumes that the government continues to adhere to prudent monetary and fiscal policies, pushes forward with the implementation of its structural reform agenda, and refrains from monetary financing of the budget. On this basis, the key macroeconomic parameters are assumed to evolve as follows (Text Table 4):

Text Table 4. Underlying DSA Assumptions
(Percent)

	2022	2023	2024	2025	2026	2027-41
Real GDP Growth Rate						Average
First and Second Review	3.7	4.5	5.1	5.4	5.5	5.7
Current	3.7	4.7	5.7	5.7	5.5	5.1
Real GDP Growth Rate per Capita						Average
First and Second Review	1.6	2.3	2.8	2.8	3.0	3.3
Current	1.3	2.2	3.2	3.3	3.1	2.9
Current Account Balance						Average
First and Second Review	-22.6	-22.9	-21.8	-20.7	-19.1	-15.0
Current	-16.0	-15.3	-15.1	-14.9	-14.8	-13.4
Growth Rate of Exports of Goods and Service						Average
First and Second Review	6.4	3.1	5.2	5.2	9.2	6.5
Current[1]	7.9	3.0	8.1	6.5	5.6	5.6
Inflation						Average
First and Second Review	7.0	5.5	5.0	5.0	5.0	5.0
Current	7.8	8.7	5.2	5.0	5.0	5.0
Primary Fiscal Balance						Average
First and Second Review	-2.0	-1.2	-1.0	-1.5	-1.8	-1.8
Current	-4.0	-2.4	-2.6	-2.8	-2.8	-2.2

Sources: Liberian authorities; and IMF staff projections.
1. A recent large wave of investment in mining sector is projected to triple production and exports of iron ore in the next decade.

- After a 3 percent contraction in 2020 due to the COVID-19 pandemic, ***real GDP growth*** recovered to 5 percent in 2021, reflecting the lifting of lock-down measures, firmer commodity prices, strong mining sector activity, and favorable crops. This year, economic activity is likely to soften to 3.7 percent, reflecting the slowdown in the global economy and higher fuel and food prices in the wake of the war in Ukraine. This slowdown is however partially mitigated by fiscal policies. Projections for the medium- and long-term growth rates are little changed from the last DSA, but the pickup of growth is now less backloaded, reflecting better prospects for the mining sector in the next few years. The level of nominal GDP is higher, mainly due to the valuation effect from real exchange rate appreciation. Long term real GDP growth (2027-41) is projected at 5.0 percent—0.7 percentage-points below the projections in the previous DSA. The compared to a post-civil war average of 4.5 percent. IMF staff analysis indicates that Liberia's potential growth is closer to 5.5 percent.[10] Growth will be driven by rapid expansion in the labor force, continued accumulation of physical capital, and increased productivity. The stock of capital will grow from a low base,

[10]See Selected Issues Paper "Liberia's Growth Potential and How to Get There."

including for infrastructure in transport, energy, and telecommunication. The current reform agenda, such as greater access to market and electricity and improved macroeconomic management and business environment, will support productivity growth. Failure to bring total-factor-productivity-growth, which was low in recent years, back up to the post-civil-war average is the main risk to the growth outlook. This could happen if the streak of negative shocks in the last decade was repeated or if reforms to slowly improve education levels, improve the efficiency of public investment, and strengthen the business environment were to falter.

- The **current account (CA) deficit** has hovered around 18 percent of GDP in the last few years. It is projected to remain large in the medium-term and to narrow to 13.4 percent of GDP in the long term. The external sector assessment finds that Liberia's external position is substantially weaker than the level implied by fundamentals and desirable policies. Nonetheless, the CA deficit is expected to remain comfortably financed by non-debt-creating project grant and foreign direct investment (FDI) flows, as well as inexpensive donor loans.
- In 2021, **exports of goods and services** were significantly stronger than projected in the last DSA (US$1,121 million versus US$709 million) because of higher prices of exported commodities, such as gold and iron ore. The upcoming waves of investment in the mining sector explain the now more favorable prospects for exports growth. Imports of goods and services grew significantly in 2021 to nearly 57 percent of GDP and they are expected to remain elevated in the medium-term corresponding to the upcoming investment plans. In the long term, imports of goods and services are projected to hover around 42 percent of GDP.
- During 2021, **inflation** fell from 13.1 percent to 5.5 percent. It is projected to be moderately higher during 2022-23 and then converge to 5 percent.
- The **fiscal balance** of the budgetary central government improved from -3.8 percent to -2.4 percent of GDP in 2021 mainly due to a strong revenue performance. For 2022, is projected at -5.0 percent of GDP. In the medium term, it is programmed to improve to hover between -3.0 to -4.0 percent of GDP to stabilize public debt at prudent levels and to respect financing constraints. Government revenue and grants are projected to be around 24.2 percent of GDP in the medium-term and in the long-term as grants are expected to decline government revenue and grants will average at 22.4 percent of GDP.
- In 2021, the general SDR allocation almost doubled Liberia's hitherto feeble **gross official reserves** to US$700 million, or the equivalent of 4.2 months of imports. The authorities are committed to retain the reserve coverage at around 4 months of imports going forward to be able to withstand external shocks.

8. The assumptions for the financing mix and borrowing terms are as follows:

- **External borrowing**. Liberia relies mostly on external borrowing to satisfy its public gross financing needs. US$1,244 million in new external borrowing is projected for 2022-26, corresponding to almost 73 percent of total new borrowing. The grant element is expected to decline from 55.7 percent in 2022 to 46.7 percent by 2042 as Liberia starts accessing non-concessional financing in the outer years.

Text Table 5. External Borrowing Assumptions
(Millions USD)

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Multilateral	269	233	187	205	223	236	262	248	232	234
IMF	55	64	0	0	0	0	0	0	0	0
IDA	159	113	131	148	165	183	193	178	161	161
AfDB	35	36	37	37	38	33	40	40	41	42
Other multilaterals	20	20	20	20	20	20	29	30	30	31
Bilateral	10	10	10	10	10	11	11	11	12	12
of which: Paris club	0	0	0	0	0	0	0	0	0	0
of which: Non Paris club	10	10	10	10	10	11	11	11	12	12
Commercial	0	0	20	20	35	56	52	58	54	55

- **Domestic borrowing**. During 2022-26, new domestic borrowing is expected to be around US$463 million, corresponding to 27.0 percent of total new borrowing. This includes US$100 million in on-lending of the 2021 SDR allocation by the CBL to the government. The mix between external and domestic borrowing is expected to shift toward domestic borrowing through the end of the horizon, as the government develops and deepens its domestic debt market and as financing provided by development partners does not keep pace with the expansion of the Liberian economy. Apart from the recourse to the SDR allocation, domestic borrowing is projected to be in the form of short- and medium-term foreign currency denominated bonds. Due to the shorter maturity of these bonds, more frequent roll-overs are needed which if do not materialize, the authorities need to seek more external borrowing. Text Table 6 summarizes the public borrowing plan of Liberia in the short-term.

Text Table 6. Summary of Public Borrowing Plan[1]
(Millions USD)

	2022	2023	2024
Financing needs	340	319	336
o/w: Budget financing	53	40	40
o/w: Project financing	286	279	296
Financing sources	340	319	336
o/w: External[2]	247	232	241
o/w: Concessional	240	219	216
o/w: Non-concessional	7	13	25
o/w: Domestic[3]	93	87	96

1. the authorities are working on developing a borrowing plan. This table projects the loans that will be ratified each year based on a forward looking 3-year moving average of current disbursements.
2. All of the external borrowings are long-term.
3. Domestic borrowing includes use of SDR allocation in 2022 and 2023.

REALISM OF THE BASELINE ASSUMPTIONS

9. The realism tools suggest that the baseline scenario is credible compared to Liberia's historical experience and cross-country experiences (Figure 3).

- The current DSA projects external debt relative to GDP to rise from its current level of 38.8 percent to 47 percent in 2032 before gradually declining to 37.5 percent in 2042. This profile compares to a more downward sloping one with a considerably higher starting ratio of 46.2 percent in the previous DSA. The now lower starting ratio is due to the higher nominal GDP in 2022, as well as a somewhat lower nominal debt stock. This carries forward and real growth through 2023 is also expected to be somewhat stronger, meaning that nominal GDP is higher throughout.
- The stock of external debt is projected to grow faster now as the gained borrowing space is utilized to further Liberia's investment and development aspirations. Moreover, undisbursed amounts from IDA19 are assumed to be disbursed at 50 percent grants and 50 percent IDA regular credits. The disbursements under the new IDA20 allocation are assumed on credit terms. Compared to the 2016 DSA though, the downward revisions to real GDP growth, in the context of the Ebola epidemic, the commodity price shock, and the COVID-19 pandemic, mostly explain the higher debt ratios in the current and previous DSA vintages.
- The evolution of the total public debt-to-GDP ratio has a relatively flat profile, compared to a steeper one with a higher starting point in the previous DSA. While the starting point is higher—US$2,149 million compared to US$2,107 million—the higher nominal GDP results in a lower ratio. Decisive debt reduction is no longer needed with the freed-up resources better used to develop the Liberian economy.
- Historically, the CA deficit has been the major debt-creating flow. A high contribution of current account deficits to external debt accumulation and an equally large residual in the opposite direction are observed (Figure 3). The residual includes project grants (recorded in the capital account) and current transfers (remittances) that are not captured by the official statistics.
- The unexpected increases in PPG external and public debt in the past 5 years are about 11.5 and 18.3 percent of GDP, respectively, which are both above the median of the countries producing LIC DSF. They reflect primarily the Ebola epidemic and the commodity price shock during 2014-15 and the COVID-19 pandemic during 2020-21. The main driver of the unexpected increase in external debt was the current account deficit and the decline in growth and real exchange rate depreciation contributed to the unexpected public debt accumulation. However, the recognition of restructured and consolidated government debt to the CBL, captured in the residual, played the biggest role in the increase in public debt.

10. **The improvement in the primary balance in the next three years is in line with historical data on LIC adjustment programs**. The second DSF realism tool assesses the realism of the fiscal projection. Figure 5a highlights that the anticipated adjustment in the primary balance of -1.0 percentage points of GDP is in line with other LIC programs. The growth projection for 2022 is below the growth paths suggested by the fiscal multiplier realism tool because of lower external demand and the war in Ukraine. For the long term (2027-41), the primary deficit is projected to stabilize around 2.2 percent with domestic revenue including grants averaging 22.4 percent of the GDP

COUNTRY CLASSIFICATION AND DETERMINATION OF SCENARIO STRESS TESTS

11. **Liberia's debt-carrying capacity based on the Composite Indicator (CI) is assessed as weak (Text Table 6).** The CI captures the impact of different factors through a weighted average of the World Bank's 2020 CPIA score, the country's real GDP growth, remittances, international reserves, and world growth. Liberia's debt-carrying capacity based on the CI, which is based on the October 2021 WEO and the 2020 CPIA, is assessed as weak.[11] The CI score is 2.72, compared to 2.5 in the previous DSA. In addition, Liberia remains assessed as "weak quality of debt monitoring" in line with the country's debt-recording capacity.

Text Table 7. Composite Index

Calculation of the CI Index

Components	Coefficients (A)	10-year average values (B)	CI Score components (A*B) = (C)	Contribution of components
CPIA	0.385	2.973	1.14	42%
Real growth rate (in percent)	2.719	2.104	0.06	2%
Import coverage of reserves (in	4.052	30.922	1.25	46%
Import coverage of reserves^2 (in percent)	-3.990	9.562	-0.38	-14%
Remittances (in percent)	2.022	10.978	0.22	8%
World economic growth (in	13.520	3.137	0.42	16%
CI Score			2.72	100%
CI rating			Medium	

Text Table 8. Debt Carrying Capacity and Thresholds

EXTERNAL debt burden thresholds	Weak	Medium	Strong
PV of debt in % of			
Exports	140	180	240
GDP	30	40	55
Debt service in % of			
Exports	10	15	21
Revenue	14	18	23

EXTERNAL debt burden thresholds	
PV of debt in % of	
Exports	140
GDP	30
Debt service in % of	
Exports	10
Revenue	14

TOTAL public debt benchmark	
PV of total public debt in percent of GDP	35

[11]The CI score is not updated using April 2022 WEO data at this stage because the mission took place prior to the release of April 2022 WEO data and staff discussed the CI score based on October 2021 WEO with the authorities during the mission.

12. Standard scenarios stress tests and contingent liability tests are conducted and discussed below. The standardized stress tests apply the default settings, and the contingent liability stress test is based on the quantification of potential contingent liabilities (including SOE-related risks associated with non-guaranteed SOE debt).

EXTERNAL DSA

13. Liberia remains at moderate risk of external debt distress under the baseline scenario. Under the baseline scenario, all indicators remain below their corresponding thresholds in the medium to long term (Figure 1). Compared to the previous DSA, all four indicators show smaller ratios mainly because of the denominator effect. GDP and exports are projected to grow faster than previously envisaged owing to increased investment in the iron ore industry. Table 1 indicates that the debt ratio increases by less than what the current account, FDI, and economic growth suggest, giving rise to a residual. This is due to the sizable project grants that Liberia receives from donors, as well as remittances that may escape official statistics.

14. Standard stress tests show that a deterioration of the macroeconomic outlook might lead to the present value (PV) of external debt-to-GDP and PV of debt-to-exports ratios breaching their thresholds (Table 3). Some of the standard stress tests, namely, a shock to exports, other non-debt creating flows, a combination of all shocks, real GDP growth, primary balance, and combined contingent liabilities shocks will result in breaching the threshold of the PV of debt-to-GDP ratio. A shock to exports leads to the PV of debt-to-exports ratio surpassing the applicable threshold in 2024. Overall, the mechanical signal suggests Liberia is at moderate risk of external debt distress.

15. The granularity assessment suggests that Liberia has limited space to absorb shocks (Figure 4). while all debt burden indicators remain well below their respective thresholds, the occurrence of the median observed shock results in a breach of PV of debt-to-GDP ratio in 2024 that continues until 2041. This suggests that Liberia has limited space to absorb shocks. The outcome of the granularity assessment has not changed compared to that of the last DSA. Nonetheless, all indicators show smaller ratios largely because of the better outcome of GDP and exports in 2021 and the upward revision in their projection paths and partially due to lower external debt to GDP ratio compared with the last DSA.

PUBLIC DSA

16. The PV of public debt to GDP ratio is expected to decline from 38.9 percent in 2021 to 34.6 percent in 2026, and it is projected to remain below the threshold for the rest of the projection period. At the time of the last DSA, PV of public debt to GDP ratio in 2021 was projected to be 44.8 percent but turned out to be only 38.9 percent of GDP. In the baseline, the PV of the public debt-to-GDP ratio decreases from 37.4 percent in 2022 to 35.9 percent in 2025 before declining to 30.9 percent in 2042 (Table 2 and Figure 2). The debt-service-to-revenue and grants ratio increases to 18.1 percent in 2024 and declines to 15.2 percent in 2032 as total debt amortization and interest payments grow at a similar rate as the public sector revenues and grants. Although no explicit threshold exists for the PV of debt-to-revenue and debt service-to-revenue ratios, further efforts in revenue mobilization and PFM reforms can alleviate borrowing needs and reduce debt service pressure.

17. Under standard sensitivity analysis scenarios, Liberia would be rated at high risk of public debt distress throughout the next decade. Among the bound tests, a real GDP shock results in the largest breach of the benchmark on the PV of debt-to-GDP ratio, followed by a shock to primary balance, other flows, combination of shocks, exports, and a one-time depreciation (Table 4). Additionally, the contingent liability stress test is estimated to lead to a one-off increase in the PV of public debt-to-GDP ratio to 49 percent in 2024 capturing the combined shock of SOE's external debt default, PPPs' distress, and financial market vulnerabilities that are not included in the covered data.

RISK RATING AND VULNERABILITIES

18. Liberia is assessed to be at moderate risk of external debt and high risk of overall debt distress. All external debt sustainability indicators remain below their indicative thresholds, leading to a moderate risk of external debt distress. The PV of public debt to GDP ratio exceeds the 35-percent threshold during 2022-25, which entails an assessment of high risk of public debt distress. In 2026, this ratio is projected to fall below its indicative threshold therefore public debt would be sustainable and Liberia would be assessed as being at moderate risk of debt distress.

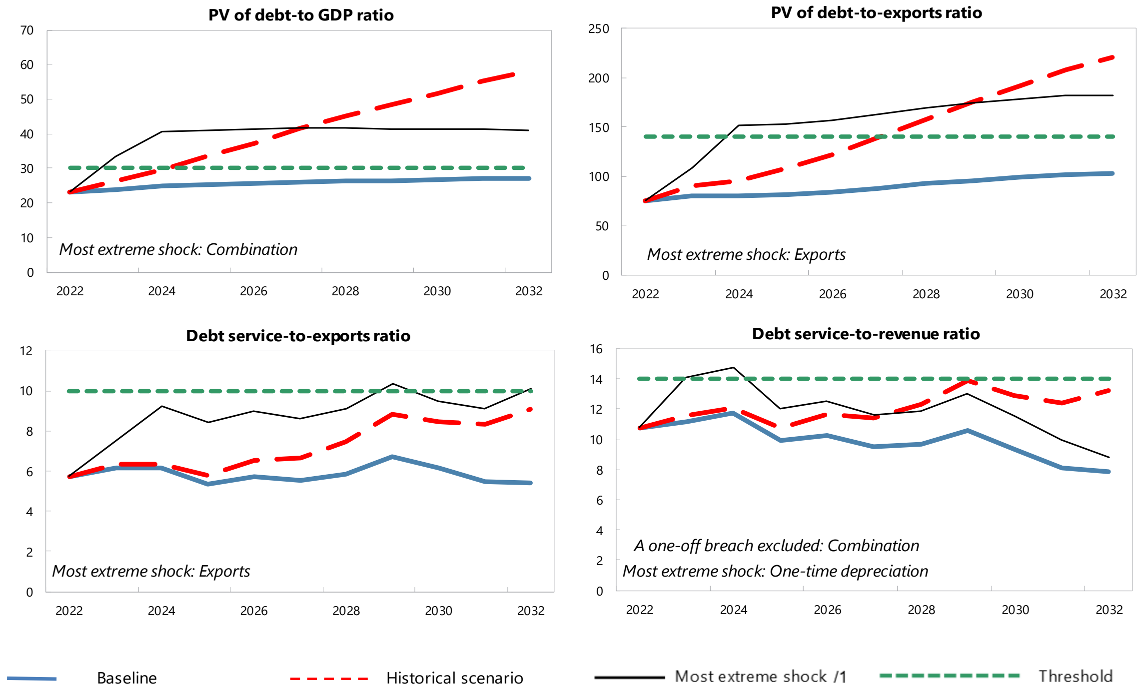
19. The DSA underscores that prudent fiscal policy and a borrowing plan prioritizing concessional loans are crucial for safeguarding debt sustainability and bringing public debt to moderate debt distress risk. To maintain external debt at moderate risk of debt distress and to bring public debt to moderate risk of debt distress in 2026, it is crucial to refrain from exceeding the limit set on the PV of new external borrowing and contract new domestic and external debt transparently. Moreover, improving debt management capacity and developing a medium-term debt strategy including a detailed borrowing plan can reduce the risks associated with timely debt service and overall debt sustainability.

20. The balance of risks to the outlook is tilted to the downside. A sizable drop in nominal GDP (either due to a sharp depreciation of LD or a weaker than anticipated real GDP growth rate) is a significant risk to external borrowing space and the risk rating of external debt. However, if nominal GDP, exports, and revenues deteriorate to levels projected at the time of the previous DSA, the external debt will remain at moderate risk of debt distress with limited space to absorb shocks. While the global economic slowdown caused by lower external demand and the war in Ukraine is expected to hamper growth, expansionary fiscal policy is expected to mitigate the impact of these negative external shocks. Furthermore, if major climate risks materialize before adaptation measures are in place, economic activity could fall. Any slowdown in growth or fiscal slippages in the future could reduce Liberia's borrowing space and increase its financing needs.

AUTHORITIES' VIEWS

21. The authorities agreed with the trust of this DSA. They thought that a moderate rating for external public and high rating for total public debt distress were appropriate and found the underlying macroeconomic assumptions reasonable. They stressed their determination to bring public debt to moderate risk of debt distress and reiterated their commitment to prudent macroeconomic policies and structural reforms. They were cognizant of the importance of refraining from non-concessional borrowing and prioritizing grants and highly concessional loans to support the implementation of Liberia's national development plan. They also indicated that they are pursuing the development of the domestic debt market to allow for the issuance of medium- and long-term bonds to implement priority development projects.

Figure 1. Liberia: Indicators of Public and Publicly Guaranteed External Debt under Alternatives Scenarios, 2022–32



Customization of Default Settings		
	Size	Interactions
Tailored Stress		
Combined CL	No	
Natural disaster	n.a.	n.a.
Commodity price 2/	n.a.	n.a.
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	0.9%	0.9%
USD Discount rate	5.0%	5.0%
Avg. maturity (incl. grace period)	34	34
Avg. grace period	7	7

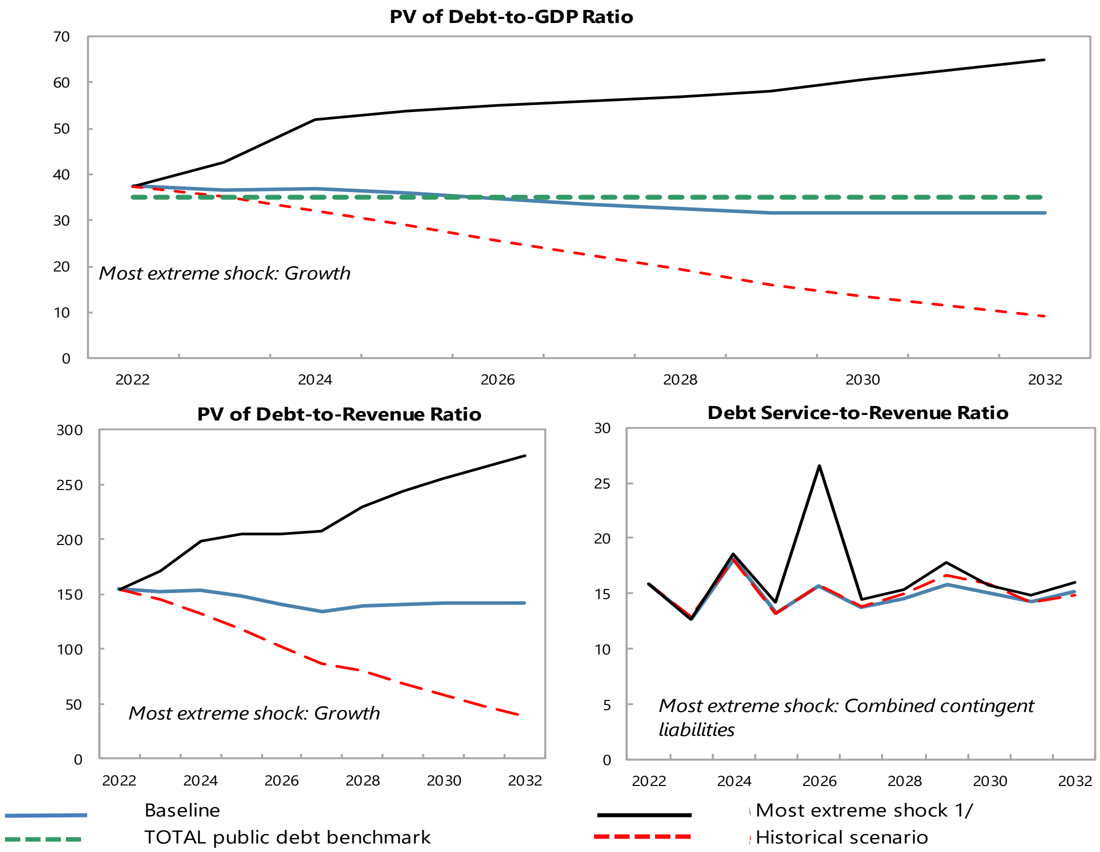
* Note: All the additional financing needs generated by the shocks under the stress tests are assumed to be covered by PPG external MLT debt in the external DSA. Default terms of marginal debt are based on baseline 10-year projections.

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 2032. 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

Figure 2. Liberia: Indicators of Public Debt Under Alternative Scenarios, 2022–32



Borrowing assumptions on additional financing needs resulting from the stress tests*	Default	User defined
Shares of marginal debt		
External PPG medium and long-term	86%	86%
Domestic medium and long-term	14%	14%
Domestic short-term	0%	0%
Terms of marginal debt		
External MLT debt		
Avg. nominal interest rate on new borrowing in USD	0.9%	0.9%
Avg. maturity (incl. grace period)	34	34
Avg. grace period	7	7
Domestic MLT debt		
Avg. real interest rate on new borrowing	1.9%	1.9%
Avg. maturity (incl. grace period)	3	3
Avg. grace period	2	2
Domestic short-term debt		
Avg. real interest rate	0.0%	0.0%

* 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

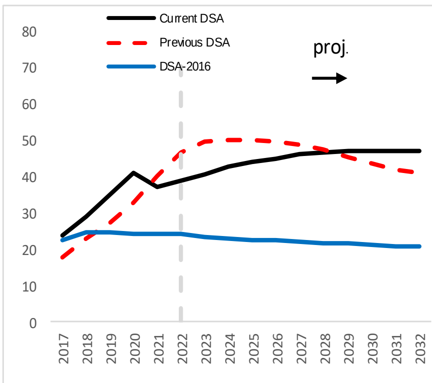
Sources: Country authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio in or before 2032. 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.

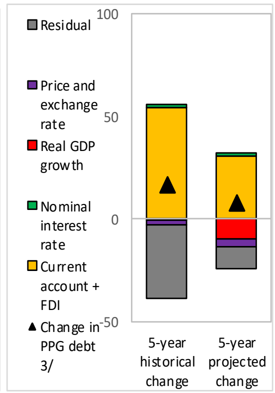
Figure 3. Liberia: Drivers of Debt Dynamics – Baseline Scenario

External debt

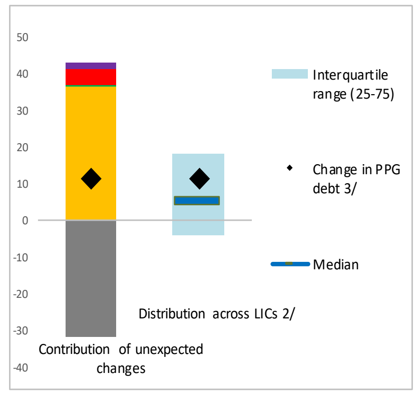
Gross Nominal PPG External Debt
(in percent of GDP; DSA vintages)



Debt-creating flows
(percent of GDP)

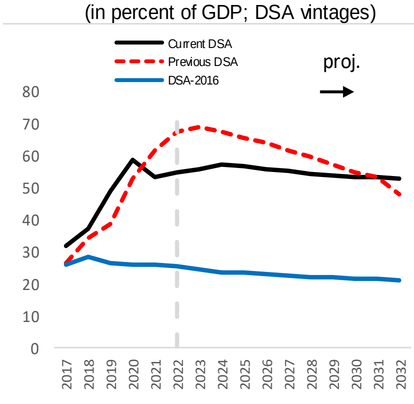


Unexpected Changes in Debt 1/
(past 5 years, percent of GDP)

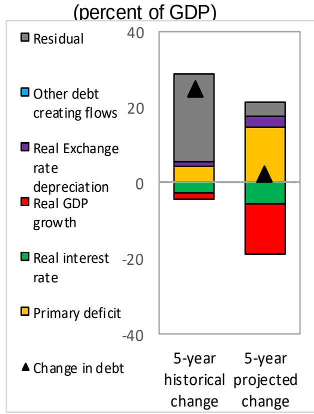


Public debt

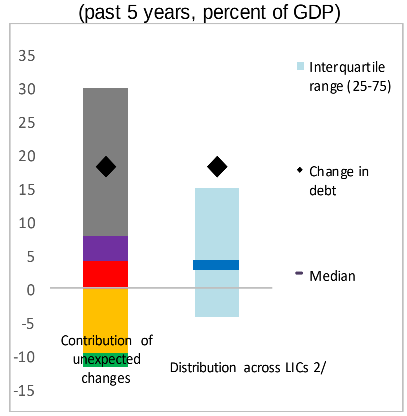
Gross Nominal Public Debt
(in percent of GDP; DSA vintages)



Debt-creating flows
(percent of GDP)



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

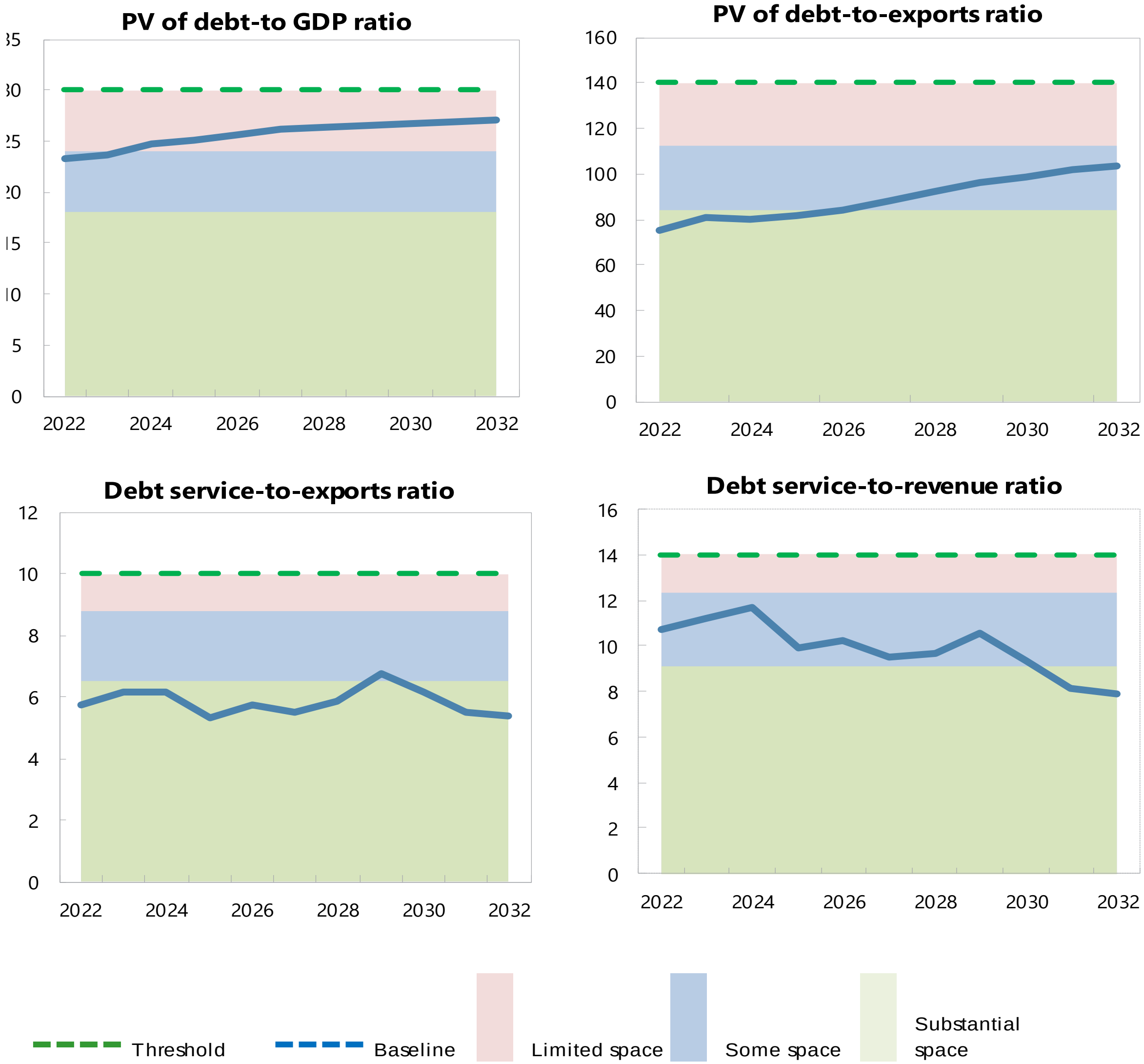


1/ Difference between anticipated and actual contributions on debt ratios.

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.

Figure 4. Liberia: Qualification of the Moderate Category, 2022–32[1/]

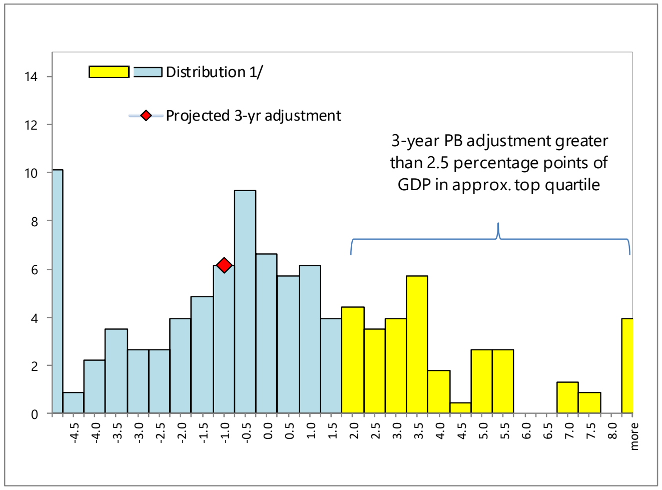


Sources: Country authorities; and staff estimates and projections.

1/ For the PV debt/GDP and PV debt/exports thresholds, x is 20 percent and y is 40 percent. For debt service/Exports and debt service/revenue thresholds, x is 12 percent and y is 35 percent.

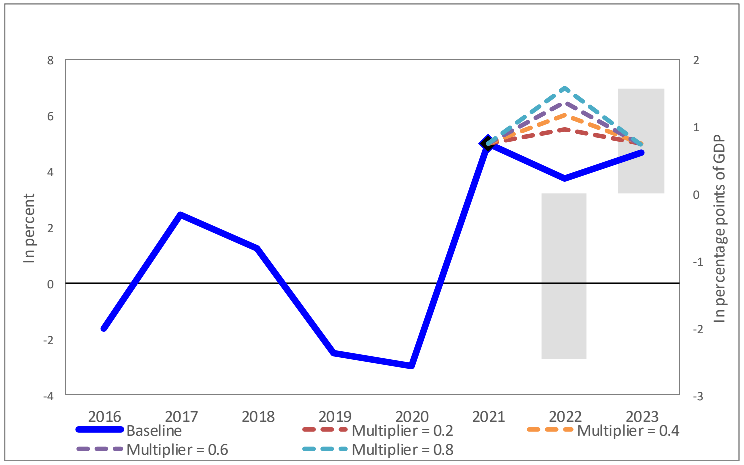
Figure 5. Liberia: Realism Tools

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/

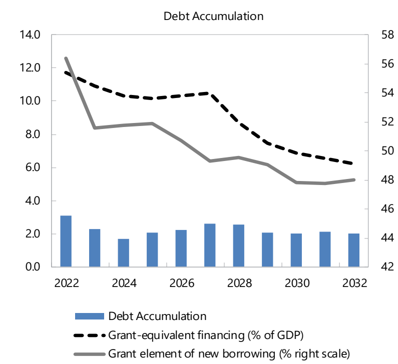


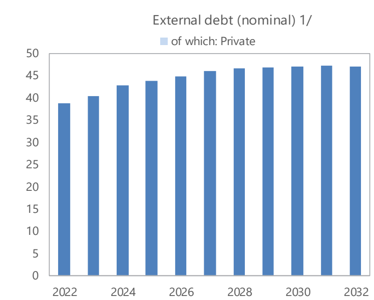
1/ Bars refer to annual projected fiscal adjustment (right-hand side scale) and lines show possible real GDP growth paths under different fiscal multipliers (left-hand side scale).

Table 1. Liberia: External Debt Sustainability Framework, Baseline Scenario, 2019–42
(Percent of GDP, unless otherwise indicated)

	Actual			Projections								Average 8/	
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2032	2042	Historical	Projections
External debt (nominal) 1/	34.9	41.1	37.2	38.8	40.3	42.9	43.9	44.9	46.0	47.0	37.5	23.6	44.7
of which: public and publicly guaranteed (PPG)	34.9	41.1	37.2	38.8	40.3	42.9	43.9	44.9	46.0	47.0	37.5	23.6	44.7
Change in external debt	5.9	6.2	-3.9	1.6	1.6	2.5	1.0	1.0	1.1	-0.1	-1.4		
Identified net debt-creating flows	11.7	9.6	4.9	7.4	5.2	3.5	3.1	3.1	3.0	3.8	1.2	10.3	3.9
Non-interest current account deficit	19.4	16.0	17.3	15.7	14.9	14.7	14.6	14.5	14.3	13.9	9.6	21.1	14.5
Deficit in balance of goods and services	26.1	26.3	24.7	19.8	19.1	18.5	17.5	17.0	16.8	15.6	9.5	41.1	17.3
Exports	26.8	26.6	32.0	30.7	29.4	31.0	30.9	30.5	29.5	26.2	24.4		
Imports	52.9	53.0	56.6	50.5	48.5	49.5	48.4	47.5	46.3	41.8	33.9		
Net current transfers (negative = inflow)	-9.9	-15.0	-13.0	-9.2	-8.7	-8.7	-8.1	-7.8	-7.3	-5.6	-3.6	-23.7	-7.3
of which: official	-5.4	-7.3	-5.0	-3.1	-2.9	-3.1	-3.0	-2.8	-2.7	-2.2	-1.5		
Other current account flows (negative = net inflow)	3.2	4.7	5.7	5.1	4.6	5.0	5.2	5.3	4.8	3.9	3.7	3.7	4.6
Net FDI (negative = inflow)	-9.6	-7.3	-7.3	-7.4	-8.4	-9.4	-9.5	-9.5	-9.3	-8.4	-7.0	-10.4	-8.8
Endogenous debt dynamics 2/	2.0	0.8	-5.2	-0.9	-1.3	-1.9	-2.0	-1.9	-2.0	-1.7	-1.4		
Contribution from nominal interest rate	0.2	0.4	0.4	0.3	0.4	0.4	0.3	0.3	0.3	0.4	0.4		
Contribution from real GDP growth	0.8	1.1	-1.8	-1.2	-1.7	-2.2	-2.3	-2.2	-2.3	-2.1	-1.8		
Contribution from price and exchange rate changes	1.0	-0.6	-3.7	...	...	...	...	...	...	...	...		
Residual 3/	-5.8	-3.4	-8.8	-5.8	-3.7	-1.0	-2.1	-2.1	-1.9	-3.9	-2.6	-7.3	-3.0
of which: exceptional financing	0.0	-1.1	-0.9	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	...	...	22.9	23.2	23.7	24.8	25.2	25.6	26.1	27.1	23.4		
PV of PPG external debt-to-exports ratio	...	...	71.8	75.4	80.6	79.9	81.3	83.8	88.5	103.3	95.8		
PPG debt service-to-exports ratio	3.4	6.1	4.8	5.7	6.1	6.2	5.3	5.7	5.5	5.4	6.2		
PPG debt service-to-revenue ratio	6.5	10.2	9.4	10.8	11.2	11.7	9.9	10.2	9.5	7.9	8.0		
Gross external financing need (Million of U.S. dollars)	328.9	314.0	407.3	395.3	354.7	315.1	314.1	337.5	355.9	528.9	619.1		
Key macroeconomic assumptions													
Real GDP growth (in percent)	-2.5	-3.0	5.0	3.7	4.7	5.7	5.7	5.5	5.6	4.8	4.9	2.0	5.2
GDP deflator in US dollar terms (change in percent)	-3.2	1.6	10.0	8.2	2.7	-3.0	1.1	1.6	2.1	1.9	1.9	2.3	2.1
Effective interest rate (percent) 4/	0.7	1.0	1.0	1.0	1.0	1.0	0.8	0.8	0.8	0.9	1.0	0.9	0.9
Growth of exports of G&S (US dollar terms, in percent)	0.9	-2.1	38.6	7.9	2.9	8.1	6.5	5.6	4.4	5.8	6.1	7.0	5.4
Growth of imports of G&S (US dollar terms, in percent)	-8.0	-1.4	23.6	0.1	3.3	4.6	4.5	5.1	5.1	5.7	4.8	2.0	4.4
Grant element of new public sector borrowing (in percent)	...	...	...	56.4	51.6	51.7	51.9	50.7	49.3	48.0	46.7	...	50.3
Government revenues (excluding grants, in percent of GDP)	13.9	15.9	16.4	16.4	16.1	16.3	16.7	17.1	17.2	18.0	19.0	13.3	17.1
Aid flows (in Million of US dollars) 5/	534.7	686.1	503.2	509.2	496.9	512.0	543.4	590.5	638.9	547.6	632.1		
Grant-equivalent financing (in percent of GDP) 6/	...	...	...	11.7	10.9	10.3	10.1	10.3	10.5	6.2	3.8	...	9.1
Grant-equivalent financing (in percent of external financing) 6/	...	...	...	79.2	79.7	81.0	80.6	79.5	78.6	75.3	75.6	...	77.6
Nominal GDP (Million of US dollars)	3,080	3,037	3,509	3,938	4,236	4,339	4,636	4,968	5,354	7,644	14,933		
Nominal dollar GDP growth	-5.6	-1.4	15.5	12.2	7.6	2.4	6.9	7.2	7.8	6.8	6.9	4.4	7.4
Memorandum items:													
PV of external debt 7/	...	...	22.9	23.2	23.7	24.8	25.2	25.6	26.1	27.1	23.4		
In percent of exports	...	...	71.8	75.4	80.6	79.9	81.3	83.8	88.5	103.3	95.8		
Total external debt service-to-exports ratio	3.4	6.1	4.8	5.7	6.1	6.2	5.3	5.7	5.5	5.4	6.2		
PV of PPG external debt (in Million of US dollars)			805.2	913.0	1004.1	1076.1	1166.5	1270.0	1399.4	2071.4	3493.2		
(PVt-PVt-1)/GDPt-1 (in percent)				3.1	2.3	1.7	2.1	2.2	2.6	2.0	0.9		
Non-interest current account deficit that stabilizes debt ratio	13.5	9.9	21.2	14.1	13.4	12.2	13.6	13.4	13.2	14.0	11.0		

Definition of external/domestic debt	Residency-based
Is there a material difference between the two criteria?	No





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.

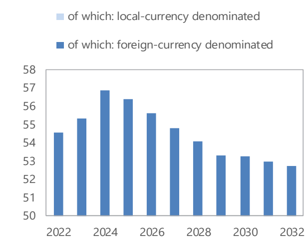
8/ Historical averages are generally derived over the past 10 years, subject to data availability, whereas projections averages are over the first year of projection and the next 10 years.

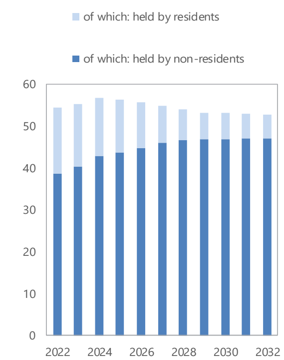
Table 2. Liberia: Public Sector Debt Sustainability Framework, Baseline Scenario, 2019–42
(Percent of GDP, unless otherwise indicated)

	Actual			Projections								Average 6/	
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2032	2042	Historical	Projections
Public sector debt 1/	48.5	58.7	53.2	54.6	55.3	56.9	56.4	55.6	54.8	52.7	45.6	34.6	54.5
of which: external debt	34.9	41.1	37.2	38.8	40.3	42.9	43.9	44.9	46.0	47.0	37.5	23.6	44.7
Change in public sector debt	11.4	10.1	-5.5	1.4	0.7	1.6	-0.5	-0.7	-0.8	-0.3	-1.1		
Identified debt-creating flows	6.3	3.7	-5.8	-0.5	-1.0	-1.1	-0.9	-0.7	-0.6	-0.3	-1.5	-4.2	-0.5
Primary deficit	3.8	2.6	1.5	4.0	2.4	2.6	2.8	2.8	2.9	2.6	1.1	-3.4	3.0
Revenue and grants	27.4	31.3	27.3	24.2	24.1	24.0	24.2	24.7	24.9	22.3	21.7	26.4	23.5
of which: grants	13.5	15.3	10.9	7.8	8.0	7.7	7.5	7.6	7.7	4.3	2.7		
Primary (noninterest) expenditure	31.1	33.8	28.8	28.2	26.5	26.7	27.0	27.5	27.8	24.9	22.8	23.0	26.5
Automatic debt dynamics	2.5	1.2	-7.4	-4.5	-3.5	-3.7	-3.8	-3.6	-3.5	-3.0	-2.6		
Contribution from interest rate/growth differential	0.6	1.4	-4.5	-4.5	-3.5	-3.7	-3.8	-3.6	-3.5	-3.0	-2.6		
of which: contribution from average real interest rate	-0.4	-0.1	-1.7	-2.5	-1.0	-0.8	-0.7	-0.6	-0.6	-0.5	-0.4		
of which: contribution from real GDP growth	1.0	1.5	-2.8	-1.9	-2.4	-3.0	-3.1	-2.9	-2.9	-2.4	-2.2		
Contribution from real exchange rate depreciation	1.9	-0.2	-2.9	...	...	...	...	...	...	...	...		
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	5.2	6.4	0.4	1.9	1.7	2.7	0.4	0.0	-0.2	0.1	0.4	7.7	0.5
Sustainability indicators													
PV of public debt-to-GDP ratio 2/	...	...	38.9	37.4	36.7	36.9	35.9	34.6	33.4	31.7	30.9		
PV of public debt-to-revenue and grants ratio	...	...	142.7	154.6	152.5	153.5	148.3	140.2	134.2	142.2	142.6		
Debt service-to-revenue and grants ratio 3/	4.5	8.5	12.3	15.9	12.7	18.1	13.3	15.7	13.7	15.2	17.5		
Gross financing need 4/	5.0	5.2	4.9	7.8	5.5	7.0	6.0	6.7	6.3	6.0	4.9		
Key macroeconomic and fiscal assumptions													
Nominal GDP (local currency)	3,080	3,037	3,509	3,938	4,236	4,339	4,636	4,968	5,354	7,644	14,933		
Real GDP growth (in percent)	-2.5	-3.0	5.0	3.7	4.7	5.7	5.7	5.5	5.6	4.8	4.9	2.0	5.2
Average nominal interest rate on public debt (in percent)	1.2	1.7	2.1	2.0	2.0	1.9	1.8	1.8	1.7	1.6	1.9	0.9	1.8
Average nominal interest rate on external debt (in percent)	0.7	1.0	1.0	1.0	1.0	1.0	0.8	0.8	0.8	0.9	1.0	0.9	0.9
Average nominal interest rate on domestic debt (in percent)	3.0	3.6	4.8	4.3	4.6	4.5	4.8	5.2	5.6	7.5	6.4	1.8	5.6
Average real interest rate (in percent)	-1.0	-0.2	-3.0	-5.0	-1.9	-1.5	-1.3	-1.2	-1.2	-1.1	-1.0	-0.9	-1.6
Average real interest rate on domestic debt (in percent)	6.4	1.9	-4.7	-3.6	1.8	7.8	3.7	3.6	3.4	5.4	4.4	-0.9	3.7
Average real interest rate on external debt (in percent)	-1.0	-0.2	-3.0	-5.0	-1.9	-1.5	-1.3	-1.2	-1.2	-1.1	-1.0	-0.9	-1.6
Exchange rate (LC per US dollar)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Nominal depreciation of local currency (percentage change in LC per dollar)	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
Exchange rate (US dollar per LC)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Nominal appreciation (increase in US dollar value of local currency, in percent	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
Real exchange rate depreciation (in percent, + indicates depreciation)	5.2	-0.4	-5.3	...	...	...	...	...	...	...	...	-0.2	...
Inflation rate (GDP deflator, in percent)	-3.2	1.6	10.0	8.2	2.7	-3.0	1.1	1.6	2.1	1.9	1.9	2.3	2.1
US Inflation rate (GDP deflator, in percent)	1.8	1.2	4.2	6.3	3.0	2.5	2.1	2.0	2.0	2.0	2.0	1.9	2.6
Growth of real primary spending (deflated by GDP deflator, in percent)	22.1	5.4	-10.5	1.4	-1.5	6.3	7.2	7.4	6.5	4.0	3.8	4.6	3.8
Primary deficit that stabilizes the debt-to-GDP ratio 5/	-7.7	-7.6	7.0	2.6	1.7	1.1	3.3	3.6	3.8	2.9	2.2	-2.7	3.0
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?	**No**

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. Liberia: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2022–32
(Percent)

	Projections 1/										
	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
PV of debt-to GDP ratio											
Baseline	23	24	25	25	26	26	26	26	27	27	27
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2022-2032 2/	23	26	30	**33**	**37**	**41**	**45**	**48**	**52**	**55**	**58**
B. Bound Tests											
B1. Real GDP growth	23	26	**31**	**32**	**32**	**33**	**34**	**34**	**34**	**34**	**34**
B2. Primary balance	23	27	**39**	**39**	**39**	**40**	**39**	**39**	**38**	**38**	**38**
B3. Exports	23	27	**34**	**34**	**35**	**35**	**35**	**35**	**35**	**35**	**34**
B4. Other flows 3/	23	**31**	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**39**	**38**
B5. Depreciation	23	30	27	28	29	29	30	**30**	**30**	**31**	**31**
B6. Combination of B1-B5	23	**33**	**41**	**41**	**41**	**42**	**42**	**41**	**41**	**41**	**41**
C. Tailored Tests											
C1. Combined contingent liabilities	23	**32**	**33**	**34**	**35**	**35**	**35**	**35**	**35**	**35**	**35**
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	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C4. Market Financing	23	26	28	28	29	29	30	29	30	30	**30**
Threshold	30	30	30	30	30	30	30	30	30	30	30
PV of debt-to-exports ratio											
Baseline	75	81	80	81	84	88	92	96	99	102	103
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2022-2032 2/	75	90	96	108	122	140	**158**	**176**	**192**	**208**	**221**
B. Bound Tests											
B1. Real GDP growth	75	81	80	81	84	88	92	96	99	102	103
B2. Primary balance	75	93	126	126	129	134	137	**140**	**143**	**144**	**144**
B3. Exports	75	109	**152**	**154**	**157**	**164**	**169**	**174**	**178**	**182**	**182**
B4. Other flows 3/	75	107	130	130	132	137	**140**	**144**	**147**	**148**	**146**
B5. Depreciation	75	81	70	72	74	79	83	87	89	92	95
B6. Combination of B1-B5	75	110	106	128	130	136	**141**	**145**	**148**	**150**	**150**
C. Tailored Tests											
C1. Combined contingent liabilities	75	110	108	109	114	119	123	127	130	132	134
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	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C4. Market Financing	75	81	80	82	85	89	93	96	98	101	103
Threshold	140	140	140	140	140	140	140	140	140	140	140
Debt service-to-exports ratio											
Baseline	6	6	6	5	6	6	6	7	6	5	5
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2022-2032 2/	6	6	6	6	7	7	7	9	8	8	9
B. Bound Tests											
B1. Real GDP growth	6	6	6	5	6	6	6	7	6	5	5
B2. Primary balance	6	6	7	8	8	8	8	9	8	8	8
B3. Exports	6	7	9	8	9	9	9	**10**	9	9	**10**
B4. Other flows 3/	6	6	7	6	7	6	7	7	7	7	9
B5. Depreciation	6	6	6	5	6	5	6	7	6	5	5
B6. Combination of B1-B5	6	7	8	7	7	7	8	9	8	8	8
C. Tailored Tests											
C1. Combined contingent liabilities	6	6	7	6	6	6	6	7	7	6	6
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	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C4. Market Financing	6	6	6	5	6	6	7	8	7	5	5
Threshold	10	10	10	10	10	10	10	10	10	10	10
Debt service-to-revenue ratio											
Baseline	11	11	12	10	10	9	10	11	9	8	8
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2022-2032 2/	11	12	12	11	12	11	12	14	13	12	13
B. Bound Tests											
B1. Real GDP growth	11	13	**15**	13	13	12	12	13	12	10	10
B2. Primary balance	11	11	14	14	14	13	13	14	12	12	12
B3. Exports	11	12	13	11	12	11	11	12	10	10	11
B4. Other flows 3/	11	11	13	11	12	11	11	12	10	11	12
B5. Depreciation	11	**14**	**15**	12	13	12	12	13	12	10	9
B6. Combination of B1-B5	11	13	**15**	13	14	13	13	14	12	13	13
C. Tailored Tests											
C1. Combined contingent liabilities	11	11	13	11	11	10	10	11	10	9	8
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	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C4. Market Financing	11	11	12	10	10	10	11	13	10	8	8
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. Liberia: Sensitivity Analysis for Key Indicators of Public Debt, 2022–32
(Percent)

	Projections 1/										
	2022	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**
PV of Debt-to-GDP Ratio											
Baseline	**37**	**37**	**37**	**36**	35	33	32	32	32	32	32
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2022-2032 2/	**37**	**35**	32	29	26	22	19	16	14	11	9
B. Bound Tests											
B1. Real GDP growth	**37**	**43**	**52**	**54**	**55**	**56**	**57**	**58**	**61**	**63**	**65**
B2. Primary balance	**37**	**42**	**55**	**54**	**52**	**50**	**48**	**47**	**47**	**46**	**46**
B3. Exports	**37**	**39**	**44**	**43**	**42**	**40**	**39**	**38**	**38**	**38**	**37**
B4. Other flows 3/	**37**	**44**	**52**	**51**	**49**	**48**	**46**	**45**	**45**	**44**	**43**
B5. Depreciation	**37**	**42**	**40**	**38**	**36**	33	31	29	28	27	26
B6. Combination of B1-B5	**37**	**40**	**45**	**45**	**45**	**45**	**45**	**44**	**45**	**46**	**47**
C. Tailored Tests											
C1. Combined contingent liabilities	**37**	**49**	**49**	**49**	**46**	**45**	**44**	**43**	**43**	**43**	**43**
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	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C4. Market Financing	**37**	**37**	**37**	**36**	35	34	33	32	32	32	32
TOTAL public debt benchmark	35	35	35	35	35	35	35	35	35	35	35
PV of Debt-to-Revenue Ratio											
Baseline	155	152	153	148	140	134	140	140	142	141	142
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2022-2032 2/	155	145	132	118	102	87	80	69	58	48	39
B. Bound Tests											
B1. Real GDP growth	155	171	199	205	205	207	229	244	255	265	276
B2. Primary balance	155	175	228	222	209	200	208	209	208	207	206
B3. Exports	155	163	185	178	169	162	168	169	169	168	167
B4. Other flows 3/	155	185	218	211	200	192	198	199	199	196	193
B5. Depreciation	155	177	173	161	147	136	135	130	127	123	120
B6. Combination of B1-B5	155	164	183	183	179	177	189	195	200	203	208
C. Tailored Tests											
C1. Combined contingent liabilities	155	202	206	201	187	181	189	191	192	192	192
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	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C4. Market Financing	155	152	154	149	141	135	140	140	141	141	142
Debt Service-to-Revenue Ratio											
Baseline	16	13	18	13	16	14	15	16	15	14	15
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2022-2032 2/	16	13	18	13	16	14	15	17	16	14	15
B. Bound Tests											
B1. Real GDP growth	16	14	21	16	20	19	20	22	22	21	23
B2. Primary balance	16	13	20	17	23	21	18	19	18	17	19
B3. Exports	16	13	18	14	16	14	15	16	15	15	17
B4. Other flows 3/	16	13	19	14	17	15	15	17	16	17	19
B5. Depreciation	16	14	20	15	18	15	16	18	17	15	16
B6. Combination of B1-B5	16	13	21	17	19	17	19	20	19	18	19
C. Tailored Tests											
C1. Combined contingent liabilities	16	13	19	14	27	14	15	18	16	15	16
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	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C4. Market Financing	16	13	18	13	16	14	15	17	16	14	15

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.