WORLD BANK GROUP

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# SENEGAL

## JOINT WORLD BANK-IMF DEBT SUSTAINABILITY ANALYSIS

**Approved by:**

Abebe Adugna and Manuela Francisco (IDA); Montford Mlachila and Boileau Loko (IMF)

Prepared by the staff of the International Development Association (IDA) and the International Monetary Fund (IMF)

| SENEGAL: JOINT BANK-FUND DEBT SUSTAINABILITY ANALYSIS | |
|---|---|
| **Risk of external debt distress** | Moderate[1] |
| **Overall risk of debt distress** | Moderate |
| **Granularity in the risk rating** | Limited space to absorb shocks |
| **Application of judgment** | No |

Senegal is assessed to be at moderate risk of external and overall public debt distress, with limited space to absorb shocks. However, while debt indicators generally remain below their risk thresholds under the baseline scenario, two marginal one-off breaches (the external debt service to exports ratio in 2026 and the present value of total public debt to GDP ratio in 2023) highlight the urgent need for Senegal to implement critical measures to bring external and total public debt onto a downward trajectory, as currently projected. All risk indicators breach their threshold under the sensitivity analysis. The key assumptions underpinning this assessment are (i) a boost to growth, exports, and fiscal revenues from the start of hydrocarbon production as well as (ii) implementation of a strong macro-fiscal reform program that re-anchors the government deficit at 3 percent of GDP, contains broader public sector borrowing and accelerates the structural reforms that can sustain medium-term growth at around 5 percent. Key risks which may lead to an increased risk of debt distress include failure to implement the reform program (e.g., expansion of the tax base, reduction of tax expenditures, mitigation of fiscal risks, and enhancement of debt management), further delays in hydrocarbon production, continued tightening of market financing conditions and further depreciation of the CFA. More detrimental impacts of climate change on the economy or climate spending above what is projected in the baseline are also key risks. Strengthening debt sustainability requires a prudent debt management strategy that prioritizes (i) concessional

[1] Senegal's debt carrying capacity is classified as strong, with a composite indicator of 3.15 based on the April 2023 WEO and 2021 Word Bank Country Policy and Institutional Assessment (CPIA) score. The Senegal DSA risk ratings remain unchanged compared to the previous Senegal DSA vintage (June 2022).

external borrowing to keep down interest payments, (ii) domestic regional financing to lower exchange rate risks and limit the external debt service burden, and (iii) smoothing out the debt service profile across years.

# DEBT COVERAGE

1. **This DSA uses a broad definition of public debt.** The assessment includes public and publicly guaranteed (PPG) debt held by (i) the central government, (ii) para-public entities and state-owned enterprises (henceforth SOEs) (Text Table 1).[2] The DSA uses a currency-based definition of external and domestic debt as data constraints prevent the use of a residency-based definition.[3] At end-2022, public debt under this definition stood at 76.6 percent of GDP, consisting of (i) government debt of 68.2 percent of GDP and (ii) SOE debt of 12.7 percent of GDP (of which 4.3 percent of GDP are loans from the Government to the SOE sector, which are netted out of consolidated public debt).[4]

2. **To assess risks from outside of the public debt perimeter, stress testing considers scenarios in which contingent liabilities materialize from the PPP sector and financial markets.** As per LIC DSA standard parameterization, stress testing considers a scenario in which contingent liabilities valued at 35 percent of the PPP capital stock materialize and financial sector recapitalization needs of 5 percent of GDP become due.[5]

3. **Historical public debt growth in excess of levels predicted by standard debt drivers suggests the presence of significant volatile – and on average positive – stock-flow-adjustors (SFAs) that create risks for the accuracy of public debt projections.** In the period 2011-22, changes in the debt-to-GDP ratio beyond the levels expected by recorded fiscal deficits, valuation changes due to exchange rate fluctuations and nominal GDP growth were on average annually 1.8 pp for Government debt and 1.2 percent for public sector debt (for

[2] The inclusion of para-public enterprises and SOEs began in 2017. Senegal is the only country in the WAEMU area to use such a broad definition of public debt for the DSA. The 2023 DSA for Senegal consolidates the following para-public enterprises and SOEs with the General Government: LONASE, SN LA POSTE, RTS, SN PAD, SONES, SENELEC, SN HLM, SAED, SNR, Air Senegal, SOGIP SA, SOGEPA SN, SAPCO, SODAGRI, CICES, SSPP SOLEIL, PETROSEN, SIRN, SICAP, DDD, SONACOS, MSAD, ONFP, ONAS, CNQP, OFOR, OLAG, CDC, FONSIS, AIBD, APIX, FERA, ASER, ANAM, FSE, FHS, COUD, ACMU.

[3] Debt from the regional development bank BOAD is treated as external debt starting end-2022, for consistency with other WAEMU member DSAs and remains classified as domestic debt before 2022 to maintain consistency with earlier reviews under the IMF PCI and SBA/SCF programs. As of end-2022, the stock of BOAD debt amounted to 1.1 percent of GDP. Relatedly, Senegal's SDR allocation has been on-lent by the regional Central Bank BCEAO to Senegal as a bullet loan in CFA currency and is treated as domestic debt. To capture the concessional nature of SDR on-lending, it is included in the present-value calculations of the DSA (usually PV debt figures in the DSA include the PV of external debt, but domestic debt is presented at face value).

[4] Beyond this financial debt, the Government also ended 2022 with (i) payment claims by suppliers related to the energy subsidy which were in the process of validation and in the order of CFA 405 billion (2.3 percent of GDP) and (ii) unpaid cash transfers (CFA 16 billion). The Government is projected to clear these payments in 2023 (see the financing table in this DSA). Due to data limitations, the DSA does not include arrears incurred by the SOE sector.

[5] The World Bank PPP database estimates that the PPP capital stock in Senegal stands at 10.1 percent of GDP. Under the FY23 Sustainable Development Finance Policy (SDFP) Performance and Policy Actions (PPAs), the Word Bank supported the government's efforts in implementing the recently passed PPP Decree No 2021-1443 through the publication of a database on new PPPs. The FY23 PPAs under the SDFP also support the government in developing a methodology for provisioning for the main fiscal risks in the 2024 budget.

years available).[6] SFAs for Government debt dynamics in part reflect an intricate web of financial transactions between the Government and SOEs.[7] But beyond this, the presence of large and on average positive SFAs – which sometimes cannot clearly be explained - suggests lack of transparency regarding above-the-line fiscal and below-the-line financial transactions and statistical weaknesses that can undermine public debt projections, since the latter are based on identified debt drivers.[8]

### Text Table 1. Coverage of Public Sector Debt and Design of the Contingent Liability Stress Test

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

| | | | | | |
|---|---|---|---|---|---|
| 1 | The country's coverage of public debt | The entire public sector, including SOEs | | | |
| | | Default | | Used for the analysis | Reasons for deviations from the default settings |
| 2 | Other elements of the general government not captured in 1. | 0 | percent of GDP | 0.0 | |
| 3 | SoE's debt (guaranteed and not guaranteed by the government) 1/ | 2 | percent of GDP | 0.0 | Already included in definition of government debt |
| 4 | PPP | 35 | percent of PPP stock | 3.53 | |
| 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) | | | 8.5 | |

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

**4. The authorities are taking steps to strengthen the quality and coverage of public debt data.** An audit of the quality and coverage of the public debt database did not identify major weaknesses, but noted risks related to the timeliness and reliability of SOE debt data. The authorities are following through on an action plan to address these deficiencies. The national debt committee (CNDP), chaired by the Minister of Finance, reviews all large public investment decisions, including those by SOEs. However, ongoing vigilance is required to ensure that the framework is consistently followed in practice.[9] A recent circular and decree to reinforce the regular and timely provision of debt data by SOEs is starting to bear fruit, enhancing the debt authorities' visibility on the wider perimeter of debt. On the fiscal side, government data are compiled in accordance with the classification of GFSM2001.[10]

[6] The presence of large – and on average positive – SFAs is endemic across the WAEMU region. See the [WAEMU 2023 Selected Issues paper (March 7, 2023)](#).

[7] For instance, in 2022 the Government transferred property to SOGEPA (an SOE), which used the property as collateral to issue a Sukuk and thereby financed the SOE's purchase of the property from the Government. The airport operator AIBD (a SOE) received bridge financing from the Government.

[8] A key statistical weakness for public sector debt projections is that Senegal does not yet publish a consolidated above-the-line and below-the-line representation of public sector transactions. Instead, for public debt DSAs, the public sector fiscal balance is estimated, based on the government fiscal balance and reported below-the-line transactions, as well as reported investments of major SOEs. The Government is currently developing a consolidated public sector representation of above-the-line and below-the-line transactions (public sector TOFE), which will help address this statistical weakness and is expected to help reduce SFAs that cannot be explicitly explained.

[9] For instance, the CFAF 330 billion Sukuk issued by the SOGEPA SOE in 2022 did not go through the regular CNDP procedures.

[10] Ongoing capacity development initiatives supported by the IMF continue to assist Senegal authorities in migrating to the GFSM2014 framework and improving the overall quality of government finance statistics.

# BACKGROUND

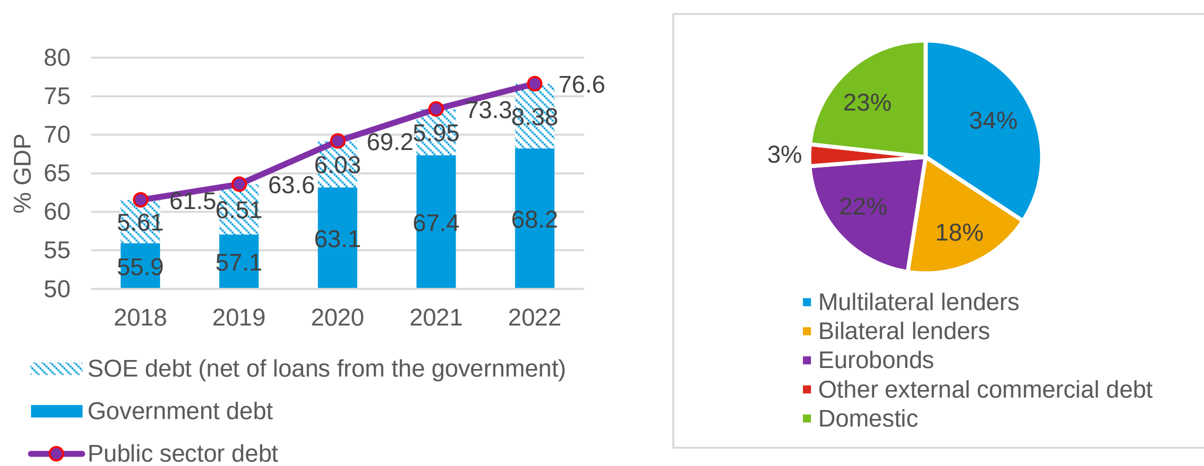
5. **Public sector debt levels have increased significantly in recent years.** The fiscal response to the COVID-19 pandemic led to a surge in public debt of about 10 percentage points, from 63.6 percent of GDP at end-2019 to 73.3 percent of GDP as of end-2021. In 2022, public debt further increased to 76.6 percent of GDP, given (i) still large government deficits, (ii) significant debt-financed investments in the SOE sector, including through Petrosen's spending to launch Senegal's hydrocarbon sector, as well as (iii) depreciation of the CFA vis-à-vis key currencies like the US dollar, which led to revaluation of the CFA value of outstanding external debt.[11]

6. **The composition of public sector debt is evolving.** The share of external debt fell from 81.4 percent in 2018 to 73.7 percent in 2022, reflecting the Government's debt management priority to reduce foreign exchange rate risks and develop domestic financial markets. At the same time, the share of SOE debt relative to consolidated public sector debt increased from 12.4 percent in 2018 to 16.6 percent in 2022, including due to significant investments executed by the SOE sector in this period linked to the hydrocarbon, transport, and real estate sectors. The government debt (which made up 89.1 percent of total public debt at end-2022) is at 68.2 percent of GDP and therefore remains below – but is gradually approaching - the 70 percent of GDP ceiling for the WAEMU region. At end-2022, the largest sources of government debt were multilateral institutions, domestic issuances and Eurobonds (Text Figure 1).

Text Figure 1. Public Sector Debt Characteristics

Total Public Sector Debt
(Percent of GDP)

Central Government Debt
(Percent of total, 2022 data)




Sources: Senegalese authorities and IMF staff calculations.

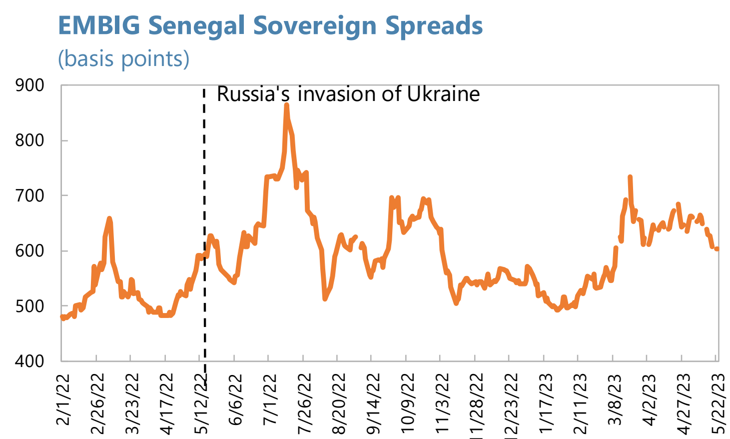
7. **The build-up of public debt implies that debt servicing needs are significant.** For 2023, the forecasted external Public and Publicly Guaranteed (PPG) debt service is 19.1 percent of exports (LIC DSA threshold for country with strong debt carrying capacity: 21) or 18.8 percent of public sector revenues (LIC DSA

[11] The previous 2022 DSA for Senegal projected public sector debt of 75.1 percent of GDP at end-22. As such, public debt was slightly larger than projected. A key driver was larger than forecast debt creation in the SOE sector.

threshold: 23). The total PPG debt service is 30.5 of revenues.[12] To service existing debt, Senegal plans to increase its domestic market issuances.

**8. Both external and domestic financing conditions have deteriorated, given global monetary tightening.** Eurobond annual interest rates for Senegal have increased to around 10 percent, reflecting higher global policy rates and a significant spread of over 600 basis points for Senegal (Text Figure 2). On the regional WAEMU CFA market, the BCEAO has increased policy rates by 100 basis points and, in early 2023, shifted towards an auction-based system of rationing liquidity for the regional banks, which has in turn reduced the ability of the regional market to absorb government debt issuances.

Text Figure 2. Financing Conditions




Sources: Bloomberg and IMF staff calculation.

# BASELINE SCENARIO

**9. The macroeconomic baseline scenario assumes continued growth fueled by (i) the start of hydrocarbon exploration and (ii) determined implementation of economic reforms**. Relative to the 2022 DSA, the updated macroeconomic projections reflect delays in the start of hydrocarbon extraction into 2024, slippages in the speed of fiscal consolidation in 2022, tighter financing conditions and further depreciation of the CFA (and Euro) vis-à-vis the US dollar. The main macroeconomic assumptions are as follows (text table 3):

- **Real GDP Growth.** Senegal's real GDP growth rate is estimated to be 5.3 percent in 2023, compared to 8.3 percent in the previous DSA, reflecting (i) slower than previously anticipated growth in the non-oil sector, including due to tightening of WAEMU monetary policy and slower growth on global markets, as well as (ii) delays in the start of production in the hydrocarbon sector to 2024. Domestic consumption and private investment will be the primary drivers of growth in 2023. In 2024 and 2025, growth will pick up to 10.6 and 7.4 percent respectively, while non-hydrocarbon GDP will remain robust at around 6

[12] Senegal participated in the G-20 Debt Service Suspension Initiative (DSSI). The DSSI was a NPV neutral exercise intended to provide eligible members with liquidity relief to allow them to focus more resources on responding to the COVID-19 pandemic. The DSSI provided around CFAF 30 billion in debt service relief (0.2 percent of GDP) over May-December 2020 and CFAF 71 billion (0.5 percent of GDP) in 2021. Deferred payments will be made over 2022–27 and average about CFAF 17 billion per year.

percent[13]. Long run growth is still expected to average about 5 percent, as long-term assumptions remain unchanged compared to the last DSA.[14] Climate change is expected to weigh on long run productivity growth in key sectors, such as agriculture, despite assumed adaptation actions by the government and private sector. Uncertainty about the physical impacts of climate change on the economy is high.

- **GDP deflator.** After the inflation spike of 2022, the GDP deflator is expected to moderate in 2023 to 3.2 percent. Over the medium term, the GDP deflator is expected to return to an average of 2 percent.
- **Public sector primary deficit.** The public sector primary deficit—which includes both the central government deficit and the net lending and borrowing of SOEs—is estimated to be at 4.3 percent of GDP in 2023. This increase over the previous DSA mainly reflects the higher projected fiscal deficit for the central government as well as further expected investments in the SOE sector (including for hydrocarbon, transport and real estate investments). In the medium term, the government fiscal deficit is projected to converge to the regional target of 3 percent of GDP (as in the previous DSA, supported by the unwinding of commodity subsidies and enhanced revenue-mobilization) and SOE sector deficits are projected to moderate (including as hydrocarbon investments are completed). Climate-change related public spending is assumed to be accommodated within this government balance target, though uncertainty about climate-related spending needs remains high at the current juncture.
- **Public sector revenues.** Public sector revenues are estimated at 28.8 percent of GDP in 2022. Projections assume a gradual increase to about 32.1 percent of GDP by 2025, driven by the medium-term revenue strategy (MTRS) reforms focusing on expanding the tax base and reducing tax expenditures. This will be supported by tax policy measures under the ECF/EFF pillar I. Hydrocarbon revenues are also expected to contribute to the reduction of the fiscal deficit.
- **Current account deficit and exports.** The baseline scenario assumes a current account deficit of about 13.3 percent in 2023, an increase since the previous DSA, primarily reflecting delays in the start of hydrocarbon production and higher import prices. Compared to 2022, the improvement of the current account balance deficit will be driven by (i) higher exports, including due to the normalization of Mali's situation[15], (ii) the impact of gradually declining import prices and (iii) lower services (in part reflecting lower oil-related services) due to delayed oil production. In the projection period, the current account deficit is projected to sharply decline and hover around 3 percent of GDP as oil and gas exports[16] come online (boosting exports and reducing investment-related imports), with a gradual recovery in tourism also contributing. Globally, hydrocarbon revenues' contribution to the budget will be 0.7 percent of GDP on average per year over 2023-2026.

[13] Pre-COVID-19 pandemic, real GDP growth averaged 6.2 percent during 2014-19.

[14] The methodology to project the impact of oil and gas production on real GDP is unchanged compared to the June 2022 DSA using an expenditure-side approach.

[15] The national oil refinery company is an important provide of fuel to Mali. In our framework (based on BCEAO volume data), average total export in the region (including Mali) were about 1.3 million of tons in the three years preceding the introduction of sanctions to Mali at end-2021; these exports declined by almost 20% in 2022 (to about 1 million of tons) as a consequence. We project these export volumes to go back to pre-sanctions level in 2024 (about CFAF 660 nm).

[16] Oil and gas exports are valued at WEO prices, compared with the June 2022 Senegal DSA where they were valued at an historic constant prices of 60 dollars per barrel (or barrel equivalent).

Text Figure 3. Government Financing Plan for 2023

| (bn CFA) | 2023 |
|---|---|
| **Financing needs** | **2645.2** |
| **CG Fiscal Deficit** | **919.7** |
| **Amortizations** | **1269.6** |
| **OPEX** | **30.0** |
| **Transfers to SOEs** | **279.8** |
| **Arrears clearance (below the line)** | **146.0** |
| Energy subsidy carry-over | 130.0 |
| Cash transfer carry-over | 16.0 |
| **Financing sources** | **2645.2** |
| **External (in USD/EUR/other)** | **1739.3** |
| **Budget support loans** | **821.7** |
| IMF | 438.2 |
| BAD | 92.1 |
| WB | 188.2 |
| AFD | 72.2 |
| Japan | 31.0 |
| **Project loans** | **435.6** |
| **External commercial borrowing** | **482.0** |
| Eurobonds | 0.0 |
| Syndications with international banks | 482.0 |
| **Domestic/Regional (in CFA)** | **905.9** |
| 1-3 Years | 436.2 |
| 4-7 Years | 339.8 |
| Beyond 7 years | 129.9 |

Memo: The Government rolls over 100m treasuries not in financing table. The government financing plan is based on the contracted amortization schedule.

| | |
|---|---|
| Share of external financing from the IMF (%) | 25.2 |
| Share of external budget support from the IMF (%) | 53.3 |
| Share of total financing from official sources (%) | 47.5 |
| Share of total financing from external sources (%) | 65.8 |
| Share of CFA financing in Senegal (%) | 40.0 |

Source: Senegalese Authorities and IMF Staff

Text Figure 4. Evolution of Selected Macroeconomic Indicators

| | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | Medium Term (/1) | Long term (/2) |
|---|---|---|---|---|---|---|---|---|---|
| Real GDP growth | | | | | | | | | |
| Current DSA | 4.0 | 5.3 | 10.6 | 7.4 | 4.8 | 5.1 | 4.4 | 6.3 | 5.0 |
| Previous DSA (/3) | 5.0 | 8.3 | 10.9 | 4.8 | 5.0 | 5.1 | 6.2 | 6.7 | 5.0 |
| GDP deflator (percentage change) | | | | | | | | | |
| Current DSA | 8.6 | 3.2 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.2 | 2.0 |
| Previous DSA | 5.5 | 3.1 | 2.0 | 2.0 | 2.0 | 2.0 | 1.5 | 2.1 | 1.5 |
| Public Sector primary fiscal deficit (percent of GDP) (/4) | | | | | | | | | |
| Current DSA | 4.3 | 4.2 | 1.2 | 0.5 | 0.5 | 0.4 | 0.1 | 1.2 | 0.2 |
| Previous DSA | 4.9 | 2.5 | 0.7 | 0.7 | 0.7 | 0.6 | 0.5 | 0.9 | 0.6 |
| Public Sector revenues (percent of GDP) (/4) | | | | | | | | | |
| Current DSA | 28.8 | 30.3 | 30.6 | 32.1 | 32.6 | 32.5 | 32.3 | 31.7 | 32.9 |
| Previous DSA | 29.7 | 30.2 | 30.6 | 31.4 | 31.4 | 31.4 | 31.4 | 31.1 | 31.4 |
| Current account deficit (percent of GDP) | | | | | | | | | |
| Current DSA | 19.9 | 13.3 | 6.1 | 4.2 | 3.8 | 3.7 | 5.3 | 6.1 | 3.0 |
| Previous DSA | 13.2 | 8.8 | 4.2 | 4.1 | 4.0 | 4.6 | 5.1 | 5.1 | 4.4 |
| Exports of goods and services (percent of GDP) | | | | | | | | | |
| Current DSA | 26.8 | 28.4 | 30.8 | 30.3 | 29.8 | 29.7 | 30.2 | 29.9 | 30.7 |
| Previous DSA | 25.0 | 26.5 | 30.6 | 30.0 | 28.9 | 28.3 | 27.1 | 28.6 | 30.2 |

Source: Senegalese Authorities; IMF staff calculations
(/1) 2023-28
(/2) 2028-42
(/3) 5th PCI Review and 2nd SBA/SCF Review (June 2022)
(/4) Includes General Government and state-owned enterprises.

**10. While disruptions on the WAEMU financial markets are forcing Senegal to temporarily make increased use of external financing in 2023, the DSA assumes that the authorities will resume their prudent borrowing strategy from 2024 onwards, reducing their reliance on external borrowing as the absorption capacity of the WAEMU financial market improves.** Given global and WAEMU monetary tightening, as well as a switch to an auction-based liquidity allocation system in the WAEMU which has disrupted the local banking market, regional CFA financing is restricted in 2023. The Government has therefore been forced to turn to external non-CFA financing from official and commercial sources to finance the general budget and investment projects, accessing CFA borrowing only at low maturities and at the low volumes that the regional market is able to absorb. However, as regional market conditions are assumed to gradually normalize from 2024 onwards, the DSA projects that Senegal will resume implementing its prudent borrowing strategy – focusing on domestic CFA financing to limit the future external debt service. In terms of external borrowing, Senegal is assumed to focus on external concessional and semi-concessional finance from multilateral and bilateral donors at the average rate of annually around US$0.8 billion over the forecast horizon. This includes a new proposed IMF EFF-ECF and RSF program. It also includes substantial World Bank financing support of annually USD 0.4bn on average in the period 2023-28—expected to remain at similar levels over the long term.[17] After 2023, external commercial borrowing, including Eurobond issuances, is assumed to be restrained to better manage the external

[17] This includes IDA 20 loans under the new Short Maturity Loans financing terms, with a grant element of 36 percent.

debt service burden. The DSA continues to assume that, in the medium term, the authorities will proceed with implementing their medium-term debt strategy, increasing their reliance on domestic issuances – thereby reducing their exchange rate risk and lowering borrowing costs – and broadening the maturity spectrum of issuances - thereby reducing rollover risks. A key assumption underlying the DSA financing plan assumptions is that the regional CFA market normalizes by the end of 2023 – and that the WAEMU CFA market then resumes gradually maturing and deepening over the projection period.

11. **Terms for new borrowing in the projection period reflect tight conditions on financial markets.** In line with current secondary market data from Senegal's existing Eurobonds, yields on new Eurobonds have been benchmarked at an interest rate of 10 percent. Other commercial lending in foreign currency has been adjusted accordingly. Equally, given the abovementioned tightening financing conditions on the domestic market, the DSA has benchmarked domestic rates based on recent Government issuances (a 3-year CFA bond was issued at 6.9 percent in February 2023). Interest rates on domestic markets are forecast to partially normalize in 2024 onwards, as the regional banking system adapts to the new WAEMU liquidity regime. External official loans remain a significant source of financing for Senegal during the projection period and lending terms for these loans are estimated to be less responsive to tighter global financing conditions, reducing the extent to which Senegal's external and public debt dynamics respond to tighter commercial financing conditions.

12. **The DSA reflects how debt dynamics have been impacted by the significant 2022 depreciation of the CFA, which is fixed to the Euro, in particular vis-à-vis the US dollar.** Relative to the 2022 DSA, this new DSA reflects sharper than anticipated further depreciation of the CFA vis-à-vis the US dollar in 2022, which is expected to carry through into the projection period. This effect increases the CFA value of the US dollar denominated debt stock at end-2022. The impact of the depreciation on future debt service payments depends on the currency studied. Given a significant share of public sector debt is denominated in Euros (at end-22, 53.3 percent of external government debt was denominated in Euros), the depreciation lowers the US dollar value of external debt service payments during the projection period. However, in terms of CFA, debt service costs increase for the future debt service payments due in US dollars - though the effect is muted by the comparatively small share of US dollar debt (at end-22, 33.6 percent of external government debt was denominated in US dollars).

13. **The realism tools suggest that the proposed fiscal adjustment path is ambitious, but staff believe it is possible under the circumstances.** The assumed primary balance adjustment path is in the top quartile of the historical distribution for LICs (Figure 4). In the case of Senegal, a significant portion of the adjustment would reflect an unwinding of the fiscal costs of energy subsidies over the medium-term, consistent with the roadmap agreed as part of the program. The robust implementation of the authorities' medium-term revenue strategy is also required to achieve this target. Separately, the projected economic growth rates in 2023 are above the range of potential growth paths under various fiscal multipliers, but the expected growth from hydrocarbon projects is not captured by the exercise. The share of government investment and the contribution of investment to growth are in line with benchmarks (Figure 4), while higher than historical non-investment growth contribution is driven by the COVID recovery and the onset of oil and gas exports. In terms of historical forecast errors, the large residual is the result of the one-off expansion of the public debt perimeter in 2017 to include state-owned enterprises (Figure 3).

# COUNTRY CLASSIFICATION AND DETERMINATION OF STRESS TEST SCENARIOS

14. **Senegal's debt carrying capacity remains strong.** Senegal's Composite Indicator (CI) is 3.15 - a marginal decrease from the CI of 3.25 in the June 2022 DSA. Since Senegal remains above the CI threshold of 3.05, its debt carrying capacity continues to be assessed as strong. This assessment affects the thresholds used to calculate the mechanical external debt risk ratings.

Text Figure 5. Debt Carrying Capacity

| | |
|---|---|
| **Country** | Senegal |
| **Country Code** | **722** |

| | |
|---|---|
| **Debt Carrying Capacity** | **Strong** |

| Final | Classification based on current vintage | Classification based on the previous vintage | Classification based on the two previous vintage |
|---|---|---|---|
| Strong | Strong<br>3.15 | Strong<br>3.18 | Strong<br>3.25 |

| APPLICABLE | |
|---|---|
| **EXTERNAL debt burden thresholds** | |
| **PV of debt in % of** | |
| **Exports** | 240 |
| **GDP** | 55 |
| **Debt service in % of** | |
| **Exports** | 21 |
| **Revenue** | 23 |

| APPLICABLE | |
|---|---|
| **TOTAL public debt benchmark** | |
| PV of total public debt in percent of GDP | 70 |

Source: IMF staff estimates

15. **The standard stress tests have been applied, along with a market financing shock.** The use of a tailored stress test for market financing reflects Senegal's outstanding Eurobonds. The test assumes a temporary increase in the cost of new commercial external borrowing by 400 basis points, a nominal depreciation of the CFAF relative to the US dollar, and a shortening of maturities and grace periods.

# EXTERNAL DSA

16. **External debt indicators generally remain below their thresholds under the baseline scenario – except for a one-off marginal breach in 2026 for the debt-service-to-exports indicator (Figure 1).** The ratios of (i) present value of external debt relative to GDP and (ii) external debt service relative to exports are close to the risk threshold in the first year of the baseline projection. The external debt service to exports ratio marginally breaches the risk threshold in 2026 with Eurobond amortizations coming due, but this risk signal can be discounted given a one-off breach in the outer years of the assessment period. The present value of debt declines, driven by growth and a declining non-interest current account deficit. The ratio of debt service to exports (as well as the present value of external debt to exports) declines given projected growth of exports, including as oil and gas projects come online. The external debt service to revenues ratio remains below the risk thresholds throughout the projection period.

**17. All four external debt risk indicators breach their threshold under the sensitivity analysis.** For the present value of debt-to-GDP ratio and the debt service-to-revenue ratio, the most extreme shock is a combination shock. For the two export-related indicators, the most extreme shock is a shock to exports (in which USD export growth for the first two years of the projection period are one standard deviation lower than the forecast or the historical average, whichever is lower). Overall, these results point to vulnerabilities to Senegal's debt profile under adverse conditions, including a slower external demand or a significant downgrade in the expected output of the hydrocarbon sector. The breaches from the stress tests result in an external debt distress risk rating of Moderate. A key difference between the baseline and the historical scenario (which would result in sharp increases in all four indicators) is the improvement in non-interest current account deficit, reflecting prospective hydrocarbon exports under the baseline.

**18. The market financing risk indicators point to high risk of potentially heightened liquidity needs.** Senegal's spreads have widened, reflecting the tightening of global financial conditions. Upcoming financing needs are large, including to refinance Senegal's debt stock. This result suggests that Senegal could have potential market financing vulnerabilities. An active debt management strategy that smooths out future debt service peaks would help reduce this risk.

# OVERALL RISK OF PUBLIC DEBT DISTRESS

**19. Total public debt indicators generally remain below their thresholds under the baseline scenario – except for a one-off marginal breach in 2023 for the Present Value of Public Debt to GDP ratio (Figure 1).** Total public debt is projected to peak in 2023 before gradually declining due to fiscal consolidation and favorable interest rate-growth dynamics (Table 2). The present value of public debt to GDP marginally breaches the risk threshold in 2023 under the baseline scenario, but this risk signal can be discounted given a one-off marginal breach and given benign subsequent debt dynamics (gradually declining PV of public debt to GDP to below 60 over the medium-term). The present value of debt to revenues is also projected to gradually decline. Debt service is projected to remain substantial, averaging more than 30 percent of total revenues and grants over the next five years.

**20. Stress tests indicate that Senegal is most vulnerable to a growth shock.** Under the standard growth shock (in which GDP growth for the first two years of the projection period are one standard deviation lower than the forecast or the historical average, whichever is lower), all three public debt indicators would be set on an explosive growth path. This represents an extreme shock, one that ignores the expected growth impact of hydrocarbon production. Nevertheless, it underscores the importance of reforms to strengthening Senegal's resilience by building fiscal space and enhancing its medium-term growth potential. The breaches under the stress tests result in a public sector debt distress risk rating of Moderate.

# RISK RATING AND VULNERABILITIES

**21. Senegal remains at moderate risk of external debt distress, with limited space to absorb shocks** (Figure 6). Senegal is considered to have "limited space to absorb shocks" because the realization of the median observed shock is expected to result in a downgrade to high risk of debt distress. While debt indicators generally remain below their risk thresholds under the baseline scenario, two marginal one-off breaches (the external debt service to exports ratio in 2026 and the present value of total public debt to GDP ratio in 2023) highlight the urgent need for Senegal to bring external and total public debt onto a downward trajectory. Senegal's vulnerability to growth and export shocks, combined with heightened uncertainty over the global economic outlook, points to the need for a balanced approach that combines near-term fiscal support targeted to the most vulnerable segments of the population with medium-term debt sustainability. The authorities should aim to return to the regional deficit target, complemented with reforms to contain fiscal risks and enhance debt management.

**22. Senegal's overall risk of debt distress also remains moderate.** Given elevated debt service, the authorities should prioritize further efforts to mobilize additional domestic revenues and seek out concessional borrowing in the near term.

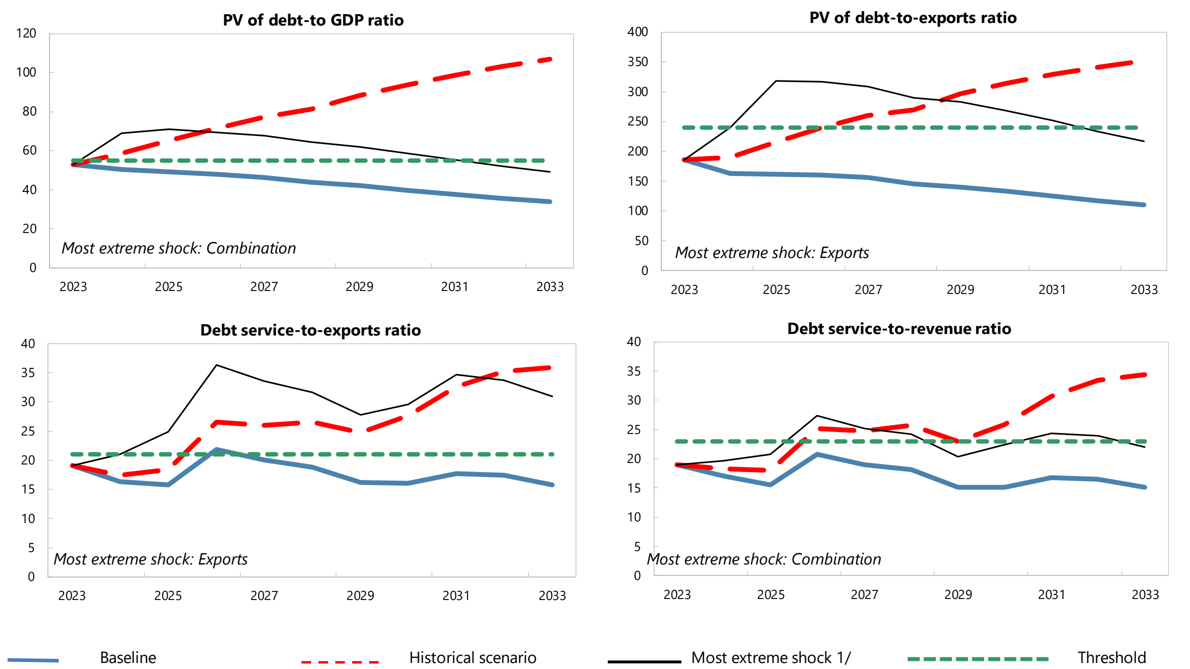
**23. There are significant risks to the assessment.** On the downside, further delays in hydrocarbon production would hurt the economic foundation for repayment of external and public debt. Equally, in light of Presidential elections in 2024, further fiscal slippages on-budget or in the SOE sector could further push up public debt levels. Further deterioration in global commodity prices could delay the phase out of costly food and energy subsidies, delaying fiscal consolidation. Tight external and domestic financing conditions highlight (i) risks from higher interest rates for refinancing debt and (ii) potential liquidity risks if markets seize up. The external debt service burden could rise further if the absorption capacity of the WAEMU regional market does not further recover from 2024 onwards, forcing Senegal to draw on more external borrowing than currently planned in the DSA baseline. More detrimental impacts of climate change on the economy or climate spending above what is projected in the baseline are also key risks for Senegal's outlook. On the upside, determined implementation of structural reforms and the recovery of tourism could support growth more than projected.

**24. A prudent borrowing strategy needs to leave space for further downside risks to materialize.** This will require exercising some restraint in terms of new borrowing initiatives, focusing on concessional and domestic regional financing and continued efforts to strengthen debt management. Active debt management will be needed to manage potential financing risks from maturing Eurobonds in the medium-term. Fiscal policy should seek to increase fiscal space over the medium-term to provide space to respond to future shocks by enhancing the revenue base and gradually eliminating costly subsidies to food and energy over the medium-term.

## AUTHORITIES' VIEWS

**25. The authorities agree with the conclusions of the debt sustainability assessment.** They confirm that -as soon as the CFA regional market allows – they will resume their debt management strategy to gradually shift government debt towards the domestic CFA market, including to limit Senegal's future external debt service burden. They will actively consider debt management operations to smooth out the external debt service profile.

## Figure 1. Senegal: Indicators of Public and Publicly Guaranteed External Debt Under Alternative Scenarios




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

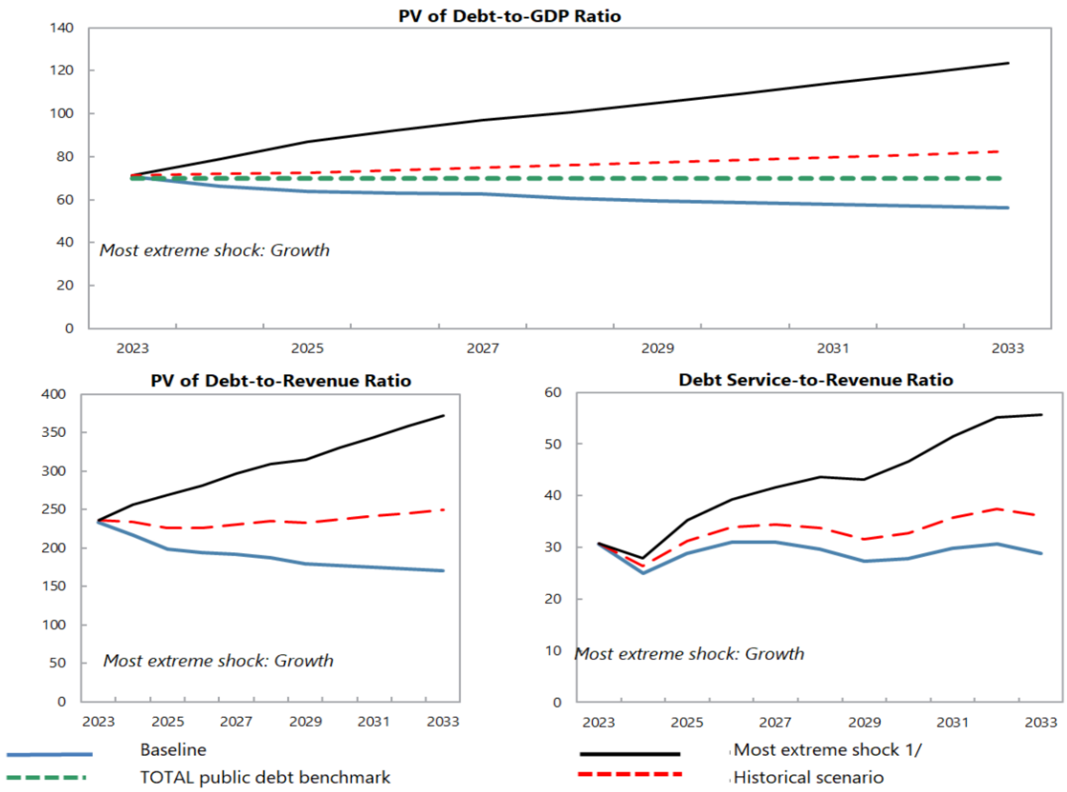
Note: "Yes" indicates any change to the size or interactions of the default settings for the stress tests. "n.a." indicates that the stress test does not apply.

| 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 | 5.4% | 5.4% |
| USD Discount rate | 5.0% | 5.0% |
| Avg. maturity (incl. grace period) | 16 | 16 |
| Avg. grace period | 5 | 5 |

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

Sources: Country authorities; and staff estimates and projections.
1/ The most extreme stress test is the test that yields the highest ratio in or before 2033. The stress test with a one-off breach is also presented (if any), while the one-off breach is deemed away for mechanical signals. When a stress test with a one-off breach happens to be the most exterme shock even after disregarding the one-off breach, only that stress test (with a one-off breach) would be presented.

Figure 2. Senegal: Indicators of Public Debt Under Alternative Scenarios

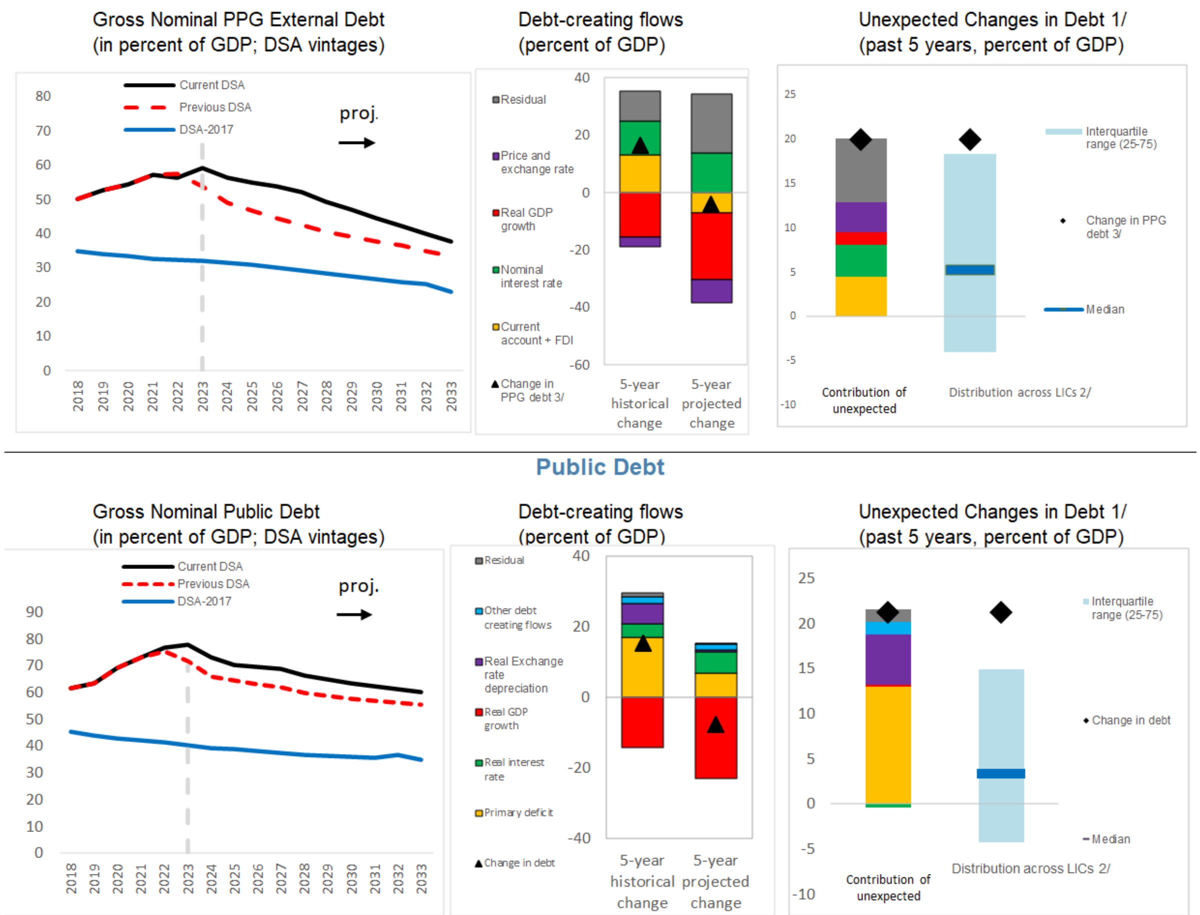



| Borrowing assumptions on additional financing needs resulting from the stress tests* | Default | User defined |
|---|---|---|
| **Shares of marginal debt** | | |
| **External PPG medium and long-term** | 53% | 53% |
| **Domestic medium and long-term** | 43% | 43% |
| **Domestic short-term** | 5% | 5% |
| **Terms of marginal debt** | | |
| **External MLT debt** | | |
| **Avg. nominal interest rate on new borrowing in USD** | 5.4% | 5.4% |
| **Avg. maturity (incl. grace period)** | 16 | 16 |
| **Avg. grace period** | 5 | 5 |
| **Domestic MLT debt** | | |
| **Avg. real interest rate on new borrowing** | 3.5% | 3.5% |
| **Avg. maturity (incl. grace period)** | 5 | 5 |
| **Avg. grace period** | 2 | 2 |
| **Domestic short-term debt** | | |
| **Avg. real interest rate** | 2.8% | 2.8% |

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

Sources: Country authorities; and staff estimates and projections.
1/ The most extreme stress test is the test that yields the highest ratio in or before 2033. The stress test with a one-off breach is also presented (if any), while the one-off breach is deemed away for mechanical signals. When a stress test with a one-off breach happens to be the most exterme shock even after disregarding the one-off breach, only that stress test (with a one-off breach) would be presented.

### Figure 3. Senegal: Driver of Debt Dynamics—Baseline Scenario



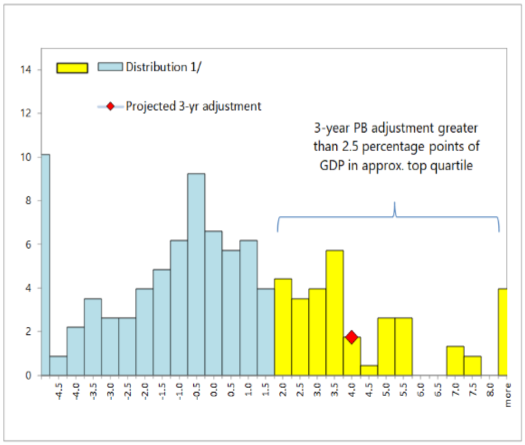

1/ Difference between anticipated and actual contributions on debt ratios.

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

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

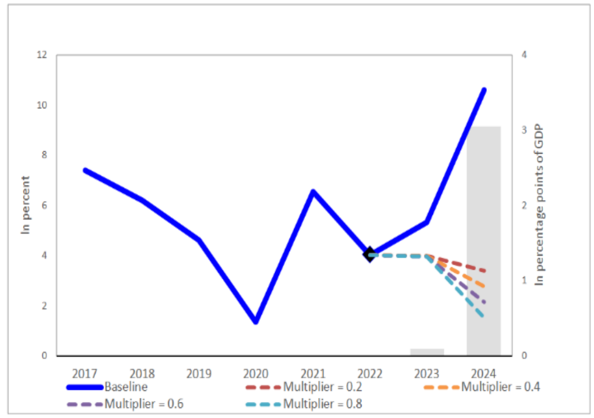
## Figure 4. Senegal: Realism Tools

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



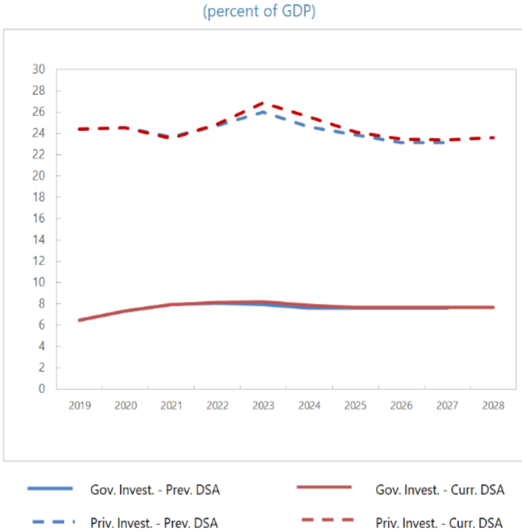

1/ Data cover Fund-supported programs for LICs (excluding emergency financing) approved since 1990. The size of 3-year adjustment from program inception is found on the horizontal axis; the percent of sample is found on the vertical axis.

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




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

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




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

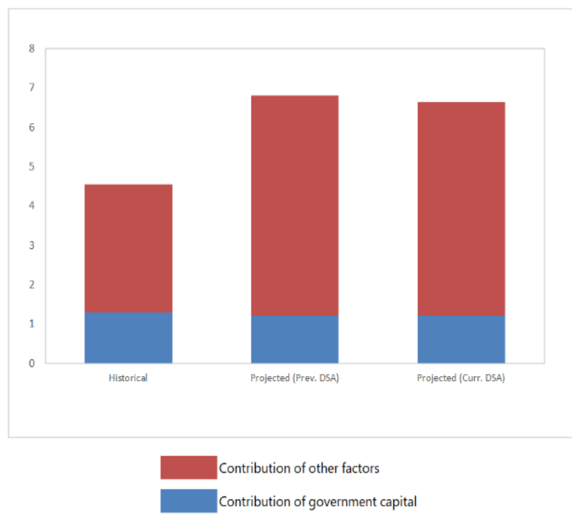
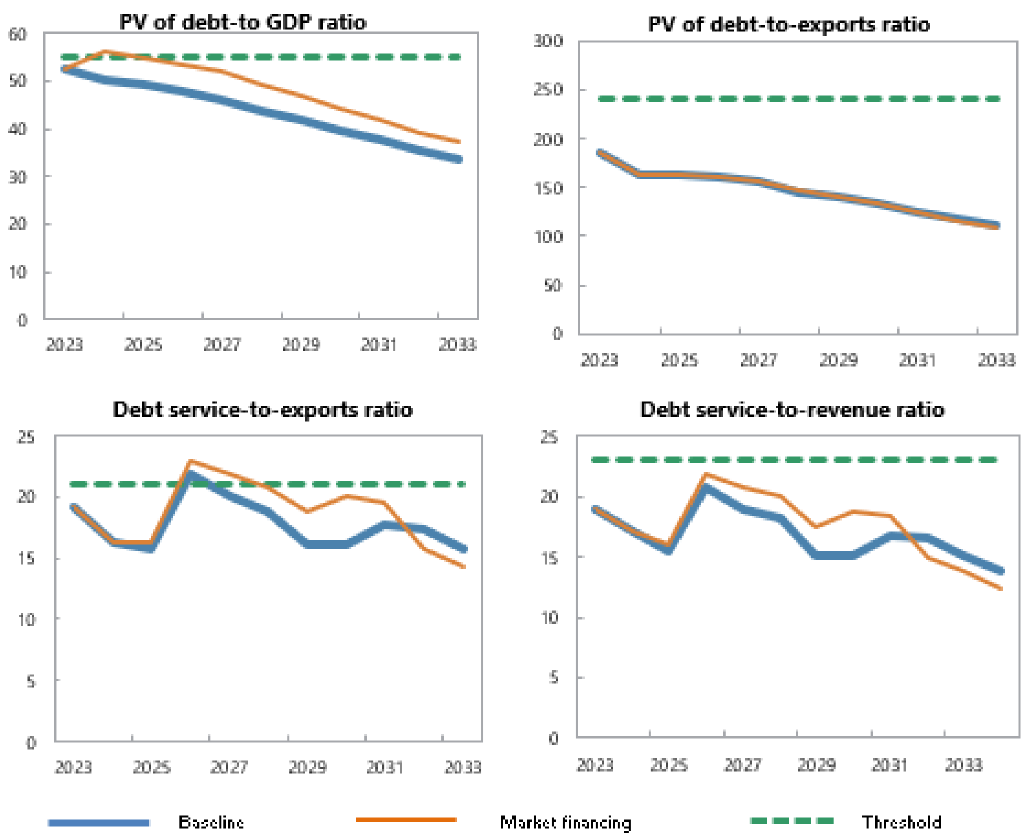


Figure 5. Senegal: Market-Financing Risk Indicators

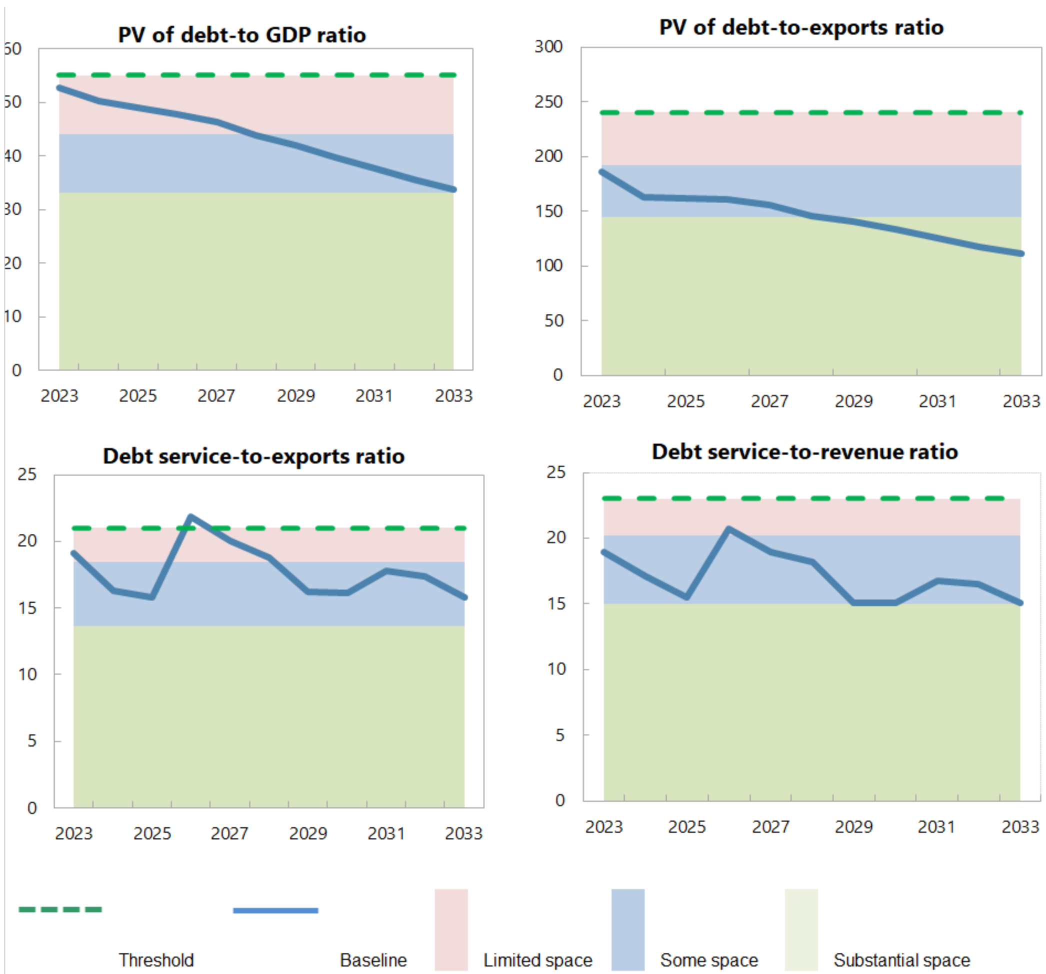
| | GFN 1/ | EMBI 2/ |
|---|---|---|
| Benchmarks | 14 | 570 |
| Values | 14 | 637 |
| Breach of benchmark | Yes | Yes |
| Potential heightened liquidity needs | High | |

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




Sources: Country authorities; and staff estimates and projections.

### Figure 6. Senegal: Qualification of the Moderate Risk Category[1]



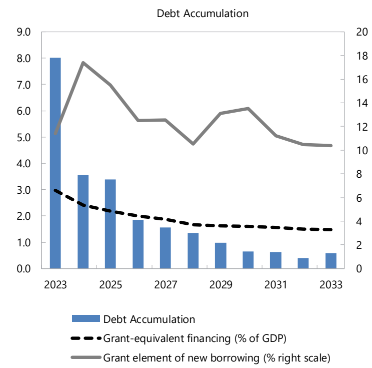

Sources: Country authorities; and staff estimates and projections.

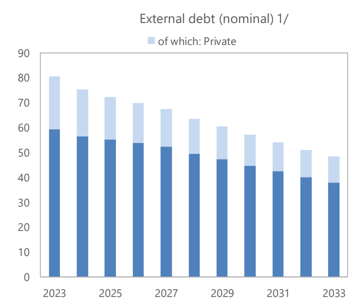
1/ For the PV debt/GDP and PV debt/exports thresholds, x is 20 percent and y is 40 percent. For debt service/Exports and debt service/revenue thresholds, x is 12 percent and y is 35 percent.

## Table 1. Senegal: External Debt Sustainability Framework, Baseline Scenario
### (Percent of GDP unless otherwise indicated)

| | Actual | | | Projections | | | | | | | | Average 8/ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2033 | 2043 | Historical | Projections |
| **External debt (nominal) 1/** | **76.0** | **74.4** | **78.2** | **80.4** | **75.1** | **72.2** | **69.8** | **67.3** | **63.4** | **48.3** | **23.7** | **65.4** | **63.5** |
| ***of which: public and publicly guaranteed (PPG)*** | **54.4** | **57.2** | **56.4** | **59.3** | **56.5** | **55.1** | **53.8** | **52.3** | **49.4** | **37.9** | **23.7** | **43.3** | **48.9** |
| Change in external debt | 3.3 | -1.6 | 3.8 | 2.3 | -5.3 | -3.0 | -2.3 | -2.5 | -3.9 | -2.7 | -8.2 | | |
| **Identified net debt-creating flows** | **-0.4** | **-5.7** | **9.9** | **3.0** | **-6.5** | **-5.3** | **-3.8** | **-3.8** | **-1.4** | **-3.0** | **-2.7** | **2.2** | **-3.4** |
| **Non-interest current account deficit** | **7.8** | **8.8** | **17.6** | **10.8** | **3.3** | **1.5** | **0.9** | **0.8** | **2.5** | **0.8** | **1.1** | **7.2** | **1.9** |
| Deficit in balance of goods and services | 18.6 | 18.7 | 26.0 | 20.5 | 12.3 | 10.2 | 9.7 | 9.6 | 11.0 | 8.7 | 7.4 | **16.2** | **10.5** |
| Exports | 20.7 | 24.6 | 26.8 | 28.4 | 30.8 | 30.3 | 29.8 | 29.7 | 30.2 | 30.4 | 30.6 | | |
| Imports | 39.3 | 43.3 | 52.7 | 48.9 | 43.1 | 40.5 | 39.5 | 39.3 | 41.2 | 39.1 | 38.0 | | |
| Net current transfers (negative = inflow) | -10.2 | -10.3 | -9.6 | -9.7 | -8.8 | -8.6 | -8.6 | -8.5 | -8.4 | -8.2 | -7.6 | **-9.6** | **-8.5** |
| *of which: official* | -1.2 | 0.1 | 0.2 | -0.2 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -0.1 | | |
| Other current account flows (negative = net inflow) | -0.6 | 0.3 | 1.2 | -0.1 | -0.2 | -0.1 | -0.3 | -0.3 | -0.2 | 0.3 | 1.2 | **0.7** | **-0.1** |
| **Net FDI (negative = inflow)** | **-7.1** | **-8.4** | **-9.6** | **-6.5** | **-5.0** | **-4.4** | **-4.3** | **-4.2** | **-4.0** | **-3.9** | **-3.9** | **-4.2** | **-4.4** |
| **Endogenous debt dynamics 2/** | **-1.1** | **-6.0** | **1.9** | **-1.2** | **-4.8** | **-2.4** | **-0.3** | **-0.4** | **0.1** | **0.1** | **0.2** | | |
| Contribution from nominal interest rate | 2.3 | 2.4 | 2.4 | 2.6 | 2.8 | 2.7 | 2.9 | 2.9 | 2.9 | 2.4 | 1.7 | | |
| Contribution from real GDP growth | -0.9 | -4.4 | -3.0 | -3.8 | -7.6 | -5.1 | -3.3 | -3.3 | -2.7 | -2.3 | -1.5 | | |
| Contribution from price and exchange rate changes | -2.4 | -4.0 | 2.5 | ... | ... | ... | ... | ... | ... | ... | ... | | |
| **Residual 3/** | **3.7** | **4.1** | **-6.1** | **-0.8** | **1.2** | **2.3** | **1.4** | **1.2** | **-2.5** | **0.3** | **-5.5** | **0.9** | **0.7** |
| *of which: exceptional financing* | 1.5 | -1.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | |
| **Sustainability indicators** | | | | | | | | | | | | | |
| **PV of PPG external debt-to-GDP ratio** | **...** | **...** | **50.3** | **52.7** | **50.2** | **49.1** | **47.8** | **46.3** | **43.8** | **33.7** | **21.6** | | |
| **PV of PPG external debt-to-exports ratio** | **...** | **...** | **187.8** | **185.5** | **163.0** | **162.0** | **160.6** | **155.8** | **145.3** | **110.9** | **70.6** | | |
| **PPG debt service-to-exports ratio** | **22.8** | **19.6** | **17.4** | **19.1** | **16.3** | **15.8** | **21.8** | **20.0** | **18.8** | **15.8** | **8.9** | | |
| **PPG debt service-to-revenue ratio** | **17.5** | **17.5** | **16.7** | **18.9** | **17.1** | **15.5** | **20.7** | **19.0** | **18.2** | **15.1** | **8.5** | | |
| Gross external financing need (Billion of U.S. dollars) | 1.5 | 1.9 | 4.0 | 3.1 | 1.8 | 1.3 | 1.9 | 1.8 | 2.6 | 2.0 | 1.4 | | |
| **Key macroeconomic assumptions** | | | | | | | | | | | | | |
| Real GDP growth (in percent) | 1.3 | 6.5 | 4.0 | 5.3 | 10.6 | 7.4 | 4.8 | 5.1 | 4.4 | 4.8 | 5.2 | **5.1** | **5.8** |
| GDP deflator in US dollar terms (change in percent) | 3.4 | 5.5 | -3.3 | 5.1 | 1.3 | 1.7 | 1.6 | 1.5 | 4.1 | 2.2 | 2.2 | **-0.3** | **2.2** |
| Effective interest rate (percent) 4/ | 3.3 | 3.6 | 3.2 | 3.6 | 3.9 | 3.9 | 4.3 | 4.5 | 4.6 | 5.0 | 5.9 | **2.9** | **4.5** |
| Growth of exports of G&S (US dollar terms, in percent) | -13.1 | 33.8 | 9.6 | 17.4 | 21.5 | 7.4 | 4.7 | 6.5 | 10.3 | 7.8 | 6.8 | **7.2** | **9.5** |
| Growth of imports of G&S (US dollar terms, in percent) | 5.1 | 24.0 | 22.4 | 2.6 | -1.1 | 2.4 | 3.9 | 6.2 | 13.9 | 8.1 | 6.9 | **8.4** | **5.3** |
| Grant element of new public sector borrowing (in percent) | ... | ... | ... | 11.4 | 17.4 | 15.5 | 12.5 | 12.6 | 10.5 | 10.4 | 5.5 | **...** | **12.6** |
| Government revenues (excluding grants, in percent of GDP) | 26.9 | 27.5 | 27.9 | 28.6 | 29.4 | 30.9 | 31.4 | 31.3 | 31.2 | 31.8 | 31.9 | **23.4** | **31.1** |
| Aid flows (in Billion of US dollars) 5/ | 1.7 | 1.3 | 1.3 | 0.7 | 0.8 | 1.0 | 1.0 | 1.0 | 0.9 | 1.0 | 1.7 | | |
| Grant-equivalent financing (in percent of GDP) 6/ | ... | ... | ... | 3.0 | 2.4 | 2.2 | 2.0 | 1.9 | 1.7 | 1.5 | 1.1 | **...** | **1.9** |
| Grant-equivalent financing (in percent of external financing) 6/ | ... | ... | ... | 22.3 | 29.9 | 28.9 | 25.9 | 27.8 | 27.4 | 31.0 | 44.2 | **...** | **29.2** |
| Nominal GDP (Billion of US dollars) | 25 | 28 | 28 | 31 | 34 | 38 | 40 | 43 | 46 | 65 | 133 | | |
| Nominal dollar GDP growth | 4.8 | 12.4 | 0.6 | 10.7 | 12.1 | 9.2 | 6.5 | 6.7 | 8.7 | 7.1 | 7.6 | **4.8** | **8.1** |
| **Memorandum items:** | | | | | | | | | | | | | |
| PV of external debt 7/ | ... | ... | 72.0 | 73.8 | 68.9 | 66.1 | 63.8 | 61.3 | 57.8 | 44.2 | 21.6 | | |
| In percent of exports | ... | ... | 268.9 | 259.9 | 223.6 | 218.3 | 214.4 | 206.2 | 191.4 | 145.2 | 70.6 | | |
| Total external debt service-to-exports ratio | 26.0 | 26.8 | 24.0 | 21.2 | 22.6 | 21.3 | 27.2 | 25.2 | 23.8 | 20.3 | 12.7 | | |
| PV of PPG external debt (in Billion of US dollars) | | | 14.0 | 16.2 | 17.3 | 18.4 | 19.1 | 19.8 | 20.3 | 22.0 | 28.9 | | |
| (PVt-PVt-1)/GDPt-1 (in percent) | | | | 8.0 | 3.5 | 3.4 | 1.8 | 1.6 | 1.4 | 0.6 | 0.1 | | |
| Non-interest current account deficit that stabilizes debt ratio | 4.5 | 10.4 | 13.8 | 8.5 | 8.6 | 4.5 | 3.2 | 3.3 | 6.4 | 3.5 | 9.2 | | |

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




Sources: Country authorities; and staff estimates and projections.

1/ Includes both public and private sector external debt.

2/ Derived as [r - g - ρ(1+g)]/(1+g+ρ+gρ) times previous period debt ratio, with r = nominal interest rate; g = real GDP growth rate, and ρ = growth rate of GDP deflator in U.S. dollar terms.

3/ Includes exceptional financing (i.e., changes in arrears and debt relief); changes in gross foreign assets; and valuation adjustments. For projections also includes contribution from price and exchange rate 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.

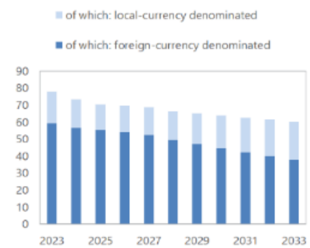
8/ Historical averages are generally derived over the past 10 years, subject to data availability, whereas projections averages are over the first year of projection and the next 10 years.

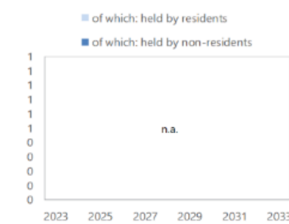
## Table 2. Senegal: Public Sector Debt Sustainability Framework, Baseline Scenario, 2020–2043
## (In percent of GDP, unless otherwise indicated)

| | Actual | | | Projections | | | | | | | | Average 6/ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2033 | 2043 | Historical | Projections |
| **Public sector debt 1/** | 69.2 | 73.3 | 76.6 | 77.7 | 73.2 | 70.4 | 69.5 | 68.7 | 66.3 | 60.2 | 53.2 | 57.7 | 67.1 |
| **of which: external debt** | 54.4 | 57.2 | 56.4 | 59.3 | 56.5 | 55.1 | 53.8 | 52.3 | 49.4 | 37.9 | 23.7 | 43.3 | 48.9 |
| Change in public sector debt | 5.6 | 4.1 | 3.3 | 1.1 | -4.5 | -2.9 | -0.8 | -0.8 | -2.4 | -1.1 | -0.1 | | |
| **Identified debt-creating flows** | 0.1 | 6.8 | 1.6 | 1.6 | -4.8 | -3.1 | -1.0 | -1.2 | -1.4 | -1.0 | -0.1 | 2.2 | -1.5 |
| **Primary deficit** | 4.0 | 4.6 | 4.3 | 4.2 | 1.2 | 0.5 | 0.5 | 0.4 | 0.1 | 0.0 | 0.8 | 2.3 | 0.7 |
| Revenue and grants | 29.2 | 28.3 | 28.8 | 30.3 | 30.6 | 32.1 | 32.6 | 32.5 | 32.3 | 32.9 | 32.9 | 25.3 | 32.3 |
| *of which: grants* | 2.3 | 0.9 | 0.8 | 1.6 | 1.2 | 1.2 | 1.2 | 1.2 | 1.1 | 1.1 | 1.0 | | |
| Primary (noninterest) expenditure | 33.2 | 33.0 | 33.1 | 34.5 | 31.8 | 32.6 | 33.1 | 33.0 | 32.4 | 33.0 | 33.8 | 27.6 | 33.0 |
| **Automatic debt dynamics** | -3.7 | 0.9 | -2.4 | -3.6 | -6.1 | -3.7 | -1.7 | -1.8 | -1.6 | -1.2 | -0.9 | | |
| Contribution from interest rate/growth differential | 0.9 | -3.1 | -5.9 | -3.6 | -6.1 | -3.7 | -1.7 | -1.8 | -1.6 | -1.2 | -0.9 | | |
| *of which: contribution from average real interest rate* | 1.7 | 1.2 | -3.1 | 0.3 | 1.4 | 1.3 | 1.5 | 1.6 | 1.3 | 1.6 | 1.7 | | |
| *of which: contribution from real GDP growth* | -0.8 | -4.2 | -2.8 | -3.9 | -7.5 | -5.0 | -3.2 | -3.4 | -2.9 | -2.8 | -2.6 | | |
| Contribution from real exchange rate depreciation | -4.6 | 4.0 | 3.5 | ... | ... | ... | ... | ... | ... | ... | ... | | |
| **Other identified debt-creating flows** | -0.2 | 1.2 | -0.4 | 0.9 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.7 | 0.2 |
| 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) | -0.2 | 1.2 | -0.4 | 0.9 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | | |
| **Residual** | 5.5 | -2.6 | 1.7 | -0.5 | 0.2 | 0.2 | 0.2 | 0.4 | -1.0 | -0.1 | -0.1 | 2.0 | 0.0 |
| **Sustainability indicators** | | | | | | | | | | | | | |
| **PV of public debt-to-GDP ratio 2/** | ... | ... | 69.4 | 70.6 | 66.4 | 63.8 | 63.1 | 62.5 | 60.5 | 56.1 | 51.2 | | |
| **PV of public debt-to-revenue and grants ratio** | ... | ... | 241.3 | 233.1 | 216.6 | 198.8 | 193.8 | 192.1 | 187.3 | 170.2 | 155.5 | | |
| **Debt service-to-revenue and grants ratio 3/** | 25.1 | 27.7 | 29.8 | 30.8 | 25.1 | 28.8 | 31.0 | 31.1 | 29.6 | 28.8 | 26.4 | | |
| Gross financing need 4/ | 11.1 | 13.7 | 12.5 | 14.5 | 9.0 | 9.9 | 10.8 | 10.7 | 9.8 | 9.6 | 9.6 | | |
| **Key macroeconomic and fiscal assumptions** | | | | | | | | | | | | | |
| Real GDP growth (in percent) | 1.3 | 6.5 | 4.0 | 5.3 | 10.6 | 7.4 | 4.8 | 5.1 | 4.4 | 4.8 | 5.2 | 5.1 | 5.8 |
| Average nominal interest rate on external debt (in percent) | 3.8 | 2.9 | 3.0 | 3.0 | 3.5 | 3.5 | 4.0 | 4.1 | 4.3 | 4.6 | 5.4 | 2.9 | 4.1 |
| Average real interest rate on domestic debt (in percent) | 5.0 | 4.4 | -1.5 | 2.2 | 3.6 | 3.6 | 3.5 | 3.5 | 1.4 | 3.3 | 3.5 | 4.3 | 3.3 |
| Real exchange rate depreciation (in percent, + indicates depreciation) | -8.7 | 7.7 | 6.8 | ... | ... | ... | ... | ... | ... | ... | ... | 2.5 | ... |
| Inflation rate (GDP deflator, in percent) | 1.5 | 1.8 | 8.6 | 3.2 | 2.0 | 2.0 | 2.0 | 2.0 | 4.1 | 2.2 | 2.2 | 1.5 | 2.2 |
| Growth of real primary spending (deflated by GDP deflator, in percent) | 1.0 | 5.8 | 4.5 | 9.9 | 2.0 | 10.0 | 6.4 | 4.7 | 2.6 | 4.6 | 6.6 | 10.0 | 5.8 |
| Primary deficit that stabilizes the debt-to-GDP ratio 5/ | -1.6 | 0.5 | 1.0 | 3.1 | 5.7 | 3.4 | 1.4 | 1.2 | 2.5 | 1.1 | 0.9 | 0.0 | 2.2 |
| 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** | **Currency-based** |
| **Is there a material difference between the two criteria?** | **Yes** |

Public sector debt 1/




Sources: Country authorities; and staff estimates and projections.
1/ Coverage of debt: The entire public sector, including SOEs . Definition of external debt is Currency-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. Senegal: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2023–2033
(Percent)

| | Projections 1/ | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 |
| **PV of debt-to GDP ratio** | | | | | | | | | | | |
| **Baseline** | 53 | 50 | 49 | 48 | 46 | 44 | 42 | 40 | 38 | 36 | 34 |
| **A. Alternative Scenarios** | | | | | | | | | | | |
| A1. Key variables at their historical averages in 2023-2033 2/ | 53 | **58** | **65** | **71** | **77** | **81** | **88** | **94** | **99** | **103** | **107** |
| **B. Bound Tests** | | | | | | | | | | | |
| B1. Real GDP growth | 53 | **56** | **59** | **57** | **55** | 53 | 50 | 47 | 45 | 43 | 40 |
| B2. Primary balance | 53 | 52 | 54 | 53 | 52 | 49 | 48 | 46 | 44 | 41 | 39 |
| B3. Exports | 53 | **58** | **67** | **66** | **64** | **61** | **59** | **56** | 52 | 49 | 46 |
| B4. Other flows 3/ | 53 | 55 | **57** | **56** | 54 | 51 | 49 | 47 | 44 | 41 | 39 |
| B5. Depreciation | 53 | **63** | **56** | 55 | 53 | 50 | 48 | 45 | 43 | 41 | 39 |
| B6. Combination of B1-B5 | 53 | **69** | **71** | **69** | **68** | **64** | **62** | **58** | **55** | 52 | 49 |
| **C. Tailored Tests** | | | | | | | | | | | |
| C1. Combined contingent liabilities | 53 | 55 | 54 | 52 | 51 | 49 | 48 | 45 | 43 | 41 | 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 | 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 | 53 | **56** | 55 | 53 | 52 | 49 | 47 | 44 | 42 | 39 | 37 |
| **Threshold** | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 |
| **PV of debt-to-exports ratio** | | | | | | | | | | | |
| **Baseline** | 185 | 163 | 162 | 161 | 156 | 145 | 140 | 133 | 126 | 118 | 111 |
| **A. Alternative Scenarios** | | | | | | | | | | | |
| A1. Key variables at their historical averages in 2023-2033 2/ | 185 | 190 | 215 | 240 | **260** | **269** | **297** | **314** | **329** | **341** | **352** |
| **B. Bound Tests** | | | | | | | | | | | |
| B1. Real GDP growth | 185 | 163 | 162 | 161 | 156 | 145 | 140 | 133 | 126 | 118 | 111 |
| B2. Primary balance | 185 | 169 | 179 | 178 | 174 | 164 | 160 | 153 | 145 | 137 | 130 |
| B3. Exports | 185 | 240 | **319** | **317** | **309** | **290** | **283** | **269** | **251** | 233 | 217 |
| B4. Other flows 3/ | 185 | 177 | 188 | 187 | 182 | 170 | 165 | 157 | 147 | 137 | 128 |
| B5. Depreciation | 185 | 163 | 147 | 146 | 141 | 131 | 127 | 119 | 113 | 106 | 101 |
| B6. Combination of B1-B5 | 185 | 233 | 193 | **248** | **241** | 226 | 220 | 208 | 195 | 182 | 170 |
| **C. Tailored Tests** | | | | | | | | | | | |
| C1. Combined contingent liabilities | 185 | 178 | 177 | 176 | 172 | 163 | 160 | 152 | 145 | 137 | 130 |
| 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 | 185 | 163 | 162 | 161 | 157 | 146 | 141 | 133 | 125 | 117 | 109 |
| **Threshold** | 240 | 240 | 240 | 240 | 240 | 240 | 240 | 240 | 240 | 240 | 240 |
| **Debt service-to-exports ratio** | | | | | | | | | | | |
| **Baseline** | 19 | 16 | 16 | **22** | 20 | 19 | 16 | 16 | 18 | 17 | 16 |
| **A. Alternative Scenarios** | | | | | | | | | | | |
| A1. Key variables at their historical averages in 2023-2033 2/ | 19 | 17 | 18 | **27** | **26** | **27** | **25** | **28** | **33** | **35** | **36** |
| **B. Bound Tests** | | | | | | | | | | | |
| B1. Real GDP growth | 19 | 16 | 16 | **22** | 20 | 19 | 16 | 16 | 18 | 17 | 16 |
| B2. Primary balance | 19 | 16 | 16 | **23** | **21** | 20 | 17 | 18 | 20 | 19 | 18 |
| B3. Exports | 19 | **21** | **25** | **36** | **34** | **32** | **28** | **30** | **35** | **34** | **31** |
| B4. Other flows 3/ | 19 | 16 | 16 | **23** | **21** | 20 | 17 | 18 | 21 | 20 | 18 |
| B5. Depreciation | 19 | 16 | 16 | **21** | 19 | 18 | 15 | 15 | 16 | 16 | 14 |
| B6. Combination of B1-B5 | 19 | 20 | **22** | **31** | **28** | **26** | **23** | **25** | **27** | **27** | **24** |
| **C. Tailored Tests** | | | | | | | | | | | |
| C1. Combined contingent liabilities | 19 | 16 | 17 | **23** | 21 | 20 | 17 | 17 | 19 | 18 | 17 |
| 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 | 19 | 16 | 16 | **23** | **22** | 21 | 19 | 20 | 19 | 16 | 14 |
| **Threshold** | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 |
| **Debt service-to-revenue ratio** | | | | | | | | | | | |
| **Baseline** | 19 | 17 | 15 | 21 | 19 | 18 | 15 | 15 | 17 | 17 | 15 |
| **A. Alternative Scenarios** | | | | | | | | | | | |
| A1. Key variables at their historical averages in 2023-2033 2/ | 19 | 18 | 18 | **25** | **25** | **26** | **23** | **26** | **31** | **33** | **34** |
| **B. Bound Tests** | | | | | | | | | | | |
| B1. Real GDP growth | 19 | 19 | 19 | **25** | 23 | 22 | 18 | 18 | 20 | 20 | 18 |
| B2. Primary balance | 19 | 17 | 16 | 22 | 20 | 19 | 16 | 17 | 19 | 18 | 17 |
| B3. Exports | 19 | 17 | 17 | **24** | 22 | 21 | 18 | 19 | 23 | 22 | 21 |
| B4. Other flows 3/ | 19 | 17 | 16 | 22 | 20 | 19 | 16 | 17 | 19 | 19 | 17 |
| B5. Depreciation | 19 | 22 | 20 | **25** | **23** | 22 | 18 | 18 | 19 | 19 | 17 |
| B6. Combination of B1-B5 | 19 | 20 | 21 | **27** | **25** | **24** | 20 | 22 | **24** | **24** | 22 |
| **C. Tailored Tests** | | | | | | | | | | | |
| C1. Combined contingent liabilities | 19 | 17 | 16 | 21 | 20 | 19 | 16 | 16 | 18 | 17 | 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 | 19 | 17 | 16 | 22 | 21 | 20 | 17 | 19 | 18 | 15 | 14 |
| **Threshold** | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 |

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. Senegal: Sensitivity Analysis for Key Indicators of Public Debt, 2023-33
## (Percent of GDP unless otherwise indicated)

| | Projections 1/ | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 |
| **PV of Debt-to-GDP Ratio** | | | | | | | | | | | |
| **Baseline** | **71** | 66 | 64 | 63 | 62 | 61 | 60 | 58 | 58 | 57 | 56 |
| **A. Alternative Scenarios** | | | | | | | | | | | |
| A1. Key variables at their historical averages in 2023-2033 2/ | **71** | **72** | **73** | **74** | **75** | **76** | **77** | **79** | **80** | **81** | **82** |
| **B. Bound Tests** | | | | | | | | | | | |
| B1. Real GDP growth | **71** | **79** | **87** | **92** | **97** | **100** | **105** | **109** | **114** | **119** | **123** |
| B2. Primary balance | **71** | **70** | **73** | **72** | **71** | 69 | 68 | 67 | 66 | 65 | 64 |
| B3. Exports | **71** | **73** | **80** | **79** | **79** | **76** | **75** | **73** | **71** | 69 | 67 |
| B4. Other flows 3/ | **71** | **71** | **72** | **71** | **70** | 68 | 67 | 66 | 64 | 63 | 61 |
| B5. Depreciation | **71** | **79** | **73** | 69 | 66 | 62 | 58 | 55 | 52 | 49 | 46 |
| B6. Combination of B1-B5 | **71** | **70** | **73** | **74** | **75** | **75** | **75** | **76** | **76** | **77** | **78** |
| **C. Tailored Tests** | | | | | | | | | | | |
| C1. Combined contingent liabilities | **71** | **76** | **73** | **72** | **71** | 69 | 68 | 66 | 65 | 64 | 64 |
| 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 | **71** | 66 | 64 | 63 | 63 | 61 | 60 | 59 | 58 | 57 | 56 |
| **TOTAL public debt benchmark** | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 |
| **PV of Debt-to-Revenue Ratio** | | | | | | | | | | | |
| **Baseline** | 233 | 217 | 199 | 194 | 192 | 187 | 180 | 178 | 175 | 173 | 170 |
| **A. Alternative Scenarios** | | | | | | | | | | | |
| A1. Key variables at their historical averages in 2023-2033 2/ | 236 | 234 | 226 | 225 | 230 | 235 | 233 | 238 | 241 | 245 | 249 |
| **B. Bound Tests** | | | | | | | | | | | |
| B1. Real GDP growth | 236 | 256 | 269 | 281 | 297 | 309 | 315 | 330 | 344 | 358 | 372 |
| B2. Primary balance | 236 | 230 | 228 | 222 | 220 | 214 | 206 | 203 | 200 | 197 | 194 |
| B3. Exports | 233 | 239 | 250 | 244 | 242 | 236 | 226 | 222 | 216 | 210 | 204 |
| B4. Other flows 3/ | 233 | 231 | 224 | 218 | 216 | 211 | 202 | 199 | 195 | 191 | 186 |
| B5. Depreciation | 236 | 257 | 227 | 213 | 203 | 191 | 176 | 167 | 158 | 149 | 141 |
| B6. Combination of B1-B5 | 236 | 230 | 227 | 227 | 231 | 231 | 227 | 230 | 232 | 234 | 235 |
| **C. Tailored Tests** | | | | | | | | | | | |
| C1. Combined contingent liabilities | 236 | 247 | 226 | 220 | 218 | 213 | 204 | 201 | 198 | 196 | 193 |
| 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 | 233 | 217 | 199 | 194 | 193 | 188 | 180 | 178 | 175 | 172 | 169 |
| **Debt Service-to-Revenue Ratio** | | | | | | | | | | | |
| **Baseline** | 31 | 25 | 29 | 31 | 31 | 30 | 27 | 28 | 30 | 31 | 29 |
| **A. Alternative Scenarios** | | | | | | | | | | | |
| A1. Key variables at their historical averages in 2023-2033 2/ | 31 | 26 | 31 | 34 | 34 | 34 | 32 | 33 | 36 | 37 | 36 |
| **B. Bound Tests** | | | | | | | | | | | |
| B1. Real GDP growth | 31 | 28 | 35 | 39 | 42 | 44 | 43 | 47 | 51 | 55 | 56 |
| B2. Primary balance | 31 | 25 | 30 | 33 | 34 | 34 | 32 | 32 | 33 | 34 | 33 |
| B3. Exports | 31 | 25 | 30 | 34 | 34 | 32 | 30 | 31 | 35 | 36 | 34 |
| B4. Other flows 3/ | 31 | 25 | 29 | 32 | 32 | 31 | 29 | 30 | 32 | 33 | 31 |
| B5. Depreciation | 31 | 26 | 32 | 36 | 35 | 33 | 30 | 30 | 32 | 33 | 31 |
| B6. Combination of B1-B5 | 31 | 25 | 32 | 35 | 35 | 35 | 33 | 35 | 37 | 38 | 37 |
| **C. Tailored Tests** | | | | | | | | | | | |
| C1. Combined contingent liabilities | 31 | 25 | 31 | 32 | 35 | 34 | 32 | 30 | 32 | 33 | 31 |
| 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 | 31 | 25 | 29 | 32 | 33 | 31 | 30 | 31 | 31 | 29 | 28 |

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.