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BRAZIL

STAFF REPORT FOR THE 2020 ARTICLE IV CONSULTATION—DEBT SUSTAINABILITY ANALYSIS¹

November 9, 2020

Approved By
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Prepared by the Staff of the International Monetary Fund

Debt sustainability risks are high. Gross debt of the non-financial public sector (NFPS) reached 89.5 percent of GDP in 2019, a small increase from 2018. The Covid-19 shock is expected to lead to a jump in debt to around 101 percent of GDP in 2020, driven by a primary deficit of 11.6 percent of GDP and a contraction in nominal GDP. Gross financing needs will reach 28 percent of GDP in 2020, with a substantial fraction financed by liquid assets. Under the baseline scenario, public debt will increase to around 102 percent of GDP in 2025. Given record-low interest rates on Brazilian debt, the interest-growth differential should turn negative in 2021 but this is still not sufficient to offset primary deficits until the end of the forecast horizon. A primary balance of around 0 is needed to stabilize gross debt as a ratio to GDP beyond the projection horizon. This is feasible assuming compliance with the constitutional expenditure ceiling (which would lead to a small primary surplus in 2026). The trajectory of the debt-to-GDP ratio is highly sensitive to shocks to real GDP growth, fiscal deficits and borrowing costs.

¹ The analysis of public debt sustainability is based on the framework developed for market access countries. See Staff Guidance Note for Public Debt Sustainability Analysis in Market Access Countries, IMF, May 2013.

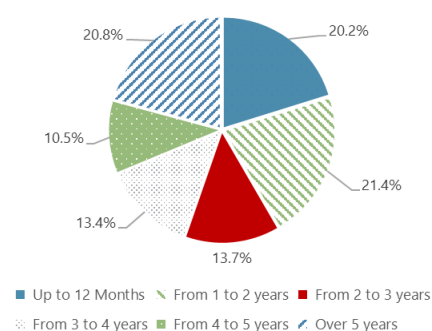
BACKGROUND

1. Definitions and coverage. The gross debt statistics of Brazil cover the NFPS, excluding the state-owned enterprises (SOEs) Petrobras and Eletrobras, and consolidate the Sovereign Wealth Fund. Following the GFSM 2014 manual, the NFPS debt includes all Treasury securities on the Central Bank's (BCB) balance sheet.² As reported by the government, net debt corresponds to the public sector (PS), which includes consolidation with the BCB. Brazil's debt is reported at nominal value.³

2. Debt developments. At end-2019, Brazil's NFPS gross debt amounted to 89.5 percent of GDP, 2.8 percentage points higher than a year before. The consolidated public sector net debt amounted to 55.7 percent of GDP at end-2019, reflecting a large stock of assets, equal to 31.1 of GDP, which included international reserves amounting to 19.8 percent of GDP. A primary deficit of 1 percent of GDP and a positive interest-growth differential contributed to the increase in gross debt. Net interest payments of the NFPS and consolidated PS stood at 6.9 and 5.1 percent, respectively, the lowest since 2015 reflecting declining risk premia and a lower SELIC. In 2019, the national development bank (BNDES) repaid R\$100 billion (1.4 percent of GDP) in outstanding government securities to the Treasury (in addition to R\$130 billion repaid in 2018). These cash payments contributed to reducing financing needs and had a significant impact on gross debt.

3. Debt profile. Federal government (FG) domestic tradable securities account for 86 percent of total NFPS gross debt. Around 2/3 of tradable securities are held by the private sector and the rest is held by the BCB.⁴ 40.5 percent of FG domestic tradable securities are linked to the SELIC rate (up nearly 4 percentage points in 2019), 32 percent are fixed income securities, and 27 percent are linked to inflation.⁵ Average duration of FG securities fell slightly in 2019, from 4.1 to 4 years while average maturity fell from 5.7 to 5.4 years. About 19 percent of FG domestic tradable securities will mature in 2020 of which 25 percent matured in July alone. Foreign currency denominated NFPS debt accounted for only 4.5 percent of GDP at end 2019, broadly stable for over a decade.

Maturity Structure (end-2019)



² In contrast, the authorities' definition of gross debt includes the stock of Treasury securities used for monetary policy purposes by the BCB (those pledged as security in reverse repo operations) but excludes the rest of the government securities held by the BCB. Thus, per the national definition, gross debt of the general government amounted to 75.8 percent of GDP at end-2019, lower than at end-2018 due to the reduction in reverse repos associated with the BCB's sale of international reserves during 2019. The definition of net debt is the same between the authorities and the IMF.

³ The nominal value is calculated as the PDV of future interest and principal payments at the security's contractual interest rate(s), and generally differs from face value.

⁴ At end-2019 the BCB used about half of its holdings as security in liquidity-draining operations with the banking system.

⁵ A residual 0.5 percent are exchange rate linked securities.

BASELINE AND REALISM OF PROJECTIONS

4. Macroeconomic assumptions. The projections assume a decline in real GDP of 5.8 percent in 2020 followed by growth of 2.8 and 2.3 percent in 2021 and 2022, respectively. Medium-term growth is projected at 2.2 percent. The NFPS primary balance is projected to broadly move to balance in 2025 (0.1 percent of GDP deficit), with a cumulative adjustment of about 2.6 percentage points of GDP during 2021–25 and a large adjustment of 8.9 percentage points in 2021, unwinding the 2020 widening of close to 11 percentage points in the primary balance. Nominal interest rates on new borrowing are substantially lower than in the past due to a record-low policy rate. The effective nominal interest rate is projected at 6.5 percent in 2020, relative to an average of 11.6 percent over 2009–17 and 8.4 percent in 2019 (Box 1).

5. Baseline debt projection. In the baseline scenario, which assumes compliance with the constitutional expenditure ceiling from 2021 onwards (a state of public calamity allowed for exceptional spending in 2020), gross debt jumps to 101.1 percent of GDP in 2020. It declines by around 2 percentage point in 2021 on account of continued use of liquid assets to finance the deficit and then rises again at a diminishing pace to around 102 percent of GDP in 2025.⁶ The debt stabilizing primary balance in the baseline scenario is 0 such that debt would stabilize in 2026 under continued abidance with the expenditure ceiling. Net debt of the consolidated public sector is expected to increase faster and longer than gross debt of the NFPS because international reserves are assumed to be broadly constant in nominal terms, thus falling relative to GDP.

6. Baseline gross financing needs projection. Gross financing needs declined from close to 18 percent of GDP in 2015 to below 15 percent in 2019. They are expected to increase substantially in 2020 to 28 percent of GDP, with the authorities making extensive use of their cash buffer to meet the financing needs (Box 2).⁷ Partly due to a projected reduction in the average maturity of debt, gross financing needs are projected to decline but remain high by historical standards averaging 20 percent of GDP over 2021–2025 and breaching the high-risk threshold of 15 percent of GDP throughout the projection period (Figure 3). This indicator, however, overstates the financing risks since amortization payments would be about 30 percent lower on average excluding the automatic rollover of BCB held bonds. On the other hand, the interest on existing FG securities reported in the authorities' overall fiscal balance (and used in the DSA) is reported on an accrual basis, in line with the reporting of debt at nominal value. On a cash basis, financing needs are estimated to be on average over 1 percentage point higher per year over 2020–21.

⁶ The current projection does not assume any repayment from BNDES to the Treasury in 2021.

⁷ Law 13820/2019 enacted in May 2019: http://www.planalto.gov.br/ccivil_03/_Ato2019-2022/2019/Lei/L13820.htm reformed the institutional framework regulating financial transactions between the Treasury and the BCB. The new law should reduce the amount of Treasury securities issued for BCB recapitalization purposes and is projected to structurally decrease the portfolio of free securities held by the BCB (footnotes 2 and 4). Given the extensive use of the treasury single account for financing in 2020 (which is accompanied by reverse repo operations of the Central Bank to reduce excess liquidity) the free portfolio is forecast to fall significantly in 2020. This will reduce the gap between the authorities' and the IMF's definition of debt all else equal (the gap is forecast to narrow from over 12 percentage points of GDP at end-2019 to below 3 at end-2021). It is possible but not likely at this point, however, that the Treasury will have to issue new securities to the Central Bank to increase the stock of free securities to the required level.

7. Fan chart analysis. Debt sustainability risks are large. Debt only stabilizes at the very end or immediately after the forecast horizon and the path is highly sensitive to the real interest rate, growth and the speed of fiscal adjustment. A negative combination of macroeconomic variables at the 10th percentile would yield debt at 120 percent of GDP in 2025 and on a steep upward trajectory (fan charts in Figure 1). In the most optimistic scenarios, positive shocks could lower public debt to 90 percent of GDP (10th percentile of positive outcomes).

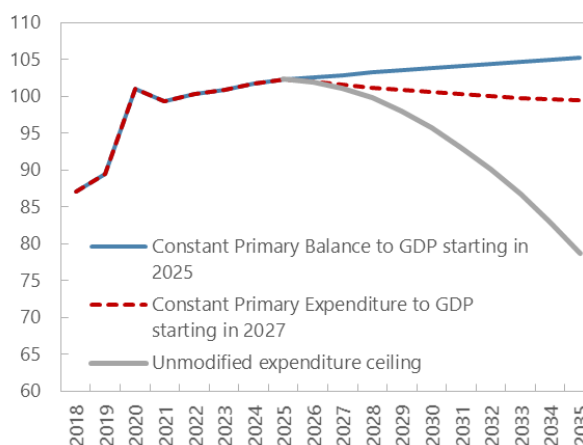
8. Past forecast error. Forecast errors for GDP growth are larger than those in surveillance countries during 2014–16, reflecting the fact that Brazil underwent its largest recession in a century (pre-Covid) during 2015–16 (Figure 2).

9. Realism of projections. Brazil's projected fiscal adjustment in 2021 (reversing the 2020 stimulus) would be in the very tail of the historical distribution. The level of the PB over the forecast horizon, however, is in line with other surveillance countries' experience (Figure 2).

10. Contingent risks from systemic SOEs. The government holds about 50 percent of Petrobras' and Eletrobras' shares, both of which are excluded from the debt definition. Fiscal risks could arise from possible future capitalizations to cover losses. Petrobras's financial position improved substantially in recent years, however, with net debt/EBITDA falling continuously. The current difficult environment led Petrobras to revise its 2020 debt reduction plans with debt expected to remain constant at the 2019 level. Looking forward, and especially if oil prices recover, Petrobras is well positioned to benefit from the growth of pre-salt exploration and further sales of non-core subsidiaries. The government also plans to privatize Eletrobras in the medium term. Overall, the fiscal risks arising from Petrobras and Eletrobras are deemed limited at this point.

11. Longer-term debt outlook over 2025-35. Three longer-term fiscal scenarios were assessed to understand how gross NFPS debt might evolve over 2025-35. In all three scenarios nominal GDP growth and the effective interest rate remain at their 2025 levels. In the first fiscal scenario, the primary balance is assumed to remain constant as a share of GDP from 2025 onwards (0.1 percent of GDP deficit). This is essentially a scenario in which the expenditure ceiling is abandoned after 2025 and it results in debt continuing to marginally increase over 2025-35. The second scenario assumes that from 2027 onwards – the year in which by law the parameters of the expenditure ceiling are to be reviewed – primary expenditures remain constant as a share of GDP. In this scenario, debt would fall but still remain around 100 percent of GDP until 2035. In the third scenario, the parameters of the expenditure ceiling remain unchanged and debt drops to 81 percent of GDP by 2035. The reduction in primary expenditures implicit in this scenario is aggressive – they fall from a projected 20.3 percent

Longer-Term Debt Projection:
(NFPS Gross Debt, Percent of GDP)



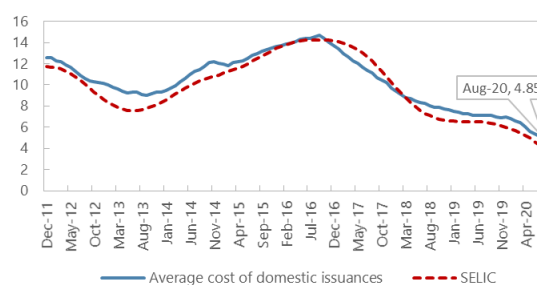
Sources: IMF Staff projections

of GDP in 2021 to 13.8 percent of GDP in 2035. Overall, the longer-term projections highlight that debt sustainability risks are likely to remain elevated in Brazil for many years. To achieve a fiscal path consistent with sustainably declining debt, structural fiscal reforms to cut mandatory spending or increase revenues are necessary; A better debt outlook could also be achieved if potential GDP growth were to increase substantially beyond the current rate of 2.2 percent; or if interest rates were to settle at levels significantly below those assumed in the baseline.

Box 1. The Interest-Growth Differential

The effective interest rate on Brazilian public debt is at record-low levels. Around 40 percent of Brazilian public debt is directly tied to the monetary policy rate. While the yield curve has steepened substantially, the medium- and longer-end of the curve are still at low levels in historical perspective. In addition, the authorities have focused issuances on the shorter-end of the curve, especially in 2020. Overall, the effective interest rate on new issuances has fallen to 4.85 percent by August 2020 (12-month rolling average), around 4 percentage points below the previous low point in 2012.

Monetary Policy Rate and Average Cost of Domestic Public Debt Issuances
(percent, 12 month rolling average)

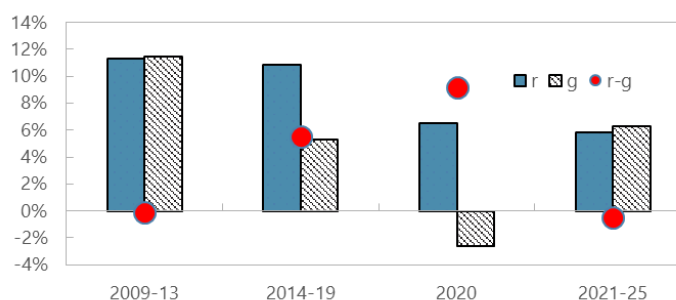


Sources: Brazilian National Treasury, Central Bank of Brazil and IMF Staff Calculations

The low interest rate is expected to lead to a favorable interest-growth differential over 2021-25 after several years of adverse dynamics.

Prior to the 2015-16 crisis, Brazil's interest-growth differential was close to 0 with both high nominal GDP growth and high effective interest rates. Since the crisis, low GDP growth has caused debt dynamics to deteriorate, particularly in 2020 for which nominal GDP growth is forecast to be negative. But given the precipitous fall in interest rates, even the modest expected GDP growth over 2021-25 will take the interest – growth differential back to zero.

Interest rate - growth differential
(percentage points)



Sources: Brazilian National Treasury, Central Bank of Brazil, IBGE and IMF Staff projections

Box 2. Financing Needs and Source in 2020 and 2021

Debt issuances were below financing needs so far in 2020.

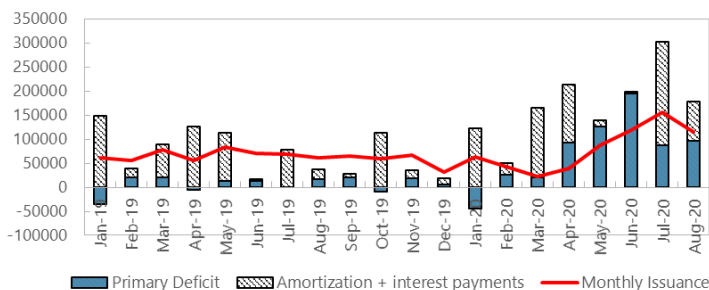
Amid high risk aversion, the Federal Treasury rolled over less than 100 percent of debt coming due in March and April. Even though issuances picked up markedly in May–August, they remained below the level required to satisfy financing needs amid the surging primary deficit. Instead the Treasury drew down part of the substantial cash buffer in the treasury single account (TSA) at the Central Bank—a roughly

9 percent of GDP drawdown at end-August. New issuances have focused on short-term, floating rate instruments with a high concentration in bills below 24 months. Non-residents sold local currency debt aggressively in March, outflows continued in April – albeit at a slower pace – and between May–July non-resident flows were close to zero. August saw some minor non-resident buying. Overall, at end-August the stock of non-resident holdings of Brazilian local currency public debt stood 12 percent below the end-February level, now accounting for only 9 percent of total holdings (excluding the BCB). Instead domestic banks and funds stepped in to buy debt—a similar response as in the 2015–16 crisis.

The use of treasury deposits at the Central Bank will be an important source of financing in 2020 and possibly also in 2021. To replenish the Treasury's cash resources, the authorities transferred part of the BCB's non-realized FX gains on international reserves stemming from the depreciation of the Real in H12020 to the TSA (around 325bn Reais or 4.5 percent of GDP)¹. For the remainder of 2020, financing needs will be less elevated, reducing the need for further cash drawdowns. But looking ahead to 2021, amortizations will increase, requiring larger issuances than in 2020 and/or continued use of the now partially replenished cash cushion – even with a much-reduced primary deficit. In particular, the first four months of 2021 alone will require rollover in excess of 7 percent of GDP of debt held in the market.

Monthly Debt Issuance vs Monthly Gross Financing Needs

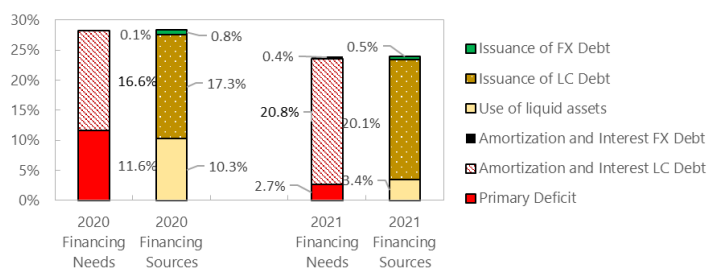
(millions of Reais)



Sources: Brazilian National Treasury and IMF Staff calculations

Public Financing Needs and Financing Sources 2020–2021

(percent of GDP)



Sources: IMF Staff projections

¹ To avoid large flows between the Treasury and the BCB, automatic transfers of non-realized FX gains were discontinued in 2019 but can still be authorized by the Monetary Council on an ad hoc basis (see 2019 Brazil Special Issues Papers). The transactions operate as follows: A depreciation increases net foreign assets of the BCB as well as its current year result (profit), and thus its equity. If the choice is made to credit the TSA, the BCB's liabilities to the government increase and the BCB's current year result falls by the same amount. If and when the Treasury decides to use these resources, the BCB's liabilities to the government fall again and the BCB offsets the resulting increase in liquidity through reverse repos of its holdings of Treasury bonds. In terms of the governments' fiscal accounts, crediting the TSA is neutral. The operation is recorded as an interest revenue and since the overall fiscal balance is presented on a consolidated public sector basis, interest transaction between the Treasury and BCB net out.

SHOCKS AND STRESS TESTS

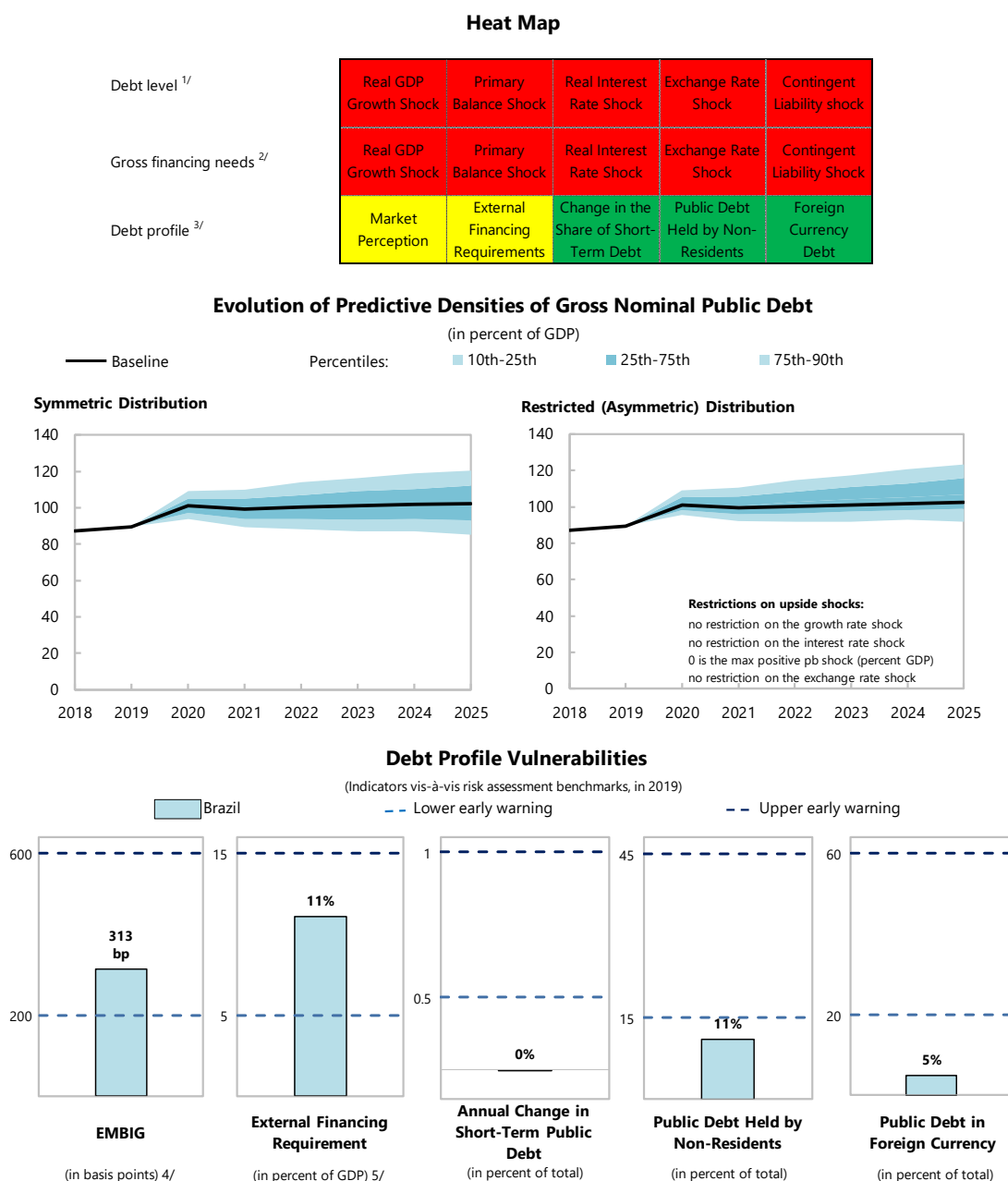
12. Primary balance shock. The primary balance shock scenario assumes a primary deficit of 7.2 percent of GDP in 2021 and a constant primary deficit of 2.2 percent of GDP per year over 2022–25.⁸ The assumption corresponds to the expenditure ceiling being abandoned in 2021, followed by a reversal of the pandemic related stimulus in 2022 but no further consolidation from then on. Overall, in the primary balance shock scenario, the primary balance deteriorates by a cumulative 11 percentage points of GDP over the period 2021–25 compared to the baseline. Debt enters an unsustainable upward path, reaching close to 115 percent of GDP in 2025.

13. Growth shock. Under the growth shock scenario, real output growth is reduced by one standard deviation (3.3 percent) for two consecutive periods starting in 2021. Under this scenario, gross debt continues a steep increase until end 2022, exceeding 110 percent of GDP before increasing at a much reduced rate. Such a shock can be considered a low probability event, perhaps associated with a severe second Covid-19 wave in 2021/22.

14. Real interest rate and real exchange rate shocks. In the real interest rate shock scenario, the real interest rate is increased by 450bps over the period 2021–25. In the real exchange rate shock scenario, the nominal exchange rate depreciates by 47 percent (maximum movement over the past 10 years) in 2021 and appreciates only marginally thereafter. Under the real interest rate shock, gross debt reaches roughly 110 percent of GDP in 2025. Such a scenario could result from a surprise resurgence in inflation, requiring the BCB to abruptly increase the policy rate, linked possibly with an additional increase in the risk premium. The impact of the real exchange rate shock is modest, all else equal, given the low share of FX debt.

15. Combined macro-fiscal shock. The macro-fiscal shock combines the real growth, interest rate, exchange rate and the primary balance shocks as described above. The impact of the macro-fiscal shock on gross debt-to-GDP is extreme. Gross debt reaches exceeds 140 percent by 2025, with gross financing needs increasing to 30 percent of GDP for several years.

⁸ The shock assumes only 50 percent of the primary balance adjustment undertaken in the baseline in 2021 and 2022.

Figure 1. Brazil: Public DSA—Risk Assessment

Source: IMF staff.

1/ The cell is highlighted in green if debt burden benchmark of 70% is not exceeded under the specific shock or baseline, yellow if exceeded under specific shock but not baseline, red if benchmark is exceeded under baseline, white if stress test is not relevant.

2/ The cell is highlighted in green if gross financing needs benchmark of 15% is not exceeded under the specific shock or baseline, yellow if exceeded under specific shock but not baseline, red if benchmark is exceeded under baseline, white if stress test is not relevant.

3/ The cell is highlighted in green if country value is less than the lower risk-assessment benchmark, red if country value exceeds the upper risk-assessment benchmark, yellow if country value is between the lower and upper risk-assessment benchmarks. If data are unavailable or indicator is not relevant, cell is white.

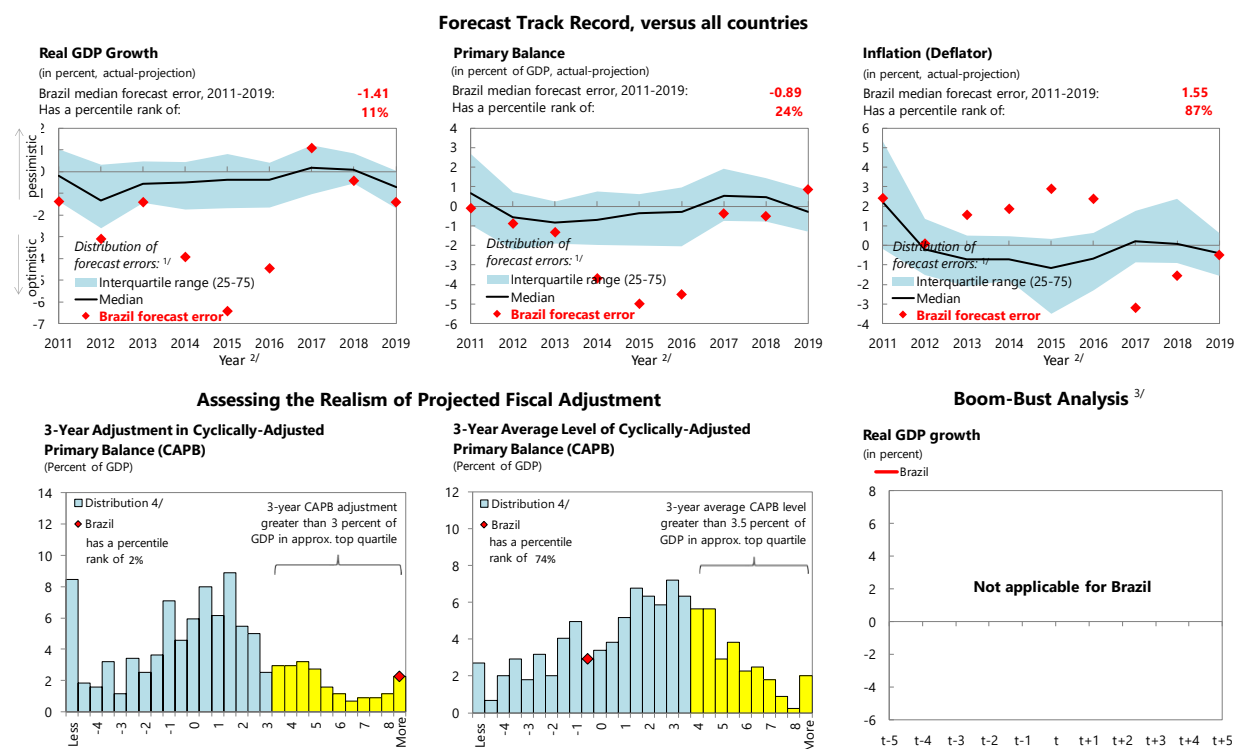
Lower and upper risk-assessment benchmarks are:

200 and 600 basis points for bond spreads; 5 and 15 percent of GDP for external financing requirement; 0.5 and 1 percent for change in the share of short-term debt; 15 and 45 percent for the public debt held by non-residents; and 20 and 60 percent for the share of foreign-currency denominated debt.

4/ EMBIG, an average over the last 3 months, 28-Jul-20 through 26-Oct-20.

5/ External financing requirement is defined as the sum of current account deficit, amortization of medium and long-term total external debt, and short-term total external debt at the end of previous period.

Figure 2. Brazil: Public DSA—Realism of Baseline Assumptions



Source: IMF Staff.

1/ Plotted distribution includes all countries; percentile rank refers to all countries.

2/ Projections made in the spring WEO vintage of the preceding year.

3/ Not applicable for Brazil, as it meets neither the positive output gap criterion nor the private credit growth criterion.

4/ Data cover annual observations from 1990 to 2011 for advanced and emerging economies with debt greater than 60 percent of GDP. Percent of sample on vertical axis.

Figure 3. Brazil: Public Sector Debt Sustainability Analysis (DSA)—Baseline Scenario

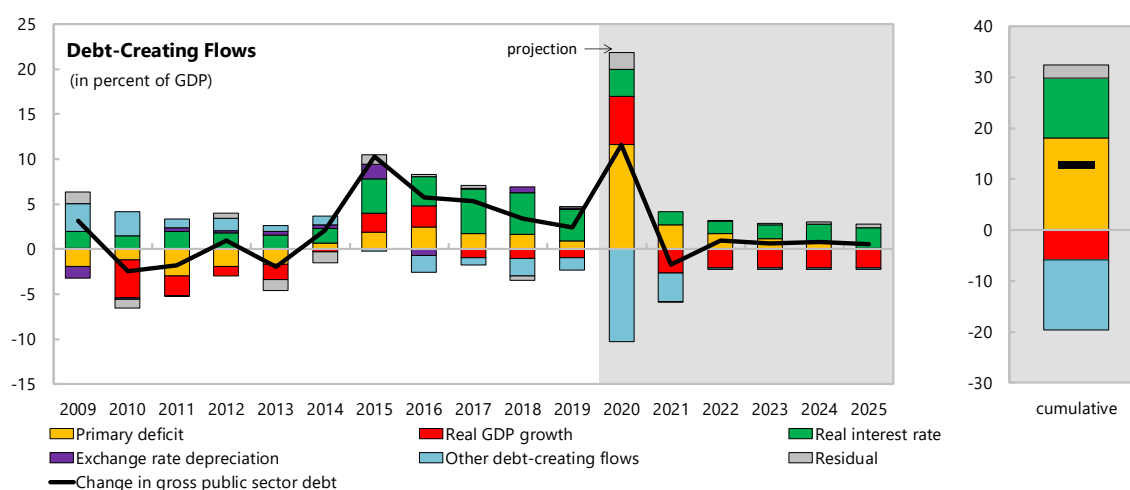
(Percent of GDP unless otherwise indicated)

Debt, Economic and Market Indicators^{1/}

	Actual			Projections							As of October 26, 2020	
	2009-2017 ^{2/}	2018	2019	2020	2021	2022	2023	2024	2025			
Nominal gross public debt	67.7	87.1	89.5	101.1	99.3	100.3	100.9	101.7	102.3		Sovereign Spreads	
											EMBIG (bp) 3/	309
Public gross financing needs	13.1	15.6	14.3	28.3	23.9	22.5	19.2	18.3	19.3		5Y CDS (bp)	214
Net public debt	38.0	53.6	55.7	66.8	71.3	74.4	76.9	79.3	81.3			
Real GDP growth (in percent)	1.3	1.3	1.1	-5.8	2.8	2.3	2.2	2.2	2.2		Ratings	Foreign
Inflation (GDP deflator, in percent)	7.4	3.3	4.1	3.4	3.3	4.1	4.0	3.9	3.9		Moody's	Ba2
Nominal GDP growth (in percent)	8.8	4.6	5.3	-2.6	6.3	6.5	6.3	6.2	6.2		S&P's	BB-
Effective interest rate (in percent) 4/	11.6	9.1	8.4	6.5	5.0	5.7	5.7	6.2	6.4		Fitch	BB-

Contribution to Changes in Public Debt

	Actual			Projections							cumulative	debt-stabilizing primary balance 9/
	2009-2017	2018	2019	2020	2021	2022	2023	2024	2025			
Change in gross public sector debt	2.4	3.4	2.4	11.6	-1.8	0.9	0.6	0.8	0.5	12.8		
Identified debt-creating flows	2.4	4.0	2.3	9.8	-1.7	0.9	0.5	0.6	0.2	10.2		
Primary deficit	-0.3	1.7	1.0	11.6	2.7	1.7	1.2	0.7	0.1	18.0		0.0
Primary (noninterest) revenue and grants	31.6	29.1	30.0	26.8	28.3	29.0	29.3	29.4	29.4	172.2		
Primary (noninterest) expenditure	31.3	30.8	30.9	38.5	31.0	30.7	30.5	30.0	29.5	190.2		
Automatic debt dynamics 5/	1.9	4.2	2.7	8.4	-1.2	-0.7	-0.6	0.0	0.2	6.0		
Interest rate/growth differential 6/	1.8	3.6	2.5	8.4	-1.2	-0.7	-0.6	0.0	0.2	6.0		
Of which: real interest rate	2.5	4.6	3.5	3.1	1.5	1.4	1.5	2.1	2.3	11.8		
Of which: real GDP growth	-0.7	-1.1	-0.9	5.3	-2.7	-2.1	-2.1	-2.1	-2.1	-5.8		
Exchange rate depreciation 7/	0.1	0.6	0.2		
Other identified debt-creating flows	0.7	-1.9	-1.4	-10.3	-3.1	-0.1	-0.1	-0.1	-0.1	-13.9		
Privatization receipts (negative)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Contingent liabilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
General Government Net Acquisition of Financial Assets	0.7	-1.9	-1.4	-10.3	-3.1	-0.1	-0.1	-0.1	-0.1	-13.9		
Residual 8/	0.0	-0.6	0.1	1.8	-0.1	0.1	0.1	0.3	0.4	2.6		



Source: IMF staff.

1/ Public sector is defined as non-financial public sector.

2/ Based on available data.

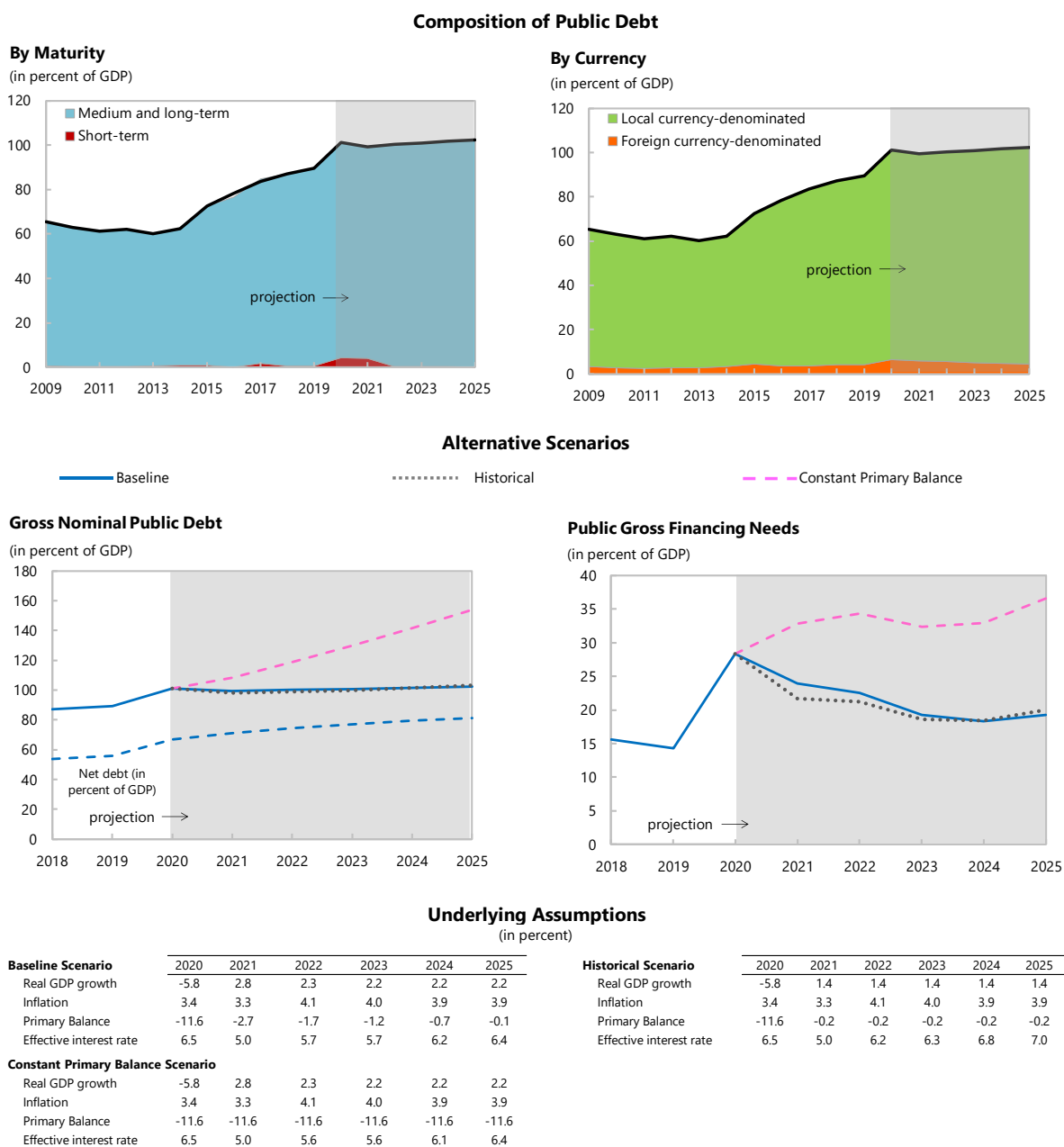
3/ EMBIG.

4/ Defined as interest payments divided by debt stock (excluding guarantees) at the end of previous year. Interest payment forecasts on existing debt do not adjust for FX movements.

5/ Derived as $[(r - \pi(1+g) - g + ae(1+r))/(1+g+\pi+g\pi)]$ times previous period debt ratio, with r = interest rate; π = growth rate of GDP deflator; g = real GDP growth rate; a = share of foreign-currency denominated debt; and e = nominal exchange rate depreciation (measured by increase in local currency value of U.S. dollar).6/ The real interest rate contribution is derived from the numerator in footnote 5 as $r - \pi(1+g)$ and the real growth contribution as $-g$.7/ The exchange rate contribution is derived from the numerator in footnote 5 as $ae(1+r)$.

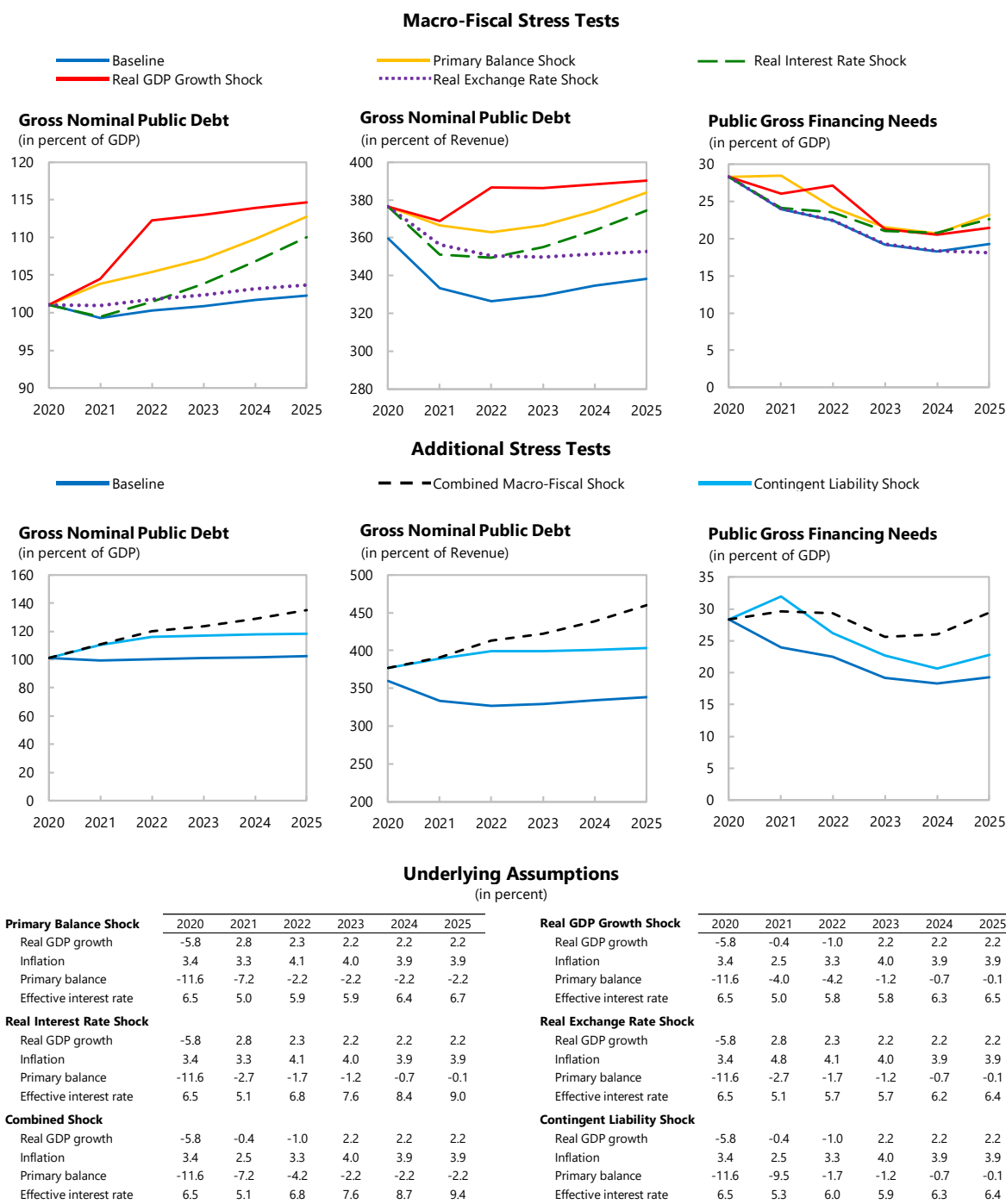
8/ Includes exchange rate changes during the projection period.

9/ Assumes that key variables (real GDP growth, real interest rate, and other identified debt-creating flows) remain at the level of the last projection year.

Figure 4. Brazil: Public DSA—Composition of Public Debt and Alternative Scenarios

Source: IMF staff.

Figure 5. Brazil: Public DSA—Stress Tests



Source: IMF staff.