EXECUTIVE BOARD MEETING

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To:	Members of the Executive Board
From:	The Secretary
Subject:	**Sierra Leone—Request for Disbursement Under the Rapid Credit Facility—Debt Sustainability Analysis**

Board Action:	Executive Directors' **consideration** (Formal)
Prepared By:	The staffs of the Fund and the International Development Association
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Questions:	Ms. Ongley, AFR (ext. 38414) Ms. Mowatt, AFR (ext. 35985) Ms. Aivazova, AFR (ext. 38936)
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***The authorities have indicated that they consent to the Fund's publication of this paper.**

INTERNATIONAL MONETARY FUND

SIERRA LEONE

February 26, 2021

REQUEST FOR DISBURSEMENT UNDER THE RAPID CREDIT FACILITY—DEBT SUSTAINABILITY ANALYSIS[1]

Approved By
Abebe Selassie and Anna Ilyina (IMF) and Marcello Estevão (IDA)

Prepared by the staffs of the International Monetary Fund and the International Development Association

Risk of external debt distress	High
Overall risk of debt distress	High
Granularity in the risk rating	Sustainable on a forward-looking basis
Application of judgment	No

While Sierra Leone's debt is sustainable on a forward-looking basis, the risk of external and overall debt distress remains high, and the COVID-19 shock has elevated these risks. The baseline projection reflects the deleterious effects of the COVID-19 shock on growth, exports, and revenues, as well as the cost of measures to counter the health and socioeconomic effects of the pandemic. External and domestic financing needs have increased, and debt indicators have worsened, following the shock. This DSA assumes that the external financing gap in 2021 will be filled by a second disbursement under the IMF's Rapid Credit Facility (RCF) and additional budget support grants from the World Bank. It also reflects relief under the IMF's Catastrophe Containment and Relief Trust (CCRT) and the Debt Service Suspension Initiative (DSSI). Indicative thresholds were lowered due to weaker growth—particularly globally but also domestically. While the downward trajectory of the present value of public debt-to-GDP ratio over the medium to long term is broadly similar to the previous (June 2020) DSA, it takes somewhat longer to track below the now lower threshold, which primarily reflects weaker global growth. Some external debt indicators also remain above the thresholds over the medium term. The public debt service-to-revenue ratio and the external debt service-to-exports ratio keep rising over the medium term, indicating a period of high vulnerabilities in liquidity, before continuously declining in the medium to long term. The stress tests highlight the sensitivities to shocks to growth, commodity prices, and exports. Reducing debt requires, first and foremost, sustained adjustment underpinned by strengthened public financial management, effective expenditure prioritization, and redoubling structural and revenue mobilization reform efforts. However, it will be vital that Sierra Leone continues to rely on highly concessional financing and ideally grants, to adjust at a pace that does not imperil the post-pandemic recovery, supports adequate social and other priority spending, and can meet the country's large development needs.

[1] The DSA follows the 2018 IMF and World Bank Staff Guidance Note on the Bank-Fund Debt Sustainability Framework for Low-Income Countries. The Composite Indicator score of 2.65, based on the October 2020 WEO and the World Bank's latest CPIA, indicates a weak debt-carrying capacity.

PUBLIC DEBT COVERAGE

1. **The DSA covers known sources of public debt** (Text Table 1). As in earlier DSAs (including in June 2020), the debt stock includes central government public and publicly guaranteed debts. The DSA also includes the latest estimate of the consolidated stock of domestic payment arrears. The Government is working—with the support of development partners—to improve its financial management information systems and enhance the accounting and timely reporting of public debt, including those occurred by state-owned enterprises (SOEs) and self-accounting bodies.

Text Table 1. Public Sector Debt Coverage Under the Baseline Scenario

	Subsectors of the public sector	Sub-sectors covered
1	Central government	X
2	State and local government	
3	Other elements in the general government	
4	o/w: Social security fund	X
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	

2. **The contingent liability stress test accounts for vulnerabilities associated with SOEs and financial market risks** (Text Table 2). The contingent liability for SOE debt is set at 7 percent of GDP, higher than the default 2 percent of GDP, reflecting the authorities' estimate of total external indebtedness of SOEs and self-accounting bodies. Contingent liabilities from financial markets are set at the standard minimum value of 5 percent of GDP, which represents the average cost to government of a financial crisis in LICs since 1980. The contingent liability of other elements of the general government is set at 0 percent of GDP, since estimated domestic arrears are already included in the baseline. Overall, Sierra Leone's total contingent liabilities are estimated at 12 percent of GDP, as in the previous DSA.

Text Table 2. Coverage of the Contingent Liabilities' Stress Test

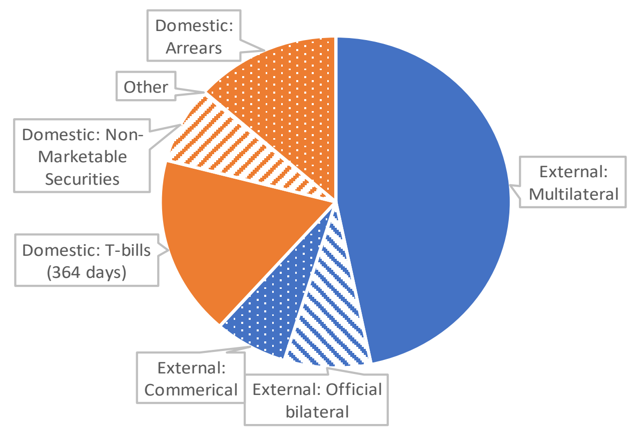
1. The country's coverage of public debt	The central government plus social security, central bank, government-guaranteed debt		
	Default	**Used for the Analysis**	**Reasons for deviations from the default setting**
2. Other elements of the general government not captured in 1.	0 percent of GDP	0.0	
3. SOE's debt (guaranteed and not guaranteed by the government) 1/	2 percent of GDP	7.0	Reflect the authorities' estimate of total external indebtedness of SOEs.
4. PPP	35 percent of PPP stock	0.0	
5. Financial market (the default value of 5 percent of GDP is the minimum value)	5 percent of GDP	5.0	
Total (2+3+4+5) (in percent of GDP)		12.0	

1/ The default shock of 2 percent 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 percent.

BACKGROUND ON DEBT

3. The COVID-19 shock—weakening growth, revenue, and exports, and increasing financing needs—has impeded a near-term improvement in Sierra Leone's strained public debt situation. Despite an increased fiscal deficit in 2020—driven by the large shock to growth and revenues, and measures to counter the impact of the pandemic—public debt is estimated to remain broadly unchanged at around 72 percent of GDP at end-2020, in large part thanks to progress in clearing domestic payment arrears. It would fall slightly below this level in 2021 and continue to decrease over the medium term.

Text Figure 1. Composition of Public Debt, end-2019



4. Public and publicly guaranteed (PPG) external debt was around 44 percent of GDP at end-2019 and is projected to increase to around 46 percent at end-2020. This reflects additional loans incurred in 2020, including an RCF disbursement from the IMF in June 2020 (SDR 103.7 million or 50 percent of quota). About 76 percent of Sierra Leone's external PPG debt at end-2019 comprised non-restructurable obligations to multilateral creditors (Text Figure 1). The IMF and World Bank account for about 22 percent and 21 percent of total PPG external debt, respectively.[2] Official bilateral creditors account for around 13 percent of total PPG external debt. Sierra Leone also has pre-HIPC debt (arrears) to commercial creditors (about 11 percent of total PPG external debt or around US$187 million at end-2019).

5. Public domestic debt is estimated to have declined somewhat in 2020, on the back of domestic arrears clearance and domestic borrowing targets under the ECF-supported program. Public domestic debt is estimated to have declined from around 28 percent of GDP at end-2019 to around 26 percent of GDP at end-2020. Around three-quarters of domestic debt is owed to commercial banks mainly in the form of 364-day T-bills. Less than a tenth of obligations are to the non-bank sector, while the Bank of Sierra Leone holds less than 15 percent of public debt. Commercial banks see T-Bills as a crucial asset in an otherwise less developed market, limiting roll-over risks. The authorities started to clear some domestic arrears balances in the first half of the year (under their new arrears clearance strategy), while significant exceptional external financing in mid-2020 (IMF RCF; World Bank budget support, and front-loaded EU budget support) helped contain net issuances of relatively more costly T-bills. These disbursements also eased the financing situation, and interest on T-bills declined significantly (to about 10 percent, from near 25 percent earlier in the year). Sierra Leone has a shallow credit market and domestic

[2] Among other multilateral creditors, African Development Fund and Islamic Development Bank account for about 9 percent and about 7 percent of total PPG external debt, respectively. As for official bilateral creditors, each creditor accounts for less than 3percent of total PPG external debt.

banks have limited alternative investment options, attenuating the rollover risk on T-bills. However, with continued high financing needs, domestic borrowing costs are expected to increase over the medium term.

KEY ASSUMPTIONS UNDER THE BASELINE SCENARIO

6. The assumptions are consistent with the macroeconomic framework in the staff report.

- **Growth.** Real GDP is projected to fall by 2.2 percent in 2020, a nearly 6½ percentage point decline relative to the pre-COVID projection. This primarily reflects disruptions in production and trade due to the COVID-19 pandemic, although the delayed resumption of iron ore mining has also played a role. GDP growth is expected to begin a gradual recovery in 2021, rising to 3.0 percent, with iron ore production assumed to resume at the Tonkolili mine. Thereafter, real non-mining GDP growth is assumed to pick up to its long-run potential of around 4½ percent. Risks to the growth forecast include a resurgence of the virus (including in the rest of the world), and further delays in resuming mining production, including iron ore (although there are also upside risks to the mining forecasts).

- **Inflation.** Inflation (as measured by the GDP deflator) is expected to be broadly in line with actual average consumer price inflation in 2020 at around 14 percent and then to decline gradually over time, in line with CPI projections. Consumer price inflation is projected to reach single digits by 2024, benefiting from ongoing efforts to strengthen the monetary policy framework and a gradual easing of fiscal financing pressures.

- **Fiscal.** Fiscal assumptions about the long-term trends of domestic revenue, grants and the overall balance remain largely unchanged from the previous DSA (June 2020), with the exception of somewhat higher project grant assumptions, in line with new information from development partners. The projected 2021 fiscal position reflects the approved budget. Sustained adjustment in the medium to long term is consistent with the Government's efforts before the pandemic, in the context of their program supported by (and the expected resumption of) the Extended Credit Facility. Revenue assumptions reflect the authorities' continued commitment to revenue mobilization efforts, underpinned by revenue administration measures (e.g. ITAS, GST compliance) and increased focus on tax policy reforms, with a comprehensive medium-term revenue strategy ahead of the 2022 budget, supported by IMF and World Bank technical assistance. While the projection provides room for capital and social spending, scaling up to meet large investment needs would be contingent on faster progress on revenue mobilization or more grants. The overall balance is expected to average 0.8 percent of GDP in the medium. Both the overall balance and primary balance are estimated to have deteriorated significantly in 2020 (to –5.5 and -2.6 percent of GDP, respectively) as a result of both the negative shock to domestic revenue from, and additional spending to combat the impact of, COVID-19.[3]

[3] The primary deficit in 2020 was smaller than in the previous DSA due to higher than anticipated budget grants.

- **External.** Both exports and imports are projected to fall significantly in 2020, before recovering gradually (Table 1). Following a significant increase in external budget support grants in 2020, these are projected to decrease in 2021. The DSA reflects the first RCF disbursement in June 2020 (50 percent of quota or SDR 103.7 million), relief under the IMF's Catastrophe Containment and Relief Trust (CCRT), and the Debt Service Suspension Initiative (DSSI).[4] It is assumed that the external financing gap in 2021 will be covered by both a second RCF disbursement and additional budget support grants from the World Bank. The DSA also takes into account the external financing gap during 2023-26, which is assumed to be covered by concessional financing (possibly a combination of grants and loans from development partners) with an overall grant element of 35.5 percent.[5]

Text Table 3. Macroeconomic Assumptions

	Current DSA		June 2020 DSA	
	2020	2030	2020	2030
Real GDP growth (in percent)	-2.2	4.5	-3.1	4.5
Inflation (GDP deflator, in percent)	13.9	5.7	12.7	5.0
Primary deficit (percent of GDP)	2.6	-2.2	3.8	-1.0
Non-interest current account deficit (percent of GDP)	14.7	6.7	14.4	6.0

7. Arrears clearance and domestic financing. Sierra Leone has a large stock of legacy domestic payment arrears, amounting to close to 10 percent of GDP at end-2019, and clearing these arrears is a key priority for the authorities and their ECF-supported program (Box 1). The assumptions on arrears clearance remain broadly in line with those in the previous DSA, albeit with less ambitious assumptions on NPV reductions. This is because the authorities reprioritized the paydown of some arrears as they were finalizing arrears clearance strategy[6] and in the wake of COVID-19, with terms that fell short of the targeted NPV reductions. The NPV reduction on total stock going forward is therefore on the order of 35-40 percent, as opposed to the 55-60 percent assumed in the previous DSA. The fact that these domestic payment arrears do not accrue interest or charges, and that the authorities' arrears clearance strategy targets significant NPV reductions stock helps to ensure sustainability. The target of gradually reducing domestic bank financing remains consistent with the ECF--supported program.

8. The "realism tool" shows the projected fiscal adjustment to be within the realistic range (Figure 4). The primary deficit is expected to return to its 2019 level by 2022, implying a fiscal adjustment close to zero over the three years. However, the three-year average masks a deterioration in the primary balance due to the COVID-19 shock, followed by an improvement, which is driven by spending restraint

[4] Debt service deferment in 2020 under the DSSI is projected to be around US$6.6 million. Sierra Leone has reached out to relevant creditors, requesting debt service deferment for the extended portion of the DSSI in the first half of 2021. If approved, debt service deferment for the extended period would be in the order of US$9 million.

[5] IMF financing (the RCF and prospective disbursements under the existing ECF) has a 5.5-year grace period and 10-year maturity and carries a zero-interest rate at least through June 2021. Loans from other multilateral creditors (other than the World Bank) are assumed to have an overall grant element of 35 percent. Compared to the DSA at the time of the June 2020 RCF, project support grants from the World Bank from 2021 onwards are larger and project support loans from the World Bank from 2021 onwards are smaller.

[6] The Government paid down about 1.5 percent of GDP in arrears by mid-2020, while the arrears clearance strategy was finalized in June 2020 and approved by the Cabinet in July 2020.

and continued revenue mobilization efforts. Compared to the previous DSA (June 2020) changes in the near-term projections reflect a somewhat less sharp deterioration in the expected fiscal outturn in 2020 (largely due to somewhat higher than previously expected budget support grants), more favorable exchange rate developments through 2020 than projected in June, and the latest assumptions on external grants and loans (Figure 3). Notwithstanding the impact of the COVID-19 shock in delaying the nearer term reduction in domestic bank financing, the longer-term fiscal trajectory remains in line with previous projections under the ECF-supported program.

Box 1. Actions to Quantify and Clear Domestic Payment Arrears in Sierra Leone

Resolving the longstanding challenge of domestic expenditure arrears is a key priority for the authorities. In the context of their program, supported by an Extended Credit Facility (ECF) arrangement with the IMF, they have undertaken a comprehensive stocktaking exercise, and adopted an arrears clearance strategy. Given the magnitude of the arrears stock and the tight fiscal financing situation, the clearance strategy reflects the difficult choices, including significant NPV reductions, required to sustainably address this issue. This DSA fully reflects the current stock of domestic arrears and the planned terms for arrears clearance.

The Sierra Leonean authorities have made a concerted effort to understand the magnitude of domestic payment arrears.

- At the time, the ECF-supported program was approved in November 2018, the stock of arrears was estimated at about 4 percent of GDP—reflecting verified (crystalized) but unpaid checks accumulated at the Ministry of Finance—but indications were that it could be higher.
- In early 2019, they published several audits aimed at identifying inherited fiscal risks, including an audit by the Audit Service Sierra Leone (ASSL) to verify claims on the Government, including both future obligations and arrears.[1]
- During June-August 2019, the Ministry of Finance worked with ASSL, and relevant Ministries, Departments and Agencies to review and reconcile individual claims to determine the portion of verified claim in arrears.
- That stocktaking exercise, completed in September 2019, confirmed pre-April 2018 domestic payment arrears of Le 3.3 trillion (around 8¾ percent of 2019 non-iron ore GDP), of which around 90 percent were accrued during 2016 and 2017.[2]
- In addition to these legacy arrears, the authorities have continued to monitor the net accumulation of new arrears (unpaid checks) in the period since April 2018.

The authorities have also finalized their comprehensive arrears clearance strategy. Cognizant of the potentially substantial fiscal implications, the authorities collaborated closely with IMF staff, to develop a strategy to clear arrears based on the following key principles: transparency and equity, sustainability, macrofinancial stability, and preventing further arrears accumulation. The final strategy—approved by Cabinet in July 2020 and published on the *Ministry of Finance* website—implies full clearance over the medium term, assuming deep haircuts or NPV reductions.

The authorities have started clearing arrears at a pace faster than envisaged in the clearance strategy. In an attempt to cushion the impact of the COVID-19 pandemic on the private sector, and provide liquidity to the banking sector, the authorities prioritized clearing arrears to small and medium enterprises. However, as the haircuts applied were less than envisaged under their clearance strategy, the estimated overall NPV reduction of the prospective arrears clearance is also less than originally envisaged under the plan.

This DSA fully reflects the latest stock of arrears (Le 2.5 trillion as of end-December 2020). Since the September 2019 stocktaking exercise, all Fund-Bank DSAs have included the full stock of legacy arrears (adjusted for arrears that have since been cleared) and the net accummuation of new arrears (unpaid checks) since April 2018, and the expected terms of prospective arrears clearance (as noted above).

[1] See *Box 3. Progress Towards Domestic Payment Arrears* in IMF Country Report No. 19/217, July 2019.
[2] See *Box 3. Managing and Preventing Expenditure Arrears in Sierra Leone* in IMF Country Report No. 20/116, April 2020.

COUNTRY CLASSIFICATION AND DETERMINATION OF SCENARIO STRESS TESTS

9. With the recent deterioration in growth, Sierra Leone's debt-carrying capacity is now assessed to be weak. The Composite Indicator (CI) score of 2.65, based on the October 2020 WEO and the World Bank's latest CPIA, indicates a weak debt carrying capacity. The CI score has declined from the previous level of 2.69, primarily due to weaker global growth and less so due to weaker domestic growth (Text Table 4). As a result of the decline in the CI score, Sierra Leone's debt-carrying capacity has changed from medium to weak. Text Table 5 shows applicable thresholds for debt indicators.

Text Table 4. Composite Indicator (CI) Rating

Components	Coefficients (A)	10-year average values (B)	CI Score components (A*B) = (C)	Contribution of components
CPIA	0.385	3.172	1.22	46%
Real growth rate (in percent)	2.719	2.555	0.07	3%
Import coverage of reserves (in percent)	4.052	35.823	1.45	55%
Import coverage of reserves^2 (in percent)	-3.990	12.833	-0.51	-19%
Remittances (in percent)	2.022	1.252	0.03	1%
World economic growth (in percent)	13.520	2.928	0.40	15%
CI Score			2.65	100%
CI rating			Weak	

Text Table 5. Applicable Thresholds for Debt Indicators	
PV of PPG external debt in percent of GDP	30%
PV of PPG external debt in percent of exports	140%
PPG external debt service in percent of exports	10%
PPG external debt service in percent of revenue	14%
PV of total public debt in percent of GDP	35%

EXTERNAL AND PUBLIC DEBT SUSTAINABILITY

External DSA

10. Sierra Leone is assessed to be at high risk of external debt distress, and PPG external debt is assessed to be sustainable on a forward-looking basis. Under the baseline, the PV of PPG external debt-to-GDP ratio and the PV of PPG external debt-to-export ratio exceed their thresholds over the medium term, and these return to their thresholds around 2025 (Figure 1, Table 1[7]). As the trajectory of the debt ratio has not significantly changed from the previous DSA, this more protracted deviation from the threshold is due to the downward change in the applicable threshold resulting from the recent change in the debt-carrying capacity. PPG external debt service-to-exports ratio also stays slightly above the threshold over the medium term. In the meantime, PPG external debt service-to-revenue ratio remains

[7] The residuals in Table 1 reflect exchange rate changes.

above its threshold for the next ten years, implying a tight liquidity situation for a prolonged period. Here too, the protracted deviations principally reflect the new lower thresholds. Stress tests indicate that the external debt indicators are sensitive to growth, exports, and their combination. In the stress scenarios, all the external debt indicators remain significantly above the thresholds for the next ten years. Since the PPG external debt indicators breach their thresholds under the baseline, Sierra Leone is assessed to be at high risk of external debt distress, as in the previous DSA. However, since all the external debt indicators are on a declining trend over the medium- to long-term, it is assessed that PPG external debt is sustainable on a forward-looking basis.

Overall Risk of Public Debt Distress

11. Sierra Leone is assessed to be at high overall risk of public debt distress, and the trajectories of debt indicators indicate that public debt is sustainable on a forward-looking basis. Under the baseline, the PV of public debt-to-GDP ratio gradually declines to the now lower threshold of 35 percent before 2030 (Figure 2). The public debt service-to-revenue ratio is projected to rise over the medium term, suggesting high vulnerabilities in liquidity over that period. The large debt service in 2021-25 is expected to be financed with grants, concessional loans, and government revenues. Over this period, the largest debt service would be to the IMF. Sierra Leone will need continued access to concessional financing, including from the Fund, to ensure that financing terms remain contained. For the long term, as the economy fully recovers and tax administration gains materialize, the public debt service-to-revenue ratio is expected to decline gradually. Stress tests indicate that the public debt indicators are sensitive to shocks to growth and commodity prices. Considering that both external debt indicators and public debt indicators exceed their thresholds under the baseline, the country is assessed to have high overall risk of public debt distress. Nevertheless, public debt is assessed as sustainable on a forward-looking basis, reflecting the downward trend in all the indicators over the long term (despite prolonged breaches in some indicators), which is predicated on a combination of (i) sustained and significant fiscal adjustment, and (ii) continued reliance on highly concessional external financing (largely grants), including from the IFIs which account for a large share of Sierra Leone's PPG external debt, while limiting recourse to expensive domestic debt.

RISK RATING AND VULNERABILITIES

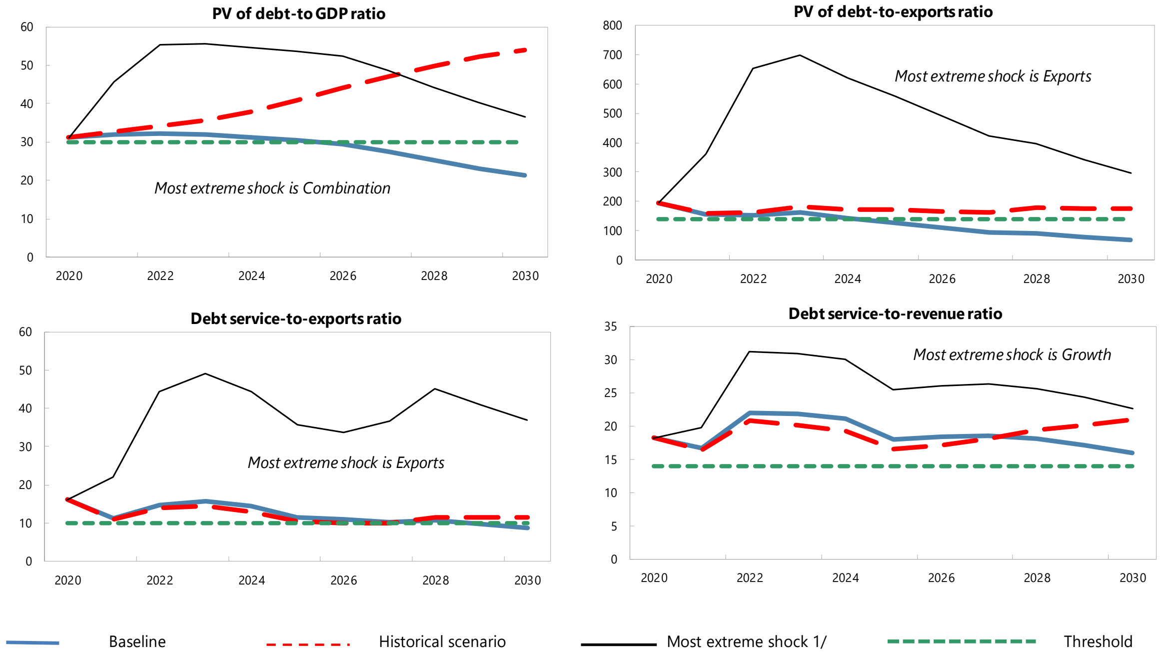
12. While Sierra Leone is assessed to be at high risk of external debt distress and high risk of overall public debt distress, its debt is assessed to be sustainable on a forward-looking basis. The COVID-19 shock weakened growth, revenue, and exports, and increased financing needs, and it has worsened Sierra Leone's public debt situation, while the medium- to long-term trajectories of debt ratios remain largely unchanged. The assessment on the risk of debt distress remains unchanged from the previous DSA in June 2020. While some debt indicators exceed their thresholds over the medium term under the baseline, the more protracted deviations principally reflect the lower thresholds associated with the changed assessment of the debt-carrying capacity primarily due to weaker global growth, rather than inherent change in the debt trajectory. All the indicators remain on a declining trend over the medium to long term. Thus, debt is assessed to be sustainable on a forward-looking basis, predicated on continued reliance on highly concessional external financing (largely grants), while limiting recourse to expensive domestic debt. However, the public debt service-to-revenue ratio is projected to rise over the medium term, suggesting high vulnerabilities in liquidity. The stress tests also highlight that debt indicators are sensitive to shocks to growth, commodity prices, and exports.

13. This debt sustainability analysis underscores the importance of continued fiscal discipline efforts and structural reforms, supported by technical assistance and prudent financing choices. Reducing debt and maintaining debt sustainability requires, first and foremost, sustained fiscal adjustment, underpinned by strengthened public financial management, effective expenditure prioritization, and redoubling structural and revenue mobilization reform efforts. However, to achieve a pace of fiscal adjustment that does not imperil the post-pandemic recovery and allows the country to continue addressing its large development needs, it will be vital that Sierra Leone continues to rely on highly concessional financing and ideally grants. In addition, following technical assistance on debt recording earlier this year, further technical assistance in debt management and development of a domestic market will also be important.

Authorities' Views

14. The authorities concurred with staff assessment on the risk of debt distress and debt sustainability. The authorities also acknowledged the importance of redoubling efforts to ensure sustained fiscal adjustment beyond 2021. The authorities highlighted the range of ongoing reforms, supported by IMF technical assistance, to strengthen revenue administration, improve public expenditure management, and further enhance debt management. Collectively, these efforts aim to support steady fiscal adjustment and better manage debt in ways that are compatible with the country's immediate fiscal financing needs for dealing with the COVID-19 crisis and its needs for economic development.

Figure 1. Sierra Leone: Indicators of Public and Publicly Guaranteed External Debt Under Alternative Scenarios, 2020–30



Customization of Default Settings	Size	Interactions
Tailored Tests		
Combined CLs	Yes	
Natural Disasters	n.a.	n.a.
Commodity Prices 2/	No	No
Market Financing	n.a.	n.a.

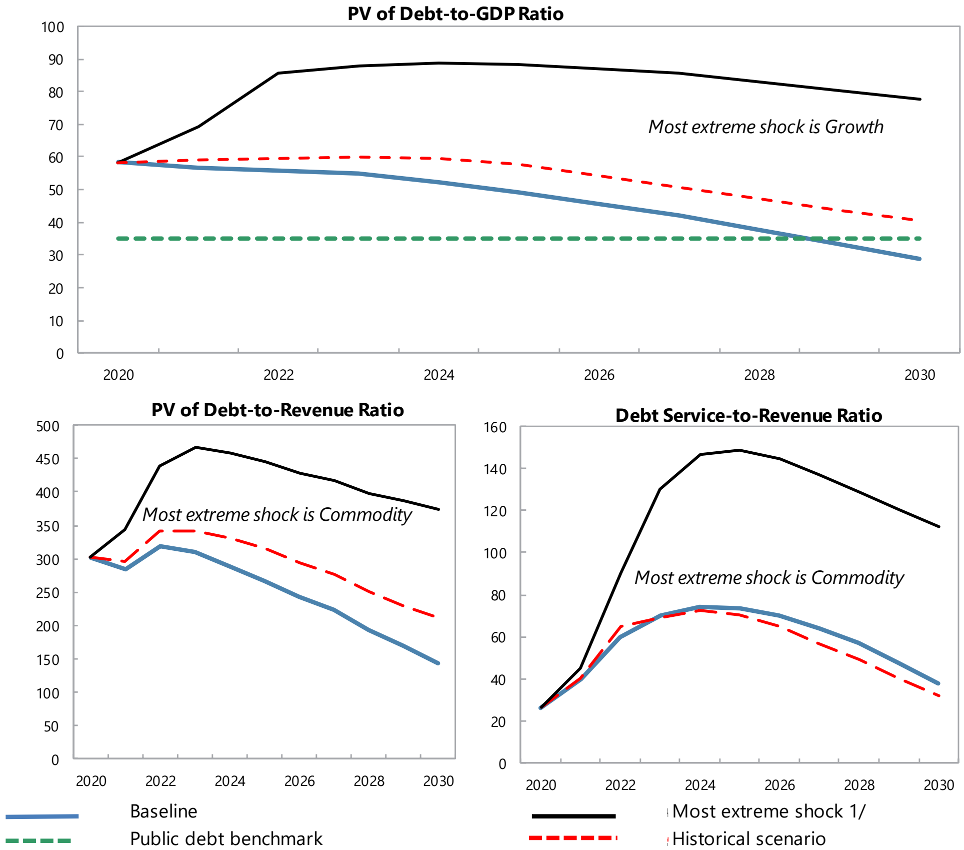
Borrowing Assumptions for Stress Tests*	Default	User defined
Shares of marginal debt		
External PPG MLT debt	100%	
Terms of marginal debt		
Avg. nominal interest rate on new borrowing in USD	0.9%	0.9%
USD Discount rate	5.0%	5.0%
Avg. maturity (incl. grace period)	20	20
Avg. grace period	5	5

Sources: Sierra Leonean authorities; and IMF staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio in or before 2030. Stress tests with one-off breaches are also presented (in any), while these are one-breaches are deemed away for mechanical signals. When a stress test with a one-off breach happens to be the most extreme shock even after disregarding the one-off breach, only that stress test (with a one-off breach) would be presented.

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

Figure 2. Sierra Leone: Indicators of Public Debt Under Alternative Scenarios, 2020–30



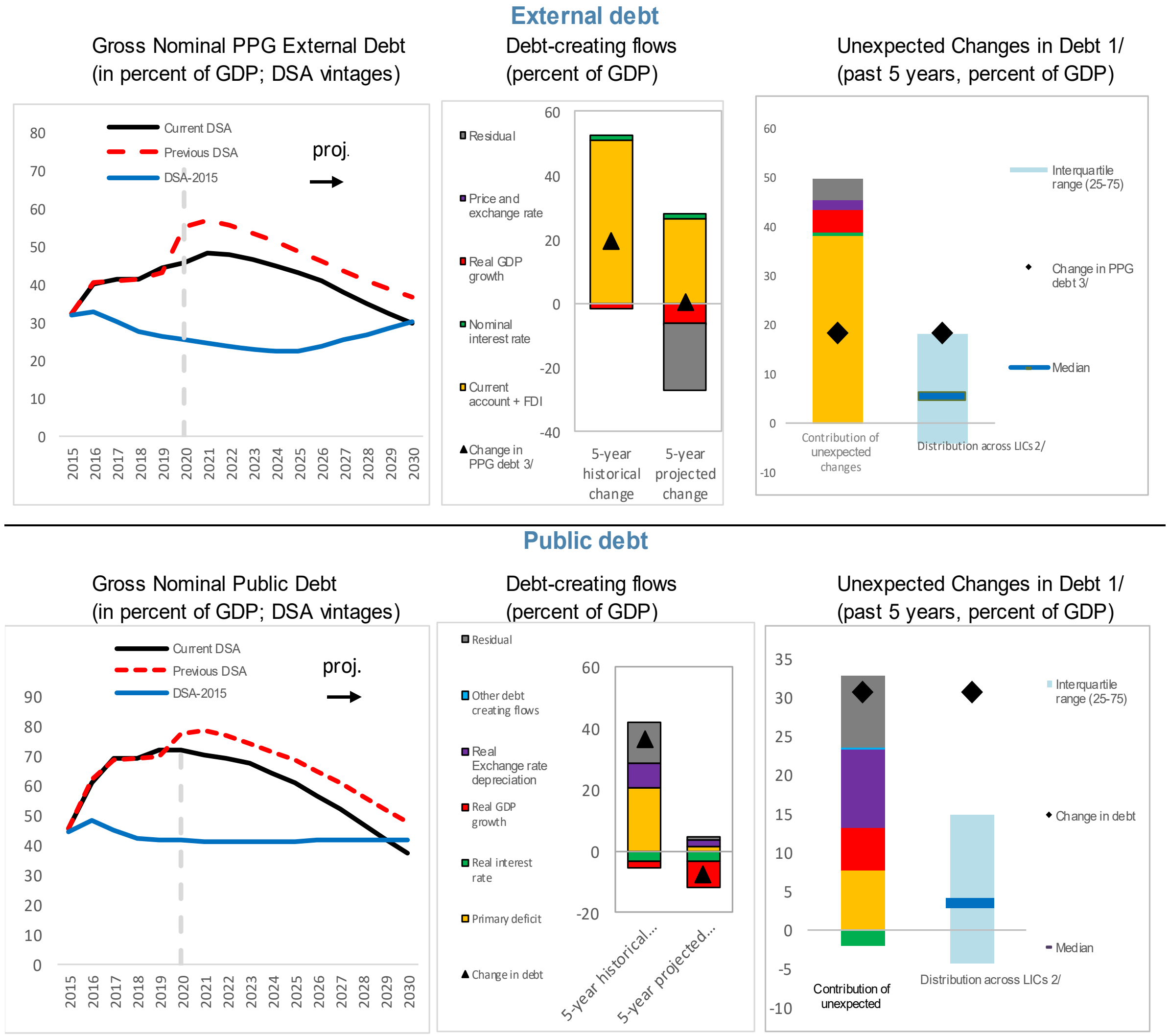
Borrowing Assumptions for Stress Tests*	Default	User defined
Shares of marginal debt		
External PPG medium and long-term	33%	33%
Domestic medium and long-term	0%	0%
Domestic short-term	67%	67%
Terms of marginal debt		
External MLT debt		
Avg. nominal interest rate on new borrowing in USD	0.9%	0.9%
Avg. maturity (incl. grace period)	20	20
Avg. grace period	5	5
Domestic MLT debt		
Avg. real interest rate on new borrowing	0.0%	0.0%
Avg. maturity (incl. grace period)	1	1
Avg. grace period	0	0
Domestic short-term debt		
Avg. real interest rate	1%	1%

* 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: Sierra Leonean authorities; and IMF staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio in or before 2030. The stress test with a one-off breach is also presented (in any), while the one-breach is deemed away for mechanical signals. When a stress test with a one-off breach happens to be the most extreme shock even after disregarding the one-off breach, only that stress test (with a one-off breach) would be presented.

Figure 3. Sierra Leone: Drivers of Debt Dynamics, Baseline Scenario, 2015–30



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. Sierra Leone: Realism Tools

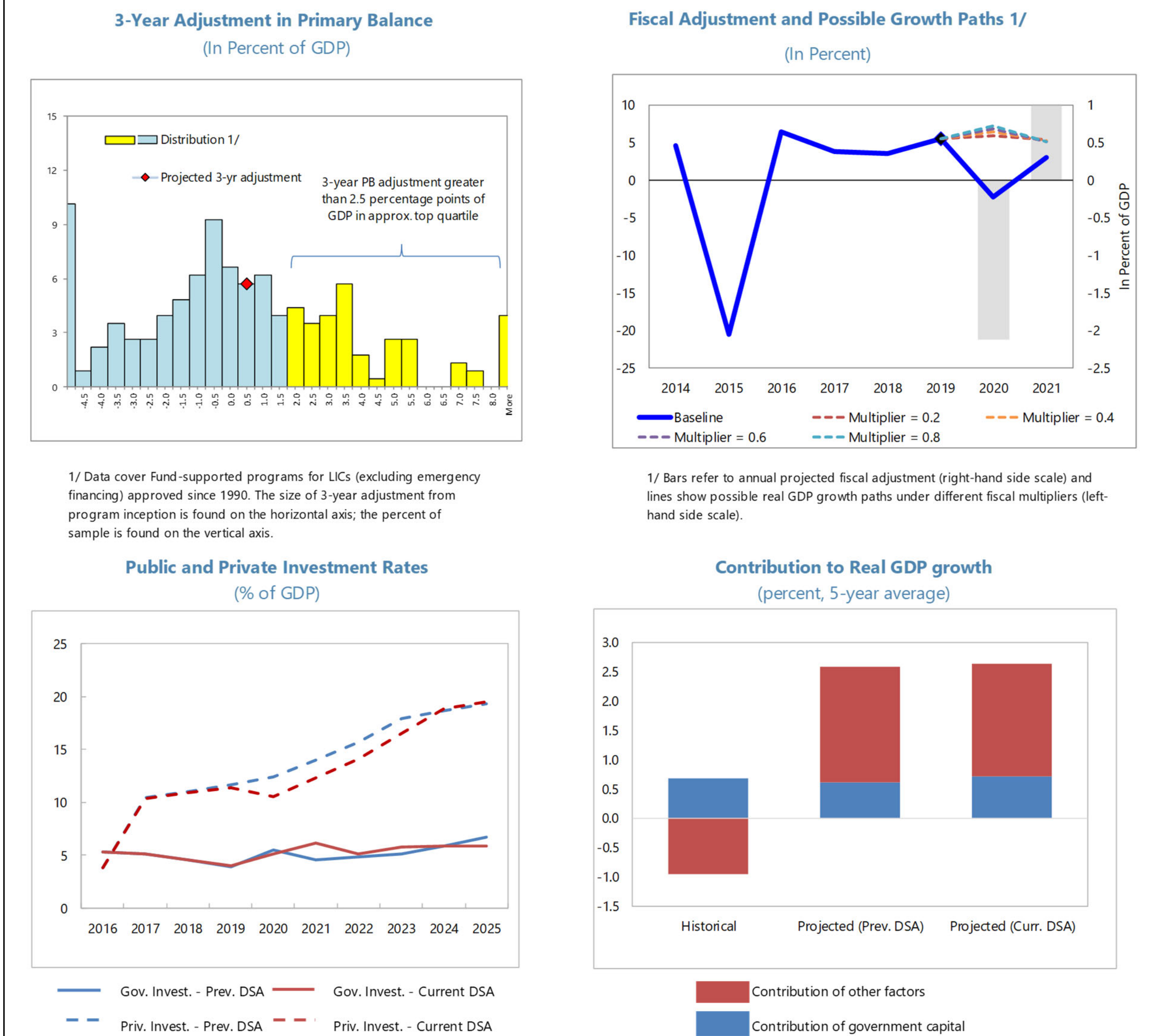
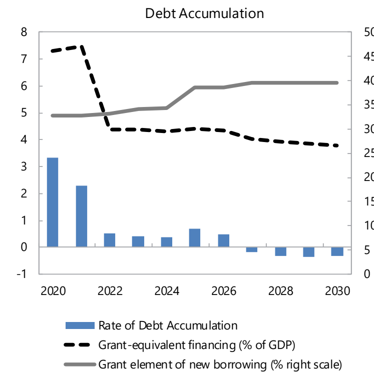


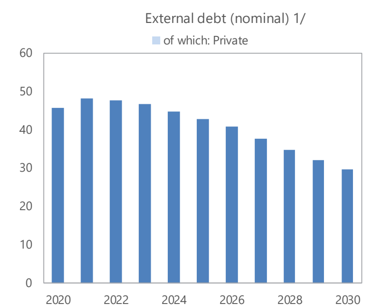
Table 1. Sierra Leone: External Debt Sustainability Framework, Baseline Scenario, 2017–40

(Percent of GDP, unless otherwise indicated)

	Actual			Projections								Average 8/	
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2030	2040	Historical	Projections
External debt (nominal) 1/	**41.4**	**41.2**	**44.1**	**45.8**	**48.2**	**47.7**	**46.6**	**44.6**	**42.8**	**29.7**	**21.7**	**33.3**	**41.0**
of which: public and publicly guaranteed (PPG)	**41.4**	**41.2**	**44.1**	**45.8**	**48.2**	**47.7**	**46.6**	**44.6**	**42.8**	**29.7**	**21.7**	**33.3**	**41.0**
Change in external debt	1.4	-0.2	2.9	1.7	2.4	-0.5	-1.1	-2.0	-1.8	-2.4	-0.8		
Identified net debt-creating flows	...	...	...	**9.8**	**6.0**	**2.5**	**2.6**	**0.9**	**0.0**	**0.2**	**2.0**	**...**	**1.8**
Non-interest current account deficit	**21.5**	**18.4**	**22.0**	**14.7**	**13.1**	**14.0**	**14.2**	**13.2**	**12.2**	**6.7**	**7.3**	**20.4**	**11.4**
Deficit in balance of goods and services	23.3	21.4	26.1	21.7	18.6	18.7	18.9	17.9	16.7	10.8	10.6	**25.9**	**16.1**
Exports	19.7	17.6	18.0	16.0	20.6	21.0	19.8	21.9	23.9	31.0	27.6		
Imports	42.9	39.0	44.1	37.7	39.2	39.7	38.6	39.7	40.7	41.7	38.3		
Net current transfers (negative = inflow)	-4.2	-4.5	-5.6	-8.4	-6.8	-6.0	-6.1	-6.0	-5.9	-5.4	-4.7	**-9.1**	**-6.1**
of which: official	-1.4	-1.5	-1.9	-4.8	-3.2	-2.4	-2.4	-2.4	-2.3	-2.0	-1.6		
Other current account flows (negative = net inflow)	2.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	**3.6**	**1.4**
Net FDI (negative = inflow)	**-11.1**	**-6.1**	**-8.3**	**-6.1**	**-6.1**	**-10.1**	**-10.2**	**-10.4**	**-10.3**	**-5.5**	**-4.6**	**-11.7**	**-8.4**
Endogenous debt dynamics 2/	...	...	...	**1.3**	**-1.0**	**-1.4**	**-1.4**	**-1.9**	**-1.8**	**-1.0**	**-0.7**		
Contribution from nominal interest rate	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2		
Contribution from real GDP growth	-1.6	-1.3	-2.2	1.0	-1.3	-1.7	-1.8	-2.2	-2.2	-1.3	-0.9		
Contribution from price and exchange rate changes	...	...	...	...	...	...	...	...	...	...	...		
Residual 3/	...	...	...	**-8.2**	**-3.6**	**-3.0**	**-3.7**	**-2.8**	**-1.8**	**-2.5**	**-2.8**	**...**	**-3.1**
of which: exceptional financing	...	...	...	-1.0	-0.9	-0.3	0.1	0.1	0.0	0.0	0.0		
Sustainability indicators													
PV of PPG external debt-to-GDP ratio	...	...	**28.5**	**31.2**	**31.8**	**32.1**	**32.0**	**31.1**	**30.4**	**21.3**	**15.1**		
PV of PPG external debt-to-exports ratio	...	...	**158.1**	**194.8**	**154.2**	**152.7**	**161.9**	**142.2**	**126.8**	**68.6**	**54.7**		
PPG debt service-to-exports ratio	**7.5**	**9.5**	**9.0**	**16.2**	**11.2**	**14.8**	**15.8**	**14.4**	**11.5**	**8.9**	**4.9**		
PPG debt service-to-revenue ratio	**12.2**	**12.3**	**11.1**	**18.2**	**16.6**	**22.0**	**21.9**	**21.2**	**18.0**	**16.0**	**6.7**		
Gross external financing need (Million of U.S. dollars)	441.2	567.9	628.8	469.2	413.4	310.3	323.3	279.5	225.6	271.6	547.8		
Key macroeconomic assumptions													
Real GDP growth (in percent)	3.8	3.5	5.5	-2.2	3.0	3.6	3.8	5.0	5.1	4.5	4.4	**5.1**	**3.8**
GDP deflator in US dollar terms (change in percent)	-7.2	6.3	-4.4	4.4	2.1	-2.9	-1.9	-0.9	-0.3	2.7	3.8	**1.1**	**0.9**
Effective interest rate (percent) 4/	0.6	0.8	0.7	0.7	0.7	0.7	0.7	0.8	0.8	1.0	1.0	**0.7**	**0.8**
Growth of exports of G&S (US dollar terms, in percent)	-0.1	-1.5	3.3	-9.3	35.7	2.6	-4.4	15.1	14.7	12.6	6.4	**16.3**	**10.6**
Growth of imports of G&S (US dollar terms, in percent)	12.0	0.0	14.1	-12.7	9.4	1.9	-1.0	7.0	7.2	7.3	6.3	**19.0**	**4.4**
Grant element of new public sector borrowing (in percent)	...	...	...	32.8	32.8	33.2	34.2	34.3	38.5	39.5	39.3	**...**	**36.6**
Government revenues (excluding grants, in percent of GDP)	12.2	13.7	14.6	14.2	13.9	14.2	14.3	14.8	15.3	17.2	20.1	**11.6**	**15.3**
Aid flows (in Million of US dollars) 5/	92.3	85.8	138.5	215.6	265.0	149.0	187.1	195.4	233.4	244.7	419.4		
Grant-equivalent financing (in percent of GDP) 6/	...	...	...	7.3	7.5	4.4	4.4	4.3	4.4	3.8	3.3	**...**	**4.7**
Grant-equivalent financing (in percent of external financing) 6/	...	...	...	62.1	71.2	68.2	69.1	68.8	69.7	73.5	70.6	**...**	**70.4**
Nominal GDP (Million of US dollars)	3,713	4,085	4,119	4,204	4,422	4,448	4,529	4,713	4,934	6,833	13,503		
Nominal dollar GDP growth	-3.7	10.0	0.8	2.1	5.2	0.6	1.8	4.1	4.7	7.2	8.4	**6.2**	**4.7**
Memorandum items:													
PV of external debt 7/	...	...	28.5	31.2	31.8	32.1	32.0	31.1	30.4	21.3	15.1		
In percent of exports	...	...	158.1	194.8	154.2	152.7	161.9	142.2	126.8	68.6	54.7		
Total external debt service-to-exports ratio	7.5	9.5	9.0	16.2	11.2	14.8	15.8	14.4	11.5	8.9	4.9		
PV of PPG external debt (in Million of US dollars)			1172.7	1310.3	1407.3	1429.4	1448.4	1465.0	1497.7	1452.0	2041.3		
(PVt-PVt-1)/GDPt-1 (in percent)				3.3	2.3	0.5	0.4	0.4	0.7	-0.3	0.8		
Non-interest current account deficit that stabilizes debt ratio	20.1	18.5	19.1	13.0	10.7	14.5	15.3	15.2	14.0	9.0	8.1		

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.

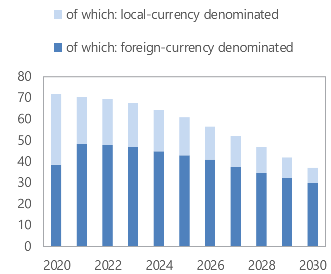
Table 2. Sierra Leone: Public Sector Debt Sustainability Framework, Baseline Scenario, 2019–40

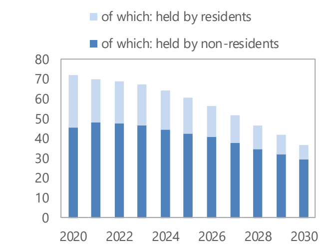
(Percent of GDP, unless otherwise indicated)

	Actual	Projections								Average 6/	
	2019	2020	2021	2022	2023	2024	2025	2030	2040	Historical	Projections
Public sector debt 1/	**71.7**	**72.0**	**70.4**	**69.3**	**67.5**	**64.3**	**60.7**	**37.0**	**23.6**	**50.7**	**58.0**
of which: external debt	**44.1**	**45.8**	**48.2**	**47.7**	**46.6**	**44.6**	**42.8**	**29.7**	**21.7**	**33.3**	**41.0**
Change in public sector debt	2.6	0.3	-1.6	-1.1	-1.8	-3.2	-3.6	-4.9	-1.0		
Identified debt-creating flows	**-0.1**	**-0.3**	**-1.4**	**-1.3**	**-1.8**	**-3.4**	**-4.0**	**-4.3**	**-5.4**	**1.1**	**-3.1**
Primary deficit	**0.4**	**2.6**	**0.7**	**-0.2**	**-0.5**	**-1.0**	**-1.4**	**-2.2**	**-3.6**	**3.3**	**-0.8**
Revenue and grants	18.0	19.3	19.9	17.5	17.6	18.1	18.5	20.1	22.6	**15.4**	**18.9**
of which: grants	3.4	5.1	6.0	3.3	3.4	3.3	3.2	2.9	2.4		
Primary (noninterest) expenditure	18.4	21.9	20.6	17.3	17.2	17.1	17.1	17.9	18.9	**18.7**	**18.1**
Automatic debt dynamics	**-0.5**	**-2.8**	**-2.0**	**-1.1**	**-1.4**	**-2.4**	**-2.6**	**-2.2**	**-1.8**		
Contribution from interest rate/growth differential	-3.7	0.5	-3.6	-2.9	-2.7	-3.3	-3.0	-2.0	-1.2		
of which: contribution from average real interest rate	-0.1	-1.2	-1.5	-0.4	-0.1	-0.1	0.1	-0.2	-0.2		
of which: contribution from real GDP growth	-3.6	1.6	-2.1	-2.4	-2.5	-3.2	-3.1	-1.8	-1.0		
Contribution from real exchange rate depreciation	3.3	...	...	...	...	...	...	...	...		
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**
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	**2.6**	**-2.7**	**1.3**	**2.0**	**1.3**	**1.1**	**0.8**	**-0.8**	**3.9**	**1.3**	**0.1**
Sustainability indicators											
PV of public debt-to-GDP ratio 2/	**58.2**	**58.3**	**56.4**	**55.9**	**54.7**	**52.2**	**49.3**	**28.8**	**17.1**		
PV of public debt-to-revenue and grants ratio	**324.5**	**302.1**	**283.8**	**319.1**	**309.8**	**288.4**	**266.2**	**143.6**	**75.9**		
Debt service-to-revenue and grants ratio 3/	**22.3**	**26.3**	**40.2**	**59.7**	**69.8**	**74.3**	**73.3**	**37.8**	**6.6**		
Gross financing need 4/	4.4	7.6	8.7	10.2	11.8	12.4	12.2	5.4	-2.2		
Key macroeconomic and fiscal assumptions											
Real GDP growth (in percent)	5.5	-2.2	3.0	3.6	3.8	5.0	5.1	4.5	4.4	**5.1**	**3.8**
Average nominal interest rate on external debt (in percent)	0.7	0.7	0.7	0.7	0.8	0.8	0.8	1.0	1.0	**0.7**	**0.8**
Average real interest rate on domestic debt (in percent)	1.1	-3.4	-3.4	0.3	1.8	2.0	2.9	1.2	2.1	**-0.1**	**1.0**
Real exchange rate depreciation (in percent, + indicates depreciation)	8.4	...	...	...	...	...	...	...	...	**0.4**	**...**
Inflation rate (GDP deflator, in percent)	8.6	13.9	13.9	11.9	10.7	9.9	8.1	5.7	4.8	**11.2**	**8.8**
Growth of real primary spending (deflated by GDP deflator, in percent)	4.5	16.2	-2.9	-13.0	3.1	4.5	5.4	5.5	4.5	**6.6**	**3.8**
Primary deficit that stabilizes the debt-to-GDP ratio 5/	-2.1	2.3	2.3	0.9	1.3	2.2	2.2	2.8	-2.7	**-0.4**	**2.3**
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		

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 plus social security, 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.

Note: Grants include grants for debt service relief under the Catastrophe Containment and Relief Trust (CCRT), projected to amount to 0.7 percent of GDP in 2021.

Table 3. Sierra Leone: Sensitivity Analysis, External Debt, 2020-2030

	Projections 1/										
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
PV of debt-to GDP ratio											
Baseline	31.2	31.8	32.1	32.0	31.1	30.4	29.3	27.3	25.2	23.1	21.3
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2020-2030 2/	31.2	32.6	34.2	35.6	37.8	40.8	44.1	47.1	49.7	52.1	54.0
B. Bound Tests											
B1. Real GDP growth	31.2	37.8	45.5	45.3	44.0	43.0	41.5	38.7	35.6	32.7	30.1
B2. Primary balance	31.2	32.8	35.0	36.1	36.0	35.7	35.0	33.0	30.6	28.3	26.2
B3. Exports	31.2	39.7	50.6	50.8	49.9	49.1	47.9	44.9	40.9	37.1	33.7
B4. Other flows 3/	31.2	42.2	53.3	53.7	52.9	52.1	51.0	47.7	43.3	39.2	35.5
B5. One-time 30 percent nominal depreciation	31.2	40.1	36.7	36.4	35.3	34.4	33.1	30.7	28.3	26.1	24.1
B6. Combination of B1-B5	31.2	45.7	55.3	55.6	54.5	53.6	52.3	48.6	44.3	40.2	36.5
C. Tailored Tests											
C1. Combined contingent liabilities	31.2	34.3	36.3	37.3	37.1	36.8	36.0	34.0	31.8	29.6	27.7
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	31.2	33.1	34.8	34.7	33.5	32.4	30.9	28.2	25.3	22.6	20.3
C4. Market Financing	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Threshold	30	30	30	30	30	30	30	30	30	30	30
PV of debt-to-exports ratio											
Baseline	194.8	154.2	152.7	161.9	142.2	126.8	110.3	95.1	90.3	78.3	68.6
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2020-2030 2/	194.8	157.8	162.3	180.2	172.8	170.6	165.8	163.8	178.5	176.5	174.4
B. Bound Tests											
B1. Real GDP growth	194.8	154.2	152.7	161.9	142.2	126.8	110.3	95.1	90.3	78.3	68.6
B2. Primary balance	194.8	159.0	166.1	182.6	164.5	149.1	131.4	114.8	109.9	95.9	84.5
B3. Exports	194.8	362.1	652.5	698.8	620.5	557.3	489.5	424.4	398.4	341.7	295.5
B4. Other flows 3/	194.8	204.6	253.3	271.9	242.1	217.8	191.7	165.9	155.4	132.9	114.6
B5. One-time 30 percent nominal depreciation	194.8	154.2	138.5	146.4	128.2	114.0	98.8	84.7	80.7	70.2	61.8
B6. Combination of B1-B5	194.8	293.2	218.5	378.0	335.4	301.1	264.3	227.3	213.5	183.1	158.5
C. Tailored Tests											
C1. Combined contingent liabilities	194.8	166.2	172.4	188.7	169.6	153.5	135.2	118.4	114.0	100.4	89.2
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	194.8	169.8	173.1	182.5	157.5	137.5	116.9	98.9	91.4	77.2	65.9
C4. Market Financing	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Threshold	140	140	140	140	140	140	140	140	140	140	140
Debt service-to-exports ratio											
Baseline	16.2	11.2	14.8	15.8	14.4	11.5	10.9	10.2	10.7	9.7	8.9
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2020-2030 2/	16.2	11.1	14.0	14.5	13.1	10.6	10.1	9.9	11.5	11.5	11.6
B. Bound Tests											
B1. Real GDP growth	16.2	11.2	14.8	15.8	14.4	11.5	10.9	10.2	10.7	9.7	8.9
B2. Primary balance	16.2	11.2	14.9	16.0	14.6	11.8	11.1	10.7	11.7	11.0	10.2
B3. Exports	16.2	21.9	44.3	49.0	44.4	35.8	33.6	36.8	45.1	40.8	36.8
B4. Other flows 3/	16.2	11.2	15.5	17.3	15.7	12.7	11.9	14.1	17.4	15.7	14.2
B5. One-time 30 percent nominal depreciation	16.2	11.2	14.8	15.6	14.2	11.3	10.7	10.0	9.7	8.9	8.1
B6. Combination of B1-B5	16.2	16.4	25.0	27.1	24.6	19.8	18.6	21.9	24.3	22.0	19.9
C. Tailored Tests											
C1. Combined contingent liabilities	16.2	11.2	15.0	16.1	14.7	11.8	11.2	10.4	10.9	10.0	9.1
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	16.2	12.0	16.0	17.2	15.5	12.3	11.6	11.1	11.8	10.7	9.6
C4. Market Financing	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Threshold	10	10	10	10	10	10	10	10	10	10	10
Debt service-to-revenue ratio											
Baseline	18.2	16.6	22.0	21.9	21.2	18.0	18.4	18.6	18.1	17.1	16.0
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2020-2030 2/	18.2	16.5	20.8	20.1	19.3	16.5	17.1	18.2	19.5	20.2	20.9
B. Bound Tests											
B1. Real GDP growth	18.2	19.8	31.2	31.0	30.0	25.5	26.1	26.4	25.6	24.3	22.7
B2. Primary balance	18.2	16.6	22.1	22.1	21.6	18.4	18.8	19.6	19.9	19.3	18.3
B3. Exports	18.2	17.3	24.2	25.0	24.1	20.6	21.0	24.8	28.2	26.4	24.5
B4. Other flows 3/	18.2	16.6	23.1	24.0	23.2	19.8	20.1	25.9	29.6	27.6	25.6
B5. One-time 30 percent nominal depreciation	18.2	20.9	27.7	27.1	26.3	22.3	22.9	23.1	20.7	19.7	18.4
B6. Combination of B1-B5	18.2	18.4	27.7	27.9	27.0	23.1	23.5	29.9	30.7	28.8	26.7
C. Tailored Tests											
C1. Combined contingent liabilities	18.2	16.6	22.3	22.3	21.7	18.5	18.9	19.1	18.6	17.6	16.4
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	18.2	19.4	26.1	26.3	24.6	20.2	20.1	20.1	19.9	18.6	17.1
C4. Market Financing	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
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. Sierra Leone: Sensitivity Analysis, Public Debt, 2020-2030

	Projections 1/										
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
	PV of Debt-to-GDP Ratio										
Baseline	**58.3**	**56.4**	**55.9**	**54.7**	**52.2**	**49.3**	**45.8**	**42.0**	**37.7**	33.3	28.8
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2020-2030 2/	**58**	**59**	**60**	**60**	**59**	**58**	**54**	**51**	**47**	**44**	**41**
B. Bound Tests											
B1. Real GDP growth	**58**	**69**	**86**	**88**	**89**	**88**	**87**	**85**	**83**	**80**	**78**
B2. Primary balance	**58**	**61**	**65**	**63**	**60**	**56**	**53**	**49**	**44**	**39**	35
B3. Exports	**58**	**63**	**72**	**71**	**69**	**65**	**62**	**57**	**51**	**45**	**39**
B4. Other flows 3/	**58**	**68**	**78**	**78**	**75**	**72**	**68**	**63**	**56**	**50**	**43**
B5. One-time 30 percent nominal depreciation	**58**	**59**	**57**	**55**	**52**	**48**	**44**	**40**	35	30	25
B6. Combination of B1-B5	**58**	**61**	**64**	**59**	**57**	**55**	**51**	**47**	**43**	**38**	34
C. Tailored Tests											
C1. Combined contingent liabilities	**58**	**67**	**66**	**64**	**61**	**57**	**53**	**49**	**45**	**40**	**36**
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	**58**	**62**	**69**	**74**	**77**	**79**	**79**	**79**	**78**	**77**	**75**
C4. Market Financing	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Public debt benchmark	35	35	35	35	35	35	35	35	35	35	35
	PV of Debt-to-Revenue Ratio										
Baseline	302.1	283.8	319.1	309.8	288.4	266.2	242.4	223.6	193.6	168.6	143.6
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2020-2030 2/	302	296	341	341	330	314	293	277	250	230	211
B. Bound Tests											
B1. Real GDP growth	302	331	455	464	456	446	433	427	401	384	366
B2. Primary balance	302	307	371	357	331	305	279	258	226	199	172
B3. Exports	302	318	412	403	379	354	327	303	262	229	196
B4. Other flows 3/	302	340	448	440	415	388	360	333	288	251	216
B5. One-time 30 percent nominal depreciation	302	302	332	319	292	265	237	214	181	153	125
B6. Combination of B1-B5	302	307	364	332	313	292	268	250	219	193	167
C. Tailored Tests											
C1. Combined contingent liabilities	302	338	375	361	335	309	283	263	230	203	177
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	302	345	438	467	458	445	428	417	398	386	374
C4. Market Financing	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Debt Service-to-Revenue Ratio										
Baseline	26.3	40.2	59.7	69.8	74.3	73.3	70.3	63.6	56.9	47.7	37.8
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2020-2030 2/	26	40	65	69	73	70	65	57	49	40	32
B. Bound Tests											
B1. Real GDP growth	26	45	88	117	132	138	139	135	128	120	110
B2. Primary balance	26	40	78	103	96	87	80	70	63	53	43
B3. Exports	26	40	60	71	75	74	71	67	64	54	44
B4. Other flows 3/	26	40	61	72	76	75	72	70	67	57	46
B5. One-time 30 percent nominal depreciation	26	39	60	68	73	72	69	62	56	47	38
B6. Combination of B1-B5	26	41	63	74	82	83	81	76	69	60	50
C. Tailored Tests											
C1. Combined contingent liabilities	26	40	105	99	93	86	79	69	61	51	40
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	26	45	90	130	146	149	145	137	128	120	113
C4. Market Financing	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

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 and primary deficit in percent of GDP.

3/ Includes official and private transfers and FDI.