



July 2023

# BRAZIL

## 2023 ARTICLE IV CONSULTATION—PRESS RELEASE; STAFF REPORT; STAFF SUPPLEMENT; AND STATEMENT BY THE EXECUTIVE DIRECTOR FOR BRAZIL

Under Article IV of the IMF's Articles of Agreement, the IMF holds bilateral discussions with members, usually every year. In the context of the 2023 Article IV consultation with Brazil, the following documents have been released and are included in this package:

- A **Press Release** summarizing the views of the Executive Board as expressed during its July 19, 2023 consideration of the staff report that concluded the Article IV consultation with Brazil.
- The **Staff Report** prepared by a staff team of the IMF for the Executive Board's consideration on July 19, 2023, following discussions that ended on May 16, 2023, with the officials of Brazil on economic developments and policies. Based on information available at the time of these discussions, the staff report was completed on June 29, 2023.
- An **Informational Annex** prepared by the IMF staff.
- A **Staff Supplement** updating information on recent developments.
- A **Statement by the Executive Director** for Brazil.

The documents listed below have been or will be separately released.

### Selected Issues

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Washington, D.C.**



## IMF Executive Board Concludes 2023 Article IV Consultation with Brazil

FOR IMMEDIATE RELEASE

**Washington, DC – July 31, 2023:** The Executive Board of the International Monetary Fund (IMF) concluded the Article IV consultation<sup>1</sup> with Brazil.

In the first months of 2023, growth was supported by very strong agricultural output, while manufacturing and services were subdued. Slowing private consumption and falling investment point towards further growth moderation in the remainder of the year. Headline inflation has rapidly declined from last year's peak, but core inflation remains elevated, and inflation expectations are above target. Tightening financial conditions have been partially offset by a structural broadening of credit in some sectors.

Growth is projected to moderate from 2.9 percent in 2022 to 2.1 percent in 2023, and then reach staff's estimated potential rate over the medium term. Headline inflation is expected to reach 5.4 percent by end-2023 and converge to target by mid-2025, while core inflation is projected to come down more gradually. The current account is expected to narrow to about 2.3 percent of GDP this year and remain broadly stable over the medium term.

Strong buffers support resilience in the face of prevailing downside risks. On the external front, downside risks include an abrupt global slowdown, a sharp tightening of global financial conditions, and commodity price volatility. On the domestic front, risk mainly stem from renewed fiscal uncertainty and more persistent inflation. More ambitious fiscal consolidation; approval and implementation of the indirect tax reform; and green growth opportunities bring upside risks. Recent progress in the legislative agenda—with the tax reform, new fiscal framework, and the strengthening of the administrative review of tax disputes making strides—sends a positive signal. A sound financial system, adequate FX reserves, large public sector cash buffers, and a flexible exchange rate regime support resilience.

### Executive Board Assessment<sup>2</sup>

Executive Directors noted that after a rapid recovery from the pandemic, supported by ample buffers and proactive policies, Brazil's economic activity is converging towards potential levels. Directors noted the downside risks related to the uncertain external environment, but many emphasized that the balance of risks has shifted, with domestic risks now tilted to the upside.

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<sup>1</sup> Under Article IV of the IMF's Articles of Agreement, the IMF holds bilateral discussions with members, usually every year. A staff team visits the country, collects economic and financial information, and discusses with officials the country's economic developments and policies. On return to headquarters, the staff prepares a report, which forms the basis for discussion by the Executive Board.

<sup>2</sup> At the conclusion of the discussion, the Managing Director, as Chairman of the Board, summarizes the views of Executive Directors, and this summary is transmitted to the country's authorities. An explanation of any qualifiers used in summing up can be found here: <http://www.IMF.org/external/np/sec/misic/qualifiers.htm>.

In this context, they encouraged the authorities to continue with their fiscal consolidation and price stabilization efforts, while sustaining their structural reforms agenda to promote a sustainable, inclusive, and green economy.

Directors welcomed the authorities' commitment to improve the fiscal position to maintain debt sustainability and support monetary policy's disinflation effort. They encouraged the authorities to aim for an ambitious fiscal effort to put debt on a clear declining path, supported by an enhanced fiscal framework, a broader tax base, and spending reforms. Directors welcomed the proposed indirect tax reform and plans to reform direct taxes and streamline tax expenditures, noting that additional revenue mobilization will help secure fiscal sustainability and create space for priority spending. Some Directors noted that the Debt Sustainability Assessment might have been overly pessimistic in recent years.

Directors commended the central bank's proactive monetary policy response consistent with the inflation targeting framework. Noting the slow decline in core inflation and still above target inflation expectations, they considered the current monetary stance appropriate and called for continued forward looking and data-dependent monetary policy. Directors also welcomed the recent decision to adopt a continuous inflation target that should improve monetary policy effectiveness and commended improvements to BCB autonomy. They emphasized that a flexible exchange rate regime and adequate FX reserves remain important shock absorbers going forward.

Directors noted that the financial sector remains resilient, with adequately capitalized, profitable, and liquid banks. They welcomed steps to address household debt vulnerabilities and promote financial literacy. Directors commended the successful initiatives on the instant payment system Pix and Open Finance environment, as well as the plans for the Digital Real, while underscoring the importance of being mindful of potential financial stability risks related to digitalization. They also emphasized the need for carefully managing a bigger role for public banks to mitigate risks for fiscal sustainability and monetary policy transmission.

Directors commended the authorities' structural reform priorities focused on raising productivity, reducing informality, and promoting green growth. They emphasized the need for continued efforts to foster innovation, trade integration, and competitiveness, upgrade investment and skills, and promote greater female labor force participation. Continuing efforts to strengthen the effectiveness of the anti-corruption and AML/CFT frameworks is also important. Noting Brazil's prominent role in the international efforts to cope with climate change challenges, Directors welcomed plans to strengthen climate resilience, halt illegal deforestation, and decarbonize the economy.

**Table 1. Brazil: Selected Economic Indicators, 2021-28**

I. Social and Demographic Indicators								
Area (thousands of sq. km.)	8,510	Health						
Agricultural land (percent of land area)	30.2	Physicians per 1000 people (2022)					2.6	
Population		Hospital beds per 1000 people (2022)					2.0	
Total (million) (2022)	203.1	Access to safe water (2021)					84.2	
Annual rate of growth (percent, 2022)	0.7	Education						
Density (per sq. km. est., 2022)	23.9	Adult illiteracy rate (2019)					6.4	
Unemployment rate (2022)	7.9	Net enrollment rates, percent in:						
Population characteristics (2021)		Primary education (2019)					98	
Life expectancy at birth (years)	77	Secondary education (2019)					85	
Infant mortality (per thousand live births)	11	Poverty rate (in percent, 2021) 1/					29.4	
Income distribution (2017)		GDP, local currency (2022)					R\$9,915 billion	
Ratio between average income of top 10 percent of earners over bottom 40 percent	12.4	GDP, dollars (2022)					US\$1,920 billion	
Gini coefficient (2020)	48.9	GDP per capita (2022)					US\$9,455	
Main export products: airplanes, metallurgical products, soybeans, automobiles, electronic products, iron ore, coffee, and oil.								
II. Economic Indicators								
	2021	2022	2023	2024	2025	2026	2027	2028
	(Percentage change)							
National accounts and prices								
GDP at current prices	16.9	11.4	5.9	7.0	5.5	5.4	5.6	5.6
GDP at constant prices	5.0	2.9	2.1	1.2	1.7	1.9	2.0	2.0
Consumption	3.6	3.7	0.8	0.4	1.1	1.5	1.9	1.9
Investment (GFCF)	16.5	0.9	0.5	0.6	1.2	1.4	1.4	1.4
Consumer prices (IPCA, average)	8.3	9.3	5.1	4.6	3.0	3.0	3.0	3.0
Consumer prices (IPCA, end of period)	10.1	5.8	5.4	3.9	3.0	3.0	3.0	3.0
GDP deflator	11.4	8.3	3.8	5.7	3.7	3.5	3.5	3.5
	(Percent of GDP)							
Gross domestic investment								
Private sector	17.1	15.4	15.1	14.5	14.5	14.4	14.4	14.3
Public sector	2.4	2.7	2.8	3.2	3.2	3.2	3.1	3.1
Gross national savings								
Private sector	19.7	18.4	21.9	20.9	19.7	18.9	18.3	17.7
Public sector	-3.1	-3.2	-6.4	-5.7	-4.5	-3.8	-3.1	-2.6
Public sector finances								
Central government primary balance 2/	-0.4	0.5	-1.3	-0.8	-0.3	0.3	0.9	1.3
NFPS primary balance	0.7	1.3	-1.3	-0.8	-0.3	0.3	0.9	1.3
NFPS cyclically adjusted primary balance (in percent of potential GDP)	0.8	1.0	-1.7	-0.9	-0.3	0.3	0.9	1.3
NFPS overall balance	-4.3	-4.6	-7.9	-7.4	-6.2	-5.4	-4.8	-4.2
Net public sector debt	55.8	57.1	60.1	63.5	66.2	68.3	69.3	70.1
General Government gross debt, Authorities' definition	78.3	72.9	77.1	79.3	81.3	82.7	83.4	83.6
NFPS gross debt	90.7	85.9	89.2	91.2	93.3	94.8	95.6	95.9
Of which: Foreign currency linked	5.1	4.2	4.2	4.2	4.2	4.3	4.3	4.3
Money and credit								
Base money 3/	2.7	16.6	5.9	7.0	5.5	5.4	5.6	5.6
Broad money 4/	8.7	10.6	6.9	6.7	5.4	5.6	5.5	5.6
Bank loans to the private sector	17.6	14.6	8.0	8.0	8.0	8.0	8.0	8.0
Balance of payments								
Trade balance	36.4	44.2	50.1	47.0	47.8	49.0	50.1	50.2
Exports	284.0	340.3	338.5	343.3	349.4	357.4	366.5	379.0
Imports	247.6	296.2	288.4	296.3	301.6	308.4	316.4	328.8
Current account	-46.4	-56.9	-48.0	-56.1	-58.6	-60.0	-61.4	-64.2
Capital account and financial account	50.4	64.4	48.0	56.1	58.6	60.0	61.4	64.2
Foreign direct investment (net inflows)	30.2	60.8	54.2	53.2	52.4	53.3	54.3	55.3
Terms of trade (percentage change)	14.4	-7.1	-6.1	-6.4	-3.5	-1.9	-0.6	-1.1
Merchandise exports (in US\$, annual percentage change)	34.8	19.8	-0.5	1.4	1.8	2.3	2.6	3.4
Merchandise imports (in US\$, annual percentage change)	38.9	19.6	-2.6	2.7	1.8	2.2	2.6	3.9
Total external debt (in percent of GDP)	40.6	35.5	34.1	33.1	32.9	32.6	32.0	31.1
Memorandum items:								
Output Gap	-0.2	0.9	1.0	0.2	0.0	0.0	0.0	0.0
Current account (in percent of GDP)	-2.8	-3.0	-2.3	-2.5	-2.5	-2.4	-2.4	-2.3
Unemployment rate 5/	13.2	9.3	9.5	9.4	9.4	9.4	9.4	9.4
Gross official reserves	362	325	346	346	346	346	346	346
REER (annual average in percent; appreciation +)	-3.2	12.1	...	...	...	...	...	...

Sources: Central Bank of Brazil, Ministry of Finance, IBGE, IPEA, and Fund staff estimates.

1/ Computed by IBGE using World Bank's threshold for upper-middle income countries (U\$5.5/day).

2/ Includes the federal government, the central bank, and the social security system (INSS).

3/ Currency issued, required deposits held at the Central Bank plus other Central Bank liabilities to other depository corporations

4/ Currency outside depository corporations, transferable deposits, other deposits and securities other than shares

5/ Unemployment rate for 2021 and 2022 shows the average of March, June, September, and December.



# BRAZIL

## STAFF REPORT FOR THE 2023 ARTICLE IV CONSULTATION

June 29, 2023

### KEY ISSUES

**Context.** After a rapid recovery from the pandemic, economic activity is converging towards potential levels. Headline inflation has rapidly declined from last year's peak, but core inflation remains elevated, and inflation expectations are above target. To address cost-of-living concerns, the new government expanded the 2023 budget envelope, while identifying measures to recover tax revenues. The authorities are also embarking on an ambitious agenda to steer a sustainable, inclusive, and green economy.

**Outlook and Risks.** GDP growth is moderating but is expected to gradually improve towards staff's estimate of potential over the medium term. With the monetary policy stance remaining in restrictive territory, inflation would converge to target by mid-2025. An improvement in the non-financial public sector (NFPS) primary balance of around 3 percent of GDP is projected over the medium term, contingent on the implementation of measures, with NFPS gross debt stabilizing at 97 percent of GDP in staff's baseline scenario. The balance of risks is tilted to the downside. On the external front, downside risks stem from a possible global slowdown, a sharp tightening of global financial conditions, and commodity price volatility; and on the domestic front, mainly from renewed fiscal uncertainty and more persistent inflation. More ambitious fiscal consolidation, the envisaged indirect tax reform, and green growth opportunities are upside risks. Downside risks are mitigated by strong buffers, including a sound financial system, adequate FX reserves, large cash buffers by the public sector, and a flexible exchange rate regime.

### Key Policy Recommendations

**Fiscal Policy.** The authorities' commitment to improve the fiscal position guided by the new proposed fiscal rule is very welcome. To put debt on a firmly declining path, staff recommends a more ambitious fiscal effort, anchored in an enhanced fiscal framework that builds on the new rule. Expenditure reforms are needed to tackle rigidities, including on pensions and public administration. The indirect tax reform under discussion would significantly simplify the tax regime and boost potential output. The planned direct tax reform will be key to generate additional revenues, eliminate inefficient tax expenditures, and increase progressivity.

*Monetary and Exchange Rate Policy.* The monetary policy stance is appropriate and consistent with inflation converging to target, in line with the inflation targeting framework that has served Brazil well. The recent decision to adopt a continuous 3 percent inflation target from 2025 onwards, in line with regional peers, should help reduce uncertainty and improve monetary policy effectiveness. Building on improvements to the autonomy of the Central Bank of Brazil (BCB) in recent years, future efforts could focus on flexibility in budgetary decisions and in setting risk buffers. The flexible exchange rate regime and adequate FX reserves remain important shock buffers. Developing additional guidance on the use of FX swaps, aiming to reduce the outstanding high stock when conditions allow, would be advisable.

*Financial Sector Policies.* The financial sector has remained resilient and systemic risks are contained. The authorities are taking welcome steps to address the rise in household debt vulnerabilities. Consideration could also be given to a tailored limit on households' debt service-to-income ratio (DSTI) to protect consumers on future borrowing. Carefully managing any bigger role for public banks remains important to mitigate risks for fiscal sustainability and monetary policy transmission. The BCB is at the forefront of financial innovation, with a highly successful instant payment system (Pix) and plans to launch a wholesale Central Bank Digital Currency (CBDC).

*Structural Reforms.* The government's goals to steer a sustainable, inclusive, and green economy require lifting Brazil's low potential growth. Priorities are rightly focused on increasing investment in both physical and human capital, boosting skills, and improving education. The policy focus on early childhood and planned expansion of childcare centers would support female labor force participation and help narrow gender gaps. Further labor market reforms and trade integration would also support productivity and competitiveness.

*Climate.* Changing climate conditions are already affecting Brazil's economy, with agriculture and power generation being the most vulnerable sectors. Moreover, current patterns of land-use amplify climate risks by profoundly affecting water cycles. The authorities are considering policy options to protect economic activity, assets, and livelihoods. These include: boosting the Amazon's resilience to climate shocks via fiscal incentives for forest protection; investing in climate smart agriculture and insurance; continuing diversification of power supply to renewables; developing a green and social taxonomy; and leveraging the BCB Sustainability Agenda. To meet Brazil's ambitions in lowering emissions, plans to create a mandatory Emissions Trading System (ETS) are welcome. The launch of the first sovereign green bond would be the first step in developing a yield curve for green bonds that could catalyze private financing.

**Approved By**  
**James Morsink**  
**(WHD) and Bikas**  
**Joshi (SPR)**

Discussions took place in Brasilia, São Paulo, and Rio de Janeiro during May 2-16, 2023. The mission met with Finance Minister Haddad, Central Bank Governor Campos Neto, other senior public officials, and private sector representatives. The team was headed by Ana Corbacho and comprised Dimitris Drakopoulos, Swarnali Hannan, and Christina Kolerus (all WHD), Yehenew Endegnanew (SPR), Nabil Hamliri (FAD), and Mustafa Saiyid (MCM). Afonso Bevilaqua and Bruno Saraiva (OED) participated in many of the discussions. James Morsink and Rodrigo Valdes (both WHD) joined the concluding meetings. Chen Chen, Koralai Kirabaeva, Ian Parry, and Nate Vernon (all FAD) contributed analysis on climate policies; Keiko Honjo (RES) on fiscal scenarios; and Matteo Ghilardi (WHD) on potential output growth. Kristine Laluces, Gabriel Moura, and Evelyn Carbajal (all WHD) provided editorial and research assistance.

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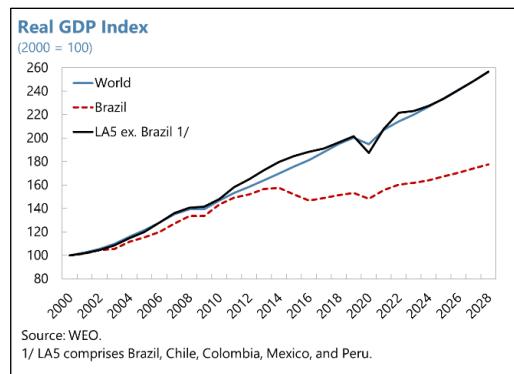
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## CONTEXT

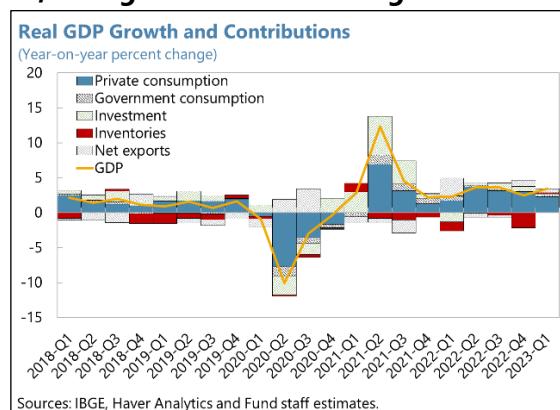
**1. The new administration took office in January 2023 pledging an ambitious agenda of inclusive and sustainable growth.** Key government priorities include addressing hunger and inequality, turning Brazil into an environmental leader, and ensuring fiscal credibility and robust public policies.<sup>1</sup> First steps are already in train, including: protecting the most vulnerable under the renewed Bolsa Família program, which replaced Auxílio Brasil; launching measures to halt illegal deforestation and re-establishing the Amazon Fund; proposing a new fiscal rule and identifying measures to restore fiscal revenues; and advancing indirect tax reform.

**2. Delivering on this agenda requires navigating both near-term and long-standing economic challenges.** The timely and large response to the pandemic prevented millions from falling into poverty, boosted poorer households' incomes, and dampened the economic downturn.<sup>2</sup> However, high inflation has depressed real incomes in the recent period, notably for the poorest, and record-high indebtedness has added to household vulnerabilities. On the structural side, potential growth has been too low to lift households out of poverty and set Brazil on a sustainable convergence path. Entrenched budget rigidities constrain space for priority spending, including for much needed public investment. Moreover, absent investment in safe and resilient infrastructure and energy production, climate change will continue to pose risks to inclusive and sustainable growth.



## RECENT DEVELOPMENTS

**3. Following a rapid recovery from the pandemic, GDP growth is moderating.** Real GDP grew by 5 percent in 2021, on the back of supportive fiscal measures, the reopening of the services sector, and favorable commodity prices. Growth slowed to 2.9 percent in 2022, still above staff's estimate of potential (Annex I). In the first months of 2023, growth was supported by very strong agricultural output, while manufacturing and services were subdued. Slowing private consumption and falling

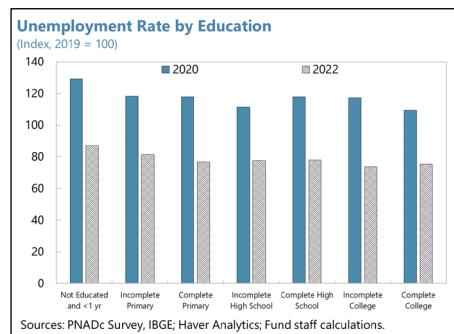
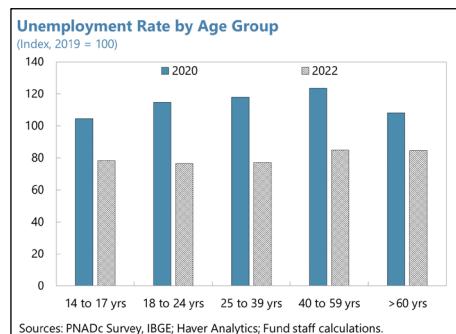
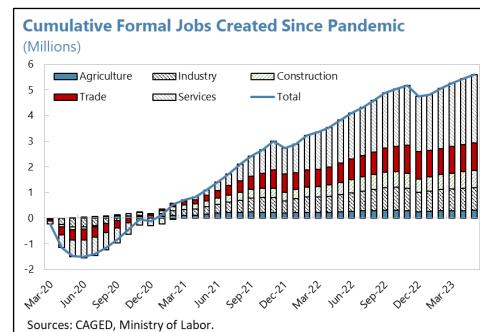


<sup>1</sup> [Mensagem do Presidente ao Congresso](#), January 2023.

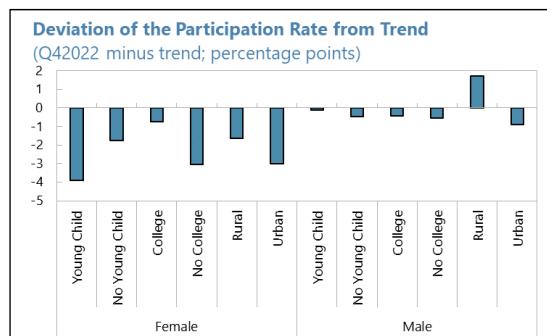
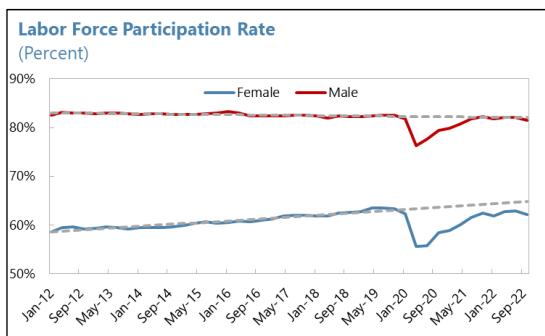
<sup>2</sup> Al Masri, D., V. Flamini, and F. Toscani, 2021, "The Short-Term Impact of COVID-19 on Labor Markets, Poverty and Inequality in Brazil," IMF Working Paper 21/066.

### Box 1. Labor Market Developments and Gender Gaps Since the Pandemic

**Labor markets in Brazil have recovered strongly since the pandemic.** The unemployment rate increased significantly during the pandemic, particularly affecting less educated people. However, since around mid-2021, the unemployment rate has declined across the board. Moreover, real wages have bounced back to pre-pandemic levels. One striking feature in the post-pandemic recovery has been the rapid growth in employment and real earnings in the so-called gig/new economy, encompassed to some extent by the self-employed and informal private sector jobs. This trend brings new challenges to ensure adequate social security coverage and job protection for these groups.



**However, progress in narrowing the gender gap in labor force participation has stalled in the post-pandemic recovery.** Prior to the pandemic, female labor participation rates were trending upward, helping close gender gaps. However, progress has slowed in recent years, with the participation rate for women with young kids falling the most below trend (by about 3.9 percentage points compared to the pre-pandemic trend, compared to a 0.14 percentage point decline of equivalent male counterparts), followed by less educated and urban women. The responses to the PNADc survey suggest that attending to household responsibilities is one of the key factors behind the decline in the female participation rate. About 25 percent of women reported care work as the reason for not searching for jobs in the Q1 2023 survey.



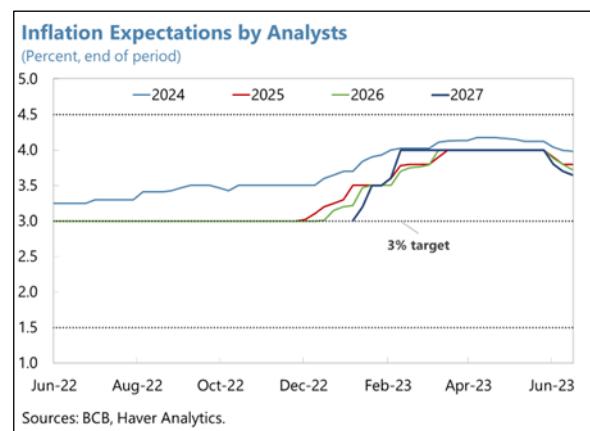
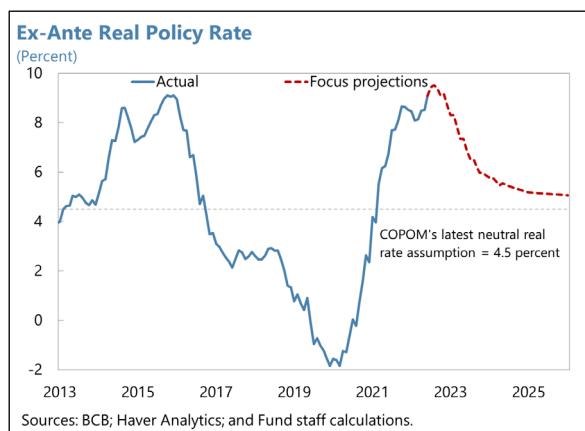
Sources: Flaminio V., D.B.P Gomes, and M. Mendes (forthcoming). "A Broken Trend: COVID-19 and Gender Gaps in the Brazilian Labor Market." IMF Working Paper. The underlying data is from the PNADc survey. The grey dotted line in the left-hand side chart shows the time trend. For both charts, the trend is calculated for the period between 2021Q1 and 2019Q4.

**The policy focus on early childhood and planned expansion of day-care centers is welcome and would help narrow the gender participation gap.** Apart from making childcare more widely available and affordable, steps to decrease gender salary gaps, increase the transparency of pay, and provide more parental leave could create a level playing field to enable women to work, develop their potential, and reduce gender gaps. This, in turn, would boost potential growth and increase equality of opportunities ([IMF Fiscal Monitor, April 2021, Chapter 2](#)).

investment point towards further growth moderation in the remainder of 2023. Employment growth also cooled down to 0.9 percent year-over-year in May 2023, from 9.8 percent at end-2021, but labor market conditions remain relatively tight, including due to declining labor force participation rates. At the same time, progress in closing the gender participation gap has stalled following the pandemic (Box 1).

**4. Price pressures have eased but remain elevated.** Headline inflation peaked at 12 percent year-over-year in April 2022, driven by global supply shocks, including high energy and food prices, and a strong domestic economy. Headline inflation then declined steadily to 3.9 percent in May, within the inflation tolerance band, on the back of tight monetary policy, lower regulated prices, and favorable base effects. However, non-regulated prices and core inflation have been stickier, with the latter declining from a peak of 9.7 percent in June 2022 to 7.2 percent in May.<sup>3</sup> Despite tighter monetary policy, core inflation has also been more persistent when compared to past episodes of high inflation, including due to a positive output gap, tighter labor markets, and more persistent inflation expectations (Box 2). After falling sharply in 2021, real wages recovered in 2022 and reached pre-pandemic levels in early 2023.

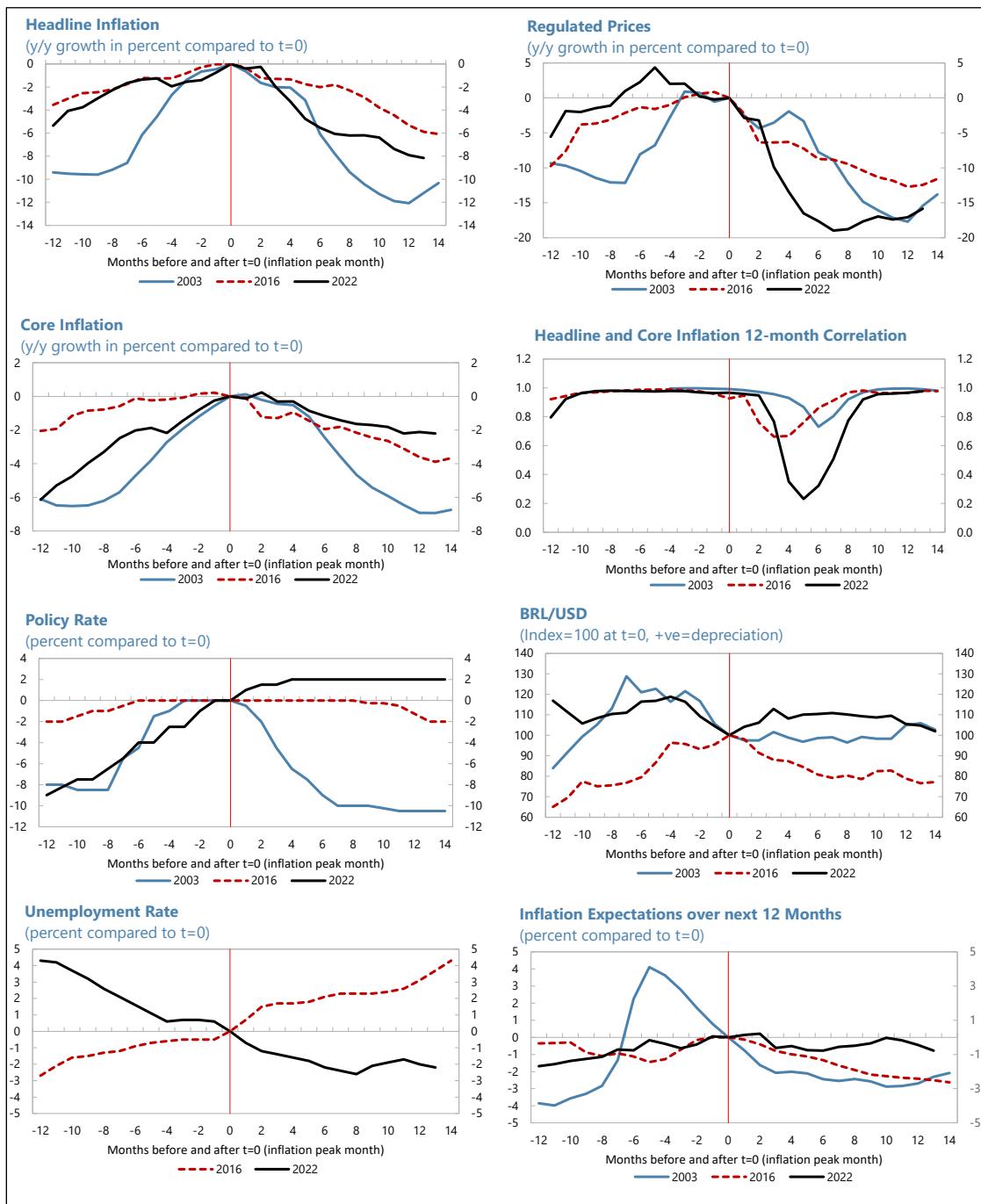
**5. The BCB was among the first central banks to raise the policy interest rate and has been on hold since August 2022.** With the policy rate at 13.75 percent, the ex-ante real rate has hovered around 9 percent in recent months (using 12-month ahead inflation expectations), compared to neutral rate estimates of at least 4 percent. Despite the tight monetary policy stance, inflation expectations both in the short and the medium term edged up in early 2023, affected by uncertainty about the inflation target and the medium-term fiscal outlook. Uncertainty subsided with the decision of the National Monetary Council (CMN) in June to adopt a continuous target of 3 percent from 2025 onwards, in line with regional peers, to be established by Presidential decree. The proposed new fiscal rule and planned revenue increases have also helped reduce fiscal uncertainty.



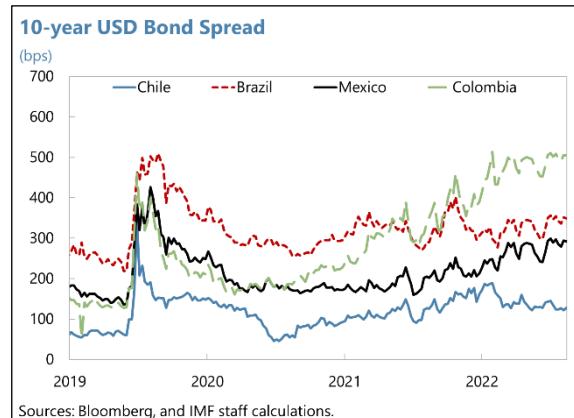
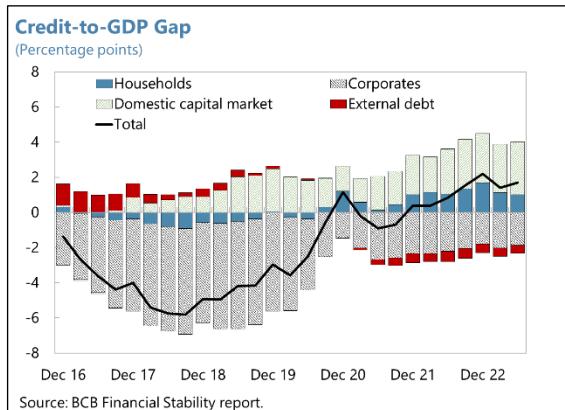
<sup>3</sup> Core inflation is measured as IPCA core (CPI excluding most food-at-home items and fuel for vehicles and home use).

### Box 2. Drivers of Inflation in Historical Perspective

The charts compare the before and after evolution of indicators during three episodes (2022, 2016, and 2003) when headline inflation surpassed 10 percent year-over-year, with peak months: April 2022, January 2016, and May 2003. Compared to previous episodes, monetary policy has been tighter in 2022, while the Brazilian Real performed better. Headline inflation fell more compared to 2016 due to a faster decline in regulated prices. Core inflation in the 2022 episode has been more persistent with a lower correlation with headline inflation compared to past episodes, due to tighter labor markets, stronger services growth, a positive output gap (negative in the last two episodes), and more persistent inflation expectations.



**6. Credit growth is slowing, in part reflecting the tight monetary policy stance.** Bank credit growth declined to 10 percent year-over-year in May, down from 18 percent in mid-2022. However, the credit gap remains positive, as tightening financial conditions have been partially offset by a structural broadening of credit in some sectors. Financial innovation, including swift digital underwriting, has fostered easier access to credit for households.<sup>4</sup> The households' DSTI ratio reached an all-time high of 27.7 percent in April, driven partly by riskier products such as credit cards and non-payroll loans. Banks' non-performing loan (NPL) ratios have picked up since the start of the monetary tightening cycle, particularly on unsecured credit to households, though remain close to their long-term average of about 3 percent.



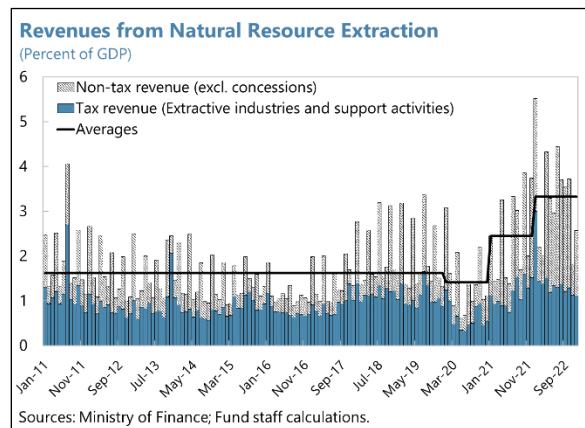
**7. Financial markets weathered well domestic and external stress events that took place earlier this year.** External credit spreads and the Brazilian Real have been relatively insulated from increased global volatility in the first quarter of the year, helped by Brazil's low external debt and high real interest rates compared to peers. Year-to-date currency inflows were the highest since 2018, on the back of a strong trade surplus and small financial outflows. The Treasury took advantage of favorable market conditions and returned to international bond markets in April after an almost two-year hiatus. The authorities are also planning the issuance of the first sustainable sovereign bond in the second half of the year. The bankruptcy of a large corporate in mid-January following 'accounting inconsistencies' had a negative but temporary effect on local markets. As of the second quarter of the year, conditions in corporate credit markets had largely normalized against the backdrop of overall credit moderation.

**8. The 2022 external position remained broadly in line with fundamentals.** Despite a sizable trade surplus in goods boosted by commodity exports, the current account deficit reached 3 percent of GDP in 2022, reflecting high deficits in services and primary income. The current account deficit was financed by solid net FDI inflows (3.1 percent of GDP) amid limited net portfolio outflows (0.3 percent of GDP). International reserves remained adequate relative to the ARA metric,

<sup>4</sup> Some payment institutions have capitalized on instant payment systems and have grown swiftly in recent years, in part by offering credit card products to households. The two largest payment institutions acquired banking licenses, and each now represent about 1 percent of banking system assets. The authorities have addressed some previous asymmetry in regulation between these institutions and conventional banks by aligning capital requirements and have also strengthened the monitoring of account creation.

despite declining to US\$325 billion at end-2022 (from US\$362 billion at end-2021), mostly owing to valuation effects. Reserves recovered to US\$345 billion in May. The appreciation of the exchange rate in the first four months of 2022 was largely reversed, and the Brazilian Real has stayed broadly stable since July 2022 with some strengthening in April. The 2022 external position is assessed to be broadly in line with the level implied by fundamentals and desirable policies (Annex II). In the first few months of 2023, strong exports, supported by commodities, and moderating imports have led to a large trade surplus, notwithstanding the decline in international prices.

**9. The headline fiscal position improved markedly in 2022 and NFPS gross debt declined below pre-pandemic levels.** The primary surplus of the NFPS increased from 0.7 in 2021 to 1.3 percent of GDP in 2022, helped by record commodity revenues (around 3½ percent of GDP, double the decade-long average) and a public sector wage/hiring freeze. NFPS gross debt declined to 86 percent of GDP at end-2022, below pre-pandemic levels. Notwithstanding these strong headline results, the fiscal stance turned expansionary in 2022, as the structural balance deteriorated amid broad tax cuts on essential goods and services (ICMS, PIC/COFINS) and industrial goods (IPI), and higher spending for social support.



**10. For 2023, the government approved a constitutional amendment to increase the spending envelope, while proposing measures to restore revenues.** The 'transition constitutional amendment' expanded the projected federal primary deficit in the 2023 budget to 2.2 percent of GDP to make space for (i) the continuation of social benefits at the 2022 benefit level under Bolsa Familia and other social support; (ii) public investment programs, including social housing; and (iii) increases in public wages and pensions. The amendment also ended the federal spending cap, Brazil's fiscal anchor since 2016, and called for a new fiscal rule, which the government unveiled in March. The authorities reversed pandemic-related tax cuts on fuels and financial revenues and implemented tax changes on transfer pricing and offshore financial revenues. Recent court decisions to allow for double taxation on goods and services across levels of government are

Revenue Measures Announced by the Government		
	BRL billion	Percent of GDP
<b>Permanent Measures</b>	<b>184</b>	<b>1.8</b>
Double taxation of goods and services (ICMS in PIS/COFINS tax base)	30	0.3
Double taxation of goods and services (ICMS in CSLL/CIT tax base)	70	0.7
PIS/COFINS taxes on financial revenues (reversal)	4	0.0
PIS/COFINS taxes on fuels (reversal)	29	0.3
CARF tax litigation reduction	15	0.1
Voluntary settlements of tax disputes	5	0.0
Transfer pricing	23	0.2
Off-shore financial revenues	8	0.1
<b>Extraordinary Revenues</b>	<b>73</b>	<b>0.7</b>
CARF tax litigation reduction	35	0.3
Voluntary settlements of tax disputes	15	0.1
Unclaimed funds (PIS/PASEP)	23	0.2
<b>Total Measures</b>	<b>257</b>	<b>2.5</b>

Sources: Ministry of Finance, media outlets, market participants, and Fund staff calculations.

expected to be implemented in coming months.<sup>5</sup> The authorities estimate these measures would yield about 2.3 percent of GDP in the near term, of which 1.6 percent of GDP would be permanent.

## OUTLOOK AND RISKS

**11. Growth is expected to moderate in the remainder of 2023 before gradually recovering to potential over the medium term.** Growth is projected to moderate from 2.9 percent in 2022 to 2.1 percent in 2023,<sup>6</sup> and then reach staff's estimated potential rate over the medium term, with the positive output gap closing. Headline inflation is expected to reach 5.4 percent by end-2023 and converge to the target of 3 percent by mid-2025, while core inflation is projected to come down more gradually. The monetary policy stance would remain in restrictive territory in coming years, with the real policy rate approaching its neutral level by 2025. The baseline scenario reflects a NFPS primary deficit of 1.3 percent of GDP in 2023, consistent with a fiscal impulse of about  $\frac{3}{4}$  percent of GDP. The NFPS primary balance is then projected to improve to a surplus of around  $1\frac{1}{4}$  percent of GDP over the medium term, contingent on the implementation of 2 percent of GDP in revenue measures, with NFPS gross debt stabilizing at around 97 percent of GDP over the longer term. The current account is expected to narrow to about 2.3 percent of GDP this year and remain broadly stable over the medium term.

**12. The balance of risks is tilted to the downside.** Key external risks include an abrupt global slowdown; commodity price volatility; and a sharp tightening of global financial conditions (Annex III). Domestic downside risks include renewed fiscal uncertainty; more persistent inflation, including due to tight labor markets for longer; an intensification of adverse climate events; and social discontent, for instance triggered by global supply shocks that increase the cost of living. On the upside, successful fiscal consolidation, particularly if supported by an enhanced fiscal framework, a further broadening of the tax base, and reforms that tackle budget rigidities as recommended by staff, could help create conditions conducive to an earlier reduction in the monetary policy rate, lower risk premia, and help protect priority spending. In addition, approval and implementation of the indirect tax reform would simplify the tax regime and boost potential output. Leveraging Brazil's vast green growth opportunities could further lift potential.

**13. Strong buffers support resilience.** Adequate FX reserves, a flexible exchange rate regime, and an external position broadly in line with fundamentals help cushion risks. Low FX debt and large public sector cash buffers, as well as a sound financial system, further support resilience.

### Authorities' Views

**14. The authorities concurred that growth would moderate somewhat in 2023, while emphasizing the Brazilian economy had consistently beat expectations.** Despite the deceleration in the second half of 2022, the authorities were more optimistic than staff, with

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<sup>5</sup> The federal government can now include paid ICMS taxes (to states) in the tax base of PIS/COFINS and the CSLL/corporate income tax.

<sup>6</sup> Growth is expected to moderate to 0.9 percent year-on-year in 2023 Q3 and then recover in 2024.

stronger projected growth, converging to a potential rate of around 2.5 percent over the medium term, supported by social assistance, a reduction in inequality, minimum wage policies, increased public and private investment (mainly guided by the ecological transformation), and lower uncertainty and inefficiencies brought about by the new fiscal and tax regimes. The authorities agreed that leveraging green growth opportunities and implementing the VAT reform could further boost economic potential. The authorities saw inflation gradually declining and pointed out that lower food price inflation was already bringing relief to the poor, while easing labor and credit market conditions would further support disinflation. The BCB noted that inflationary pressures could prove persistent and inflation components more sensitive to the economic cycle remained above the range compatible with meeting the inflation target, slowing the convergence towards the target. The authorities highlighted fiscal uncertainty had declined substantially after the unveiling of the new proposed fiscal rule, as can be confirmed by lower long-term yields. They concurred strong buffers support resilience, including adequate FX reserves, a flexible exchange rate, an external position broadly in line with fundamentals, a sound financial system, and large cash buffers by the public sector.

## POLICY DISCUSSIONS

### A. Securing Fiscal Sustainability while Preserving Inclusive and Growth-Friendly Spending

#### **15. The authorities' commitment to improve the fiscal position is very welcome.**

Acknowledging the need for fiscal consolidation to maintain debt sustainability, mitigate risks, and support monetary policy's disinflation effort, the authorities aim to improve the federal primary balance from a projected deficit of 2.2 percent of GDP in the 2023 budget to a deficit of 0.5 percent of GDP in 2023 and a surplus of 1 percent of GDP by 2026, within a narrow tolerance band. Based on more favorable assumptions than staff, the authorities estimate such consolidation (of about 3 percent of GDP) would stabilize public debt (authorities' definition) by 2026. Given the design of the new fiscal rule (Box 3), staff estimates that the authorities' strategy would require increasing revenues by about 2.5 percent of GDP over the near to medium term from the 2023 budget. The authorities' announced near-term revenue generating measures focus on reversing pandemic-related tax cuts, mitigating tax litigation losses, and closing loopholes, while forthcoming plans would focus on pursuing a direct tax reform and reducing inefficient tax expenditures. The authorities are also advancing a well-designed indirect tax reform that would be revenue neutral (see below).

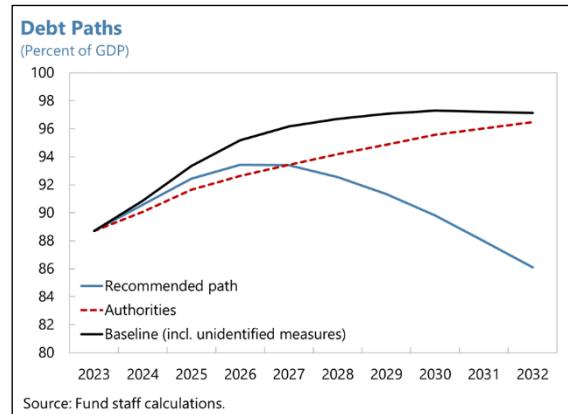
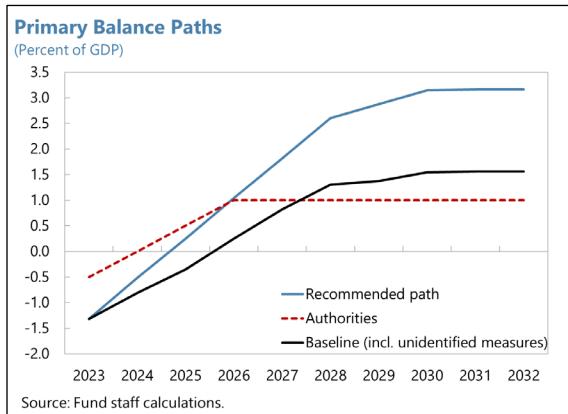
#### **16. Staff's baseline scenario projects a NFPS primary deficit of 1.3 percent of GDP in 2023, relative to a projected deficit in the 2023 budget of 2.2 percent of GDP.<sup>7</sup>** Staff's projection includes the gradual reversal of PIS/COFINS taxes on fuels and financial revenues, tax changes on transfer pricing and off-shore financial revenues, the unwinding of pandemic-related unused funds

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<sup>7</sup> Staff's baseline scenario envisages a broadly balanced fiscal position for subnational governments, hence also a federal primary deficit of 1.3 percent of GDP.

(PIS/PASEP), and some spending restraint. Staff's baseline only partially reflects the impact of other tax measures in the near term, including the double taxation on goods and services, given uncertainty around estimated yields and considering the full impact would materialize with a lag.<sup>8</sup> Staff welcomes the authorities' intention to deliver a more ambitious improvement in the 2023 federal primary deficit to 0.5 percent of GDP, which would be consistent with an adequately neutral fiscal stance, requiring saving any revenue overperformance compared to the baseline. Over the medium term, staff projects an improvement to a NFPS primary surplus of 1.3 percent of GDP, in line with a more gradual implementation of tax revenue measures than the authorities, coupled with some moderation in spending growth guided by the new fiscal rule.

**17. Staff recommends a more ambitious fiscal effort that continues beyond 2026 to put debt on a firmly declining path.** Brazil's debt is high and projected to rise further in the coming years, with debt stabilizing around 97 percent of GDP in 2032.<sup>9</sup> Although staff's debt sustainability assessment finds risks of debt distress to be moderate under the baseline scenario, the debt trajectory remains highly sensitive to shocks to borrowing costs and real GDP growth, and the materialization of fiscal risks (Annex IV). In particular, large fiscal risks stem from the sizable stock of judicial claims,<sup>10</sup> the postponement of settling court-ordered payments, and delays in tax litigation (Annex V). The overwhelmingly domestic investor base, low external debt, and large cash buffers by the public sector (at 10 percent of GDP) mitigate risks and provide room for gradual consolidation over the medium term. Staff estimates that a total fiscal effort of around 4-4½ percent of GDP over the medium term, supported by an enhanced fiscal framework, a further broadening of the tax base, and reforms that tackle budget rigidities, would put debt on a firmly downward path, while preserving space for inclusive and growth-friendly spending.<sup>11</sup> A shift towards a tighter fiscal stance than in the baseline would support the disinflation effort, reduce its costs, and help create the conditions that could allow monetary policy to ease sooner.



<sup>8</sup> Staff's baseline scenario considers about 0.6 percent of GDP of new tax measures in the near term. CARF litigation improvements are not considered but present an upside risk.

<sup>9</sup> With NFPS debt at 86 percent of GDP in 2022, Brazil's debt is about 30 percentage points above the emerging market (and LA5) median. (LA5 comprises Brazil, Chile, Colombia, Mexico, and Peru).

<sup>10</sup> The stock of judicial claims increased to 38 percent of GDP in 2022, by far exceeding peers.

<sup>11</sup> Staff's recommended fiscal effort considers about 2-3 percent of GDP in spending measures and 1-2 percent of GDP in revenue measures (see paragraphs 19, 21, and Selected Issues Paper).

### Box 3. Proposed New Fiscal Rule

**An indicative primary balance path.** The authorities aim to improve the federal primary balance from a deficit of 0.5 percent in 2023 to a surplus of 1 percent of GDP in 2026, within a narrow band of +/-0.25 percent of GDP.

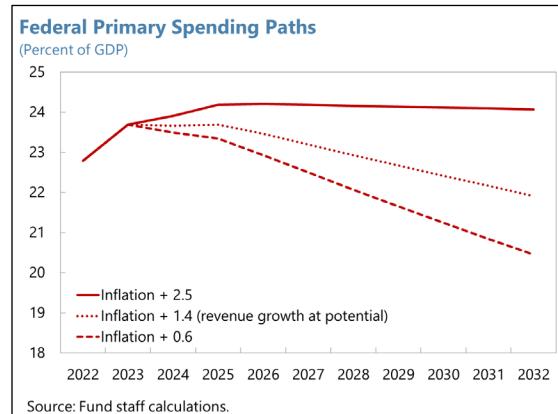
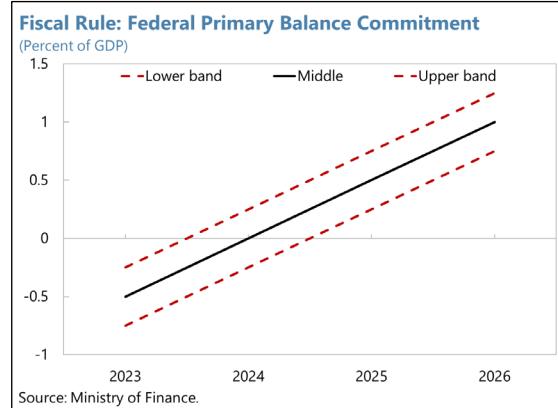
**A spending corridor.** Real federal spending growth would have a floor of 0.6 percent and a ceiling of 2.5 percent, contingent on revenue collection and the distance to the primary balance targets. Concretely:

- If the primary balance in year  $t$  is within the band, planned real federal spending growth in  $t+2 = 0.7 \times$  real revenue growth in  $t+1$  (mid-year)
- If the primary balance in year  $t$  is outside the band, planned real federal spending growth in  $t+2 = 0.5 \times$  real revenue growth in year  $t+1$  (mid-year)

**Floor on investment.** The new rule includes a floor on public investment of 0.6 percent of GDP. Up to 70 percent of the overperformance of the primary balance relative to target can be used towards higher capital spending, with a limit of 0.25 percent of previous year's GDP.

**Revenue growth.** Acknowledging volatility in non-recurring revenues, revenue growth used to determine spending growth in the fiscal rule exclude other revenues such as dividends, concessions, and royalties.

**Within-year correction mechanism.** If the primary balance target is at risk within the year, spending would be corrected through bans on: new hiring, increases in public wages, new mandatory spending, or increases in assistance policies or tax benefits.



**18. There is scope to build on the proposed new fiscal rule to strengthen sustainability and credibility, while providing flexibility.** Model simulations show that a credible consolidation path, while protecting inclusive and growth-friendly spending, would foster sustainability and growth (Box 4). Possible enhancements to the framework include (see Selected Issues Paper):

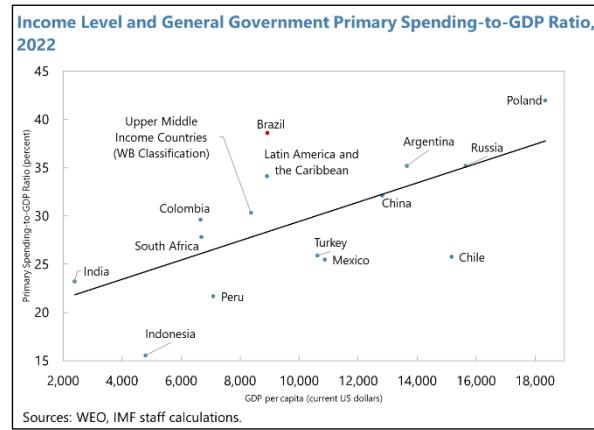
- **A strong fiscal anchor that puts debt on a firmly downward path within a medium-term perspective.** The proposed rule does not feature a built-in reduction in debt, while the primary balance path remains indicative.<sup>12</sup> Under staff's macroeconomic assumptions, a primary surplus of around 1½ percent of GDP would be needed to stabilize debt over the longer term. Considering the need for buffers, staff estimates an adequate anchor for the longer term would be a net general government debt-to-GDP ratio of around 55 percent (NFPs gross debt of 80-

<sup>12</sup> The draft Complementary Law that governs the new fiscal rule specifies federal primary balances would be set in the annual Budget Guidelines Law.

85 percent), consistent with staff's recommended fiscal effort of 4-4½ percent of GDP. Alternatively, building on the authorities' proposed new rule, the framework could be anchored in a binding multi-year primary balance path that underlies budget formulation with a correction mechanism to offset deviations. Continuing to transparently report on fiscal developments and projections to ensure consistency with fiscal targets would support fiscal efforts, transparency, and accountability.

- A spending rule that addresses Brazil's large public spending ratio and reduces the risks of consolidation through revenues only.<sup>13</sup>**

Unless accompanied by sustained revenue measures, the new fiscal rule would entail a shift towards a structural fiscal easing. Aiming for a sizable and rapid increase in revenues carries implementation risks, given slowing cyclical conditions in the near term and an already significant revenue ratio on a structural basis, and could be harmful for growth. Taking into account government preferences for safeguarding priority spending



Sources: WEO, IMF staff calculations.

while increasing revenues, and, building on the new proposed rule, the spending ceilings could be strengthened by (i) ensuring consistency with primary balance targets; (ii) linking spending growth to sustained increases in the structural revenue-to-GDP ratio;<sup>14</sup> (iii) reducing the embedded pro-cyclical bias; (iv) harmonizing rules on current versus capital spending to mitigate risks of misclassification; and (iv) allowing spending cuts in the budget preparation process if needed.

- A well-defined economic escape clause that guides the response to shocks and allows for countercyclical support, while remaining consistent with debt sustainability.**
- A mechanism to promote additional government savings when commodity prices are high** and thus shield public finances from commodity cycle fluctuations.
- Rules for subnational governments that harden budget constraints and strengthen monitoring.** Ideally, expenditure rules should be set for each level of government in a concerted effort and supported by structural reforms, while respecting relative autonomy within Brazil's federal system.
- A more comprehensive medium-term fiscal framework (MTFF) and strong institutions that bolster transparency and accountability.** The authorities' plans to undertake a spending review, coupled with performance-based budgeting, would support consolidation efforts and

<sup>13</sup> Based on general government data following GFSM 2014, total spending reached 46 percent of GDP in 2022.

<sup>14</sup> In addition to excluding other non-recurring revenues as currently foreseen, this would also strip off the effect of economic and commodity cycles on tax collection.

improve efficiency. In addition to forecasts of main budget aggregates, the MTFF could distinguish between recurrent and capital spending, as well as old and new projects. The Independent Fiscal Council (IFI) could be tasked with monitoring the activation and implementation of escape clauses, running debt sustainability analysis with independent assumptions, performing reality checks on the feasibility and stability of budget plans, and publishing goalposts and milestones.

**19. Tackling spending rigidities, while protecting social and investment spending, would foster sustainability and inclusive growth.** Mandatory spending, mainly on pensions and wages, has reached more than 90 percent of general government spending and generally benefits higher-income households. Entrenched budget rigidities further constrain room for priority spending. While recognizing their complexity, reforms of pension and public administration are needed to put spending growth on a sustainable path and create space for priority programs. Revisiting indexation and revenue earmarking would provide flexibility and additional room to respond to shocks. Reform options, generating savings of about 2-3 percent of GDP materializing over time, include (see Selected Issues Paper):<sup>15</sup>

- **Pensions:** The 2019 pension reform introduced several good practices into the general pension system (RGPS) and the federal civil servants' regime (federal RPPS) and stabilized their deficits. The federal and subnational RPPS regimes generate a deficit of about 2.5 percent of GDP, equivalent to the RPPS deficit but covering far fewer contributors. The subnational RPPS regimes should be reformed swiftly through an alignment of all RPPS to RPPS parameters. Deficits can be gradually eliminated by a well-parametrized combination of (i) reduced replacement rates (including lower accrual rates and a cap on pension indexation); (ii) increases in the effective retirement age; (iii) higher contribution rates while avoiding unintended effects on formalization; (iv) full income taxation of pensions; and (v) a coordination of non-contributory regimes with other social programs. Moreover, implementing an automatic adjustment mechanism for pension parameters (e.g., retirement age or replacement rates) would allow pension spending to adapt automatically to demographic changes.
- **Public Administration:** Employee compensation accounts for about 30 percent of general government spending and 12 percent of GDP, above the 8-9 percent average for emerging and Latin American economies, and is mainly driven by high premia relative to private sector wages rather than by high employment.<sup>16</sup> Adjusting wage growth below nominal GDP (e.g., by IPCA) and implementing targeted attrition policies could save up to 1 percent of GDP, while additional savings can be achieved by revamping career progression and service structure and changing salary structures. A public administration reform will also support RPPS reforms by limiting the mechanical link between growth in the wage bill and pensions.

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<sup>15</sup> Ongoing efforts by the authorities to improve Bolsa Família and address the statistical increase in reported single-adult families would also help streamline social assistance spending.

<sup>16</sup> At about 9 percent of working age population, the number of civil servants is in line with comparable countries.

- **Budget Rigidities:** Reviewing spending indexation and revenue earmarking rules, combined with sectoral spending reviews, is key to create space for priority spending and could bring efficiency gains.

**20. The authorities' revenue-neutral indirect tax reform plan is well-designed, would significantly streamline the tax regime, and could boost potential growth.** The envisaged indirect tax reform, merging all consumption taxes and introducing an integrated value added tax (VAT), would foster substantial efficiency and productivity gains, reduce tax competition among subnational governments, mitigate risks from judiciary disputes, and boost potential growth. Plans to support the poor through targeted VAT refunds and/or cash transfers, rather than generalized exemptions, are welcome.

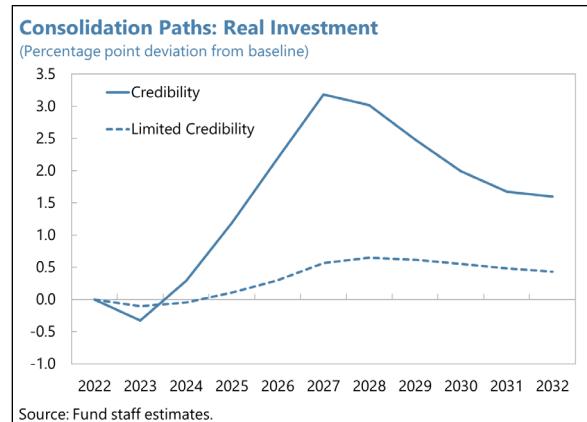
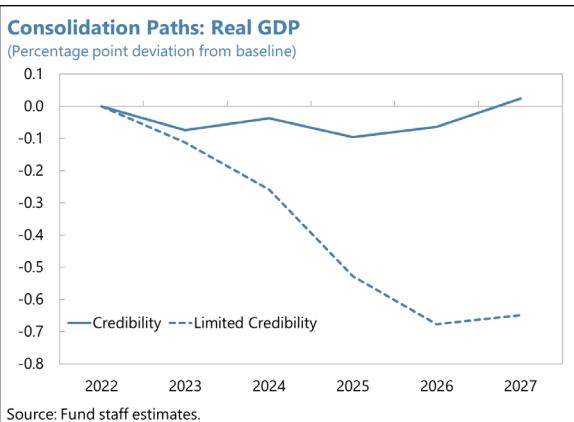
#### Box 4. Alternative Fiscal Scenarios: The Role of Credibility

**The IMF GIMF model is used to assess the benefits of policy credibility during fiscal consolidation.** The simulation considers tackling spending rigidities through entitlement reform and other spending restraint (about 2½ percent of GDP), while preserving inclusive and growth-friendly spending, complemented by tax measures of around 1 percent of GDP, in line with staff's recommendations. Savings span over a 5-year horizon, allowing for a decline in the sovereign risk premium of 25 bps per year.

**The model considers the impact of fiscal consolidation on real GDP and other key macroeconomic variables under two modes of expectations:** limited credibility and credibility under stepwise updating.

- Under limited credibility, economic agents consider fiscal plans for one year only and update their actions each year. Consolidation weighs on GDP, mainly driven by a decline in government consumption and transfers, and higher labor and corporate taxes. Real GDP declines relative to the baseline, while effects on investment are small despite the lower risk premia given limited foresight.
- Under credibility with stepwise updating, agents consider the fiscal path to be credible (and update as next year's plan is released, yet without full foresight). They decide to invest, also boosted by the decline in the sovereign risk premia. The increase in investment broadly offsets the negative impact of consolidation on real GDP, with limited overall output losses relative to the baseline.

The results reinforce the benefits of fiscal consolidation supported by reforms that tackle spending rigidities and bolster the credibility of an enhanced fiscal framework that aims to put debt on a downward path.



**21. Even with spending reforms, additional revenue mobilization is necessary to secure fiscal consolidation.** In particular, the direct tax reform expected in the second half of 2023 will be key to generate additional revenues, eliminate inefficient tax expenditures, and increase progressivity. Measures that bring short-term revenue gains but introduce undesirable distortions are not advisable, as they increase risks for growth and sustainability. Staff estimates the following measures could yield about 1-2 percent of GDP in additional revenues:

- **Personal Income Tax:** Broadening the base through the elimination of regressive exemptions as well as by strictly limiting income tax deductions (e.g., health and education expenses). There is also scope to improve progressivity by keeping the exemption threshold constant and increasing the marginal PIT rates for higher incomes.
- **Corporate Income Tax:** Broadening the base by continuing efforts to strictly limit exemptions (e.g., allowances for corporate equity, presumptive regime) and reintroducing dividend taxation, aligning Brazil with international practice.
- **SIMPLES:**<sup>17</sup> Exploring options to lower the eligibility threshold. Steps to improve 'graduation' out of SIMPLES are key to avoid the Small and Medium-size Enterprise trap.
- **Property Taxes:** Broadening and strengthening collection capacity.
- **Commodity Revenues:** Refraining from ad hoc temporary taxes (e.g., export levies) and tailoring taxes to better capture rents (e.g., excess profit taxes in the short term and a lower share of price-independent royalties in upcoming oil and gas extraction contracts).

#### **Authorities' Views**

**22. The authorities reaffirmed their commitment to improve Brazil's fiscal position.** They were confident that tax measures in train would help rebuild the tax base, meet fiscal targets, and stabilize public debt over the medium term. They stressed that efforts to close loopholes would significantly reduce compliance costs and mitigate risks from judiciary disputes. In addition, the long overdue indirect tax reform, which could be approved in coming months, would significantly streamline the tax regime, reducing inefficiencies and boosting potential output. The reform of direct taxes could follow in the second half of the year, focused on increasing progressivity and mobilizing revenues. The authorities viewed the proposed new fiscal rule as sufficient to guide consolidation, while providing flexibility for new spending priorities. Under the new framework, public debt would stabilize by 2026 and gradually decline thereafter. They noted that following the 2019 pension reform and a federal public wage freeze lasting several years, further reforms of pension systems or public administration were not a priority at this point in time. The authorities underscored the shortcomings of the IMF concept of General Government Gross Debt in capturing elements of the debt dynamics and fiscal/rollover risks in the case of Brazil, which, indeed, would be better portrayed by a net debt concept.

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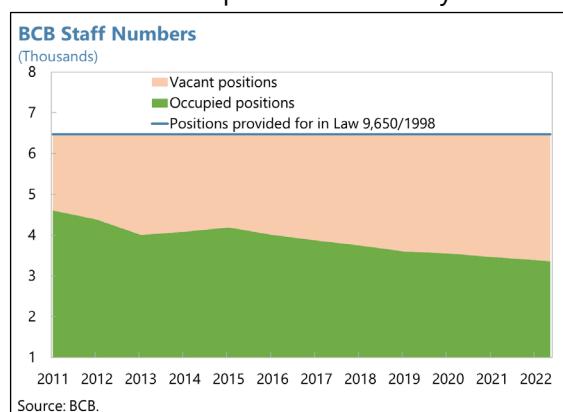
<sup>17</sup> SIMPLES is a streamlined corporate income tax regime applicable to smaller enterprises.

## B. Bringing Inflation Back to Target

**23. The monetary policy stance is appropriate and consistent with inflation converging to target.** Bringing inflation down remains critical to protect the real income of vulnerable households, who are hurt the most by high inflation. The BCB reacted early to price pressures in a pro-active manner, in line with the inflation targeting framework that has served Brazil well, and the current monetary policy stance is appropriately tight. Despite the recent large decline in headline inflation, the components of inflation that are more sensitive to the economic cycle, such as core services, remain elevated and highly inertial. Inflation expectations are above target but have come down more recently. The start of the monetary policy easing cycle expected later this year should proceed with caution to ensure inflation converges to target, guided by incoming data on price pressures and inflation expectations.

**24. The recent decision to adopt a continuous inflation target better aligns Brazil's inflation targeting framework with regional peers and increases the effectiveness of monetary policy.** Inflation targets have been set three years in advance by the CMN, comprising two ministers and the central bank governor. In June, the CMN Resolution set a 3 percent inflation target for 2026, the same level as 2024 and 2025. Furthermore, the CMN decided to change the inflation-targeting framework, with the adoption of a continuous 3 percent target (instead of calendar year targets) from 2025 onwards, to be established by Presidential decree. This will reduce uncertainty around the determination of targets and facilitate the re-anchoring of medium-term expectations. A continuous target also increases monetary policy flexibility by better acknowledging the inflation-output trade-off in the short run, as well as lags in the transmission of monetary policy that extend beyond the calendar year (see Selected Issues Paper, 2016). Given this change in the inflation targeting framework, it will be critical that monetary policy action and communication aim to strengthen credibility around the continuous target.

**25. Legislative reforms in recent years have supported the BCB's ability to deliver on its mandate.** Improvements to BCB autonomy and the financial relationship with the treasury have been positive and have strengthened the inflation targeting framework. Future reform efforts could provide the BCB with flexibility in budgetary decisions in a manner that allows it to hire and retain personnel to fulfil its mandate.<sup>18</sup> Future reforms could also bolster other aspects of financial autonomy by providing the BCB with flexibility in setting up risk buffers based on its own assessment of risk exposures, while reducing the stock of federal securities held by the BCB (see Selected



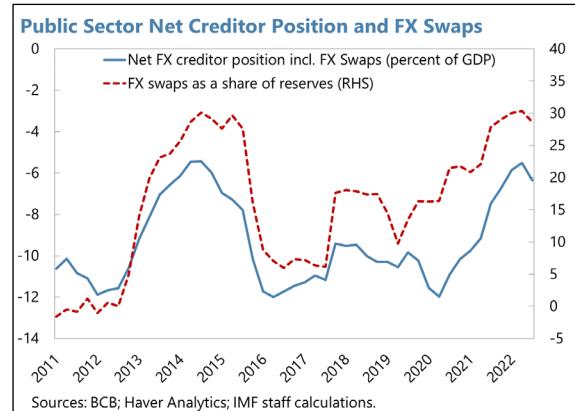
<sup>18</sup> The BCB's operating expenditures, such as staff salaries and staff numbers, are determined by the federal budget. By contrast, in almost 80 percent of countries surveyed by the [BIS survey](#) (2005), the Ministry of Finance does not have a substantial say in the central bank's operating budget, and parliaments are generally only informed.

Issues Paper). These changes would also align the BCB's institutional framework with other successful central banks in the region.

**26. The flexible exchange rate regime and adequate FX reserves remain important shock buffers.** Given continued risks from an abrupt tightening of global financial conditions, exchange rate flexibility is instrumental to absorb shocks. FX intervention could be used to address episodes of higher risk premia when FX liquidity becomes shallow but should not substitute for warranted adjustment of macroeconomic policies. Reserve adequacy remains well within adequate ranges (136 percent of the IMF ARA metric as of end-2022) despite the small deterioration in 2022, which was largely due to valuation effects. Brazil also retains a comfortable net creditor status on external debt that acts as an insurance against a tightening of global financial conditions.

**27. Developing additional guidance around the use of FX swaps, aiming to reduce the outstanding stock when conditions allow, would**

**be advisable.** Since 2020, the authorities have increased the stock of non-deliverable futures denominated in local currency (FX swaps) by close to US\$70 billion primarily to deal with market dysfunctionality issues.<sup>19,20</sup> The stock of FX swaps has risen to over 30 percent of reserves in line with the highs seen during the 2015-16 exchange rate pressures. Although there is no well-established limit on FX swap interventions (see Selected Issues Paper, 2015), the outstanding stock can be seen as a contingent demand of hard currency reserves depending on the ability of corporates to roll over external liabilities and foreigners' desire to hold BRL denominated exposures. Additionally, realized losses/gains on these swaps are directly reflected on the public sector interest rate bill and FX swap losses could contribute to central bank losses in some scenarios. When market conditions are conducive, a plan to reduce the outstanding FX swap stock would be advisable. Over the medium term, initiatives that improve currency convertibility and deepen FX spot markets would reduce the need for interventions in the non-deliverable market.<sup>21,22</sup>



<sup>19</sup> FX repos have also been used to address liquidity needs of the banking sector, but the overall stock has remained relatively unchanged.

<sup>20</sup> Close to half of these interventions were due to a domestic regulatory change. The BCB tried to mitigate the market impact of the removal of a tax asymmetry between investments abroad and their corresponding FX hedges that triggered an unwinding of 'over-hedge' of FX positions by banks. The last intervention of this kind occurred in December 2021 and is reflected in January 2022 data.

<sup>21</sup> Under Law No. 14286, the BCB has taken initial steps to simplify and modernize foreign exchange and capital regulations.

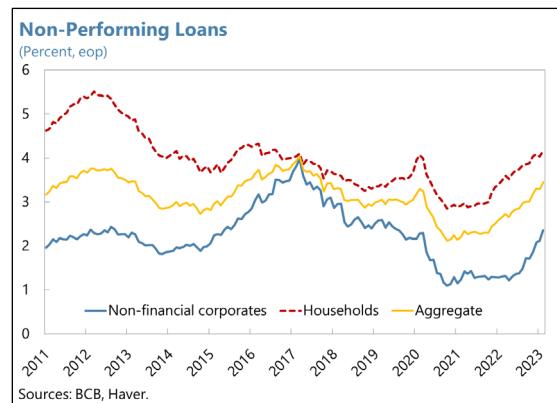
<sup>22</sup> In March 2022, Brazil's Executive Branch published Presidential Decree 10.997/2022 that will gradually reduce the IOF-FX rates on all eligible FX settlements to 0 percent by 2029.

### **Authorities' Views**

**28. The authorities concurred that monetary policy is consistent with reducing inflation to target.** The BCB stressed that taming excess demand-driven price pressures (mostly in services) remained challenging and required serenity and patience to ensure that inflation converges to target. They agreed with staff on the need for caution, given that the disinflationary process tends to be slower in an environment of de-anchored inflation expectations and elevated inflation in sectors with high inertia. The Ministry of Finance (MoF) expressed concern about the impact on growth of the level of real interest rates, perceived as too high compared to other countries facing similar inflationary pressures. The authorities noted the CMN Resolution setting a 3 percent inflation target for 2026, the same level already set for 2024 and 2025. They also noted the decision to change the inflation-targeting framework, with the adoption of a continuous target, instead of targets for calendar years, from 2025 onwards, in line with regional peers, which would be established by Presidential decree, helping reduce uncertainty and improving monetary policy effectiveness. The authorities reiterated their commitment to the flexible exchange rate and the BCB highlighted there is adequate guidance on the use of FX swaps as a policy tool. As for the financial relationship between the BCB and the Treasury, they considered that the current arrangement, after the 2019 reform, adequately meets the needs of both institutions and does not require any revision at this point.

### **C. Safeguarding Financial Stability while Fostering Inclusion and Innovation**

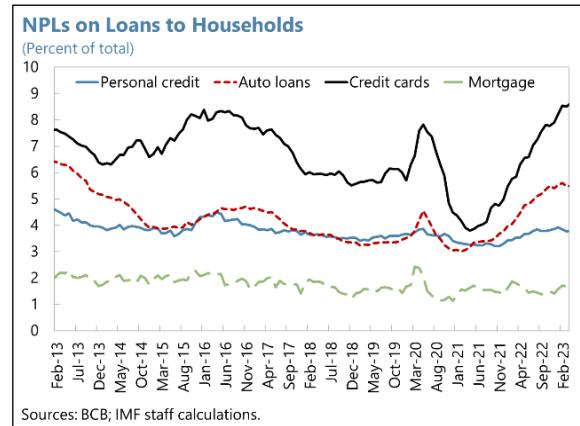
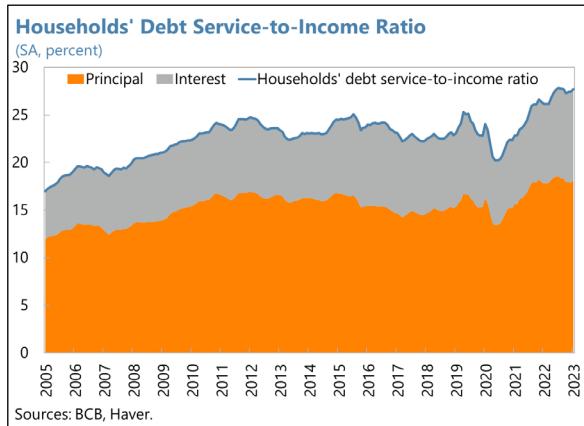
**29. The financial system remains resilient, the banking system is sound, and systemic risks are contained.** Banks are adequately capitalized, with an average Tier1 ratio of 14.2 percent at end-2022, and highly profitable. They are also highly liquid, with liquidity coverage ratios well above the regulatory minimum. Although asset quality deteriorated, and credit losses have picked up on banks' loans for households and corporates since mid-2022, provisioning remains adequate. The authorities' stress tests published in May confirm banks' resilience to significant hypothetical credit, market, liquidity, and climate shocks.<sup>23</sup> Linkages with non-bank financial institutions, particularly with insurance companies, would benefit from quantitative analysis in the upcoming FSAP. The resilience of the insurance sector has been supported by the rise in interest rates over the past couple of years. The authorities have also made important strides in addressing FSAP recommendations (Annex VI).



<sup>23</sup> See the May 2023 BCB Financial Stability Report (<https://www.bcb.gov.br/publicacoes/ref>).

**30. Banks have limited exposure to interest rate shocks such as those experienced by US banks in early 2023.** Banks have low exposure to interest rate risk, as their security holdings are mostly of short maturity or with variable coupons, and remaining interest rate exposure is actively hedged in Brazil's deep derivative markets. Unrealized losses from held-to-maturity portfolios are small, representing 2-3 percent of equity for the two largest private banks and less than 1 percent for other major banks, while unrealized losses in available-for-sale portfolios are reflected in book value. The risk of an adverse bank-sovereign nexus is mostly alleviated by banks' appropriate interest-rate risk management, but a major increase in sovereign risk premia could have an adverse effect on bank balance sheets and lending appetite.

**31. The authorities are taking welcome steps to address household debt vulnerabilities and protect consumers.** The DSTI ratio has risen well-above previous episodes of turning credit cycles, largely due to riskier modalities such as credit cards and non-payroll loans. Based on credit registry data, the government estimates that nearly 70 million individuals (one-third of the population) are in default on some form of debt, including bank loans and utility bills. The government's *Desenrola* program aims to restructure existing household debt owed to different creditors through a digital application for indebted households. The government would provide a guarantee for the consolidated and restructured debt of low-income households, using a BRL 10 billion fund (0.1 percent of GDP) that has already been allocated.<sup>24</sup> The authorities are also promoting financial literacy among households, particularly regarding credit cards, which carry no interest charges on a fixed number of regular installments, but rapidly adjust to high charges (as much as 400 percent) in case of a missed payment.



**32. The authorities' planned measures to facilitate household debt restructuring could be supplemented with targeted prudential limits.** IMF analysis suggests that a prudential limit would be appropriate in situations where the DSTI ratio exceeds 20-25 percent and is rising above a 15-

<sup>24</sup> A separate measure would make it possible for pension plan participants to use pension assets to guarantee refinanced bank loans at cheaper rates.

year trend, as is the case in Brazil.<sup>25</sup> In the present late stage of the credit cycle, a prudential limit, set by the BCB based on appropriate industry consultation and targeted to riskier credit modalities, would help to address underwriting risks and protect consumers on future borrowing. Interest rate caps could help curb excessive interest rate costs for some households, but possible negative implications for the quantity and quality of credit need to be carefully assessed.

**33. Carefully managing a bigger role for public banks is important to mitigate risks for fiscal sustainability and monetary policy transmission.** Prior to the Taxa de Longo Prazo (TLP) reform in 2017, the government provided subsidized funding to public banks for household mortgages and strategic developmental corporate loans, which had a negative impact on fiscal accounts and monetary policy transmission in the past.<sup>26</sup> At present, public banks are well-capitalized, profitable, and liquid, and have been paying dividends and pre-paying (mainly BNDES) liabilities to the government. The government intends to expand earmarked credit in key strategic developmental areas where there are market failures, without reintroducing interest rate subsidies and maintaining rigorous and sound practices. Earmarked credit at subsidized rates can distort the allocation of credit from private banks and impose higher costs on non-targeted borrowers. Ongoing initiatives to issue loan guarantees and co-finance projects with both public and private banks are welcome. Maintaining appropriate credit underwriting standards will be key to allowing greater expansion of credit with available funds (Annex VII).

**34. The BCB is at the forefront of financial innovation.** Notable initiatives already in operation include the highly successful instant payment system Pix launched in late 2020 (see Selected Issues Paper), and the Open Finance environment introduced in 2021 for sharing data and services between regulated entities. These initiatives have increased financial inclusion, efficiency, and competition.

**35. Looking ahead, BCB's flagship initiative is to introduce a wholesale CBDC (the Digital Real-RD) by early 2025.** The RD would aim to underpin a public blockchain infrastructure in a regulated environment (Box 5).<sup>27</sup> The RD would be interoperable with existing payment infrastructures and facilitate new business models. The design of this infrastructure also aims to minimize financial disintermediation risks through tokenized deposits/accounts issued by regulated institutions as the main payment instrument. Over time, the new platform will require the digital representation of more real-world assets to enable a transition towards more token-based financial services. Such a transition would need to be gradual and supplemented with changes in the legal

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<sup>25</sup> See Erlend, N. and others (2014). *Staff Guidance Note on Macroprudential Policy—Detailed Guidance on Instruments* (Washington, DC: International Monetary Fund).

<sup>26</sup> In 2017, the government switched to a new interest-rate benchmark TLP for providing funding via BNDES, which corresponds to the interest rate on the government's inflation-linked bonds. The TLP reflects the cost of government funding more closely, compared with the previous TJLP at a subsidized rate below the SELIC rate.

<sup>27</sup> The BCB's LIFT Challenge tests use cases involving solutions for delivery versus payment (DvP), payment versus payment (PvP), Internet of things (IoT), and decentralized finance (DeFi).

and regulatory environment, so tokens fulfil their functions reliably without jeopardizing consumer protection, financial stability, and market integrity.<sup>28</sup>

### **Authorities' Views**

**36. The authorities concurred that the financial sector remains resilient, the banking system is sound, and systemic risks are contained.** They noted that credit growth is slowing, largely due to tight monetary policy, while credit quality weakened but has been improving recently. However, the BCB's recent stress tests show that systemic risks are contained. The authorities noted that rising household debt does not pose a financial stability risk but requires policy attention given the high share of households affected. The MoF expects that the *Desenrola* program will contribute to reduce credit delinquency, especially among the poor. The BCB noted that a targeted macroprudential limit on household DSTI ratios would be operationally difficult to implement and could incentivize households to borrow from unregulated entities. They agreed that the pros and cons of interest rate caps should be carefully assessed, including possible allocation inefficiencies. The authorities concurred that any broader role for public banks should be focused on addressing market failures, and not impact the fiscal accounts or monetary policy transmission. The MoF highlighted the recent measures that were adopted to improve capital markets efficiency, such as the simplification in the process of private bonds issuance. The BCB aims to launch the Digital Real at end-2024 or early 2025 but recognized that addressing some challenges (e.g., around privacy standards) could require a more gradual approach.

#### **Box 5. The Digital Real: Objectives, Key Design Features, and Challenges**

**Unlike other CBDC projects, the RD is envisioned as a 'smart' platform that fosters financial innovation.** In most countries, plans to introduce a CBDC pursue a combination of objectives, including promoting financial inclusion; making payments systems more competitive, resilient, and cost-effective; and improving cross-border payments. In Brazil, Pix has already been successful in improving financial inclusion and enabling efficient retail payments. Hence, the RD is envisioned as a 'smart' platform for financial services based on a digital ledger (DLT) that leverages the digital representation of assets (tokenization) and programmability, seeking to foster innovation.

**The RD platform aims to harness the benefits of new technologies in a safe and reliable environment.** These technologies are currently available to users mainly through the crypto ecosystem. Significant efforts have been made globally and domestically to regulate this ecosystem, including the Brazilian virtual assets law of December 2022, but several challenges remain, especially due to regulatory asymmetries and weak enforcement ([IMF, 2023](#)). Common issues include: a) crypto exchanges based in offshore jurisdictions that don't comply with recommendations by international standard setting bodies; b) decentralized finance protocols that make it difficult to establish what is the right entity to regulate; and c) the use of technologies that comply with the existing regulatory framework, including know-your-customer (KYC) requirements, as well as international recommendations (e.g., on anti-money laundering).

**BCB ongoing pilots rely on tokenized deposits to mitigate monetary sovereignty and financial disintermediation risks.** The RD will enable change of ownership and real time settlement on a DLT, which requires the use of a medium of exchange that is native to the platform. In principle, this would require

<sup>28</sup> See Garrido, J.M. (forthcoming). "Digital Tokens: A Legal Perspective." IMF Working Paper

### **Box 5. The Digital Real: Objectives, Key Design Features, and Challenges (concluded)**

using either i) crypto assets such as Stable coins; ii) a retail CBDC; or iii) tokenized deposits/accounts. The shortcomings of the first two options are well documented (see IMF (2023)). Most notably, US dollar based Stable coins can amplify currency substitution risks, while retail CBDCs could lead to financial disintermediation risks if users substitute bank deposits with central bank liabilities (CBDC). The latest BCB pilot (piloto-RD) utilizes option (iii) by testing the transfer of tokenized deposits and accounts held at banking and payment institutions, respectively. The former is fully backed by demand deposit balances and the latter by compulsory reserves held at the BCB. The RD will only be used for wholesale purposes, such as bank reserves and settlement accounts.

**A key policy goal is to allow the migration to a token-based world by enabling a trading environment for a diverse set of tokenized assets.** At an initial stage, the tokenization technology will be used for deposits/accounts and other financial assets (e.g., federal securities), while at a later stage more complex assets will be tokenized. As an example, the BCB's Lift Challenge already includes pilot projects that rely on tokenization of vehicles and real estate ownership titles, as well as rural financing solutions based on tokenized agricultural produce.

**The transition to a token-based world will require changes in the legal framework that ensure a reliable 'bridge to reality'.** As discussed in Garrido (forthcoming), some types of tokens need additional legal provisions to ensure that holders have an actual right over a real-world asset or service. Existing solutions that rely on programming code such as Oracles can integrate reliable real-world information (for instance the latest dollar-BRL exchange rate) but cannot deal with more fuzzy type of information (e.g., faulty sensors for machine-to-machine integration) nor guarantee token holder rights in the real world. Establishing a reliable 'bridge to reality' will likely necessitate the authorization of qualified intermediaries tasked with guaranteeing that the asset or service corresponds to its contractual description. Additional changes will likely be needed to determine whether the transfer of tokens prevails over the transfer of real-world assets (or vice versa), reconcile the rights of token holders in cases where their private keys are stolen or lost, protect holder rights during insolvency of the token issuer, and enforce court decisions related to tokens.

**Other considerations necessitate a gradual transition to the new RD platform.**

**Funding Risks.** Enabling a financial aggregator model that allows customers to access services in real time from different banks could amplify funding risks in the system (e.g., accelerate flows from riskier banks to safer banks). Such risks can be mitigated, for instance, by imposing limits on the speed of transfers allowed on the platform and adjusting liquidity stress testing parameters.

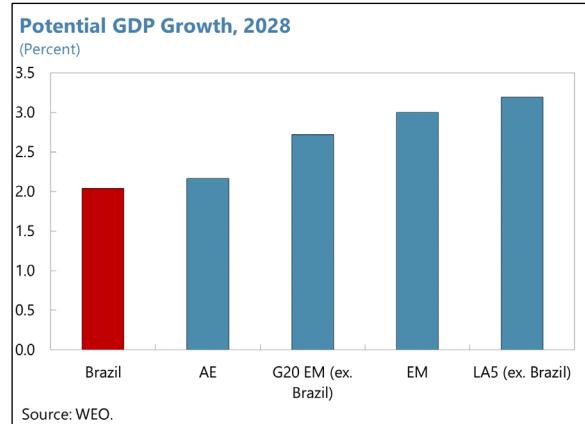
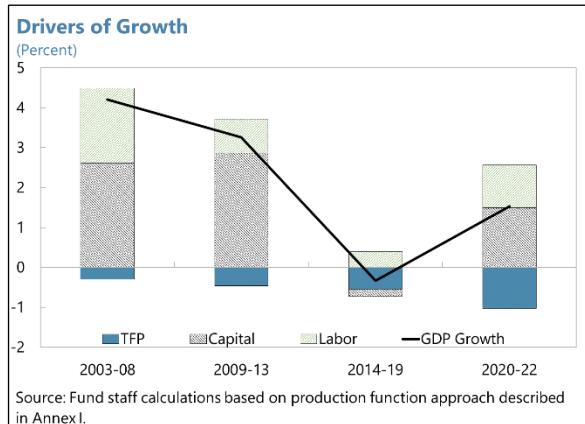
**Scaling-Up Challenges.** Achieving large-scale adoption could prove challenging if the costs to invest and participate in the RD platform are significantly higher (e.g., compared to Pix), especially for smaller players that are not part of existing RD pilots. Relatedly, some entities might be unable to adjust their business model in time of the RD launch (e.g., banks that specialize in credit modalities that will become standardized and part of aggregators). A set of minimum hardware/software tools to facilitate the entry of smaller financial companies in the RD platform could help address these challenges.

**Compliance with Privacy Laws.** Some of the innovative financial services that rely on composability and traceability might not be compliant with the Brazilian General Personal Data Protection Law. The introduction of such services would require ensuring prior compliance with domestic legislation.

**Reputational and Operational Risks.** Failures in the RD platform (whether due to programming errors of already approved services, operational errors by regulated institutions, or cyber-attacks) could undermine trust in central bank operations.

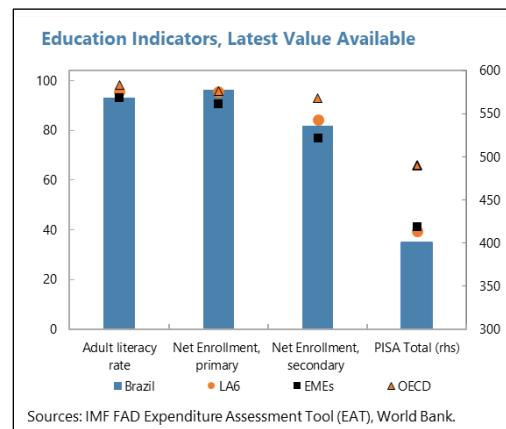
## D. Boosting Potential Growth

**37. Brazil's real GDP growth per capita has been low in recent decades, driven by low capital and labor growth and stagnant productivity growth.** In the last decades, agriculture was the only sector with high productivity growth, while productivity growth in the industry and services sectors has been stagnant.<sup>29</sup> Potential growth is also projected to be lower in Brazil than in regional and emerging market peers over the medium term.



**38. To lift inclusive growth, the authorities are rightly focusing on prioritizing both public and private investment, boosting education and training, increasing the supply of day-care centers, and promoting green growth opportunities** (see also section on climate). Specific measures to lift potential growth could include the following:

- **Public Investment.** Tackling spending rigidities remains key to make room for much-needed public investment. Well-prioritized multi-year investment plans, commensurate with multi-year investment budgets and coordinated across levels of government, would improve investment spending efficiency, including from public-private partnerships (PPPs), state-owned enterprises (SOEs), and public banks. The upcoming regulatory framework for PPPs is expected to support the expansion of public investment. Clear provisions to mitigate and manage fiscal risks from PPPs will be key.
- **Skills.** Brazil needs skilled labor to lift labor productivity, innovate further, reduce informality, and embrace new green technologies. Priorities include improving education quality, increasing



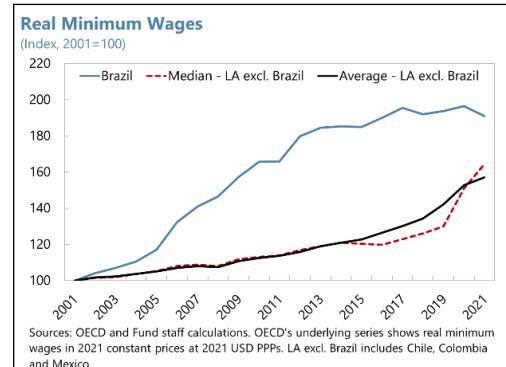
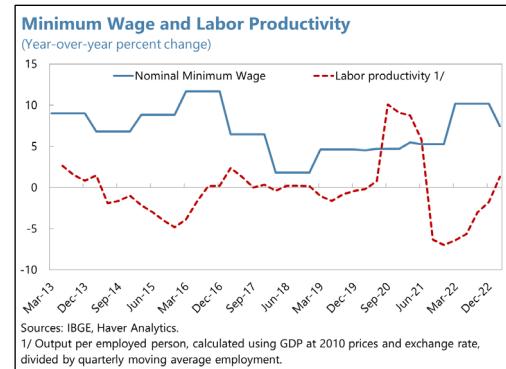
<sup>29</sup> F. Veloso, S. Matos, F. de Holanda Barbosa Filho, and P. Peruchetti (2023). "Labor Productivity in Brazil: an analysis of sector results since 1995," FGV IBRE [blog](#).

secondary school enrolment, and upgrading curricula. Recalibrating the mix of salaries and personnel in line with ratios of high performing countries would help improve PISA scores.<sup>30</sup>

- **Minimum Wage Policies.** Brazil's minimum wage has hovered around the 30<sup>th</sup> percentile of the income distribution and around 70 percent of median wage over the last decade, including all jobs and sources. Minimum wages have generally grown faster than labor productivity (and faster than regional peers particularly in the first part of the 2000s). Future minimum wage increases should reflect productivity growth, with due consideration to tradeoffs between inequality, job creation, and competitiveness.
- **Labor Markets.** Easing job protection could increase employment and investment, if enacted during economic normal or good times ([IMF World Economic Outlook, October 2019](#)). The policy focus on early childhood and planned expansion of day-care centers is welcome and would help narrow the gender labor force participation gap.

**39. Further trade integration would also support productivity and competitiveness.** Brazil has made important strides in trade liberalization, including lowering import tax rates and reducing non-tariff barriers. Regional integration plans and the ongoing OECD accession process offer opportunities to further open Brazil to international trade and support productivity and competitiveness. Labor market and other domestic policies can help to better share the gains from trade and technological adoption, including to update skills, facilitate labor reallocation, and strengthen social safety nets.

**40. There is scope to strengthen the effectiveness of the AML/CFT and anti-corruption frameworks.** Against the ongoing FATF/GAFILAT assessment, strengthening the effectiveness of the AML/CFT regime would mitigate threats from money laundering, tax evasion, and organized crime. In addition, and in line with past IMF recommendations, an enhanced anti-corruption strategy should aim to bolster the independence of related institutions and address corruption risks in macro-relevant areas.



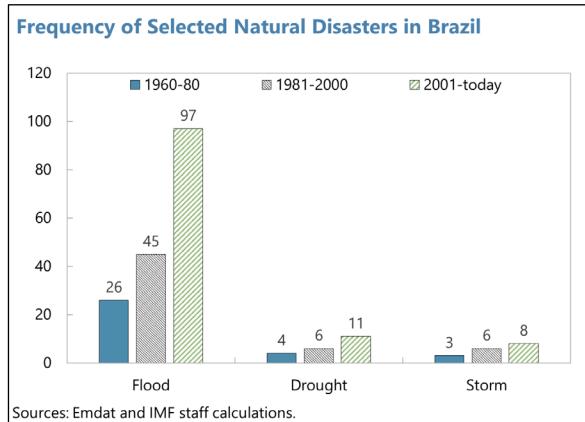
<sup>30</sup> IMF Brazil Staff Report 2020; and Flaminia, V. and M. Soto, 2019, "Doing More with Less: How Can Brazil Foster Development While Pursuing Fiscal Consolidation?," IMF Working Paper 19/236.

### **Authorities' Views**

**41. The authorities were confident their economic reform agenda would foster competitiveness, productivity, and efficiency, and help lift living standards.** The authorities agreed the pandemic had set back progress in female labor market participation. They emphasized their forthcoming National Policy for Care would be key to promote formalization, increase access to child- and elderly-care, and implement full day schooling. The authorities reiterated that the policy of real increase in the minimum wage, which is being resumed, was important for reducing poverty and inequality, while risks of fostering labor informality were low.

## **E. Changing Climate in Brazil**

**42. Changing climate conditions are already affecting Brazil's economy.** Rising temperatures in Brazil (between +1°C and +5°C by the end of the century) and temperature variability have increased both present occurrences and the future likelihood of extreme weather events. The most common extreme events in Brazil include: w(i) floods, which have more than doubled relative to the 1980s-90s and often result in physical and human capital losses, temporary productivity losses, fiscal costs, and sometimes durable output scarring; and (ii) droughts and extreme heat waves that directly impact agricultural output and decrease labor productivity.<sup>31</sup> The 2021 drought, for instance, increased inflation by 0.7 percentage points and led to agriculture output losses of BRL 45.3 billion (0.5 percent of GDP) in four states, of which 40 percent was not insured,<sup>32</sup> while private insurers experienced loss ratios on rural plans peaking at 90 percent in 2022. Extreme weather events also exacerbate household vulnerabilities. The World Bank estimates that natural disasters can push an additional 0.6-1.3 percent of the population into extreme poverty by 2030.<sup>33</sup>



**43. Agriculture and power generation are key sectors at risk, with potential repercussions for the financial sector.**

- **Agriculture** is estimated to lose 1 percent of its sectoral GDP per year due to extreme weather events (World Bank CCDR, 2023). About 20 percent of farming activity is covered by insurance,<sup>34</sup>

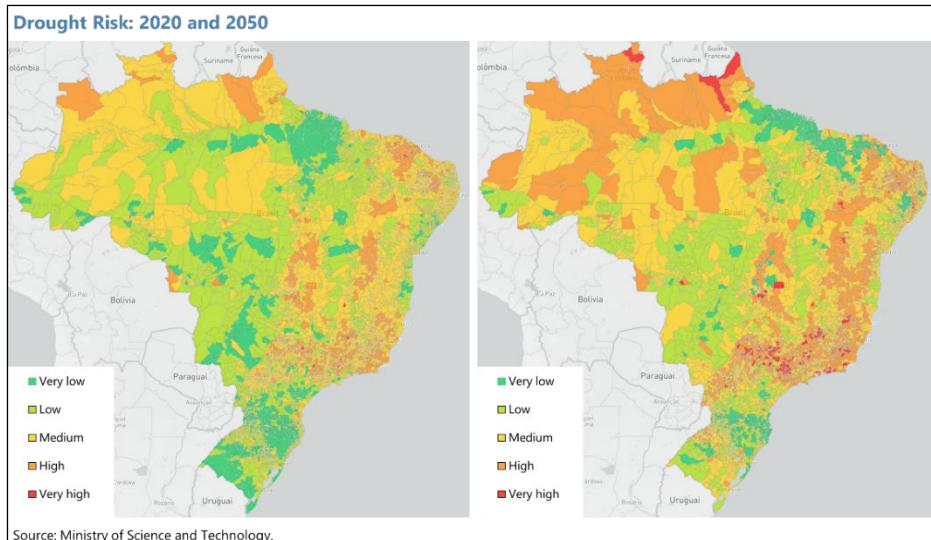
<sup>31</sup> Extreme weather events have generated yearly output losses of 0.13 percent of GDP on average between 1995 and 2019 (World Bank (2023). Brazil: Country Climate and Development Report (CCDR), <https://openknowledge.worldbank.org/entities/publication/a713713d-0b47-4eb3-a162-be9a383c341b>).

<sup>32</sup> BCB 2022, "Report on Social, Environmental and Climate-related Risks and Opportunities."

<sup>33</sup> This estimate includes the impact on labor productivity, agricultural revenues, food prices, health, and capital losses from natural disasters (World Bank CCDR, 2023).

<sup>34</sup> Source: Superintendência de Seguros Privados (SUSEP), Brazil's supervisory body for private insurers.

with Southern farmers significantly more insured than peers in the North. However, drought risks affect both Northern and Southern regions.



- **Hydropower generation** is being affected by lower water availability and changing rainfall patterns. Past deviations from mean temperatures by +0.1C have led to a lower capacity utilization of 2-3 percent, increasing the likelihood of energy supply disruptions and higher energy costs, and pushing up inflation. Considering the slow-moving effects of climate change through temperature increase and precipitation pattern change, hydropower generation could decline by 5 percent in 2050 under moderate climate assumptions and by 20 percent in a more severe scenario.<sup>35</sup>
- About 20 percent of the **financial sector's credit portfolio** is exposed to sectors vulnerable to climate change, with the share of agriculture (businesses and rural households) increasing to around 12 percent of total bank loans over the past decade. The BCB estimates that around 8 percent of the financial sector's credit portfolio is sensitive to transition risks, concentrated on smaller financial institutions, notably lending to the cattle and soybean industry, as well as cargo and transportation. Focusing on physical risks and drought scenarios, about 20 percent of the credit stock is with water-intensive borrowers. Operations at risk from heavy rainfall events are currently contained but estimated to increase to 16 percent in 2030 and 30 percent in 2050.<sup>36</sup>

#### 44. Current patterns of land-use amplify climate change risks by profoundly affecting water cycles.

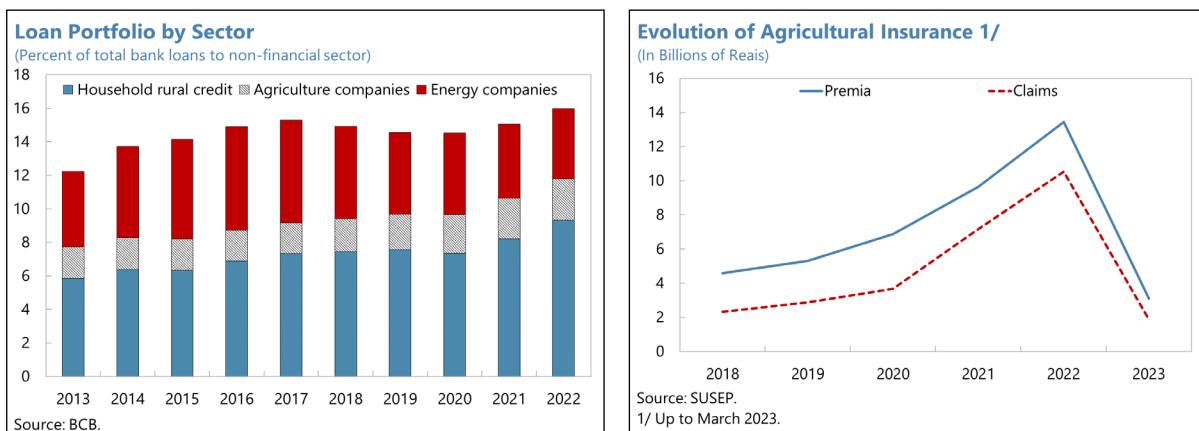
Increasing dry-season length and drought frequency have diminished the Amazon's resilience against shocks and may have already pushed the Amazon close to a critical threshold of rainforest dieback.<sup>37</sup> Deforestation has further increased the likelihood of reaching a tipping point

<sup>35</sup> Using the [Global Change Analysis Model](#) GCAM. Zhao, M., Wild, T., & Vernon, C. (2023). Xanthos Output Dataset Under ISIMIP3b Selected CMIP6 Scenarios: 1850 – 2100 (Basin and Regional Scale) (v0.0). [MSD-LIVE Data Repository](#).

<sup>36</sup> See the May 2023 BCB Financial Stability Report (<https://www.bcb.gov.br/publicacoes/ref>).

<sup>37</sup> Boulton, C., T. Lenton, and N. Boers (2022). "Pronounced loss of Amazon rainforest resilience since the early 2000s," *Nature Climate Change* 12, pages 271–278.

that would durably disrupt water cycles, accelerate erosion, limit carbon storage, and release sizeable amounts of carbon into the atmosphere. In decreasing the availability of fresh water, deforestation makes water-intensive sectors more vulnerable (such as agriculture and hydropower, but also mining and industry). Some estimates quantify the output loss of reaching the Amazon tipping point for Brazil alone at 10 percent of 2022 GDP through 2050 (World Bank CCDR, 2023).



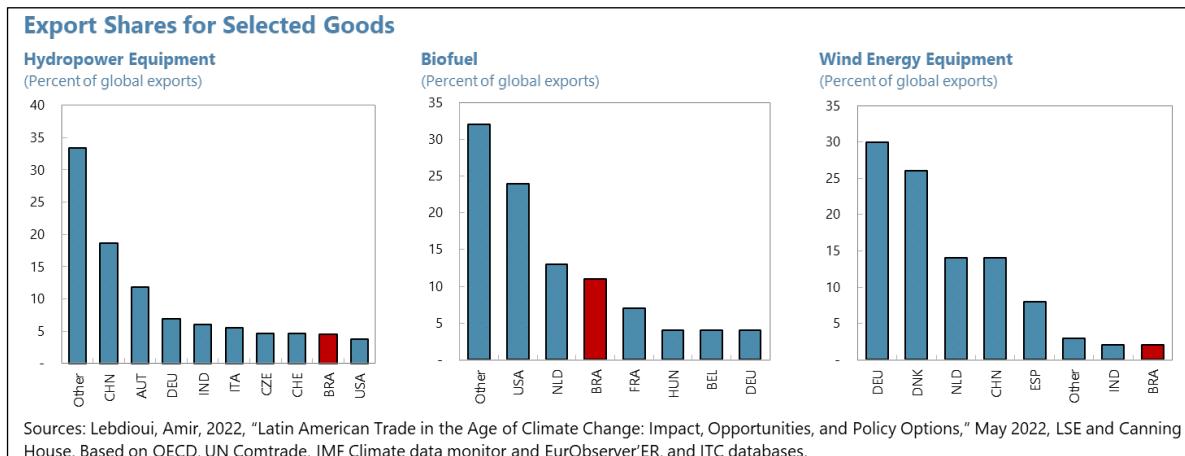
**45. The authorities are in the process of defining their climate strategy and considering several policy options.** Measures to address the adverse trajectories of temperature and precipitation could include the following (see Selected Issues Paper):

- **Boosting the Amazon's resilience to climate shocks via fiscal incentives for forest protection.** To meet the new government's pledges to eliminate illegal deforestation by 2030 and restore 12mn hectares of forests, a revenue-neutral feebate scheme covering larger landowners at the forestry/agriculture border could provide comprehensive incentives for forest protection.
- **Investing in climate smart agriculture and strengthening insurance mechanisms.** Improvements in irrigation infrastructure and soil management, new technologies, and more resilient crops could help offset reduced yields and productivity. To accelerate the adoption of climate smart technologies, policies could focus on de-risking the investment by the farmer in the short term,<sup>38</sup> for instance by redirecting public funds from credit to insurance. Promoting climate-indexed insurance schemes and linking agricultural loans to sustainability criteria could further support the transition and generate also benefits for protecting the forest and lowering emission intensity.
- **Continuing diversification of power supply to solar, wind, and biomass, while leveraging existing hydropower.** Solar and wind production capacities have rapidly expanded in the past years, and Brazil's energy share from biomass is among the largest worldwide, almost exclusively

<sup>38</sup> Arias, D., C. Stutley, P. Valdivia, V. Cruvinel, and W. Matos (2017). "Agricultural Market Insurance Development," Policy Note - Brazil. (World Bank).

financed through private investment.<sup>39</sup> Planned private investments in renewables would more than offset the expected decline in production due to temperature and precipitations changes and generate opportunities for energy export, including through green hydrogen. To fully leverage Brazil's large potential, handle increased weather volatility, and avoid higher fossil fuel consumption in the short term to fill climate-related power gaps, it is important to address key bottlenecks, in particular strengthening grid infrastructure, cross-border connections, and energy storage.

- **Leveraging the BCB Sustainability Agenda to green the financial sector.** Since 2017, the BCB has been integrating social and environmental risk in the risk framework for financial institutions,<sup>40</sup> successfully inducing larger lenders to start reallocating their portfolio to less environmentally exposed sectors.<sup>41</sup> From end-2023 onwards, disclosure will be expanded to quantitative metrics and targets. The BCB is also considering a liquidity facility that would offer preferential conditions to bonds based on ESG criteria. The BCB's green credit bureau for agribusiness is helping enforce social and environmental regulations, including by stopping farming credit operations in protected lands. Considerations could be given to further linking agricultural credit (Proagro) to sustainability criteria.



- 46. The government aims to boost green growth.** Opportunities for greener growth are considerable and include: (i) fostering sustainable farming, a greener industry, the bioeconomy, and socio-biodiversity businesses; and (ii) taking advantage of opportunities for green financing. Brazil can leverage its very green and relatively low-cost energy mix to expand export-oriented manufacturing, seize growing demand for green goods and services, and step-up green production sites. Brazil also holds a competitive advantage in green manufacturing, such as biofuels, hydropower, and wind energy equipment (World Bank CCDR, 2023). Plans to double annual

<sup>39</sup> Government-guaranteed power purchase agreements or feed in tariffs for renewables are not provided. Electricity produced by solar and wind benefits from a priority status in the grid.

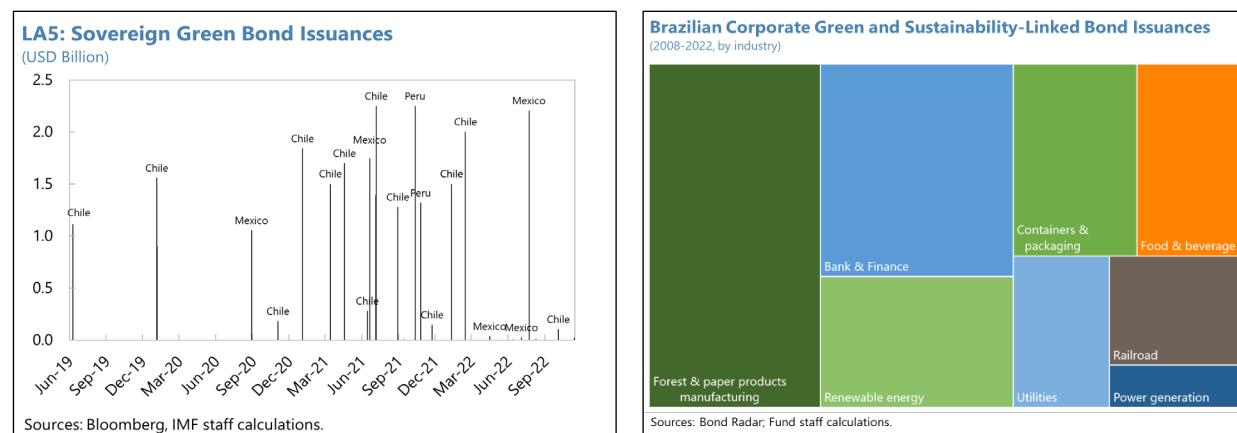
<sup>40</sup> Following the Network for Greening the Financial System's (NGFS) climate disclosure recommendations.

<sup>41</sup> Faruk, M., A. Pedraza, and C. Ruiz-Ortega (2022). "Climate Change Regulations: Bank Lending and Real Effects," Policy Research Working Paper 10270 (Washington, DC: World Bank).

investment in deep-water oil production by 2026 should consider synergies with green growth objectives as well as exposure to risks in a decarbonizing world.<sup>42</sup>

**47. The authorities' plans to develop a mandatory carbon market are welcome.** While still under discussion, the first stage of the mandatory carbon market would focus on companies and industries responsible for 90 percent of Brazil's emissions (Box 6), and then gradually include other sectors.<sup>43</sup> A limited share of nature offsets (~10 percent) might be considered. The design of the ETS will determine whether it can effectively reduce emissions at a low economic cost, leveraging cross-country experience. Ideally, the market should cover all sectors and incorporate price stabilizing mechanisms. Staff also recommends using possible receipts from auctioning emission allowances to compensate vulnerable households.

**48. The authorities aim to develop an economy-wide green and social taxonomy and a yield curve for green bonds that could catalyze private financing.** With the ESG framework at an advanced stage, the authorities plan to issue their first green and social bond in H2 2023, following successful issuances by peers over the past years. By regular, possibly biannual issuances, the authorities also aim to create a conducive environment for private sector ESG issuances.<sup>44</sup> In other countries in the region, estimates for sovereign greenium, i.e. the yield discount of an ESG bond compared to a similar conventional bond have been in the range of 10-20 bps,<sup>45</sup> and similar benefits could be expected in Brazil.<sup>46</sup> In collaboration with the industry, government ministries, the BCB,



<sup>42</sup> Leveraging synergies of technologies and know-how between oil and gas and renewables is particularly effective for deep-water oil extraction and wind turbines (Lebdioui, Amir, 2022, Latin American Trade in the Age of Climate Change: Impact, Opportunities, and Policy Options, May 2022, [LSE and Canning House](#)).

<sup>43</sup> A voluntary market is already in place, mainly used by larger companies with strong ESG agendas that receive carbon credits from protecting land in the Amazon.

<sup>44</sup> Cunha, D., G. Craveiro, and M. Rossi (2023). "Evidence of the knock-on effect of sovereign ESG bonds on corporate ESG bonds from Latin American and Caribbean (LAC) issuers," Working Paper <https://debtcon6.princeton.edu/document/116>.

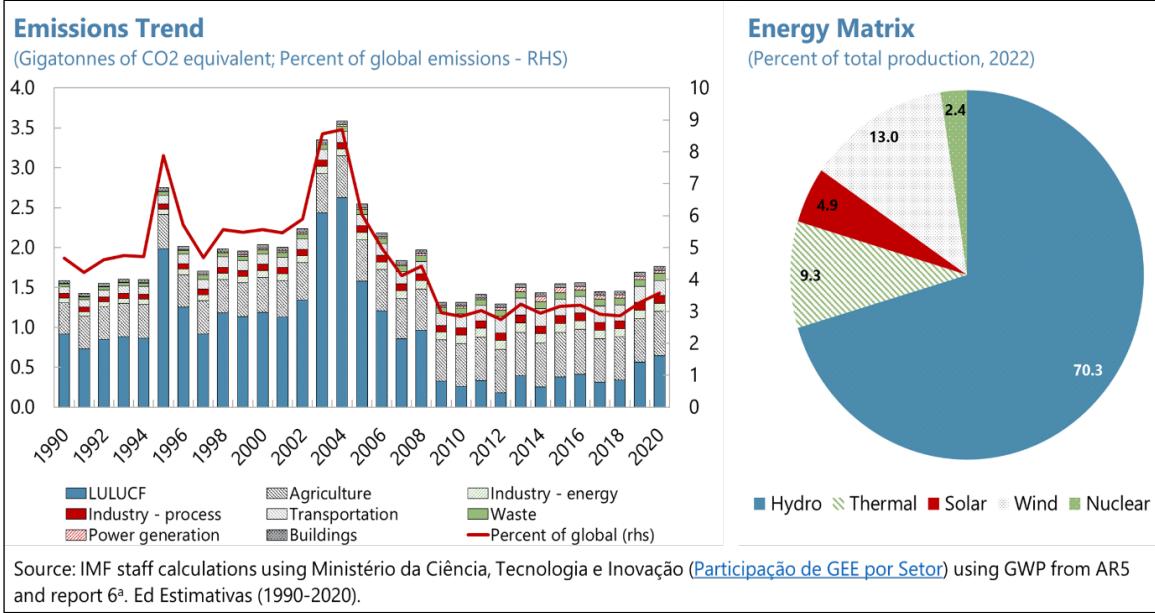
<sup>45</sup> Lindner, P. and K. Chung (2023). "Sovereign ESG Bond Issuance: A Guidance Note for Sovereign Debt Managers." IMF Working Paper 23/058.

<sup>46</sup> Brazil's private sector issuances have been accompanied by significantly larger greeniums, such as Itaú Unibanco's April 2022 green bonds with three-year maturities and 3.7 percent interest a year, compared with a conventional bond in the secondary market of about 4.3 percent for 2025 maturities.

BNDES, and CVM are working to agree on an economy-wide taxonomy. Regional coordination on standards would help avoid fragmentation and support green capital flows.

#### Box 6. Carbon Footprint and Commitments

**Brazil's carbon emissions account for about 3.5 percent of global emissions despite a very green energy mix.** Emissions are concentrated in carbon dioxide (60 percent) and methane (32 percent). Average emissions from 2017 to 2020 were driven by: agriculture (34 percent); land-use change (29 percent, LULUCF); industry (12 percent, of which about half are process emissions); transportation (12 percent); and waste, power generation, and buildings (11 percent combined). The relatively low emissions through power generation are due to the high share of renewables in energy production (about 90 percent of electricity was generated by renewables in 2022).



**Brazil increased its climate pledges in 2022.** The updated Nationally Determined Contribution (NDC) commits to reducing emissions by 50 percent below 2005 levels by 2030, covering all major emissions sources (including methane and land-use change), and reaching net zero emissions by 2050. Achieving the NDC requires reversing trends in deforestation and agricultural emissions, and continuing reductions in transportation and industrial emissions. Brazil will need to reduce 2020 emissions by 28 percent by 2030 to achieve its NDC.

#### **Authorities' Views**

**49. The authorities broadly agreed with the macroeconomic challenges posed by climate change.** They are considering a number of policy options to strengthen climate resilience and decarbonize the economy, in particular those aimed at deepening the carbon market, and were open to discuss how the engagement with the Fund on this matter could proceed within the limits of its mandate. At this early stage of the discussion with the Fund, the authorities consider that the preliminary analysis and proposals presented by the staff still need to be developed taking into account Brazil's specificities and the government agenda being elaborated. The authorities

underscored that they are revamping the framework to cope with environmental and climate issues and are developing a new sustainability strategy that aims to tackle these challenges, including through ongoing progress to establish a domestic carbon market, develop a green and social taxonomy, build climate resilient infrastructure, and restore climate justice for poorer households. The authorities emphasized a key goal is to shape a 'bio economy' by integrating agricultural production with forest protection through ecotourism, biotechnologies, and payment for environmental services. They saw vast opportunities to accelerate the energy transition and export green hydrogen, building on Brazil's success in hydropower generation and the use of bioethanol in the transport sector. They emphasized climate initiatives should foster competitiveness and growth and expressed skepticism on the suitability of cross-border adjustments, voicing serious doubts on the compatibility of such mechanisms with the rules of the international trade regime.

## STAFF APPRAISAL

**50. Growth is moderating but is expected to gradually improve towards staff's estimate of potential over the medium term.** Growth is projected to slow to 2.1 percent in 2023, from 2.9 percent in 2022, and gradually improve to staff's estimate of potential over the medium term. Headline inflation has rapidly declined from last year's peak, but core inflation remains elevated, and inflation expectations are above target. Headline inflation is expected to converge to target by mid-2025, in line with the inflation targeting framework that has served Brazil well. The external position was broadly in line with fundamentals and desirable policy settings in 2022, and the current account deficit is expected to narrow this year and remain broadly stable over the medium term.

**51. Strong buffers support resilience in the face of prevailing downside risks.** On the external front, downside risks include an abrupt global slowdown; a sharp tightening of global financial conditions; and commodity price volatility. On the domestic front, downside risks mainly stem from renewed fiscal uncertainty and more persistent inflation. On the upside, more ambitious fiscal consolidation could facilitate conditions for an earlier monetary policy easing and help lower risk premia. In addition, approval and implementation of the indirect tax reform would simplify the tax regime and boost potential output. Leveraging green growth opportunities also presents upside risks. A sound financial system, low reliance on FX debt, a flexible exchange rate regime, adequate FX reserves, and large cash buffers by the public sector support resilience.

**52. The authorities' commitment to improve the fiscal position is very welcome.** Staff's baseline scenario projects a NFPS primary deficit of 1.3 percent of GDP in 2023 (relative to a projected deficit of 2.2 percent of GDP in the 2023 budget), consistent with an expansionary fiscal stance. Acknowledging the need for fiscal consolidation to maintain debt sustainability, mitigate risks, and provide room for monetary policy to ease, the authorities aim to improve the federal primary balance to a deficit of 0.5 percent of GDP in 2023, which would be broadly consistent with an adequately neutral fiscal stance, requiring saving any revenue overperformance compared to the baseline. The authorities further aim to improve the fiscal position to a surplus of 1 percent of GDP by 2026. They intend to boost revenues to meet fiscal targets, focusing on closing loopholes, streamlining inefficient tax expenditures, broadening the tax base, and reforming direct taxes.

**53. Staff recommends a more ambitious fiscal effort that continues beyond 2026 to put debt on a firmly declining path.** Although staff's debt sustainability assessment finds risks to be moderate, the debt trajectory remains highly sensitive to shocks and the materialization of fiscal risks. Staff estimates that a fiscal effort of 4-4 ½ percent of GDP is needed to put debt on a firmly downward path, supported by both spending and revenue measures. A tighter fiscal stance would also improve the policy mix, help the disinflation effort, and create conditions conducive to an earlier easing of monetary policy. The overwhelmingly domestic investor base, low external debt, and large cash buffers by the public sector mitigate risks and provide room for consolidation to proceed gradually. There is scope to enhance the fiscal framework, building on the new proposed fiscal rule, including through a strong medium-term fiscal anchor, stricter provisions that ensure consistency between the spending corridor and fiscal targets, and mechanisms to limit procyclicality. A more comprehensive MTFF, as well as plans for a spending review and performance-based budgeting, would support consolidation and improve efficiency. Reforming pensions and public administration, and revisiting indexation and revenue earmarking would reduce budget rigidities, create space for priority spending, and provide additional room to respond to shocks.

**54. The proposed indirect tax reform is commendable, though additional revenue mobilization is still necessary to secure fiscal sustainability.** The revenue-neutral VAT reform is well-designed, would significantly streamline the tax regime, and could boost potential output. The planned direct tax reform will be key to generate revenues, eliminate inefficient tax expenditures, and increase progressivity. Measures that bring short-term gains but introduce unnecessary distortions are not advisable, as they increase risks for growth and sustainability.

**55. The monetary policy stance is appropriate and consistent with inflation converging to target.** Bringing inflation down is critical to protect vulnerable households. The BCB reacted to price pressures in a pro-active manner in line with the inflation targeting framework that has served Brazil well, and the monetary policy stance is appropriately tight. Given upside risks from more persistent inflation at present, the start of the monetary policy easing cycle should proceed with caution to ensure inflation converges to target, guided by incoming data and inflation expectations. The recent decision to adopt a continuous inflation target has aligned Brazil's inflation targeting framework with peers and should improve monetary policy effectiveness. Building on the improvements to BCB autonomy, future efforts could focus on flexibility in budgetary decisions and in setting risk buffers. Adequate FX reserves and the flexible exchange rate regime remain important to absorb shocks. Developing further guidance on the use of FX swaps would be advisable.

**56. The financial sector remains resilient, systemic risks are contained, and the authorities are taking welcome steps to address household debt vulnerabilities.** Banks are profitable, adequately capitalized, and liquid, and the financial system weathered well domestic and external stress events. Targeted policy measures and financial literacy initiatives to address pockets of household debt vulnerabilities and protect consumers are welcome. The authorities could also consider a prudential limit targeted to riskier credit modalities to protect consumers on future borrowing. Careful management of a bigger role for public banks will be important to mitigate risks for fiscal sustainability and monetary policy transmission.

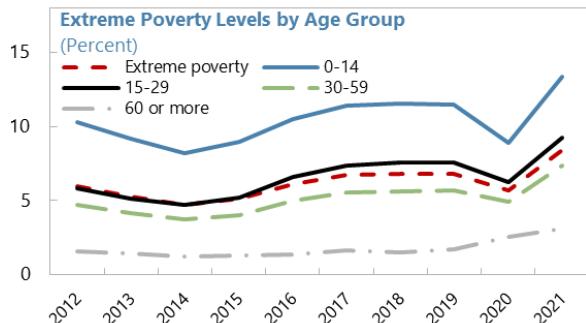
**57. The BCB is at the forefront of financial innovation.** Initiatives such as the highly successful Pix and the Open Finance environment have increased financial inclusion, efficiency, and competition. Plans for a wholesale CBDC are expected to underpin a public blockchain infrastructure that fosters financial innovation within a regulated environment.

**58. The authorities are embarking on an ambitious agenda to steer a sustainable, inclusive, and green economy.** Priorities are rightly focused on fostering innovation, trade integration, and competitiveness; upgrading investment and skills; tackling poverty and inequality; and promoting green growth opportunities. Continuing efforts to strengthen the effectiveness of the anti-corruption and AML/CFT frameworks remains important. With agriculture and energy generation being the most vulnerable sectors to climate change, plans to strengthen climate resilience, halt illegal deforestation, and decarbonize the economy, including by creating a mandatory ETS and leveraging the BCB Sustainability Agenda, are welcome. Launching the first sovereign green bond will also help green the financial system.

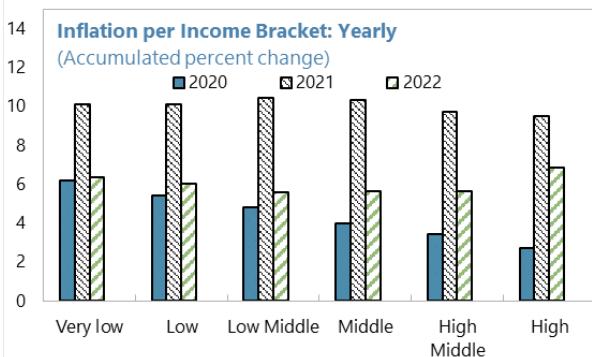
**59. Staff recommends that the next Article IV consultation take place on the standard 12-month cycle.**

### Figure 1. Brazil: Poverty and Inequality

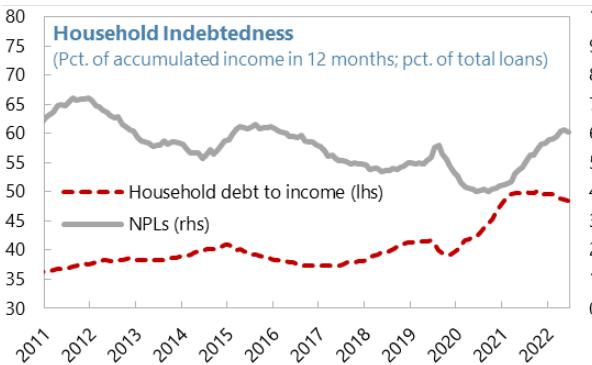
Poverty and extreme poverty increased in 2021, in particular among children....



Inflation has hit vulnerable households.



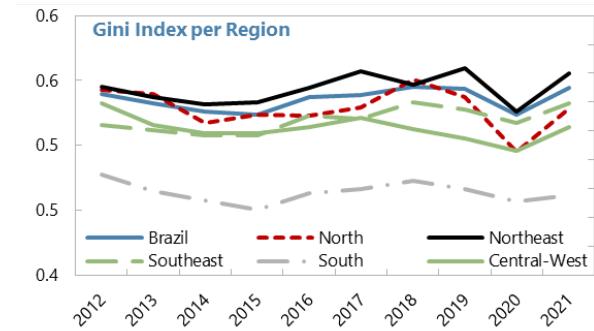
Household indebtedness has increased to record levels.



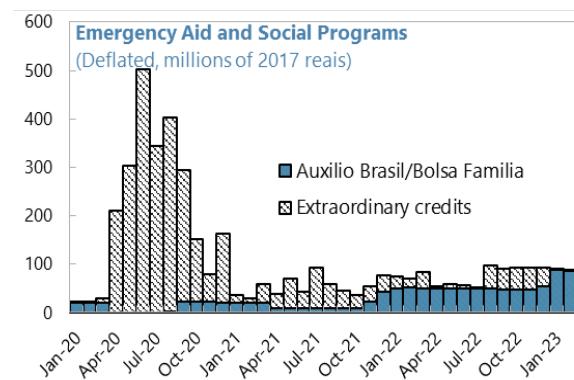
1/ Includes income from all jobs and all sources.

Sources: BCB, IBGE, Ipea, Haver Analytics, and Fund staff calculations.

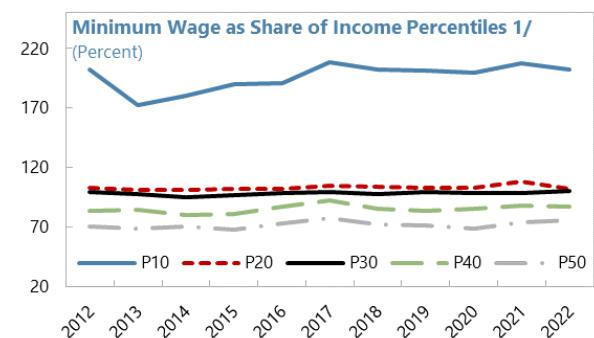
...and so did inequality across all regions, with the largest increases in the Northern states.



Emergency assistance and Auxílio Brasil/Bolsa Família have helped boost household incomes.

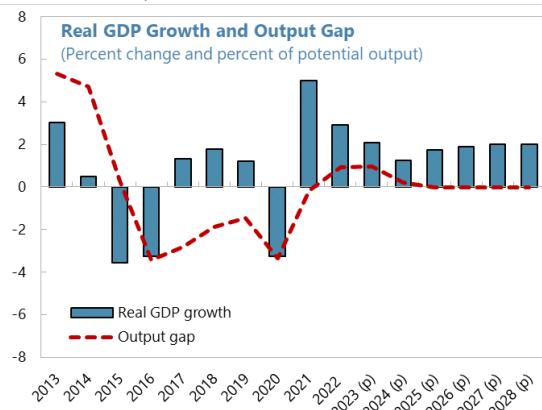


The minimum wage is around 70 percent of the median wage, including all jobs and sources.

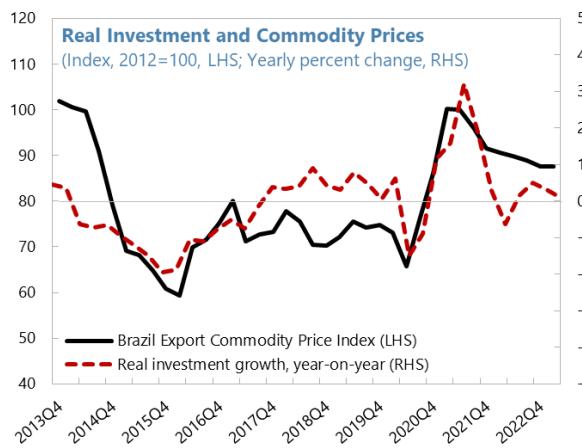


### Figure 2. Brazil: Real Sector Developments

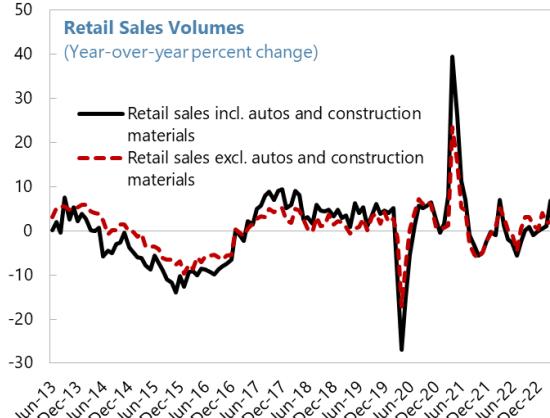
Real GDP grew by 2.9 percent in 2022 and is expected to moderate to 2.1 percent in 2023.



Real investment growth continued to decline, from 32 percent y/y in Q2 2021 to 1 percent in Q1 2023.

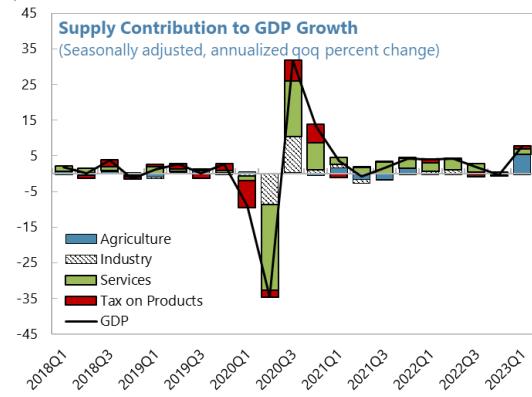


Extended retail sales have picked up in recent months, posting 6.8 percent y/y growth in March 2023.

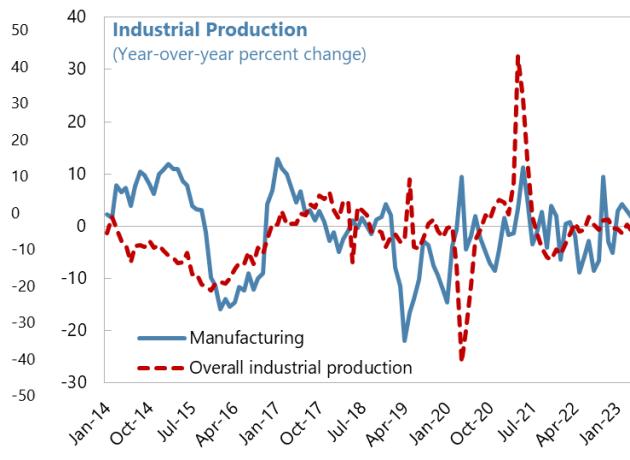


Sources: IBGE, CNI, Haver Analytics, and Fund staff estimates.

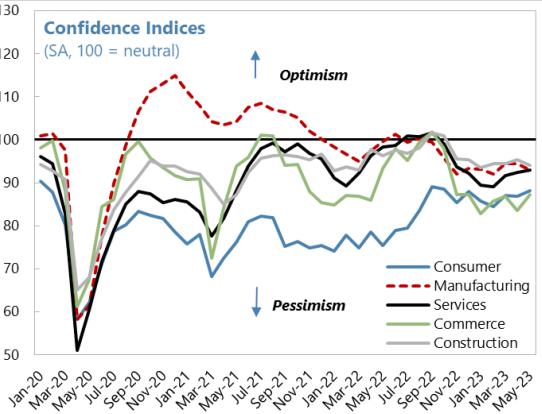
Growth in Q1 2023 was supported by strong agricultural output.



Industrial production growth remains lukewarm.

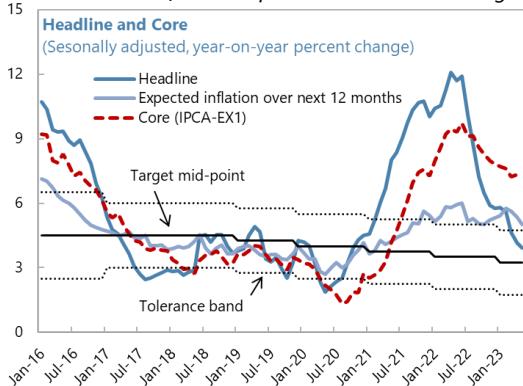


Confidence indicators point towards moderation in activity in 2023.

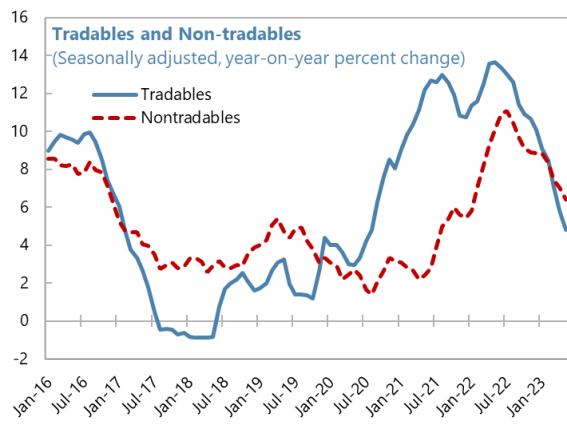


### Figure 3. Brazil: Inflation Developments

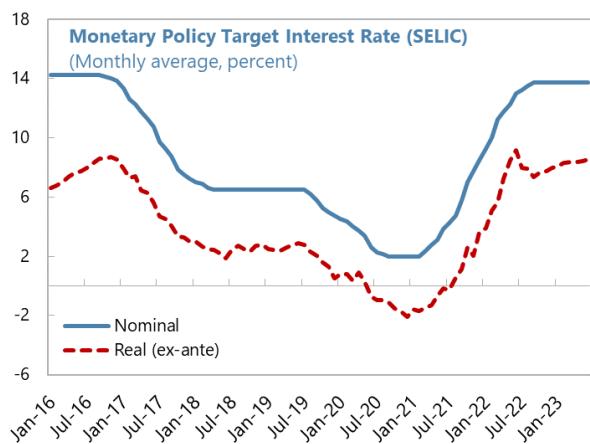
Headline inflation has declined, while core inflation has been stickier, and inflation expectations are above target.



Both tradable and non-tradable inflation have declined but remain elevated.

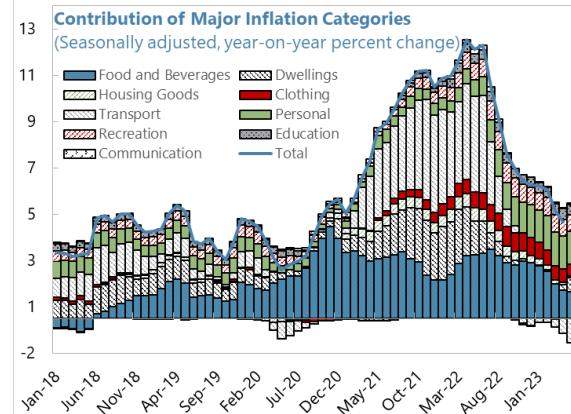


The BCB has kept the policy rate on hold since August 2022 at 13.75 percent.



Sources: IBGE, BCB, Haver Analytics, and Fund Staff calculations.

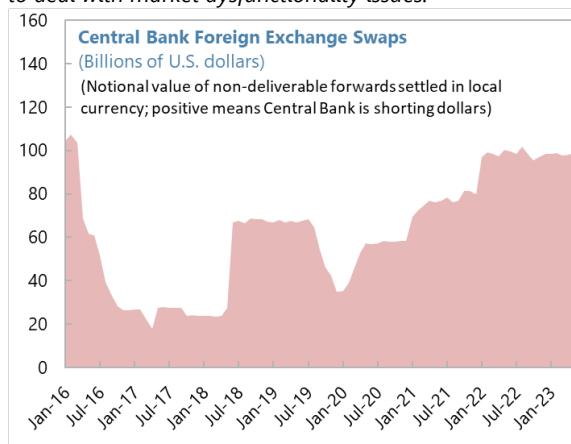
The marked decline in inflation was largely due to lower transport prices.



Real wage growth accelerated in late 2021 but is showing signs of cooling down.

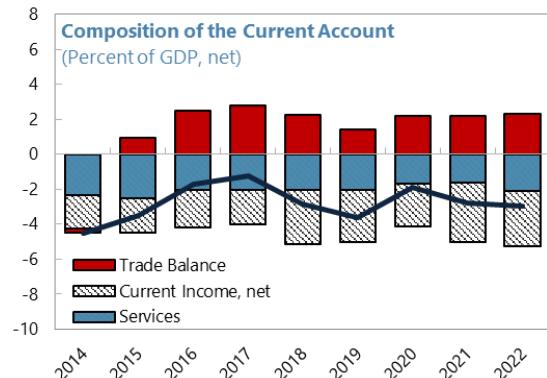


The BCB increased the stock of FX swaps after the pandemic to deal with market dysfunctionality issues.

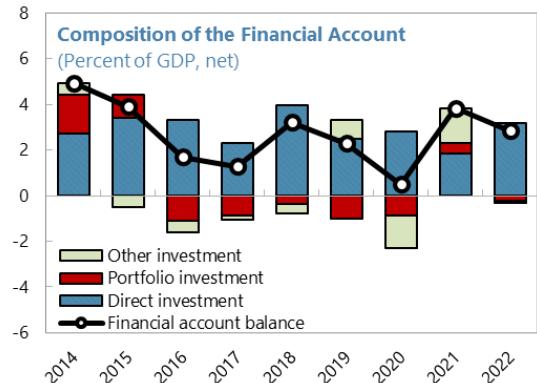


### Figure 4. Brazil: External Sector Developments

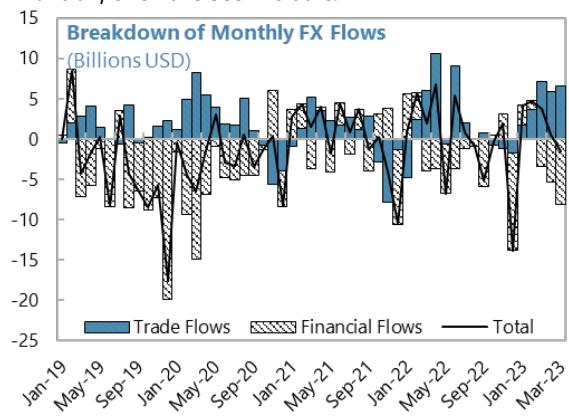
*The 2022 current account deficit remained broadly unchanged, driven by higher deficits in services and primary income...*



*FDI inflows substantially increased in 2022 amid limited portfolio outflows.*

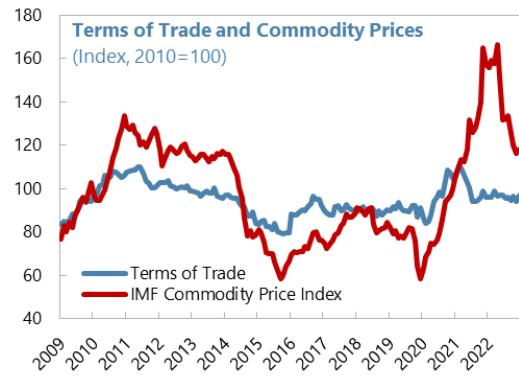


*Financial flows have been volatile.*

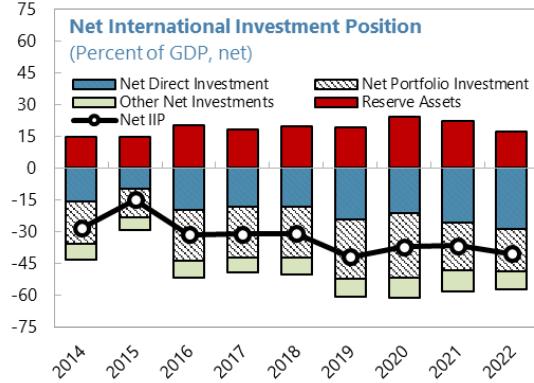


Sources: BCB, Haver Analytics, Bloomberg, and Fund staff calculations.

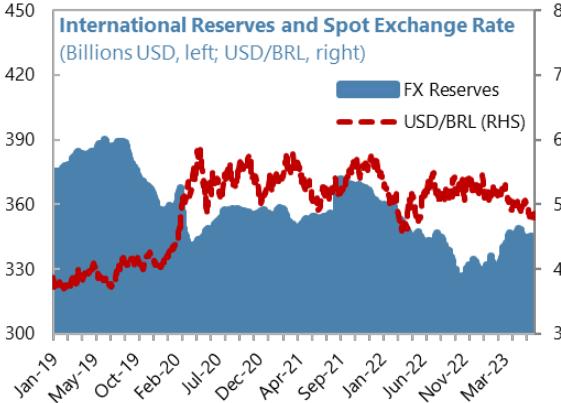
*...despite a sizeable trade surplus benefitting from favorable terms of trade.*



*The NIIP deteriorated mostly due to negative valuation effects on international reserves.*

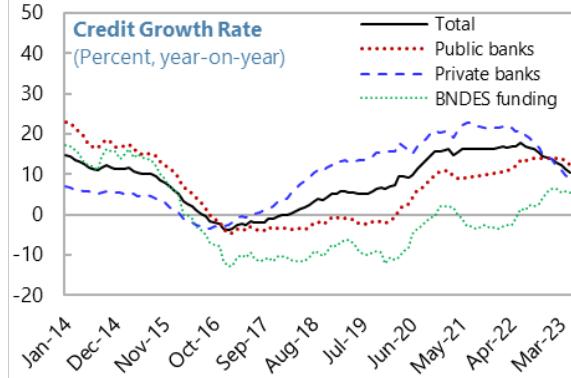


*The exchange rate was broadly stable since July 2022, while reserves started to recover this year.*

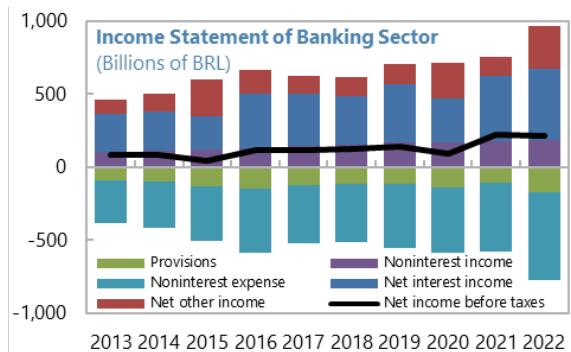


**Figure 5. Brazil: Financial Sector Developments**

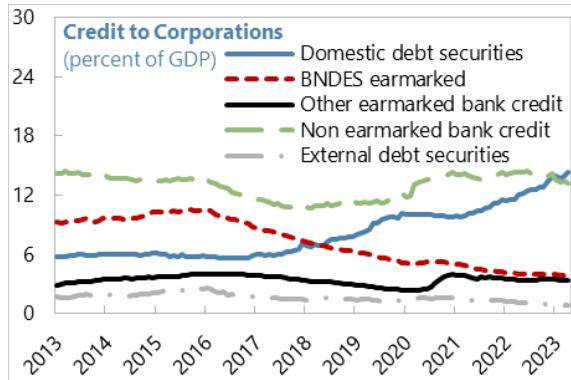
*Credit growth is moderating.*



*Banks remain profitable.*

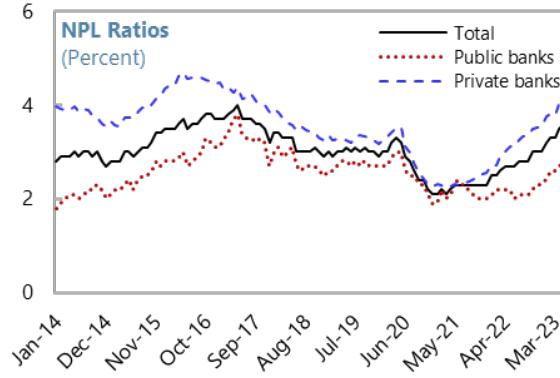


*Credit supply to corporations has become more reliant on market issuance.*

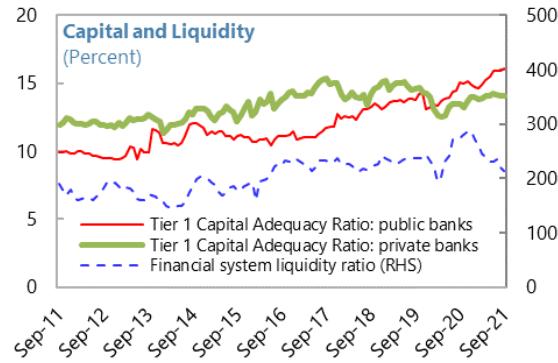


Sources: BCB, Capital IQ, CEIC, Bloomberg, and Fund staff calculations.

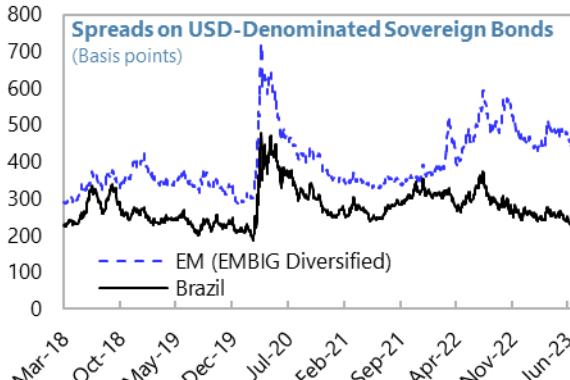
*NPL ratios have picked up.*



*Capital and liquidity ratios remain above the regulatory minima, with private banks having ample buffers.*

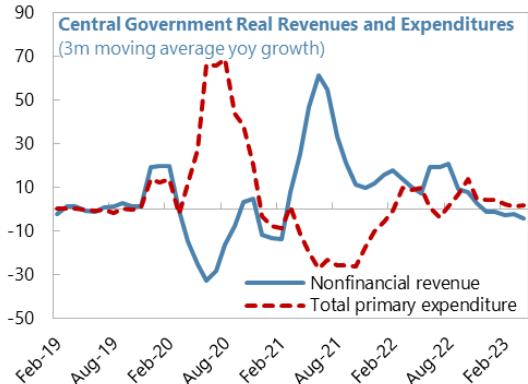


*Credit spreads have remained relatively low compared to other emerging market economies (EMs).*

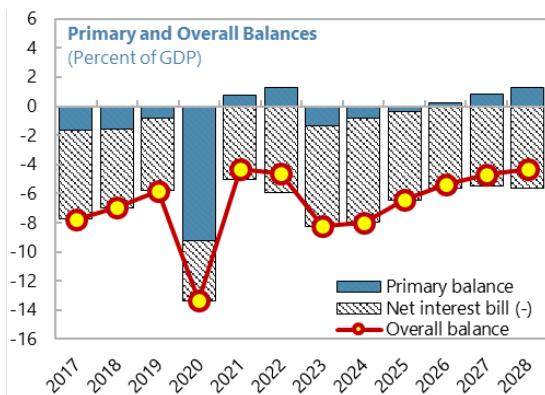


### Figure 6. Brazil: Fiscal Sector Developments

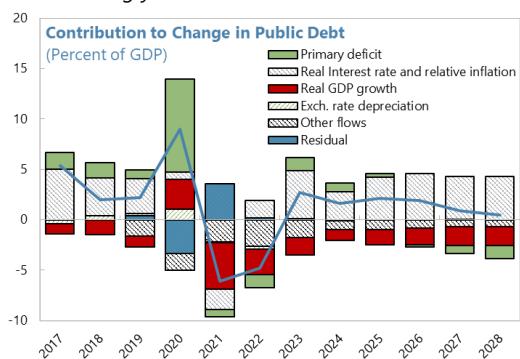
After strong growth since early 2021, fiscal revenues started to decelerate mid-2022 and contracted recently...



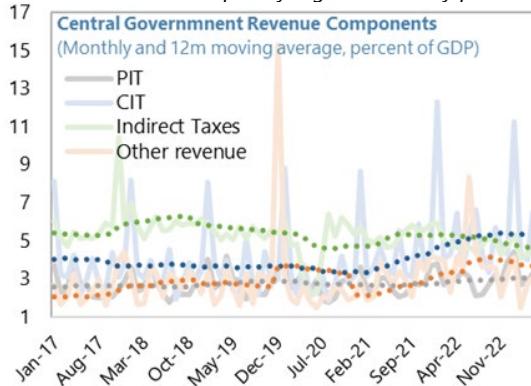
The overall NFPS overall balance is expected to deteriorate in 2023 as interest expenditures increase.



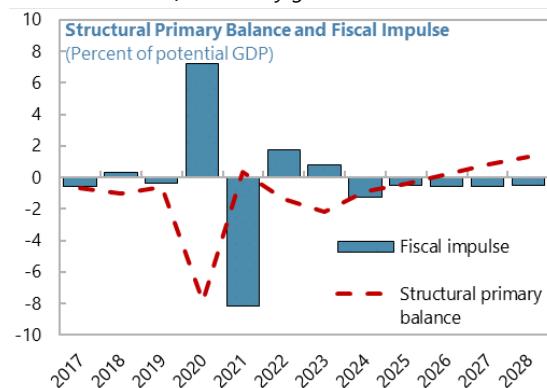
A large increase in the deflator and primary surpluses helped lower NFPS gross debt in 2021-22. Unfavorable interest rate-growth differentials are expected to push up debt in coming years.



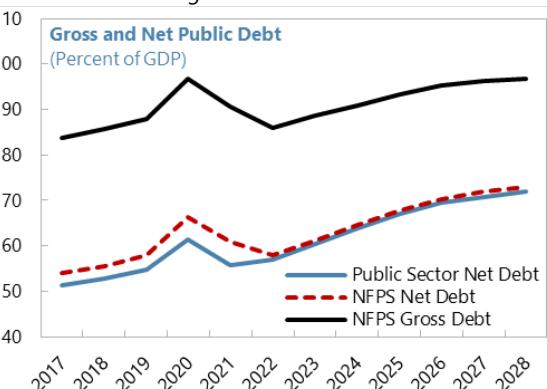
...driven by a decline in indirect taxes following the 2022 tax cuts. Corporate income taxes and other revenues reached record levels in 2022 helped by high commodity prices.



After the unwinding of pandemic stimulus in 2021, the fiscal stance turned expansionary in 2022 and is expected to remain so in 2023, followed by gradual consolidation.



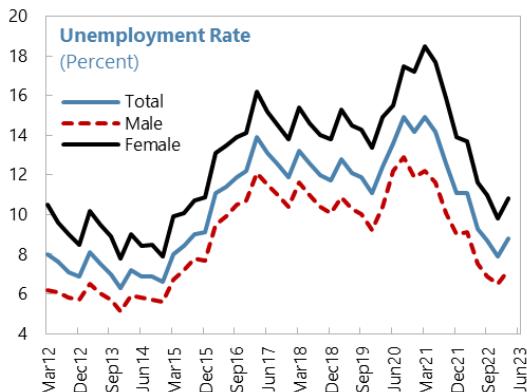
Gross NFPS and net public debt ratios are expected to stabilize over the longer term



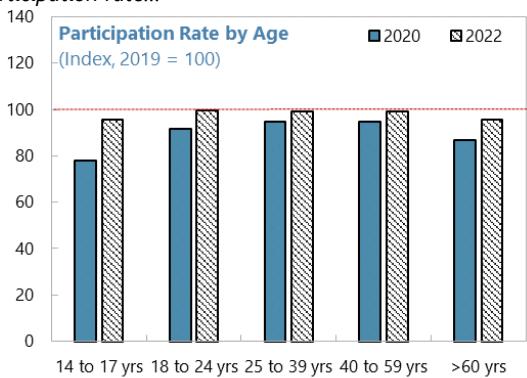
Sources: Treasury, BCB, Haver Analytics, and Fund Staff calculations.

### Figure 7. Brazil: Labor Market Developments

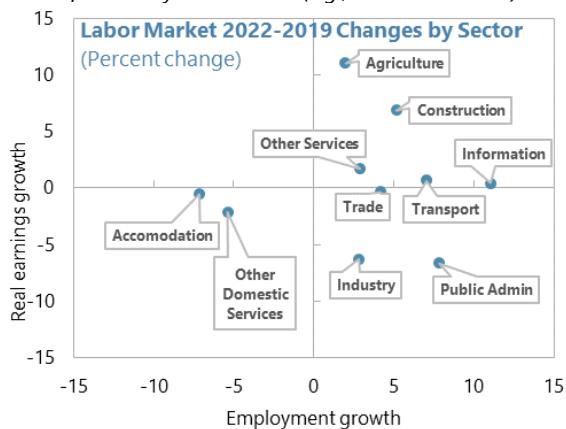
The unemployment rate declined following the pandemic.



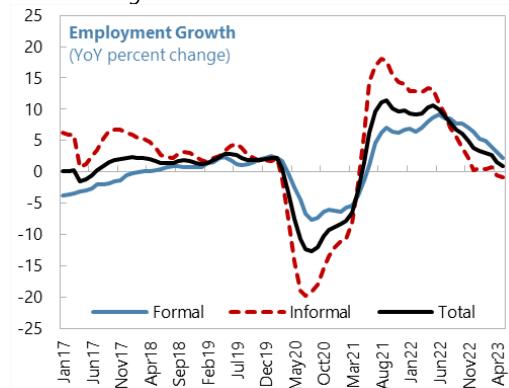
There has been a broad-based decline in the labor force participation rate...



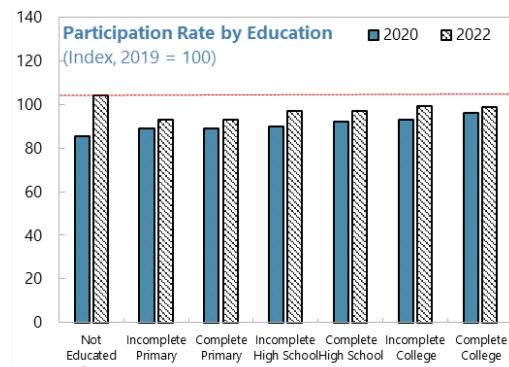
Some sectors have recovered (e.g., agriculture, construction), while a few have yet to recover (e.g., accommodation).



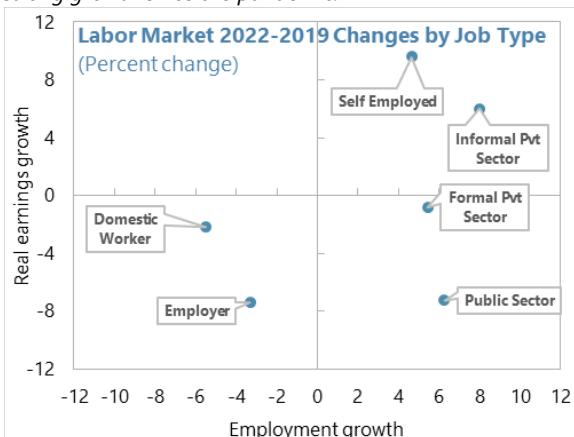
Informal workers lost more jobs during the pandemic but rebounded stronger.



...by age, education, and gender.



Self-employed and informal private sector jobs posted strong growth since the pandemic.



Sources: PNADc Survey, IBGE, Haver Analytics, and Fund staff calculations.

**Table 1. Brazil: Selected Economic Indicators, 2021-28**

I. Social and Demographic Indicators															
Area (thousands of sq. km.)	8,510	Health													
Agricultural land (percent of land area)	30.2	Physicians per 1000 people (2022)													
Population	203.1	Hospital beds per 1000 people (2022)													
Total (million) (2022)	0.7	Access to safe water (2021)													
Annual rate of growth (percent, 2022)	23.9	6.4													
Density (per sq. km. est., 2022)	7.9	Education													
Unemployment rate (2022)	77	Adult illiteracy rate (2019)													
Population characteristics (2021)	11	Net enrollment rates, percent in:													
Life expectancy at birth (years)	77	Primary education (2019)													
Infant mortality (per thousand live births)	11	Secondary education (2019)													
Income distribution (2017)	12.4	Poverty rate (in percent, 2021) 1/													
Ratio between average income of top 10 percent of earners over bottom 40 percent	48.9	R\$9,915 billion													
Gini coefficient (2020)	11.4	US\$1,920 billion													
Main export products: airplanes, metallurgical products, soybeans, automobiles, electronic products, iron ore, coffee, and oil.															
II. Economic Indicators															
	2021	2022	2023	2024	2025	2026	2027	2028							
(Percentage change)															
<b>National accounts and prices</b>															
GDP at current prices	16.9	11.4	5.9	7.0	5.5	5.4	5.6	5.6							
GDP at constant prices	5.0	2.9	2.1	1.2	1.7	1.9	2.0	2.0							
Consumption	3.6	3.7	0.8	0.4	1.1	1.5	1.9	1.9							
Investment (GFCF)	16.5	0.9	0.5	0.6	1.2	1.4	1.4	1.4							
Consumer prices (IPCA, average)	8.3	9.3	5.1	4.6	3.0	3.0	3.0	3.0							
Consumer prices (IPCA, end of period)	10.1	5.8	5.4	3.9	3.0	3.0	3.0	3.0							
GDP deflator	11.4	8.3	3.8	5.7	3.7	3.5	3.5	3.5							
(Percent of GDP)															
Gross domestic investment															
Private sector	17.1	15.4	15.1	14.5	14.5	14.4	14.4	14.3							
Public sector	2.4	2.7	2.8	3.2	3.2	3.2	3.1	3.1							
Gross national savings															
Private sector	19.7	18.4	21.9	20.9	19.7	18.9	18.3	17.7							
Public sector	-3.1	-3.2	-6.4	-5.7	-4.5	-3.8	-3.1	-2.6							
<b>Public sector finances</b>															
Central government primary balance 2/	-0.4	0.5	-1.3	-0.8	-0.3	0.3	0.9	1.3							
NFPS primary balance	0.7	1.3	-1.3	-0.8	-0.3	0.3	0.9	1.3							
NFPS cyclically adjusted primary balance (in percent of potential GDP)	0.8	1.0	-1.7	-0.9	-0.3	0.3	0.9	1.3							
NFPS overall balance	-4.3	-4.6	-7.9	-7.4	-6.2	-5.4	-4.8	-4.2							
Net public sector debt	55.8	57.1	60.1	63.5	66.2	68.3	69.3	70.1							
General Government gross debt, Authorities' definition	78.3	72.9	77.1	79.3	81.3	82.7	83.4	83.6							
NFPS gross debt	90.7	85.9	89.2	91.2	93.3	94.8	95.6	95.9							
Of which: Foreign currency linked	5.1	4.2	4.2	4.2	4.3	4.3	4.3	4.3							
<b>Money and credit</b>															
(Annual percentage change)															
Base money 3/	2.7	16.6	5.9	7.0	5.5	5.4	5.6	5.6							
Broad money 4/	8.7	10.6	6.9	6.7	5.4	5.6	5.5	5.6							
Bank loans to the private sector	17.6	14.6	8.0	8.0	8.0	8.0	8.0	8.0							
<b>Balance of payments</b>															
(Billions of U.S. dollars, unless otherwise specified)															
Trade balance	36.4	44.2	50.1	47.0	47.8	49.0	50.1	50.2							
Exports	284.0	340.3	338.5	343.3	349.4	357.4	366.5	379.0							
Imports	247.6	296.2	288.4	296.3	301.6	308.4	316.4	328.8							
Current account	-46.4	-56.9	-48.0	-56.1	-58.6	-60.0	-61.4	-64.2							
Capital account and financial account	50.4	64.4	48.0	56.1	58.6	60.0	61.4	64.2							
Foreign direct investment (net inflows)	30.2	60.8	54.2	53.2	52.4	53.3	54.3	55.3							
Terms of trade (percentage change)	14.4	-7.1	-6.1	-6.4	-3.5	-1.9	-0.6	-1.1							
Merchandise exports (in US\$, annual percentage change)	34.8	19.8	-0.5	1.4	1.8	2.3	2.6	3.4							
Merchandise imports (in US\$, annual percentage change)	38.9	19.6	-2.6	2.7	1.8	2.2	2.6	3.9							
Total external debt (in percent of GDP)	40.6	35.5	34.1	33.1	32.9	32.6	32.0	31.1							
<b>Memorandum items:</b>															
Output Gap	-0.2	0.9	1.0	0.2	0.0	0.0	0.0	0.0							
Current account (in percent of GDP)	-2.8	-3.0	-2.3	-2.5	-2.5	-2.4	-2.4	-2.3							
Unemployment rate 5/	13.2	9.3	9.5	9.4	9.4	9.4	9.4	9.4							
Gross official reserves	362	325	346	346	346	346	346	346							
REER (annual average in percent; appreciation +)	-3.2	12.1	...	...	...	...	...	...							

Sources: Central Bank of Brazil, Ministry of Finance, IBGE, IPEA, and Fund staff estimates.

1/ Computed by IBGE using World Bank's threshold for upper-middle income countries (U\$5.5/day).

2/ Includes the federal government, the central bank, and the social security system (INSS).

3/ Currency issued, required deposits held at the Central Bank plus other Central Bank liabilities to other depository corporations

4/ Currency outside depository corporations, transferable deposits, other deposits and securities other than shares

5/ Unemployment rate for 2021 and 2022 shows the average of March, June, September, and December.

**Table 2. Brazil: Balance of Payments, 2021-28**  
 (In billions of US dollars, unless otherwise indicated)

	2021	2022	2023	2024	2025	2026	2027	2028	Proj.
<b>Current Account</b>	<b>-46.4</b>	<b>-56.9</b>	<b>-48.0</b>	<b>-56.1</b>	<b>-58.6</b>	<b>-60.0</b>	<b>-61.4</b>	<b>-64.2</b>	
Trade balance	36.4	44.2	50.1	47.0	47.8	49.0	50.1	50.2	
Exports (fob)	284.0	340.3	338.5	343.3	349.4	357.4	366.5	379.0	
Imports (fob)	247.6	296.2	288.4	296.3	301.6	308.4	316.4	328.8	
Income, net	-55.8	-61.0	-60.8	-63.1	-65.3	-66.6	-67.6	-68.0	
<b>Capital and Financial Account</b>	<b>50.4</b>	<b>64.4</b>	<b>48.0</b>	<b>56.1</b>	<b>58.6</b>	<b>60.0</b>	<b>61.4</b>	<b>64.2</b>	
Capital account	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
Financial account 1/	50.2	64.1	47.8	55.9	58.4	59.8	61.2	63.9	
Direct investment, net	30.2	60.8	54.2	53.2	52.4	53.3	54.3	55.3	
Assets	16.2	30.7	32.5	33.7	35.1	36.5	38.0	39.6	
Liabilities	46.4	91.5	86.7	86.9	87.5	89.9	92.3	94.9	
Portfolio investment, net	7.9	-4.1	-6.4	-6.4	-5.7	-6.0	-4.9	-3.5	
Financial Derivatives, net	1.0	2.0	3.3	3.5	3.6	3.8	3.9	4.1	
Other investment, net	25.1	-1.9	-3.4	5.7	8.0	8.7	7.8	8.1	
Change in Reserve Assets, net	-14.0	7.3	0.0	0.0	0.0	0.0	0.0	0.0	
<b>Errors and Omissions</b>	<b>-4.0</b>	<b>-7.5</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	
<b>Memorandum Items:</b>									
Gross reserves (eop) 1/									
In billions of U.S. dollars	362.2	324.7	345.7	345.7	345.7	345.7	345.7	345.7	
Current account (in percent of GDP)	-2.8	-3.0	-2.3	-2.5	-2.5	-2.4	-2.4	-2.3	
Trade balance (in percent of GDP)	2.2	2.3	2.4	2.1	2.0	2.0	1.9	1.8	
Merchandise exports (in percent of GDP)	17.2	17.7	16.4	15.4	14.9	14.5	14.1	13.7	
Merchandise imports (in percent of GDP)	15.0	15.4	13.9	13.3	12.9	12.5	12.2	11.9	
Export volume (yoY change, in percent)	2.3	5.9	9.1	7.2	4.8	4.0	2.9	3.4	
Import volume (yoY change, in percent)	17.4	0.3	0.0	2.0	1.2	2.0	2.4	2.9	
Export price index (yoY change, in percent)	29.5	13.7	-8.5	-5.1	-2.6	-1.3	0.0	0.3	
Import price index (yoY change, in percent)	13.1	22.4	-2.6	1.4	1.0	0.7	0.6	1.5	
Terms of trade (yoY change, in percent)	14.4	-7.1	-6.1	-6.4	-3.5	-1.9	-0.6	-1.1	
Oil price (Brent blend; US\$ per barrel)	69.2	96.4	76.4	71.7	68.9	66.7	64.9	63.4	
REER (annual average in percent; appreciation +)	-3.2	...	...	...	...	...	...	...	
GDP in billions of U.S. dollars	1,650	1,920	2,069	2,228	2,339	2,461	2,598	2,768	

Sources: Central Bank of Brazil; and Fund staff estimates and projections.

1/ Historical numbers include valuation changes.

**Table 3. Brazil: Main Fiscal Aggregates, 2021-28**

(In percent of GDP, unless otherwise indicated)

	2021	2022	2023	2024	2025	2026	2027	2028	Proj.
<b>FEDERAL GOVERNMENT 1/</b>									
<b>Net nonfinancial revenue</b>	<b>21.7</b>	<b>23.3</b>	<b>22.4</b>	<b>22.8</b>	<b>23.2</b>	<b>23.8</b>	<b>24.2</b>	<b>24.5</b>	
Revenue administered by SRF	13.4	14.0	13.9	13.9	13.7	13.7	13.7	13.7	13.7
PIT	2.8	3.0	3.0	2.9	2.9	2.9	2.9	2.9	2.9
CIT	4.4	5.3	5.2	4.9	4.8	4.8	4.8	4.8	4.8
Indirect taxes	5.3	4.8	4.9	5.0	5.0	5.0	5.0	5.0	5.0
Trade taxes	0.7	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7
Other	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Social security contributions	5.2	5.4	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Other revenue	3.1	3.9	3.0	2.8	2.9	3.0	3.2	3.3	
<i>Of which: royalties and dividends from resource extraction</i>	1.3	1.9	1.3	1.4	1.7	1.7	1.8	2.0	
Unallocated measures	0.0	0.0	0.0	0.7	1.1	1.6	1.8	2.1	
<b>Total primary expenditure 2/</b>	<b>22.1</b>	<b>22.8</b>	<b>23.7</b>	<b>23.6</b>	<b>23.5</b>	<b>23.5</b>	<b>23.3</b>	<b>23.2</b>	
Current expenditures	21.5	22.3	23.2	22.9	22.8	22.8	22.6	22.5	
Personnel	3.7	3.4	3.5	3.4	3.4	3.4	3.3	3.4	
Pension benefits	8.0	8.0	8.1	8.1	8.1	8.0	8.0	8.0	
Transfer to subnational governments	4.0	4.6	4.4	4.4	4.4	4.4	4.4	4.4	
Other	5.8	6.3	7.2	7.0	7.0	7.0	6.8	6.8	
Capital expenditures	0.6	0.5	0.5	0.7	0.7	0.7	0.7	0.6	
Fund surpluses and statistical discrepancy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
<b>Primary balance</b>	<b>-0.4</b>	<b>0.5</b>	<b>-1.3</b>	<b>-0.8</b>	<b>-0.3</b>	<b>0.3</b>	<b>0.9</b>	<b>1.3</b>	
Overall balance	-5.0	-4.5	-6.9	-6.4	-5.2	-4.5	-3.9	-3.3	
<b>STATES AND MUNICIPALITIES</b>									
<b>States</b>									
<b>Nonfinancial revenue</b>	<b>13.1</b>	<b>13.2</b>	<b>13.0</b>	<b>13.0</b>	<b>13.0</b>	<b>13.0</b>	<b>13.0</b>	<b>13.0</b>	
Own revenues	10.5	10.2	10.3	10.3	10.2	10.2	10.2	10.2	
Indirect taxes	7.7	7.3	7.5	7.5	7.5	7.5	7.5	7.6	
Other	2.9	2.9	2.7	2.7	2.7	2.7	2.7	2.7	
Transfers from the federal government	2.5	3.0	2.8	2.8	2.7	2.7	2.7	2.7	
<b>Total primary expenditure</b>	<b>12.2</b>	<b>12.8</b>	<b>13.1</b>	<b>13.1</b>	<b>13.0</b>	<b>13.0</b>	<b>13.0</b>	<b>13.0</b>	
Current expenditures	11.6	11.9	12.1	12.1	12.1	12.1	12.1	12.1	
Personnel	4.1	4.4	4.5	4.5	4.5	4.5	4.5	4.5	
Other	7.5	7.5	7.7	7.6	7.6	7.6	7.6	7.6	
Capital expenditures and other	0.6	0.9	0.9	0.9	0.9	0.9	0.9	0.9	
<b>Primary balance of states</b>	<b>0.9</b>	<b>0.4</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	
<b>Primary balance of states and municipalities</b>	<b>1.1</b>	<b>0.7</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	
Overall balance	0.7	-0.1	-1.0	-0.9	-0.9	-0.9	-0.9	-0.9	
<b>PUBLIC ENTERPRISES 3/</b>									
<b>Primary balance</b>	<b>0.0</b>	<b>0.1</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	
Overall balance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
<b>NON FINANCIAL PUBLIC SECTOR (NFPS)</b>									
Nonfinancial revenues	34.8	36.5	35.4	35.9	36.2	36.7	37.1	37.5	
Total primary expenditures	34.3	35.6	36.8	36.7	36.5	36.5	36.3	36.2	
Personnel	7.8	7.8	8.0	7.9	7.9	7.9	7.8	7.9	
Pension benefits	8.0	8.0	8.1	8.1	8.1	8.0	8.0	8.0	
Other	17.3	18.4	19.3	19.1	18.9	18.9	18.8	18.7	
Capital expenditures	1.2	1.4	1.4	1.6	1.6	1.6	1.6	1.6	
<b>Primary balance</b>	<b>0.7</b>	<b>1.3</b>	<b>-1.3</b>	<b>-0.8</b>	<b>-0.3</b>	<b>0.3</b>	<b>0.9</b>	<b>1.3</b>	
Overall balance	-4.3	-4.6	-7.9	-7.4	-6.2	-5.4	-4.8	-4.2	
Structural primary balance (percent of potential GDP) 4/	0.3	-1.4	-2.2	-0.9	-0.3	0.3	0.9	1.3	
<b>Memorandum items</b>									
Loans to public financial institutions 5/	-0.9	-0.8	-0.4	0.0	-0.1	-0.1	0.0	0.0	
NFPS net interest expenditure	5.0	5.9	6.6	6.6	5.9	5.7	5.7	5.5	
Net public sector debt 6/	55.8	57.1	60.1	63.5	66.2	68.3	69.3	70.1	
Gross NFPS debt	90.7	85.9	89.2	91.2	93.3	94.8	95.6	95.9	
Nominal GDP (billions of reais)	8,899	9,915	10,501	11,241	11,855	12,498	13,196	13,936	

Sources: Central Bank of Brazil; Ministry of Finance; Ministry of Planning; and Fund staff estimates and projections.

1/ Comprises the central administration and the social security system.

2/ Total primary expenditure is the sum of current (on trend) plus capital (on trend) expenditures, minus unallocated cuts to meet the ceiling.

3/ Excluding Petrobras and Eletrobras.

4/ Structural primary balance adjusts for output gap and one-off measures.

5/ Policy lending to BNDES and others.

6/ Includes assets mainly comprised of international reserves, financial assets of public enterprises, and assets of the federal labor fund (FAT).

**Table 4. Brazil: Depository Corporations and Monetary Aggregates, 2018-22**  
 (End of period, in billions of reais)

	2018	2019	2020	2021	2022
I. Central Bank					
<b>Net foreign assets</b>	<b>1,464.9</b>	<b>1,421.6</b>	<b>1,823.9</b>	<b>1,911.6</b>	<b>1,597.2</b>
Net international reserves	1,433.1	1,408.0	1,790.2	1,901.9	1,579.5
Other foreign assets (net)	31.8	13.6	33.8	9.7	17.7
<b>Net domestic assets</b>	<b>-749.0</b>	<b>-682.0</b>	<b>-1,025.0</b>	<b>-1,091.4</b>	<b>-640.3</b>
Net claims on public sector	493.1	424.9	470.5	218.2	361.3
Net credit to other depository corporations	-1,080.2	-902.1	-1,127.5	-924.8	-876.7
Other items (net)	161.9	204.8	368.0	384.8	124.9
<b>Base money</b>	<b>715.8</b>	<b>739.6</b>	<b>798.9</b>	<b>820.3</b>	<b>956.8</b>
Currency issued	265.0	280.7	370.4	339.0	342.3
Liabilities to other depository corporations	444.1	449.5	418.4	475.5	605.9
Reserve deposits	37.1	35.9	61.1	70.2	77.3
Liabilities to other sectors	6.8	9.4	10.1	5.8	8.6
II. Depository Corporations 1/					
<b>Net foreign assets</b>	<b>1,171.3</b>	<b>1,070.7</b>	<b>1,297.3</b>	<b>1,334.0</b>	<b>1,087.6</b>
Net international reserves	1,433.1	1,408.0	1,790.2	1,901.9	1,579.5
Other foreign assets (net)	-261.8	-337.3	-492.8	-567.9	-491.9
<b>Net domestic assets</b>	<b>4,959.3</b>	<b>5,584.2</b>	<b>6,598.1</b>	<b>7,250.2</b>	<b>8,403.3</b>
Net claims on public sector	3,085.9	3,544.4	4,288.4	4,192.6	4,608.5
Credit to other financial corporations	244.4	294.2	377.8	492.9	582.8
Credit to private sector	4,217.8	4,639.7	5,227.5	6,200.8	7,116.9
Of which: loans to private sector	3,043.3	3,224.0	3,753.4	4,414.7	5,057.2
Other items (net)	2,804.3	3,086.6	3,514.9	3,834.1	4,103.2
Capital	1,048.3	1,209.5	1,492.0	1,625.0	1,475.4
Other liabilities excluded from broad money	1,756.0	1,877.1	2,022.9	2,209.1	2,627.8
<b>Broad money (M2) 2/</b>	<b>6,130.6</b>	<b>6,654.9</b>	<b>7,895.4</b>	<b>8,584.2</b>	<b>9,490.9</b>
Currency in circulation	218.2	228.3	308.9	286.0	293.2
Demand deposits	190.0	216.6	328.6	363.9	349.3
Quasi-money liabilities	5,722.5	6,209.9	7,257.9	7,934.4	8,848.4
(Percent of GDP)					
Base money	10.2	10.0	10.5	9.2	9.7
Broad money (M2)	87.5	90.1	103.8	96.5	95.7
Financial sector credit to the private sector	60.2	62.8	68.7	69.7	71.8
Of which: bank loans to private sector	43.5	43.6	49.3	49.6	51.0
<b>Memorandum item:</b>					
GDP (in billions of reais)	7,004	7,389	7,610	8,899	9,915

Sources: Central Bank of Brazil; and Fund staff estimates.

1/ Includes the Central Bank of Brazil, commercial banks, multiple banks, financial (money market) investment funds, Banco do Brasil,

Federal Savings Bank, state savings bank, investment banks, National Bank for Economic and Social Development (BNDES), state

2/ M2 includes the liabilities to other financial corporations, state and municipal governments, nonfinancial public enterprises, other nonfinancial corporations, and other resident sectors.

**Table 5. Brazil: Medium-Term Macroeconomic Framework, 2021-28**

	2021	2022	Proj.					
			2023	2024	2025	2026	2027	2028
<b>MACROECONOMIC FRAMEWORK</b>								
GDP growth at constant prices (percent)	5.0	2.9	2.1	1.2	1.7	1.9	2.0	2.0
Consumer prices (IPCA, end of period, percent)	10.1	5.8	5.4	3.9	3.0	3.0	3.0	3.0
Gross domestic investment	19.4	18.1	17.9	17.8	17.7	17.6	17.5	17.4
Private sector	17.1	15.4	15.1	14.5	14.5	14.4	14.4	14.3
Public sector	2.4	2.7	2.8	3.2	3.2	3.2	3.1	3.1
Gross domestic savings	16.6	15.2	15.6	15.3	15.2	15.2	15.2	15.1
Private sector	19.7	18.4	21.9	20.9	19.7	18.9	18.3	17.7
Public sector	-3.1	-3.2	-6.4	-5.7	-4.5	-3.8	-3.1	-2.6
External current account balance	-2.8	-3.0	-2.3	-2.5	-2.5	-2.4	-2.4	-2.3
Central government primary balance	0.7	1.3	-1.3	-0.8	-0.3	0.3	0.9	1.3
Consolidated non-financial public sector								
Primary balance	0.7	1.3	-1.3	-0.8	-0.3	0.3	0.9	1.3
Overall balance	-4.3	-4.6	-7.9	-7.4	-6.2	-5.4	-4.8	-4.2
Public sector net debt 1/	55.8	57.1	60.1	63.5	66.2	68.3	69.3	70.1
General government gross debt, Authorities' definition	78.3	72.9	77.1	79.3	81.3	82.7	83.4	83.6
NFPS gross debt 2/	90.7	85.9	89.2	91.2	93.3	94.8	95.6	95.9
<b>EXTERNAL DEBT 3/ 4/</b>								
(Billions of U.S. dollars)								
<b>Total external debt</b>	<b>670.3</b>	<b>681.1</b>	<b>706.2</b>	<b>737.6</b>	<b>770.4</b>	<b>801.8</b>	<b>831.1</b>	<b>859.8</b>
Medium- and long-term	591.5	613.3	635.9	664.2	693.7	722.0	748.4	774.3
Nonfinancial public sector	201.2	197.3	204.6	213.7	223.2	232.3	240.8	249.1
Public sector banks	38.0	38.9	40.3	42.1	44.0	45.8	47.5	49.1
Private sector	431.1	444.8	463.9	482.1	498.2	512.9	526.1	538.1
Short-term	78.8	67.8	70.3	73.4	76.7	79.8	82.7	85.6
<b>Medium- and long-term external debt service</b>	<b>104.8</b>	<b>88.9</b>	<b>112.3</b>	<b>112.7</b>	<b>116.3</b>	<b>121.5</b>	<b>127.2</b>	<b>132.7</b>
Amortization	85.8	70.3	84.7	84.7	87.2	91.1	95.5	99.7
Interest	19.0	18.6	27.6	28.0	29.1	30.4	31.7	33.0
(Percent of GDP)								
<b>Total external debt</b>	<b>40.6</b>	<b>35.5</b>	<b>34.1</b>	<b>33.1</b>	<b>32.9</b>	<b>32.6</b>	<b>32.0</b>	<b>31.1</b>
Medium- and long-term	35.9	31.9	30.7	29.8	29.7	29.3	28.8	28.0
Nonfinancial public sector	12.2	10.3	9.9	9.6	9.5	9.4	9.3	9.0
Public sector banks	2.3	2.0	1.9	1.9	1.9	1.9	1.8	1.8
Private sector	26.1	23.2	22.4	21.6	21.3	20.8	20.3	19.4
Short-term	4.8	3.5	3.4	3.3	3.3	3.2	3.2	3.1
(Percent of gross international reserves)								
<b>Medium- and long-term external debt service</b>	<b>28.9</b>	<b>27.4</b>	<b>32.5</b>	<b>32.6</b>	<b>33.6</b>	<b>35.1</b>	<b>36.8</b>	<b>38.4</b>
Amortization	23.7	21.6	24.5	24.5	25.2	26.4	27.6	28.8
Interest	5.2	5.7	8.0	8.1	8.4	8.8	9.2	9.5
<b>Short-term debt</b>	21.7	20.9	20.3	21.2	22.2	23.1	23.9	24.7
<b>MEMORANDUM ITEMS:</b>								
Gross reserves (eop) 4/								
In billions of U.S. dollars	362.2	324.7	345.7	345.7	345.7	345.7	345.7	345.7
In percent of external short-term debt (maturity basis)	459.9	479.1	492.0	471.0	451.0	433.3	418.0	404.1
In months of prospective GNFS imports	11.6	10.6	11.0	10.7	10.7	10.4	10.1	9.7
In percent of external short-term debt (residual maturity)	243.0	212.9	223.1	215.2	206.0	197.3	189.5	182.9
Short-term debt in percent of total external debt	11.7	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Intercompany debt (in billions of U.S. dollars)	242.1	256.8	268.9	278.5	285.5	291.6	296.7	300.8
In percent of GDP	14.7	13.4	13.0	12.5	12.2	11.8	11.4	10.9
GDP (billion US\$)	1,650	1,920	2,069	2,228	2,339	2,461	2,598	2,768

Sources: Central Bank of Brazil; and Fund staff estimates and projections.

1/ Includes assets, which mainly comprise international reserves, outstanding liabilities of public financial institutions to the Treasury, financial assets of public enterprises, and assets of the federal labor fund (FAT).

2/ Gross non financial public sector debt consolidates debt of public enterprises with that of general government. Unlike the authorities' definition, gross general government debt comprises treasury bills at the central bank's balance sheet not used under repurchase agreements.

3/ Includes intercompany debt.

4/ Historical numbers include valuation changes.

**Table 6. Brazil: External Vulnerability, 2021-28**  
 (In billions of U.S. dollars, unless otherwise indicated)

	2021	2022	2023	2024	2025	2026	2027	2028	Proj.
<b>Trade</b>									
Exports of GNFS (12-month percent change, US\$)	32.4	20.4	-0.2	1.7	2.1	2.6	2.9	3.8	
Imports of GNFS (12-month percent change, US\$)	32.8	22.7	-2.5	3.4	2.2	2.7	3.1	4.4	
Terms of trade (12-month percent change)	14.4	-7.1	-6.1	-6.4	-3.5	-1.9	-0.6	-1.1	
<b>Current account</b>									
Current account	-46.4	-56.9	-48.0	-56.1	-58.6	-60.0	-61.4	-64.2	
In percent of GDP	-2.8	-3.0	-2.3	-2.5	-2.5	-2.4	-2.4	-2.3	
<b>Capital and financial account</b>									
Capital Account	50.4	64.4	48.0	56.1	58.6	60.0	61.4		
Financial Account	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Portfolio investment (net)	50.2	64.1	47.8	55.9	58.4	59.8	61.2	63.9	
Foreign direct investment (net)	7.9	-4.1	-6.4	-6.4	-5.7	-6.0	-4.9	-3.5	
Of which: intercompany loans (net)	30.2	60.8	54.2	53.2	52.4	53.3	54.3	55.3	
Short-term external liabilities of commercial banks	-0.3	19.9	10.9	8.3	5.7	4.7	3.7	2.6	
<b>External debt</b>									
Total external debt 1/	670.3	681.1	706.2	737.6	770.4	801.8	831.1	859.8	
In percent of gross reserves	185.1	209.8	204.3	213.4	222.8	231.9	240.4		
Amortization of external MLT debt (in percent of GNFS exports)	30.2	20.7	25.0	24.7	25.0	25.5	26.0	26.3	
External interest payments (in percent of GNFS exports)	6.7	5.5	8.2	8.2	8.3	8.5	8.7	8.7	
<b>Reserves</b>									
Gross reserves	362.2	324.7	345.7	345.7	345.7	345.7	345.7	345.7	
In months of prospective GNFS imports	11.6	10.6	11.0	10.7	10.7	10.4	10.1	9.7	
In percent of broad money (M2)	23.5	17.8	17.3	16.2	15.4	14.6	13.8	12.9	
In percent of short-term external debt (maturity basis)	243.0	212.9	223.1	215.2	206.0	197.3	189.5	...	
<b>Exchange rate</b>									
REER (annual average in percent; appreciation +)	-3.2	12.1	...	...	...	...	...	...	

Sources: Central Bank of Brazil; Bloomberg; and Fund staff estimates.

1/ Includes intercompany loans.

**Table 7. Brazil: General Government GFSM 2014, 2021-28**  
 (In percent of GDP, unless otherwise indicated)

	2021	2022	2023	2024	2025	2026	2027	2028	Proj.
<b>Revenue</b>	<b>40.9</b>	<b>43.3</b>	<b>41.6</b>	<b>40.9</b>	<b>40.7</b>	<b>40.5</b>	<b>40.4</b>	<b>40.4</b>	
Taxes	24.7	25.2	25.3	25.2	25.0	25.0	25.1	25.1	
Income, profits and capital gains	7.8	9.2	8.9	8.5	8.4	8.4	8.4	8.4	
Payroll and workforce	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	
Property taxes	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.7	
Goods and services	14.3	13.4	13.9	14.0	14.0	14.0	14.0	14.1	
International trade and transactions	0.7	0.6	0.6	0.7	0.7	0.7	0.7	0.7	
Social contributions	10.1	10.3	10.5	10.4	10.4	10.4	10.4	10.4	
Social security contributions (RGPS)	5.1	5.2	5.4	5.4	5.4	5.4	5.4	5.4	
Other social contributions (RPPS)	3.4	3.5	3.5	3.4	3.4	3.4	3.4	3.4	
Mandatory saving fund (FGTS)	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	
Other revenue	6.2	7.8	5.8	5.4	5.3	5.1	5.0	4.9	
Interest	2.2	2.8	2.4	2.1	2.0	1.9	1.9	1.7	
Other	3.9	5.0	3.3	3.2	3.2	3.2	3.1	3.1	
<b>Total expenditure</b>	<b>43.2</b>	<b>46.6</b>	<b>48.0</b>	<b>47.3</b>	<b>46.9</b>	<b>46.7</b>	<b>46.6</b>	<b>46.4</b>	
Expenses	43.5	46.3	47.4	46.7	46.3	46.1	45.9	45.7	
Compensation of employees	11.6	11.8	11.9	11.9	11.9	11.9	11.9	11.9	
Use of goods and services	5.0	5.4	5.3	5.2	5.2	5.2	5.1	5.1	
Consumption of fixed capital	1.6	1.6	1.4	1.4	1.4	1.4	1.4	1.4	
Interest	6.8	8.1	8.5	7.9	7.4	7.3	7.3	7.1	
Subsidies and grants	0.2	0.2	0.3	0.3	0.2	0.3	0.2	0.2	
Social benefits	16.5	16.8	17.7	17.7	17.7	17.7	17.6	17.6	
Social security	9.9	10.0	10.1	10.1	10.1	10.1	10.1	10.1	
Social assistance	1.9	2.2	3.0	2.9	2.9	3.0	2.9	2.9	
Other social benefits (RPPS)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	
Other	1.8	2.3	2.4	2.4	2.4	2.4	2.4	2.4	
Net investment in non-financial assets	-0.3	0.4	0.5	0.6	0.6	0.6	0.6	0.6	
<b>Net lending and borrowing</b>	<b>-2.3</b>	<b>-3.4</b>	<b>-6.4</b>	<b>-6.4</b>	<b>-6.2</b>	<b>-6.2</b>	<b>-6.1</b>	<b>-6.0</b>	
Methodological & statistical discrepancy	-1.9	-1.1							
Central government (financial asset transactions)	-0.2	-0.1							
States & Municipalities	-1.7	-1.0							
Borrowing requirement (GFS 1986)	4.1	4.5							
<b>Net lending and borrowing primary</b>	<b>2.3</b>	<b>1.9</b>	<b>-0.3</b>	<b>-0.7</b>	<b>-0.9</b>	<b>-0.8</b>	<b>-0.7</b>	<b>-0.7</b>	
Borrowing requirement (GFS 1986)	-0.7	-1.2							

Sources: Treasury; and Fund staff estimates and projections.

**Table 8. Brazil: States GFSM 2014, 2021-28**  
 (In percent of GDP, unless otherwise indicated)

	2021	2022	2023	2024	2025	2026	2027	2028	Proj.
<b>Revenue</b>	<b>13.1</b>	<b>13.4</b>	<b>13.2</b>	<b>13.2</b>	<b>13.1</b>	<b>13.1</b>	<b>13.1</b>	<b>13.1</b>	
Taxes	8.4	8.1	8.3	8.3	8.3	8.3	8.3	8.4	
Property taxes	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	
Goods and services	7.7	7.3	7.5	7.5	7.5	7.5	7.5	7.6	
of which: ICMS	7.4	7.0							
Social contributions	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.2	
Grants and transfers	2.5	3.0	2.8	2.8	2.7	2.7	2.7	2.7	
Other revenue	1.1	1.1	0.9	0.9	0.9	0.9	0.9	0.8	
<b>Total expenditure</b>	<b>12.2</b>	<b>13.8</b>	<b>13.8</b>	<b>13.8</b>	<b>13.8</b>	<b>13.7</b>	<b>13.6</b>	<b>13.7</b>	
Expenses	12.2	13.4	13.5	13.4	13.4	13.3	13.3	13.3	
Compensation of employees	4.1	4.4	4.5	4.5	4.5	4.5	4.5	4.5	
Wages	3.3	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
Social contributions	0.8	0.9	1.0	1.0	1.0	1.0	1.0	1.0	
Use of goods and services	1.7	1.8	1.9	1.9	1.9	1.8	1.8	1.8	
Consumption of fixed capital	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	
Interest	0.4	1.0	1.0	1.0	1.0	0.9	0.9	0.9	
Grants	2.5	2.6	2.3	2.3	2.3	2.3	2.3	2.3	
Social benefits	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4	
Social assistance	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
Other social benefits (RPPS)	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	
Other	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	
Non-financial assets transactions	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	
<b>Net lending and borrowing</b>	<b>0.9</b>	<b>-0.4</b>	<b>-0.7</b>	<b>-0.6</b>	<b>-0.6</b>	<b>-0.6</b>	<b>-0.5</b>	<b>-0.6</b>	
Methodological and statistical discrepancy	-0.4	0.0							
Borrowing requirement (GFS 1986)	-0.5	0.4							
<b>Net lending and borrowing primary</b>	<b>1.3</b>	<b>0.4</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.3</b>	
Borrowing requirement (GFS 1986)	-0.9	-0.4							

Sources: Treasury; and Fund staff estimates and projections.

**Table 9. Brazil: Municipalities GFSM 2014, 2021-28**

(In percent of GDP, unless otherwise indicated)

	2021	2022	2023	2024	2025	2026	2027	2028	Proj.
<b>Revenue</b>	<b>9.7</b>	<b>10.9</b>	<b>9.8</b>	<b>9.7</b>	<b>9.8</b>	<b>9.7</b>	<b>9.7</b>	<b>9.7</b>	
Taxes	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Property taxes	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Goods and services	1.2	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Social contributions	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Grants and transfers	6.7	7.0	6.4	6.4	6.3	6.3	6.3	6.3	6.3
Other revenue	0.5	1.2	0.7	0.7	0.8	0.7	0.7	0.7	0.7
<b>Total expenditure</b>	<b>8.7</b>	<b>9.8</b>	<b>9.2</b>	<b>9.1</b>	<b>9.1</b>	<b>9.1</b>	<b>9.0</b>	<b>9.0</b>	
Expenses	8.7	9.5	8.9	8.8	8.8	8.8	8.7	8.7	8.7
Compensation of employees	4.0	4.2	4.1	4.1	4.1	4.1	4.1	4.1	4.1
Wages	3.3	3.5	3.4	3.4	3.4	3.4	3.4	3.4	3.4
Social contributions	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Use of goods and services	2.6	2.9	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Consumption of fixed capital	0.5	0.5	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Interest	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Social benefits (RPPS)	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Other	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Non-financial assets transactions	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
<b>Net lending and borrowing</b>	<b>1.0</b>	<b>1.1</b>	<b>0.6</b>	<b>0.6</b>	<b>0.7</b>	<b>0.6</b>	<b>0.7</b>	<b>0.6</b>	
Methodological and statistical discrepancy	-0.8	-0.9							
Borrowing requirement	-0.2	-0.2							
<b>Net lending and borrowing primary</b>	<b>0.9</b>	<b>0.8</b>	<b>0.5</b>	<b>0.5</b>	<b>0.5</b>	<b>0.5</b>	<b>0.5</b>	<b>0.5</b>	
Borrowing requirement	-0.2	-0.3							

Sources: Treasury; and Fund staff estimates and projections.

**Table 10. Brazil: Financial Soundness Indicators, 2016-22**  
(In percent)

	2016	2017	2018	2019	2020	2021	2022
<b>Capital Adequacy</b>							
Regulatory capital to risk-weighted assets	18.1	19.5	19.5	19.4	19.1	18.4	17.5
Regulatory Tier 1 capital to risk-weighted assets	14.3	15.4	15.6	16.0	16.4	16.0	15.4
Capital to assets	8.4	8.8	9.1	9.6	8.7	8.8	8.5
Gross asset position in financial derivatives to capital	13.7	11.4	10.4	11.8	18.7	15.5	17.8
Gross liability position in financial derivatives to capital	12.9	12.1	12.0	14.1	20.5	15.8	16.8
Non-performing loans net of provisions to capital	11.7	12.1	12.6	12.4	16.6	13.3	13.7
<b>Asset Quality</b>							
Non-performing loans to total gross loans	3.1	2.9	2.6	2.7	1.9	2.1	2.6
Provisions to Non-performing loans	86.7	102.7	121.8	118.0	214.0	147.4	110.7
<b>Earnings and Profitability</b>							
Return on assets	1.3	1.8	2.2	2.0	1.9	2.4	2.1
Return on equity	10.6	12.1	12.6	15.8	11.7	14.9	15.3
Interest margin to gross income	63.3	62.7	63.0	62.1	63.4	65.4	65.4
<b>Liquidity</b>							
Liquid assets to short-term liabilities	237.1	238.6	240.2	240.1	283.2	199.8	194.2
Liquid assets to total assets	12.0	12.4	12.7	12.5	14.9	12.7	11.7
Net open position in foreign exchange to capital	0.6	0.4	0.5	0.2	0.6	2.3	3.3

Sources: Central Bank of Brazil; and Fund staff calculations.

## Annex I. Potential Output Growth<sup>1</sup>

*This annex provides an overview on the evolution of potential output growth in Brazil and assesses its current level. Potential output is defined as the level of output that an economy can sustain without generating inflationary pressures. The growth rate of potential output is a critical determinant of policy settings. For example, it is used to assess the fiscal stance. It also allows the central bank to calibrate the optimal response to inflationary shocks. In addition, the potential growth of emerging markets like Brazil helps assess the convergence path towards living standard of more advanced economies, setting the course for pro-growth structural reforms.*

**1. Three methodologies were employed to estimate potential output for Brazil.** Namely:

- **Univariate Filters.** Univariate filters isolate an underlying trend in one statistical series output—from cyclical and random variation. Three univariate filters are considered:
  - *Hodrick-Prescott (HP) filter.* The HP filter minimizes the distance of the series of actual GDP from its trend while penalizing changes in the trend growth rate. The output of the filter is a smoothed GDP series, which is interpreted as potential GDP. Different specifications of the HP filter produce different levels of trend growth ranging from a series identical to the underlying actual growth series to a straight line, depending on the value of the smoothing parameter  $\lambda$ . Given the use of annual data in the analysis, the parameter  $\lambda$  is set to a standard value of 100.
  - *Band Pass filters.* Two Band Pass filters are considered: (i) Baxter and King (1999); and (ii) Christiano-Fitzgerald (2003). Both filters assume that variations below a certain threshold correspond to the business cycle, whereas fluctuations occurring at higher or lower frequencies are filtered out.
- **Multivariate Filters.** The multivariate filter methodology follows the approach developed by Aliche, and others (2015). It includes basic economic identification restrictions, relating the output gap to labor market conditions and inflationary pressures. Given the semi-structural nature, multivariate filters present a more accurate estimate of potential output than univariate filters (Laxton and Tetlow, 1992). Using Bayesian methods, a model with the following specifications is estimated:

Output Gap

$$Y_t = \varphi Y_{t-1} + \varepsilon_Y$$

Phillips Curve

$$\pi_t = \lambda \pi_{t+1} + (1 - \lambda) \pi_{t-1} + \beta Y_t + \varepsilon_\pi$$

Okun's Law

$$u_{gap,t} = \tau_1 u_{gap,t-1} + \tau_2 Y_t + \varepsilon_{ugap}$$

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<sup>1</sup> This Annex was prepared by Matteo Ghilardi, in collaboration with Swarnali Hannan (all WHD).

Where  $Y$  is the output gap,  $\pi$  is the inflation rate, and  $u$  indicates the unemployment rate gap. The gap refers to deviations from the long-term trend. The model parameter values and the variances of shocks for these equations are estimated using Bayesian estimation techniques, with annual data on nominal GDP, CPI inflation, and unemployment for 2003–2022.

- **Production Function Approach.** The production function approach follows a growth accounting method, which decomposes changes in output and total factor productivity using a production function of the type:

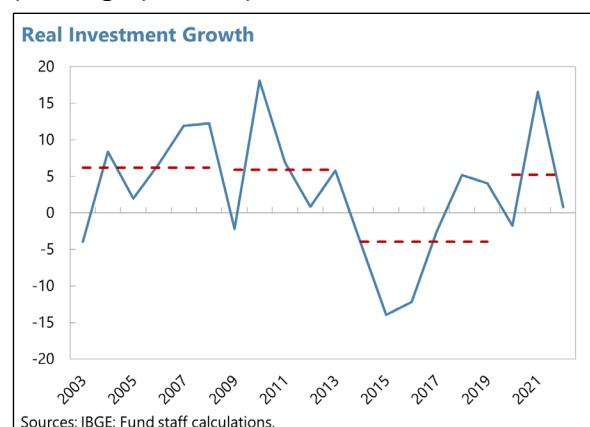
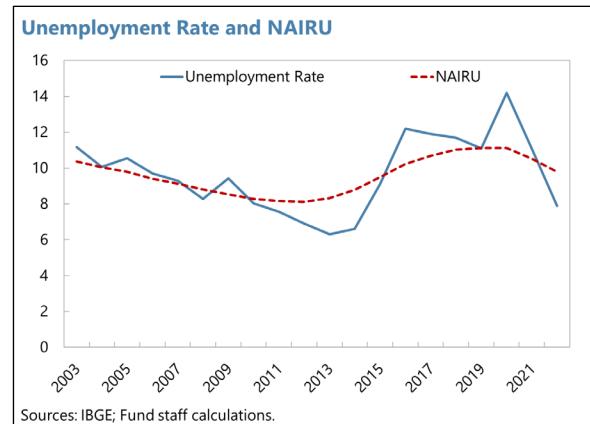
$$Y_t = A_t K_t^\alpha L_t^{1-\alpha}$$

This specification assumes constant returns to scale, implying that the coefficients of labor and capital (the shares of output attributable to each factor of production) sum to 1. The parameter  $\alpha$  is calibrated in line with the SAMBA model (de Castro and others, 2011), implying a value of 0.45.

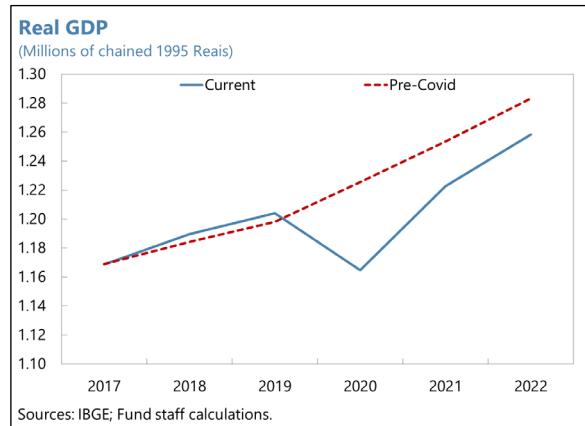
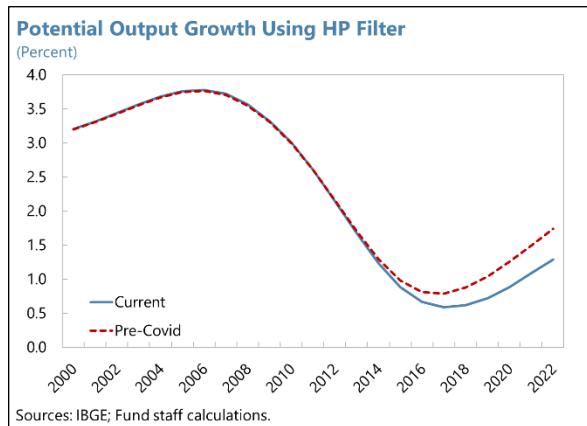
**2. All methodologies suggest that potential output growth declined steadily in the last decades but has increased in recent years.** Between 2003 and 2008, the growth rate of potential output averaged about 4.1 percent among the methodologies considered, supported by high investment and a declining unemployment rate.

The potential growth rate decreased after the global financial crisis, averaging about 3.3 percent between 2009 and 2013, owing to a decline in investment growth and in the employment rate, despite a decline in the unemployment rate.

Potential growth declined further after the 2014 economic crisis, with an average rate of 0.1 percent for 2014–2019. Key determinants were the negative growth rate in investment and the significant deterioration in labor markets, in particular the increase in the unemployment rate. Potential output growth increased in recent years, averaging 1.3 percent, due to improvements in the labor market and an increase in investment. The different methodologies point towards a potential growth rate of 1.3–2.2 percent in 2022. A caveat is that results vary depending upon the parameters chosen. For example, the HP filter uses the standard smoothing parameter  $\lambda$  of 100 for annual analysis. The results point towards an almost linear decline in the potential growth rate if a higher  $\lambda$  of 1600 is used instead (typically used for quarterly data). On the other hand, the results point towards a sharper increase and then decrease in potential output growth over time if the smoothing parameter is chosen using the Ravn Uhlig frequency rule.



**3. The potential output growth and real GDP level fell after the pandemic, suggesting significant scarring.** For the period 2020-22, the average loss in potential output growth (using the HP filter) is about 0.4 percentage points. Finally, the estimates using multivariate filters suggest that the non-accelerating inflation rate of unemployment (NAIRU, the lowest unemployment rate that can be sustained without causing wage growth and inflation to rise) increased from 8.1 percent in 2012 to



11.1 percent before the pandemic. In 2022, NAIRU was estimated to be 9.8 percent, above the actual end-of-year unemployment rate of 7.9 percent, further suggesting that the economy was operating above potential.

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## Annex II. External Sector Assessment<sup>1</sup>

**Overall Assessment:** The external position in 2022 was broadly in line with the level implied by medium-term fundamentals and desirable policies. The current account (CA) deficit is expected to gradually narrow to about 2.3 percent of GDP in 2023 and remain broadly stable over the medium term as growth converges to its potential rate and net public savings improve. Risks to Brazil's external position over the medium term relate to uncertainties to global financial conditions and insufficient progress on domestic reforms.

**Potential Policy Responses:** Policies that would help keep the CA in line with its norm include efforts to raise national savings that are needed to provide room for a sustainable expansion in investment, including medium-term fiscal consolidation that should contribute to increase net public savings. Fostering a skilled labor force and implementing structural reforms to reduce the cost of doing business would also help strengthen competitiveness.

<b>Foreign Asset and Liability Position and Trajectory</b>	<b>Background.</b> Brazil's NIIP deteriorated to -40.4 percent of GDP at the end of 2022, from -36.7 percent of GDP in 2021, partly reflecting negative valuation effects on international reserves due to increases in the US interest rates. The NIIP is projected to be around -42 percent of GDP over the medium term, with FDI accounting for more than half of all liabilities. At the end of 2022, estimated external debt declined to 35.4 percent of GDP and 200 percent of exports, compared to 40.7 percent of GDP and 236 percent of exports in 2021. <b>Assessment.</b> Brazil's NIIP has been negative since the series was first published in 2001. Short-term gross external financing needs are moderate at 11 percent of GDP annually, but capital flows and the exchange rate are particularly sensitive to global financing conditions. The CA deficit required to stabilize the NIIP at -41 percent is 2.1 percent of GDP.						
	2022 (% GDP)	NIIP: -40.4	Gross Assets: 49.2	Res Assets: 16.9	Gross Liab.: 89.6	Debt Liab.: 35.4	
<b>Current Account</b>	<b>Background.</b> Despite a sizable trade surplus in goods of 2.3 percent of GDP, the CA deficit reached 3 percent of GDP in 2022, compared with 2.8 percent in 2021, reflecting higher deficits in transport services and primary income related to profits and dividends. Exports and imports were at record levels driven by high commodity prices. From a saving-investment perspective, the CA deficit reflects the saving-investment deficit of the public sector partially offset by the saving-investment surplus of the private sector. After falling in the second half of 2021, the terms of trade remained low in 2022 except for the commodity price spike following Russia's invasion of Ukraine. The current account deficit is expected to gradually narrow to about 2.3 percent of GDP this year and remain broadly stable over the medium term as growth converges to its potential rate. <b>Assessment.</b> In 2022, the cyclically adjusted CA balance was -3.3 percent of GDP. EBA estimates suggest a CA norm in 2022 of -2.2 percent of GDP. This implies a CA gap of -1.1 percent of GDP, with an estimated contribution of identified policy gaps of -0.2 percent of GDP. The identified policy gaps mainly reflect a positive total fiscal policy gap from the more expansionary fiscal policy stances in trading partners relative to Brazil, offset by strong credit growth. After adjusting for the transitory impact of the COVID-19 crisis on travel services (-0.2 percent of GDP) and transport (0.5 percent of GDP), IMF staff estimate the CA gap in the range of -1.3 and -0.3 percent of GDP with a midpoint of -0.8 percent of GDP.						
2022 (% GDP)	CA: -3.0	Cycl. Adj. CA: -3.3	EBA Norm: -2.2	EBA Gap: -1.1	COVID-19 Adj.: 0.3	Other Adj.: 0.0	Staff Gap: -0.8
<b>Real Exchange Rate</b>	<b>Background.</b> After remaining broadly stable in 2021, the REER appreciated sharply (18.8 percent) in the first four months of 2022 before a gradual and partial reversal in the remainder of the year. As of end-April 2023, the REER had appreciated by 2.3 percent relative to the 2022 average. <b>Assessment.</b> The IMF staff CA gap implies a REER gap of 6 percent in 2022 (applying an estimated elasticity of 0.13). The REER index and level methodologies indicate a 29.1 percent and 14.4 percent undervaluation, respectively, for 2022. Consistent with the staff CA gap, staff assesses the REER gap to be in the range of 2.1 to 9.9 percent, with a midpoint of 6 percent.						
<b>Capital and Financial Accounts: Flows and Policy Measures</b>	<b>Background.</b> Brazil continues to attract sizable capital flows. Net FDI flows have continued to fully finance the CA deficit since 2015 (averaging 2.9 percent of GDP during 2015–22, while CA deficits averaged 2.6 percent) and substantially increased in 2022 to 3.2 percent of GDP, from 1.8 percent of GDP in 2021. Portfolio investment turned to net outflows of 0.2 percent of GDP with the narrowing of the interest differential between Brazil and competitor economies amid global and domestic monetary policy tightening. To improve currency convertibility, under Law No. 14286, the Central Bank of Brazil (BCB) has taken initial steps to simplify and modernize foreign exchange and capital regulation. <b>Assessment.</b> The composition of capital flows is expected to have a favorable risk profile over the medium term, with positive net FDI inflows (about 2 percent of GDP) outweighing negative portfolio outflows (about 0.1 percent of GDP). Nevertheless, uncertainties related to tighter global financial conditions and insufficient progress on reforms pose downside risks to capital flows.						
<b>FX Intervention and Reserves Level</b>	<b>Background.</b> Brazil has a floating exchange rate. FX interventions in 2022 continued to rely on spot, repo, and FX swap markets to dampen excess exchange rate volatility. The outstanding stock of the FX swap, a non-deliverable future settled in local currency, rose from US\$80 billion in 2021 to US\$98.5 billion in 2022. International reserves fell markedly to US\$325 billion at end-2022 (from US\$362 billion at end-2021), mostly owing to valuation effects, but recovered to US\$345 billion in May 2023. <b>Assessment.</b> The flexible exchange rate has been an important shock absorber. Reserves remain adequate relative to various criteria, including the IMF's reserve adequacy metric (136 percent as of end- 2022) and serve as insurance against external shocks. Intervention should be limited to alleviating disorderly FX market conditions.						

<sup>1</sup> This Annex was prepared by Yehenew Endegnanew (SPR).

### Annex III. Risk Assessment Matrix<sup>1</sup>

Risks	Likelihood	Impact	Policy Response
<b>Domestic Risks</b>			
<b>Renewed Fiscal Uncertainty.</b> Identified measures deliver less than expected fiscal consolidation.	Medium	<b>Medium.</b> Rise in risk premia, borrowing costs, and inflation expectations; capital outflows and currency pressure from deterioration in investor confidence; all these resulting in output loss and inflation spike.	Monetary policy should be tightened further to ease inflationary pressure and re-anchor expectations. Efforts to strengthen the fiscal position, supported by an enhanced fiscal framework, a further broadening of the tax base, and reforms that tackle rigidities should accelerate, while protecting the most vulnerable through targeted support.
<b>More Persistent Inflation.</b> Higher second round effects on prices and wages, higher effect from fiscal expansion.	Medium	<b>Medium.</b> Further increase in inflation expectations and potential wage-price spiral. The vulnerable households disproportionately more affected by price pressures, exacerbating poverty and inequality.	Monetary policy should err on the side of controlling inflation and tighten if price pressures intensify. Targeted support could be provided to the vulnerable population to ease cost-of-living pressures. A tighter fiscal stance should support disinflation efforts.
<b>Social Discontent.</b> Supply shocks, high inflation, real wage drops, and spillovers from crises in other countries worsen inequality, trigger social unrest, and give rise to financing pressures and damaging populist policies with possible spillovers to other EMDEs. This exacerbates imbalances, slows growth, and triggers market repricing.	High	<b>High.</b> Fiscal consolidation, fiscal framework implementation, and tax reforms are delayed, while monetary policy is prematurely loosened, causing a loss of market confidence, an increase in sovereign yields, and a sharp rise in inflation and inflation expectations. NFPS debt and gross financing needs rise undermining debt sustainability.	Targeted social and unemployment support should help the vulnerable. The government should clearly communicate the necessity of spending and tax reforms with all the stakeholders. Growth-friendly consolidation should protect the most vulnerable and consider risks of social discontent. Monetary policy should remain tight to anchor inflation expectations and bring inflation back to target, finetuning as needed based on incoming data and inflation expectations.
<b>Extreme Climate Events.</b> Extreme weather events cause more severe than expected damage to infrastructure (especially in smaller vulnerable economies) and loss of human lives and livelihoods, amplifying supply chain disruptions and inflationary pressures, causing water and food shortages, and reducing growth.	Medium	<b>Medium.</b> The electricity sector is dependent on hydropower and thus prone to swings in electricity production (and price increases), given higher frequency of droughts and changes in precipitation patterns. Given geography, as well as less underdeveloped infrastructure particularly in townships, frequent mudslides destroy buildings and livelihoods.	The government can provide targeted support to the most vulnerable after natural disasters and establish funds for reconstruction. Policies should aim to diversify energy sources by further broadening solar and wind energy; adjust grids and storage capacity for electricity; invest in safer infrastructure, including buildings and roads; and protect biomes to conserve precipitation patterns as much as possible. Strengthened early warning systems could help mitigating risks from mud slides and flooding.

<sup>1</sup> This Annex was prepared by Swarnali Hannan and Christina Kolerus (both WHD).

The Risk Assessment Matrix (RAM) shows events that could materially alter the baseline path (the scenario most likely to materialize in the view of IMF staff). The relative likelihood is the staff's subjective assessment of the risks surrounding the baseline ("low" is meant to indicate a probability below 10 percent, "medium" a probability between 10 and 30 percent, and "high" a probability between 30 and 50 percent). The RAM reflects staff views on the source of risks and overall level of concern as of the time of discussions with the authorities. Non-mutually exclusive risks may interact and materialize jointly.

Risks	Likelihood	Impact	Policy Response
<b>Global Risks</b>			
<b>Intensification of Regional Conflict(s).</b> Escalation of Russia's war in Ukraine or other regional conflicts and resulting economic sanctions disrupt trade (e.g., energy, food, tourism, and/or critical supply chain components), remittances, refugee flows, FDI and financial flows, and payment systems.	High	<b>Medium.</b> Lower investment confidence and broader EM capital outflow pressures from emerging markets could lead to a repricing of risk assets, dent growth, and increase depreciation and inflationary pressures. However, exports could benefit in the near-term due to positive terms-of-trade effects from commodity price increases.	Exchange rate flexibility should remain instrumental to absorb shocks. FX intervention could be used when exchange rate flexibility is associated with costly frictions (e.g., due to shallow FX markets) but should not substitute for warranted adjustments of macroeconomic policies. Some tightening of outflow CFMs in line with the Fund's Institutional View could be considered in imminent crisis circumstances. However, this should not substitute for any warranted macroeconomic adjustments.
<b>Abrupt Global Slowdown or Recession.</b> Global and idiosyncratic risk factors combine to cause a synchronized sharp growth downturn, with recessions in some countries, adverse spillovers through trade and financial channels, and markets fragmentation.	Medium	<b>High.</b> A sharp decline in global economic activity could undermine consumer and investment confidence and dampen trade. However, Brazil is relatively closed, which would contain negative growth effects. While prices might fall sharply due to less imported inflation, supply disruptions and shortages could somewhat offset this channel.	The policy rate could be loosened earlier than expected if incoming data provide strong evidence of a sharp disinflationary force. The government could provide targeted social and unemployment support for the vulnerable within the budget envelope.
<b>Commodity Price Volatility.</b> A succession of supply disruptions (e.g., due to conflicts and export restrictions) and demand fluctuations (e.g., reflecting China reopening) causes recurrent commodity price volatility, external and fiscal pressures, and social and economic instability.	Medium	<b>Low.</b> Low and volatile oil prices lead to subdued investment spending, primarily by Petrobras, further compressing investment and growth. On the other hand, high and volatile oil prices could increase inflation pressures in an unpredictable manner.	Higher oil prices should be allowed to pass through to the consumers, accompanied by targeted support for the poor. Monetary policy needs to remain vigilant to contain second-round inflationary effects of prolonged volatile and high commodity prices.
<b>Monetary Policy Miscalibration.</b> Amid high economic uncertainty and volatility, major central banks slow monetary policy tightening or pivot to loosen monetary policy prematurely, de-anchoring expectations and triggering a wage-price spiral in tight labor markets.	Medium	<b>Medium.</b> Spillovers could be more limited in Brazil than peers, given Brazil's high domestic real rates, net FX creditor status, and limited reliance on portfolio flows. However, there could be pressure on inflation expectations.	Monetary policy should stay on course to anchor inflation expectations. Liquidity support may need to be provided if banks come under pressure. Targeted support could be provided to vulnerable households.
<b>Systemic Financial Instability.</b> Sharp swings in real interest rates, risk premia, and assets repricing amid economic slowdowns and policy shifts trigger insolvencies in countries with weak banks or non-bank financial institutions, causing markets dislocations and adverse cross-border spillovers.	Medium	<b>Medium.</b> Systemically important banks are adequately capitalized and liquid with securities' portfolios mostly marked-to-market and interest-rate risk hedged appropriately. The authorities' stress tests suggest the banking system would be resilient to a variety of risks, including a significant deterioration in credit quality	The authorities are appropriately taking steps to pass resolution legislation as recommended in the 2018 FSAP to ensure that any problem banks are addressed efficiently and swiftly.

## Annex IV. Debt Sustainability Analysis<sup>1</sup>

*Using a wide range of analyses including the Sovereign Risk and Debt Sustainability Framework (SRDSF), debt sustainability risks are assessed to be moderate. Gross debt of the NFPS declined to 86 percent of GDP in 2022 and net debt to 57 percent, both substantially higher than the average of emerging market peers. Debt projections are highly sensitive to changes in interest rates given the high share of short term and variable coupon debt. Sizable fiscal risks also stem from judiciary claims (Annex V). The overwhelmingly domestic investor base, low FX debt, and the large public sector cash buffers mitigate refinancing risks. Under the baseline scenario, NFPS debt is projected to continue increasing in the medium-term, before stabilizing around 97 percent of GDP in the extended projection horizon.*

- 1. Debt developments.** At end-2022, Brazil's NFPS gross debt amounted to 85.9 percent of GDP, almost 5 percentage points lower than the previous year and 2 percentage points below its pre-pandemic level. The consolidated public sector net debt amounted to 57.1 percent of GDP at end-2022, reflecting a large stock of assets, equal to 26 percent of GDP, which included international reserves amounting to 16 percent of GDP. A primary surplus of 1.3 percent of GDP and a favorable interest-growth differential of 1.1 percentage points (driven by an 8.3 percent increase in the GDP deflator) mainly explain the decrease in gross debt. The faster than expected repayment of BNDES loans and the use of cash buffers further helped the annual decline.
- 2. The new SRDSF template takes into account the large cash vs. accrual adjustments in financing needs.** Even though public finance statistics record the nominal interest on an accrual basis as it is incurred, the actual debt servicing needs for most types of Brazilian federal securities occurs at maturity. As such interest rate expenditures can differ significantly in cash vs accrual terms. The new SRDSF uses zero coupon and inflation-linked instruments as financing instruments to emulate this property of Brazilian debt. The stock of debt is reported in nominal value terms, which takes into account the accrued interest at the end of each year, but financing needs are shown in cash terms.

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<sup>1</sup> This Annex was prepared by Dimitris Drakopoulos (WHD).

**Table 1. Brazil: Risk of Sovereign Stress**

<b>Horizon</b>	<b>Mechanical signal</b>	<b>Final assessment</b>	<b>Comments</b>
<b>Overall</b>	...	<b>Moderate</b>	The overall risk of sovereign stress is moderate, reflecting a relatively low level of vulnerability in the near-term and moderate levels of vulnerability in the medium-, and long-term horizons.
<b>Near term 1/</b>	...	...	
<b>Medium term</b>	<b>High</b>	<b>Moderate</b>	Despite the high levels of debt, medium-term risks are assessed as moderate under staff's baseline, on the basis of the overwhelmingly domestic investor base, large liquid assets held by the treasury and the substantial Central Bank holdings of federal securities that mitigate refinancing risks.
<b>Fanchart</b>	<b>High</b>	...	
<b>GFN</b>	<b>Moderate</b>	...	
<b>Stress test</b>	...	...	
<b>Long term</b>	...	<b>Moderate</b>	Longer term increases in aging-related expenditures on health and social security are expected to be addressed through reforms that tackle the sizeable deficits of the social security regimes.

**DSA Summary Assessment**

Commentary: Brazil has a moderate overall risk of stress. Under the baseline scenario, debt is projected to continue increasing in the medium-term, before stabilizing around 97 percent of GDP in the extended projection horizon, contingent on gradual fiscal adjustment. Medium-term liquidity risks as analyzed by the GFN module are moderate given significant cash buffers and a large share of debt held by the central bank that poses negligible refinancing risks. Debt projections are highly sensitive to changes in interest rates given the high share of short-term and variable coupon debt. Over the longer run, Brazil should continue with reforms to tackle risks arising from population aging which will deepen the already sizable deficits of the social security regimes (See Selected Issues Paper). Judicial claims, pose an important medium-term risk to debt sustainability (see Annex V).

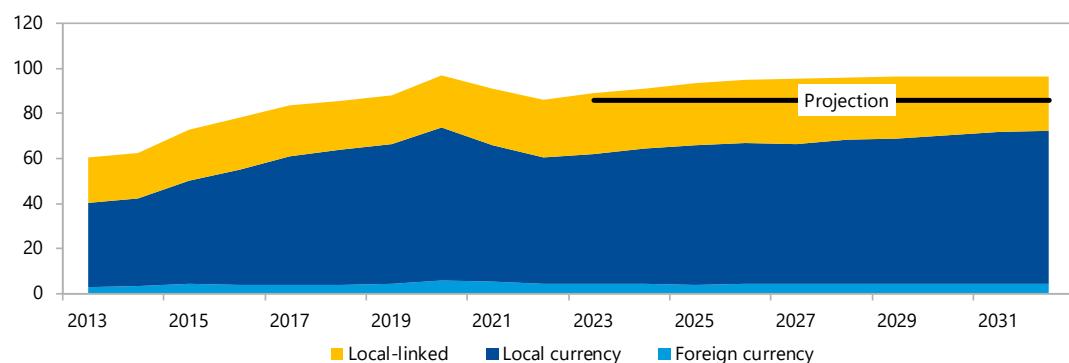
Source: Fund staff.

Note: The risk of sovereign stress is a broader concept than debt sustainability. Unsustainable debt can only be resolved through exceptional measures (such as debt restructuring). In contrast, a sovereign can face stress without its debt necessarily being unsustainable, and there can be various measures—that do not involve a debt restructuring—to remedy such a situation, such as fiscal adjustment and new financing.

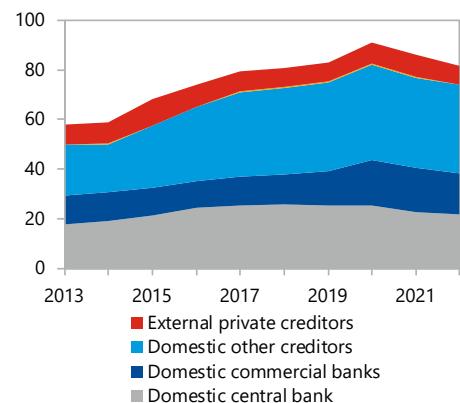
1/ The near-term assessment is not applicable in cases where there is a disbursing IMF arrangement. In surveillance-only cases or in cases with precautionary IMF arrangements, the near-term assessment is performed but not published.

**Table 2. Brazil: Debt Coverage and Disclosures**

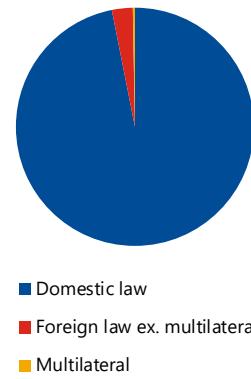
	CG	GG	NFPS	CPS	Other	Comments				
<b>1. Debt coverage in the DSA: 1/</b>										
<b>1a. If central government, are non-central government entities insignificant?</b>					n.a.					
<b>2. Subsectors included in the chosen coverage in (1) above:</b>										
	Subsectors captured in the baseline					Inclusion				
	CPS	NFPS	GG; expected	CG						
1	Budgetary central government				Yes					
2	Extra budgetary funds (EBFs)				No					
3	Social security funds (SSFs)				Yes					
4	State governments				Yes					
5	Local governments				Yes					
6	Public nonfinancial corporations				Yes					
7	Central bank				No					
8	Other public financial corporations				No					
<b>3. Instrument coverage:</b>	Currency & deposits	Loans	Debt securities	Oth acct. payable 2/	IPSGSs 3/					
<b>4. Accounting principles:</b>	Basis of recording	Valuation of debt stock								
	Non-cash basis 4/	Cash basis	Nominal value 5/	Face value 6/	Market value 7/					
<b>5. Debt consolidation across sectors:</b>	Consolidated		Non-consolidated							
<b>Color code:</b>	Chosen coverage	Missing from recommended coverage	Not applicable							
<b>Reporting on Intra-Government Debt Holdings</b>										
	Holder	Budget. central govt	Extra-budget. funds (EBFs)	Social security funds (SSFs)	State govt.	Local govt.	Nonfin. pub. corp.	Central bank	Oth. pub. fin corp	Total
	Issuer									
	CPS	NFPS	GG; expected	CG						
1	Budget. central govt									0
2	Extra-budget. funds									0
3	Social security funds									0
4	State govt.									0
5	Local govt.									0
6	Nonfin pub. corp.									0
7	Central bank									0
8	Oth. pub. fin. corp									0
Total		0	0	0	0	0	0	0	0	0
1/ CG=Central government; GG=General government; NFPS=Nonfinancial public sector; PS=Public sector.										
2/ Stock of arrears could be used as a proxy in the absence of accrual data on other accounts payable.										
3/ Insurance, Pension, and Standardized Guarantee Schemes, typically including government employee pension liabilities.										
4/ Includes accrual recording, commitment basis, due for payment, etc.										
5/ Nominal value at any moment in time is the amount the debtor owes to the creditor. It reflects the value of the instrument at creation and subsequent economic flows (such as transactions, exchange rate, and other valuation changes other than market price changes, and other volume changes).										
6/ The face value of a debt instrument is the undiscounted amount of principal to be paid at (or before) maturity.										
7// Market value of debt instruments is the value as if they were acquired in market transactions on the balance sheet reporting date (reference date). Only traded debt securities have observed market values.										
Commentary: Gross debt covers the NFPS, excluding Petrobras, and consolidates the Sovereign Wealth Fund. Following the GFSM 2014 manual, the NFPS debt includes all Treasury securities on the BCB balance sheet. 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 73 percent of GDP at end-2022. Public sector net debt includes consolidation with the BCB, and the Fund and the authorities' definition is the same.										

**Table 3. Brazil: NFPS Structure Indicators****Debt by Currency (Percent of GDP)**

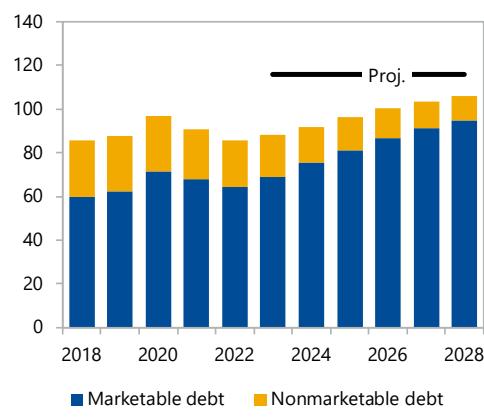
Note: The perimeter shown is nonfinancial public sector.

**Public Debt by Holder (Percent of GDP)**

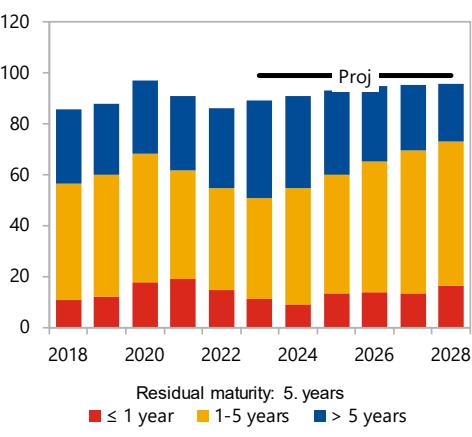
Note: The perimeter shown is general government.

**Public Debt by Governing Law, 2022 (Percent)**

Note: The perimeter shown is general government.

**Debt by Instruments (Percent of GDP)**

Note: The perimeter shown is nonfinancial public sector.

**Public Debt by Maturity (Percent of GDP)**

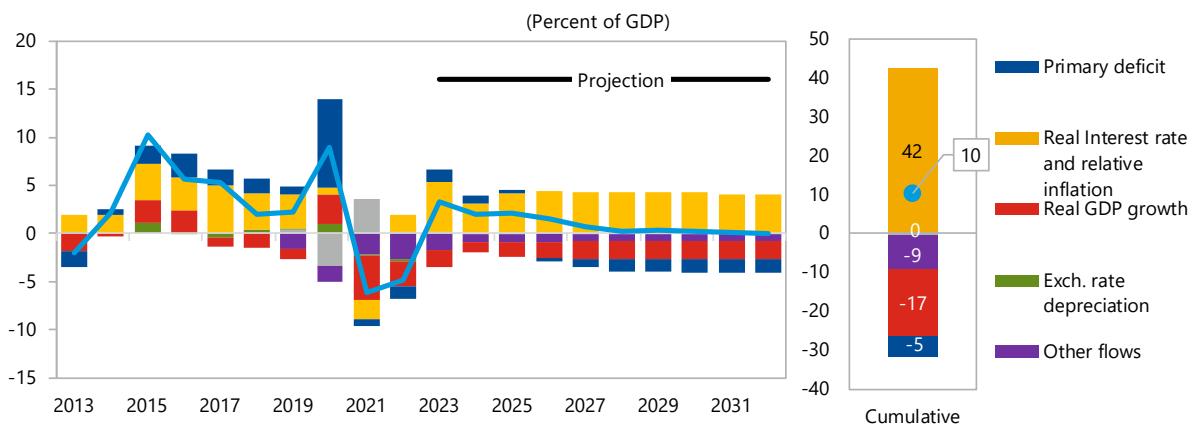
Note: The perimeter shown is nonfinancial public sector.

**Commentary:** Debt composition is favorable with small amounts of FX and foreign law debt, limited reliance on foreigners for local currency debt, and a large stock securities held by the BCB that pose negligible refinancing risks. Debt projections are highly sensitive to changes in interest rates given the high share of short-term and variable coupon debt.

**Table 4. Brazil: Baseline Scenario**  
(In percent of GDP; unless indicated otherwise)

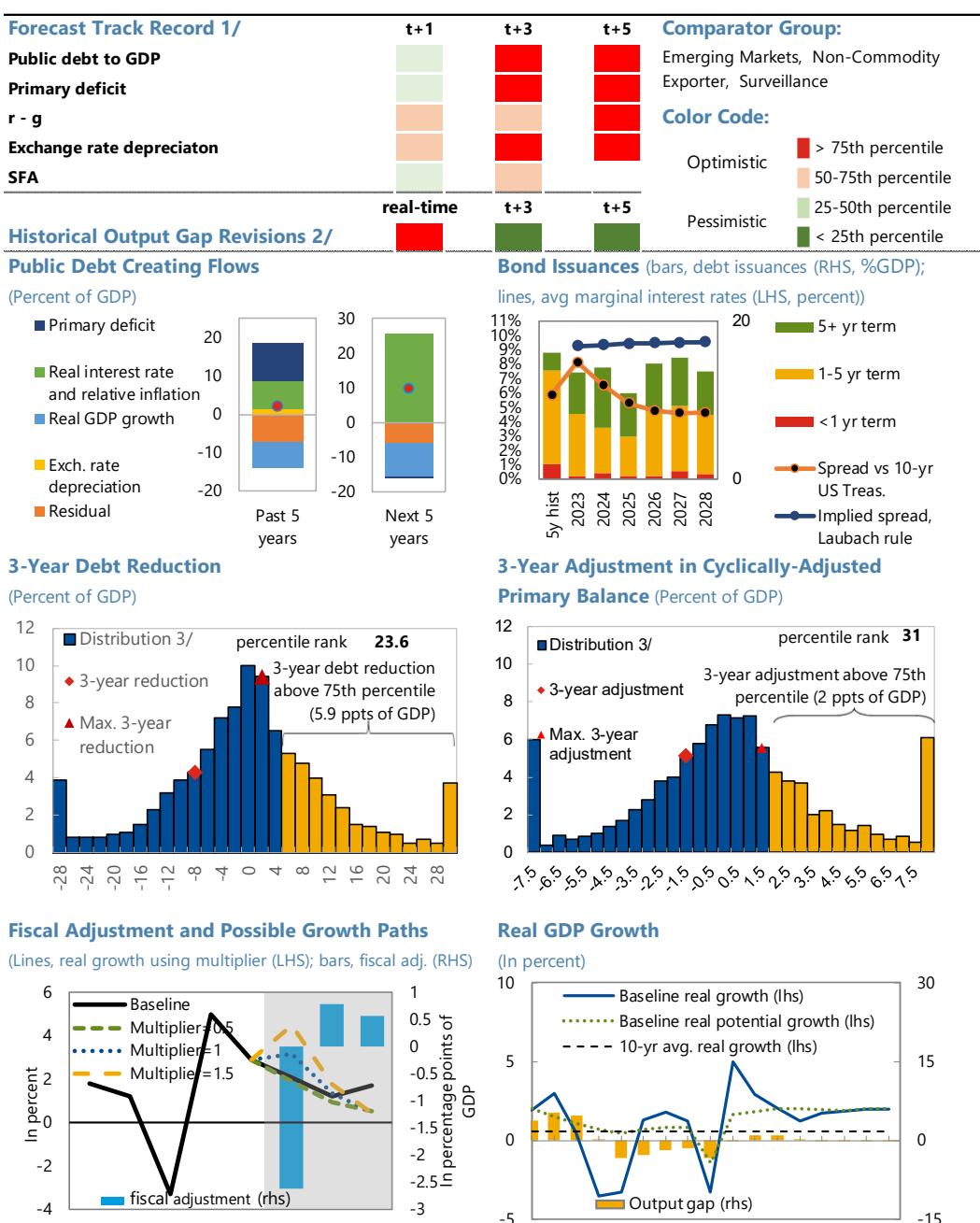
	Actual		Medium-term projection						Extended projection			
	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	
Public debt	85.9	89.2	91.2	93.3	94.8	95.6	95.9	96.2	96.5	96.6	96.6	
Change in public debt	-4.8	3.2	2.0	2.1	1.6	0.8	0.3	0.3	0.3	0.1	0.0	
Contribution of identified flows	-5.0	3.1	2.1	2.1	1.6	0.8	0.4	0.4	0.4	0.2	0.1	
Primary deficit	-1.3	1.3	0.8	0.3	-0.3	-0.9	-1.3	-1.3	-1.3	-1.3	-1.3	
Noninterest revenues	36.2	35.3	35.8	36.2	36.7	37.1	37.5	37.5	37.5	37.5	37.5	
Noninterest expenditures	34.9	36.6	36.6	36.5	36.4	36.2	36.2	36.2	36.2	36.2	36.2	
Automatic debt dynamics	-1.1	3.5	2.1	2.7	2.7	2.4	2.4	2.4	2.4	2.2	2.1	
Real interest rate and relative inflation	1.7	5.2	3.2	4.2	4.4	4.3	4.3	4.3	4.3	4.1	4.0	
Real interest rate	1.7	5.2	3.0	4.2	4.4	4.2	4.2	4.2	4.2	4.1	4.0	
Relative inflation	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
Real growth rate	-2.6	-1.7	-1.1	-1.5	-1.7	-1.9	-1.9	-1.9	-1.9	-1.9	-1.9	
Real exchange rate	-0.2	...	...	...	...	...	...	...	...	...	...	
Other identified flows	-2.7	-1.7	-0.8	-0.9	-0.9	-0.8	-0.7	-0.7	-0.7	-0.7	-0.7	
Contingent liabilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Other transactions 1/	-2.7	-1.7	-0.8	-0.9	-0.9	-0.8	-0.7	-0.7	-0.7	-0.7	-0.7	
Contribution of residual	0.2	0.1	-0.1	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	
Gross financing needs	17.3	16.7	15.9	12.6	17.1	17.2	16.0	17.1	18.8	19.0	17.6	
of which: debt service	21.2	17.8	17.2	14.4	19.3	20.0	19.0	20.2	21.8	22.0	20.6	
Local currency	20.9	13.9	12.7	10.8	15.5	17.2	12.4	15.5	15.9	16.6	15.9	
Foreign currency	0.3	0.3	0.3	0.5	0.3	0.3	0.4	0.3	0.4	0.3	0.2	
Memo:												
Real GDP growth (percent)	2.9	2.1	1.2	1.7	1.9	2.0	2.0	2.0	2.0	2.0	2.0	
Inflation (GDP deflator; percent)	8.3	3.8	5.7	3.7	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
Nominal GDP growth (percent)	11.4	5.9	7.0	5.5	5.4	5.6	5.6	5.6	5.6	5.6	5.5	
Effective interest rate (percent)	10.3	10.3	9.4	8.5	8.4	8.2	8.2	8.2	8.1	8.0	7.8	

#### Contribution to Change in Public Debt



Staff commentary: Public debt will rise over the medium term largely due to unfavorable r-g dynamics. Under staff's baseline, consolidation of around 3 1/2 percent of GDP is expected to stabilize debt at high levels.

1/ Negative values in the projections primarily reflect the use of interest rate revenues from the TSA account to finance debt.

**Table 5. Brazil: Realism of Baseline Assumptions**

**Commentary:** The composition of debt creating flows relies on significantly higher real interest rates compared to the previous 5 years largely due the decline in rates during the pandemic. The debt reduction and the adjustment in cyclically adjustment in the primary balance are within historical norms.

Source : IMF Staff.

1/ Projections made in the October and April WEO vintage.

2/ Data cover annual observations from 1990 to 2019 for MAC advanced and emerging economies. Percent of sample on vertical axis.

3/ Starting point reflects the team's assessment of the initial overvaluation from EBA (or EBA-Lite).

**Table 6. Brazil: Medium-Term Risk Analysis****Debt Fanchart and GFN Financeability Indexes**

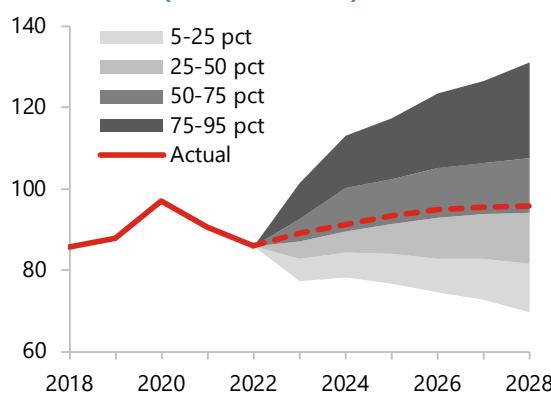
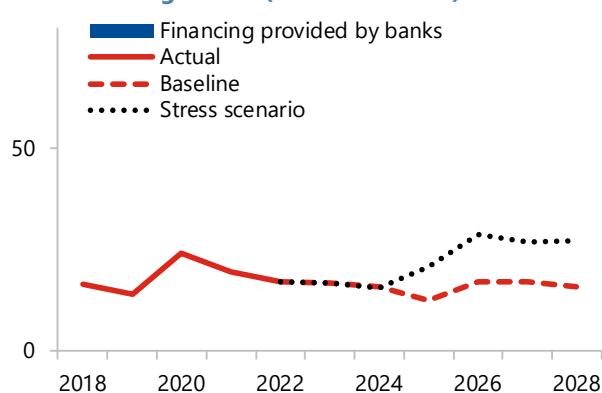
(Percent of GDP, unless otherwise indicated)

Module	Indicator	Value	Risk index	Risk signal	Adv. Econ., Non-Com. Exp, Program				
					0	25	50	75	100
Debt fanchart module	Fanchart width	61.2	0.9	...					
	Probability of debt not stabilizing (pct)	75.1	0.6	...					
	Terminal debt level x institutions index	63.1	1.4	...					
	<b>Debt fanchart index</b>	...	<b>2.9</b>	<b>High</b>					
GFN financeability module	Average GFN in baseline	15.9	5.4	...					
	Bank claims on government (pct bank assets)	25.2	8.2	...					
	Chg. in claims on govt. in stress (pct bank assets)	0.6	0.2	...					
	<b>GFN financeability index</b>	...	<b>13.8</b>	<b>Moderate</b>					

Legend:

Interquartile range

Brazil

**Final Fanchart (Percent of GDP)****Gross Financing Needs (Percent of GDP)**

Triggered stress tests (stress tests not activated in gray)

Banking crisis

Commodity prices

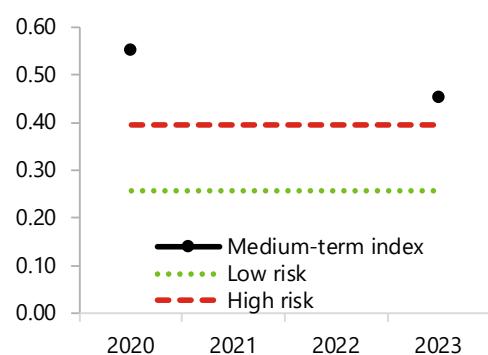
Exchange rate

Contingent liab.

Natural disaster

**Medium-Term Index**

(Index number)

**Medium-Term Risk Analysis**

	Low risk threshold	High risk threshold	Weight in MTI	Normalized level
Debt fanchart index	1.1	2.1	0.5	0.6
GFN financeability index	7.6	17.9	0.5	0.3
Medium-term index (MTI)	0.3	0.4	...	0.5, High

Prob. of missed crisis, 2023-2028 (if stress not predicted): 54.5 pct.

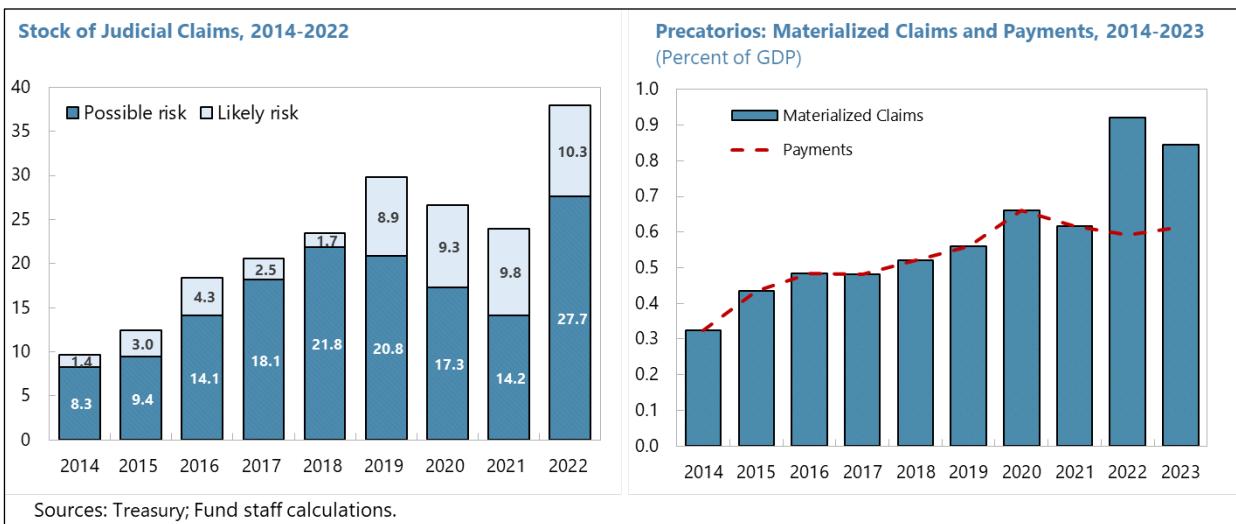
Prob. of false alarm, 2023-2028 (if stress predicted): 5.7 pct.

Commentary: Of the two medium-term tools, the Debt Fanchart Module is pointing to high level of risk, while the GFN Financeability Module suggests lower, but still moderate, level of risk. The large availability of liquid assets and the negligible refinancing risks for central bank held securities further mitigate GFN risks.

## Annex V. Fiscal Risks from Judiciary Claims<sup>1</sup>

### **1. The stock of judicial claims has reached a record high of 38 percent of GDP in 2022.**

Several factors explain the sizable accumulation of claims. Brazil's judiciary system allows citizens to pursue claims against the government free of charge. The complexity of the tax system, in particular significant overlaps between federal and state taxes, further increases the likelihood of judicial action. Reforms in the mid-2010s, notably the introduction of a formal classification procedure for fiscal risks<sup>2</sup> in 2015 and the creation of the Independent Fiscal Council in 2016 to monitor these risks, can further explain the increase in the stock until the pandemic. The increase in the stock of judicial claims in 2022 is due to three recently classified claims regarding pensions and mandatory saving accounts.<sup>3</sup>



**2. The share of claims 'likely to come due' surged to around 10 percent of GDP in recent years.** In 2017, the supreme court ruled against the double taxation of goods and services on the federal (PIS/COFINS tax) and state (ICMS tax) level. Already existing court cases against the government related to this matter were recognized as a 'likely' fiscal risk in 2019. The decision was re-considered in 2023.

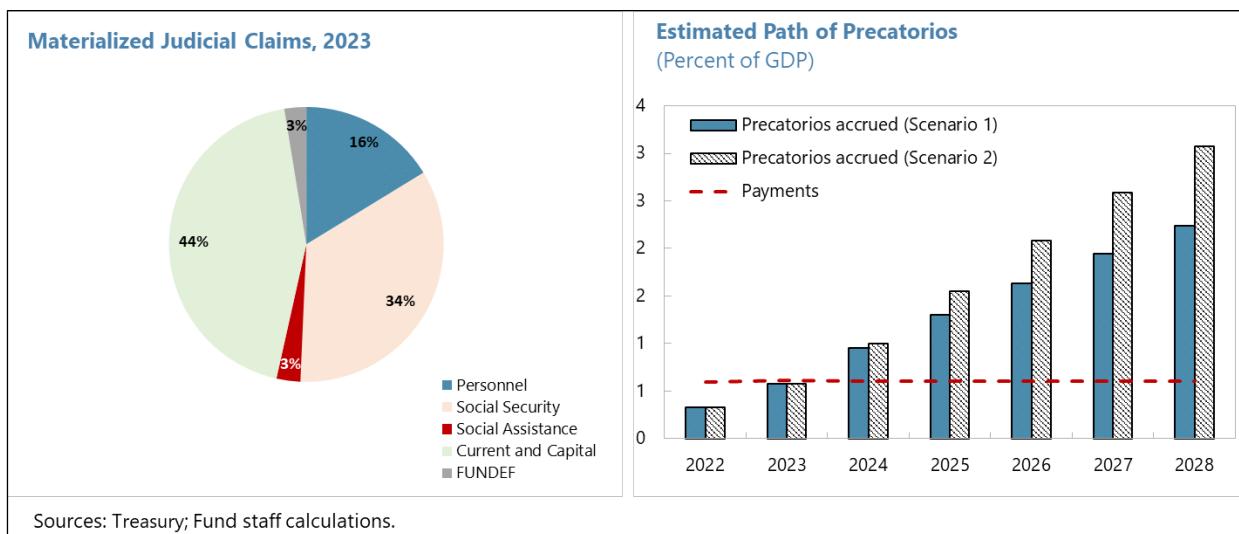
**3. Materialized judicial claims, so-called pecatorios, rose steeply in 2022, leading to a constitutional amendment to ease budgetary pressures.** Pecatorios, i.e., court-order payments from the government to the private sector or other government entities, have been moderately

<sup>1</sup> This Annex was prepared by Christina Kolerus (WHD).

<sup>2</sup> The government's attorney general office (AGU) determines what is a 'possible' or a 'likely' risk. The classification procedure was defined by an AGU ordinance law in 2015 ([Nr 40/2015](#)). A risk is considered 'possible' if legal action against the government has been taken but the process is still ongoing, and 'likely' if the case is already in a high court and the government is likely to lose it.

<sup>3</sup> Claims related to: i) changes related to the 2019 pension reform; (ii) the inclusion of food stamps in reference salary used for the calculation of pension benefits; and (iii) the inflation index used to correct workers savings in FGTS individual accounts. The authorities view all three disputes as unlikely to be decided against the government.

trending upwards to reach 0.6 percent of GDP at the onset of the pandemic. Due to delays in court settlements during the early pandemic, the government faced a stark increase in judicial claims coming due in 2022 (BRL 91.4 billion, or about 1 percent of GDP). To avoid such a large settlement and create space under the 2016 federal expenditure ceiling, the government passed a constitutional amendment in 2021 that set a limit for precatorios to be paid within a given year,<sup>4</sup> in line with the level of materialized claims in 2016 adjusted for inflation (around 0.4 percent of GDP). The yearly remainder would be rescheduled until 2026,<sup>5</sup> remunerated at SELIC rates as before. The amendment also exerted pressure on yields of precatorios, which are traded on the secondary market, including by major international institutions.



**4. The partial postponement of payments, as well as future materializations of judicial claims, pose an important medium-term risk to public debt sustainability.** In 2022 and 2023, around 0.6 percent of GDP of precatorios payments were rescheduled, also flagged by the IFI as an important risk.<sup>6</sup> Depending on the treatment of precatorios under the new fiscal rule, the average payment per year could remain close to 0.6 percent of GDP. Under the assumption that judicial claims grow with inflation and rescheduled precatorios grow with SELIC, accrued precatorios (cumulated rescheduled claims) would reach 1.6 percent of GDP in 2026 and 2.2 of GDP in 2028. If precatorios grow at the same rate as in previous years, accrued precatorios would reach 2.1 percent

<sup>4</sup> No. 23/2021 – split into PEC 113 and PEC 114. The law also allowed for some precatorios to be paid outside the expenditure ceiling, including: Fundef-related precatorios (Fundef is financed by transfers of the center to subnational governments and earmarked to education spending); precatorios paid with a 40 percent discount; precatorios used by private creditors to repay tax debts or purchase government property (real estate/SOE privatizations) or public services; precatorios for which the Constitution already foresees a phased-out payment; when the value is more than 15 percent over the budget allocation for it; and increases in precatorios due to valuation effects.

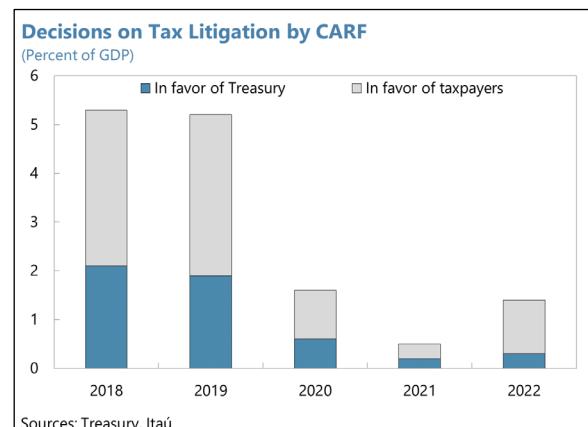
<sup>5</sup> Minus extra-ceiling prepayments as detailed under footnote 7.

<sup>6</sup> IFI (2021). *The tax implications of the PEC of Precatórios*, Comment No 14, December 3.

of GDP in 2026 and 3.1 percent in 2028. As a consequence, around 2-3 percent of GDP would be added to public debt in the medium term under conservative assumptions.<sup>7</sup>

**5. Efforts to clear the stock of judicial fiscal risks should be accelerated.** In particular, consideration could be given to a settlement/arrears' clearance plan (possibly including asset/bond settlements), notably for disputes across levels of government. More efficient approaches to litigation could also help limit future exposure (see below). Moreover, the approval of the planned VAT reform would greatly simplify consumption taxes across levels of government and help mitigate an important source of judicial disputes.

**6. In addition to judicial tax litigation, administrative tax disputes also stalled during the pandemic, leading to a sizable backlog of unsettled tax disputes.** The stock of ongoing tax disputes at the tax court (CARF), mostly related to the corporate income tax, amounts to 10 percent of GDP, owing to a pandemic-related slow-down in settlements as well as a 2020 change in procedural rules to favor taxpayers (assigning the tie-breaker vote to taxpayers). With the reversal of the rule by the new government and further improvements in litigation, including through Artificial Intelligence, the government expects to collect about 60 percent of this tax owed to the government over the coming years.



<sup>7</sup> Accounting for public debt under GFSM 2014 would consider precatarios under *other accounts payable* and thus included in the broader definition of debt.

## Annex VI. Implementation of Key FSAP Recommendations<sup>1</sup>

Recommendations	Time	Authorities' Actions
<b>Microprudential and Macroprudential Institutional Arrangements</b>		
Establish a multi-agency high-level committee, with an explicit mandate for macroprudential policy and the power to issue policy recommendations on a comply-or-explain basis.	Short Term (ST)	The BCB, CVM, Previc, and SUSEP finalized the Financial Stability Coordination Law, a draft bill which is now being discussed with the MoF.
Strengthen the crisis management institutional arrangements for inter-agency cooperation and exchange of information, including for contingency planning.	Medium Term (MT)	The Financial Stability Coordination Law draft bill proposes the creation of a Financial Stability National Committee that would have authority over macroprudential policy and crisis management (including contingency plans/crisis management). The BCB's contingency planning has already been implemented.
Strengthen legal protection of all supervisors (BCB, SUSEP) through clear rules, including fixed term, condition of dismissal, public disclosure of reasons for dismissal and qualification criteria for appointments. Strengthen the independence of the BCB.	ST	<p>In 2021, Complementary Law 179 of 2021 was enacted, establishing the objectives of the BCB, its autonomy, and the procedures to appoint and remove Board members. The law defines price stability as the primary objective of the BCB and sets four-year terms (with one possible renewal) for Board members. Most Board member terms do not coincide with the presidential term. The law also establishes the cases in which the removal of Board members is admissible (proven and recurring underperformance, with approval by an absolute majority of the Senate).</p> <p>The law also provides for aspects of operational autonomy, delegation of decisions about other monetary policy, and macroprudential tools from CMN to BCB, and enhances policy transparency, such as through the publication of inflation and financial stability reports. However, it does not establish legal protection for BCB staff.</p> <p>The Bank Resolution Bill, submitted to the lower house and currently being discussed by a special congressional committee, provides for protection of public agents. As it stands, this bill includes both a provision for legal protection and for legal defense by the General Counsel, to be covered by the BCB.</p> <p>Decree n° 9.727/2019 and Decree n° 10.829/2021 have established qualification criteria for appointments to strategic positions in the Administration, including supervisory institutions. SUSEP has drafted a bill to merge with the pension funds supervisor (Previc), addressing, among other issues, the structure and responsibilities of the new authority.</p>
Increase resources of CVM and SUSEP.	ST	Both CVM and SUSEP are still subject to budget constraints, given Brazil's fiscal situation and a freeze in public wages over the past years.

<sup>1</sup> The description of authorities' actions in this table was compiled by the Brazilian authorities.

Recommendations	Time	Authorities' Actions
<b>Systemic Risks</b>		
Use Pillar 2 capital requirements to handle bank-specific risk profiles to boost their resilience as needed and to mitigate risks.	ST	Structured and by Reference Add-ons are implemented in the BCB's supervisory methodology. The Structured Add-on is fully implemented (segments from S1 to S4). The Add-on by Reference is applied to financial institutions allocated to Segments S1 and S2 and includes metrics for credit concentration risk and Interest Rate Risk of Banking Book (IRRBB). Financial institutions identified as having an exposure not adequately considered in Pillar 1 capital requirements, according to BCB estimates, in one of these two approaches have reported add-on regularly to BCB.
<b>Financial Sector Oversight</b>		
Upgrade the banking sector's regulatory and supervisory approach to credit risk—including identification and definitions, limits, and reporting requirements—for related party exposures and transactions, large exposures, country and transfer risk and restructured loans.	MT	<p>The following actions have already been completed:</p> <ul style="list-style-type: none"> <li>(i) CMN has issued Resolution 4,677/2018 (Basel III reform on Large Exposure Limits), establishing limits and report requirements for single client and large exposures. Rules have been applied for Prudential Segments S1 and S2 since January 2019 and for Segments S3, S4 and S5 since January 2020. The Report on Operational Limits—DLO (Circular Letter 3,926) was adapted to include information on large exposure limits.</li> <li>(ii) The CMN issued Resolution 4,693/2018 addressing credit operations between related parties; Accordingly, accounting items were created as of January 2019 to collect information from Related Parties, in which financial institutions report the greatest exposure (natural person and legal entity) and other exposures with related parties. A field was also included in the SCR (as of January 19) to inform whether the contracted operation is being carried out with related parties.</li> </ul> <p>Other initiatives are under analysis or being drafted:</p> <ul style="list-style-type: none"> <li>(i) Regulation on prudential treatment for transactions with related parties.</li> <li>(ii) Amendment to the regulation establishing specific requirements for country and transfer risks, with specific treatment of indirect risks.</li> <li>(iii) Requirement of producing concentration risks data on a regular basis.</li> <li>(iv) Structured assessment of country, transfer, and indirect risk.</li> <li>(v) IFRS9 implementation, which will enhance the credit risk framework definitions, including the definition of credit risk exposure.</li> </ul>
Strengthen enforcement function of CVM by raising the level of sanctions and ensuring adequate resources for prosecution; strengthen cooperation allowing CVM proper oversight of ANBIMA's SRO activities in the investment fund sector.	ST	The expansion of the scope of the agreement with ANBIMA is ongoing, to include the subject of supervision of mandate (portfolio breaches). Funds ruled by CVM instruction 555 (which represent more than 85% of industry) are included. An extended version of this agreement was adopted in 2021. CVM Instruction 607 of July 2019 was issued to establish procedures related to the Law 13.506/17 that expanded CVM's enforcement power.
Implement (BCB, ANS and SUSEP) consistent group-wide supervision of insurance groups and conglomerates with joint	MT	The authorities' efforts in this area are ongoing. Granular data sharing depends on legal provisions and on the establishment of partnerships among the supervisors. The creation of the "Financial Stability National Committee" would partially bridge this gap.

<b>Recommendations</b>	<b>Time</b>	<b>Authorities' Actions</b>
rulemaking, implementation, and on-site inspections and granular data sharing.		
<b>Crisis Management and Bank Resolution, Safety Nets</b>		
Revise the draft resolution law in line with the FSAP team's recommendations and promptly enact it.	ST	The draft bill was submitted to Congress in December 2019. The Bill of Law 281 of 2019 is pending appreciation by the Lower Chamber.
Revise the ELA framework to provide for a solvency test tied to enhanced supervision, remedial plans, and possibly restructuring measures, and allow for ELA in systemic circumstances upon a MoF indemnity.	ST	The BCB reaffirms its point on this recommendation. While solvency analysis is important for ELA assessment, the BCB does not agree that being solvent on a point-in-time basis should be the main determinant of ELA approval, as it may bind ELA approval and lead to high moral hazard. The systemic impact of a negative response to an ELA request is also relevant, so the BCB prefers to retain the flexibility to decide, with its discretionary power. The recommendation of indemnity of the MoF in case of ELA in systemic circumstance will not be implemented since it may increase moral hazard risk and the current BCB capital structure is public (which means the National Treasury will have to indemnify the BCB anyway, in case of BCB balance sheet loss). The BCB deployed Temporary Liquidity Facilities (ELA for the COVID-19 crisis) in April 2020. New permanent liquidity facilities were implemented in November 2021 (as planned). Broadening of collateral framework to new facilities is in the pipeline, so to accept CCB (securitized individual bank loans), expected to be effective by 2024Q1.
Put in place mechanisms to ensure lending from the deposit insurance fund is not used to maintain weak or insolvent banks in operation; and transform FGC into a fully owned public institution.	ST; MT	The FGC has already amended its by-laws to establish communication to the BCB prior to each assistance operation. The BCB has signed a MoU with the FGC to grant access to detailed information on financial institutions that are FGC members. The Administration Committee of the MoU was set as a permanent forum for information sharing and collaboration between the parties to facilitate FGC assessment and avoid the use of lending to maintain weak or insolvent banks in operation. The recommendation to transform the FGC into a fully public-owned institution will not be implemented.
<b>Financial Integrity</b>		
Complete the national AML/CFT risk assessment and introduce a risk-based approach specific to AML/CFT supervision.	ST	The coordination of the activities related to the National AML/CFT Risk Assessment is attributed to the Brazilian Intelligence Unit (Coaf). The decree to establish the Strategic Committee for the National AML/CFT Risk Assessment was issued in March 2020. The risk assessment was completed and published in 2021.
<b>Financial Intermediation Efficiency</b>		
Foster competition through client mobility and financial product cost transparency and comparability.	ST	CMN issued Resolution 4,639/2018 with the purpose of making easier for customers to exert their right to have their compensation deposited in the institution of their preference. The main changes introduced by the Resolution are: (i) it allowed salaries being transferred to payment accounts besides

Recommendations	Time	Authorities' Actions
		<p>deposit accounts (creating a levelled playing field for banks and payment institutions to compete);</p> <p>(ii) it allowed customers to request their salary's portability directly to their preferred institution, avoiding frictions and embarrassments between customers and banks when the former decides to transfer their salary to a different institution.</p>
		<p>Resolution CMN 4,639/2018 has been consolidated by Resolution CMN 5,058/2022, which maintained the salary's portability rules. The Credit Registry Law, in effect since 2011, was amended by Complementary Law 166/2019, and regulated by Resolution 4,737/2019, to adopt an opt-out instead of an opt-in model.</p> <p>Resolution 4,734/2019 and Circular 3,952/2019 set rules for registering and blocking credit and debit card receivables pledged as collateral in credit operations. With these measures, the volume of blocked receivables cannot exceed the outstanding balance of the transaction, which precludes a previous practice of totally blocking the receivables. Moreover, it allows retailers to discount their receivables at any financial or accrediting institution of their choice.</p> <p>In 2022, the regulation on credit portability were revised and consolidated under the Resolution 5,057/2022, issued by the CMN in December. The consolidation aimed mainly at simplifying and unifying the different normative acts, without introducing significant innovations regarding the merits of the topic. Despite of that, some clarifications were made to foster the portability of credit operations by legal entities.</p> <p>The set of credit modalities eligible for portability between financial institutions was expanded in 2019 by Resolution CMN 4,762/2019, which included credit granted to individual microentrepreneurs and to legal entities. Additionally, different credit modalities were included in the list of credit portability, providing a larger menu of options to financial customers. For instance, it was included the portability of revolving credit operations into personal credit lines, with a fixed number of installments. It might foster the contribution of new entrants and incumbent institutions that do not operate with the original credit modality to a greater competition in the Brazilian credit market.</p> <p>Moreover, the implementation of Open Finance in Brazil, mainly regulated by Joint Resolution CMN-BCB No. 1/2020 and observing the General Data Protection Law (No. 13,709/2018), can significantly help client mobility and improve cost transparency and comparability. The Open Finance model consists of the sharing of data, products, and services between regulated entities — financial institutions, payment institutions and other entities licensed by BCB — at the customers' discretion and through secure, agile, precise, and convenient procedures.</p> <p>The open data phase — in which participating institutions must disclose their service channels related to the institutions' offices and branches, domestic correspondents, electronic channels; and other channels available to customers; as well as products and services available for contracting — is already improving cost transparency and comparability.</p>

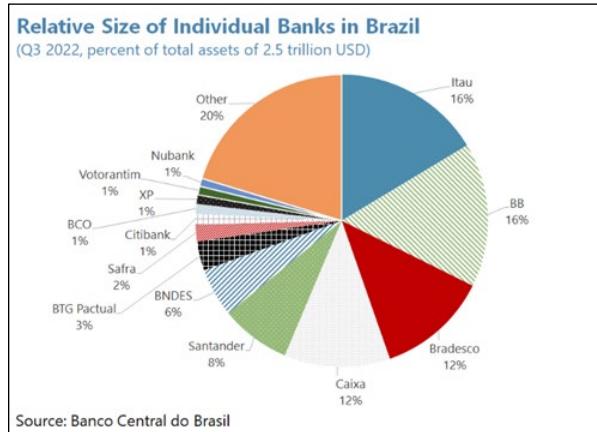
Recommendations	Time	Authorities' Actions
		<p>Besides that, regarding client mobility, the sharing of clients' data and services, such as payment initiation transactions, carried out through open and integrated platforms and/or infrastructures of information systems, in a safe, swift, and convenient way, fosters more competition in the financial system and puts the client at the center of the financial industry's strategy, creating incentives for the participating institutions to offer more customized solutions, as well as new and more integrated products and services</p>
<b>Reform of Public Banks</b>		
Change product offering of BNDES under new strategy with focus on catalyzing private sector finance and developing the financial sector.	ST	<p>In January 2023, a new administration took office in BNDES with a focus on an agenda to revitalize the industry sector and promote an inclusive, green, digital, innovative, and creative economy. BNDES wants the private sector to be its partner on this agenda, gathering strengths to induce sustainable development.</p> <p>Since January, BNDES is making efforts to enlarge and develop market-based financial instruments to promote long term development. This initiative includes fostering domestic credit and capital markets, and improving access to international funds, through green, social e sustainable bonds. The Bank is also seeking to improve lending operations through partnerships with multilateral development institutions.</p> <p>The BNDES strategic plan envisages the reduction of risks on infrastructure investment, which will help catalyze private sector finance. The environmental agenda embraces the climate agenda, including raising green funds and fostering the decarbonization of the economy. Among the initiatives on social inclusion, BNDES wants to promote credit cooperatives and intensify its support through microcredit. The Bank also intends to design better financial solutions dedicated to SME's, including through capital markets</p>
Focus Caixa on core activities, improve governance, and invite a strategic investor.	ST	<p>CAIXA continues to reposition its credit operations, prioritizing loans to micro companies, payroll-deducted loans, and loans to the housing sector, strengthening its operations in the "Minha Casa Minha Vida" program.</p> <p>CAIXA also continues to improve its corporate governance practices, seeking to become a reference in the adoption of good management strategies, in line with principles such as transparency, equal treatment, inclusion, accountability, corporate social responsibility, and sustainability. Gender diversity is a priority, and CAIXA is the first major Brazilian bank to have more female than male Board members.</p> <p>Through its subsidiaries, Caixa has since 2019 entered several strategic partnerships in insurance and card segments. In parallel, Caixa's insurance holding company (Caixa Seguridade Participações S/A) raised capital through an IPO in April 2021.</p> <p>CAIXA's investment banking group was strengthened with the internal reallocation of professionals, aiming at expanding the Bank's pre-existing fixed income capital markets' operation and create a complete structure of investment bank products. CAIXAPAR, a subsidiary of CAIXA, sold all its shares in Banco Pan to BTG Pactual in 2021.</p>

## Annex VII. Public Banks<sup>1</sup>

### **1. Brazil's banking system is large and public banks are significant within the system.**

Banks comprise about 140 percent of GDP, and public banks make up about 35 percent of the system. The three largest public banks are Banco do Brasil (BB), Caixa Economica Federal (Caixa) and Banco Nacional de Desenvolvimento Econômico e Social (BNDES).

### **2. Each of the three largest public banks plays a special role for Brazil.** BB, the largest of these, is focused on lending for agriculture, SME, and consumer loans. Caixa, the second largest, is the most important mortgage lender in the country. BNDES is a development bank with a unique mandate for supporting corporates, including the lending of banks in strategic areas.



- **BB.** The oldest bank in Brazil served many of the functions of a central bank, including holding the treasury account and having the ability to print money, until a central bank was created in 1964. While it technically became a commercial bank in 1992, it retains majority ownership by the government in terms of equity, and correspondingly in terms of control.
- **Caixa.** This bank along with BNDES plays an important role in on-lending public funds based on the government's strategic objectives. It receives a significant portion of its funding slightly over 20 percent from FGTS, which is Brazil's private employee severance fund, which totals about BRL 600 billion. It also receives funding from the government, which fully owns Caixa's equity. Caixa manages the FGTS and on-lends a portion of the funds, some BRL 354 billion for mortgages. Caixa also operates several government programs.
- **BNDES.** This bank supports the government's priorities by lending to corporates and owns significant shares in the national champions, such as Petrobras, Eletrobras, meat processor JBS, and others. BNDES receives most of its funding from FAT, which is the public workers' support fund that is about BRL 400 billion in size. BNDES also receives a portion of its funding from the government, and its equity is also owned fully by the government.

### **3. These public banks support the government's strategic objectives.** The government can direct low-cost government funding to provide credit (earmarked loans) via public and private banks in specific strategic areas such as for mortgages, SMEs, and agriculture. Since 2017, funding provided to BNDES from government and public sources, including FAT, is at a market benchmark

<sup>1</sup> This Annex was prepared by Mustafa Saiyid (MCM).

rate (TLP) in 2017.<sup>2</sup> The earlier benchmark (TJLP) was at a subsidized rate. Most earmarked lending is subject to caps on interest rates. When BNDES provides banks with earmarked loans, they must lend them out to the strategic areas as swiftly as possible; otherwise, they have to hold them as unremunerated reserve requirements determined by the CMN. There are also fines if loans do not go to the designated sectors. Reserve requirements and fines vary by bank and are not disclosed.

**4. Overall public control of the banks makes it possible to fulfil strategic government objectives.** While BB is often indicated as a commercial bank, half of its board of directors, including its chairman, is appointed by the government, and the same is the case with its supervisory board. As for Caixa, the government appoints the bulk of the board of directors, including the full supervisory board. For BNDES, most of the board of directors and the supervisory board are appointed by the government. During 2023, the President appointed new management for the three large public banks.

**5. Past funding and earmarked lending patterns of public banks have varied with government priorities.** The senior unsecured debt of public banks rose sharply through 2016, as did subordinated debt funding of public banks, especially BNDES, benefiting from funding provided by the government and the FAT. Government support for lending picked up after the global financial crisis. The cost benefit of such lending relative to non-earmarked loans is significant, even if the type of loans is not exactly the same in earmarked versus non-earmarked credit, as the former includes mortgages and the latter consumer loans.

**6. Earmarking has not detracted from banks' profitability, but asset quality may be compromised.** Brazilian public banks are profitable, with ROEs averaging 15 percent for the two largest public banks and much higher for BNDES, in comparison with private banks and versus public banks in some other large emerging markets. Brazilian public banks are also solvent and liquid, the latter being mainly due to high holdings of government securities. There is wide variation in capital ratios between the public banks. While the two largest have T1 capital ratios averaging around 15 percent as of Q3 2022, BNDES has a much higher capital ratio. Liquidity ratios are above 200 percent for the two largest public banks, though much smaller for BNDES given the unique nature of its lending. The earmarking of credit may come at the cost of more lenient underwriting assessments and correspondingly weaker asset quality. However, this is not the case at present and the NPL ratios of major Brazilian public banks are better than those of private banks, and roughly comparable if not better than in some key emerging markets.

**7. Public banks have had an important impact on fiscal accounts in the past.** Thanks to advanced repayments over the past years, public banks' liabilities vis-à-vis the government built up to finance policy lending during 2008-2014, have been almost fully cleared. An expansion in the role of public banks through below-the line transfers, however, could lead to a renewed increase in fiscal risks. While there has been a strong positive contribution in terms of dividend distributions from the profitable public banks, this benefit has to be weighed against the past cost of recapitalizations of

#### **Dividend Distributions from Selected Public Banks**

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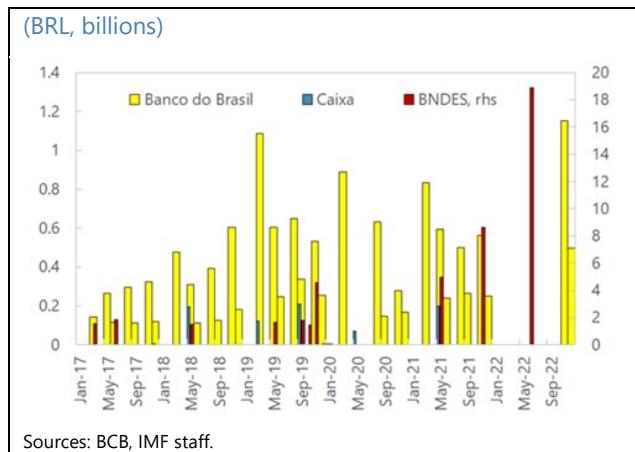
<sup>2</sup> The TLP benchmark corresponds to the inflation-adjusted interest rate on a 5-year government bond.

public banks and the subsidized funding provided to them. For instance, during the past three decades, BB and Caixa have had to be recapitalized by the government several times. Some estimates suggest that the cost of earmarking has amounted to 1.5-2 percent of GDP per year on average in the past.<sup>3</sup>

### **8. There are several pros and cons for earmarking of credit in Brazil.**

- A great benefit is that credit is available to certain corporates and households (on mortgages) at rates that are below the market rates. Since the reform of the benchmark rate, this has not prevented public banks from staying profitable or being able to return dividends to the public.
- On the other hand, earmarking at subsidized rates leads to inefficient credit allocation; some sectors may get cheaper funding compared with others without the cost of such funding being commensurate with risk. The lowering of costs for certain targeted borrowers may also raise borrowing costs for other non-targeted borrowers, as banks seek to make up net interest margins.
- Earmarking at subsidized rates also makes monetary policy transmission more difficult, as rates do not adjust or do not adjust as swiftly on the earmarked portion of credit, which accounts for nearly 40 percent of the total stock of credit.
- It is also important to continue to focus on governance and transparency. There may be scope to improve transparency in subsidies granted to banks and provide these more directly. Despite various controls, loans could end up being earmarked for special interest groups. Greater clarity on earmarked credit requirements being applied to individual banks and whether they are being treated comparably to others would also be helpful.

### **9. As in the past, the Fund continues to recommend policy approaches that do not distort the allocation of credit.** The authorities are appropriately planning to maintain government funding benchmarks at market rates and considering greater reliance on co-financing (including PPPs) and loan guarantees to expand government support for credit in strategic areas.

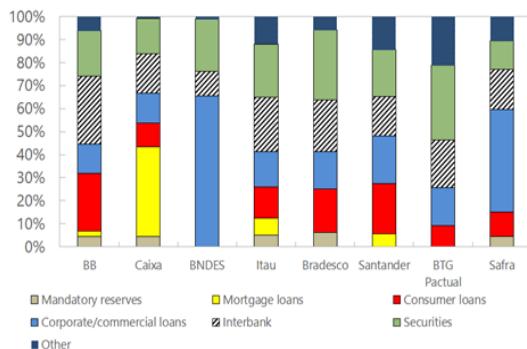


<sup>3</sup> A. Spilimbergo and K. Srinivasan (eds.), 2018, "Brazil—Boom, Bust and the Road to Recovery," (Washington: International Monetary Fund).

**Figure 1. Brazil: Public Banks and Emarking  
2022 Q3 or Latest Available**

**Banks' Asset Portfolio Composition**

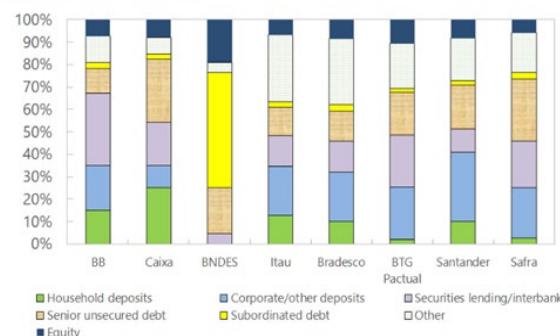
(Q3 2022 or latest available)



Sources: BCB, FitchConnect, IMF staff

**Banks' Funding Composition**

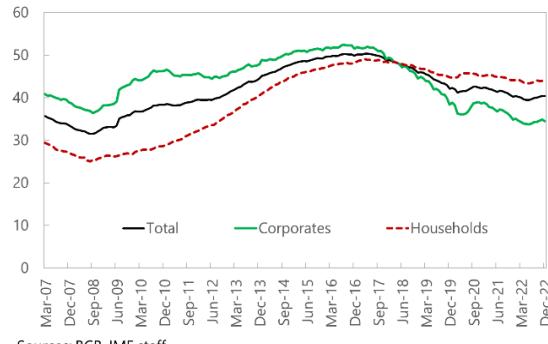
(Q3 2022 or latest available)



Sources: BCB, FitchConnect, IMF staff

**Emarked Credit**

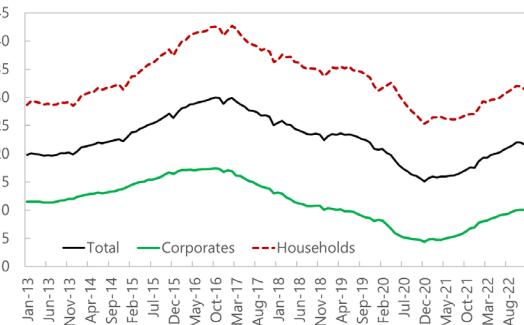
(Percent of total)



Sources: BCB, IMF staff

**Cost of Financing Benefit from Emarked Credit**

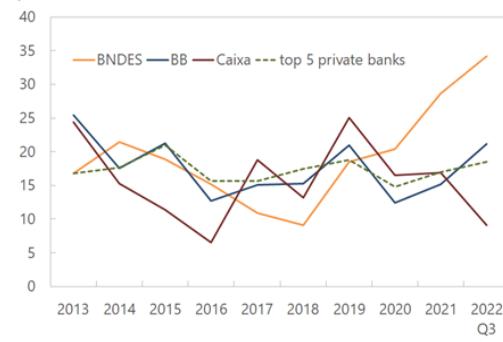
(Percentage points)



Sources: BCB, IMF staff

**Return on Equity**

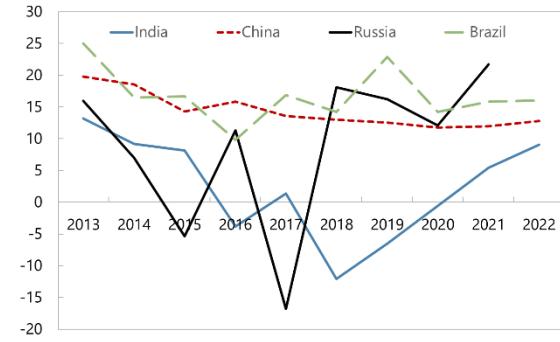
(percent)



Sources: FitchConnect, IMF staff

**Return on Equity of Public Banks**

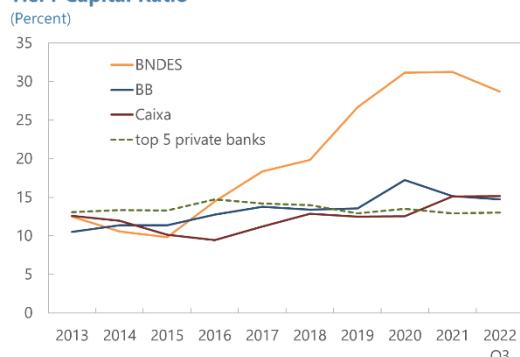
(Percent)



Sources: FitchConnect, IMF staff

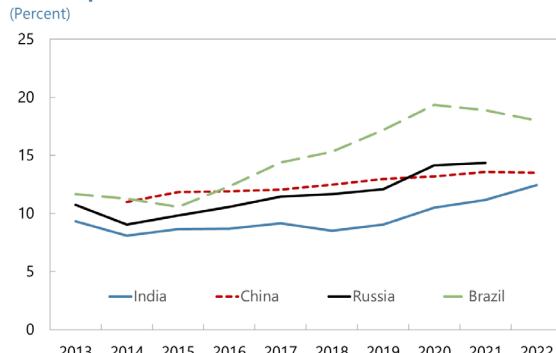
**Figure 2. Brazil: Public Banks' Stability Indicators  
2022-Q3 or Latest Available**

**Tier1 Capital Ratio**



Sources: FitchConnect, IMF staff

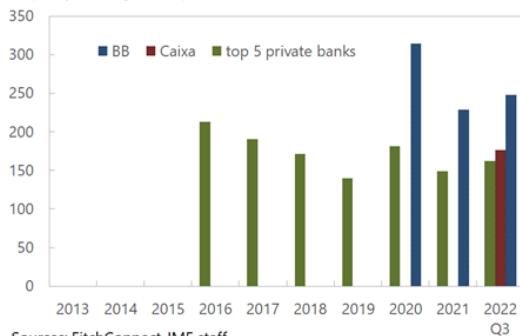
**Tier1 Capital Ratio of Public Banks**



Sources: FitchConnect, IMF staff

**Liquidity 1/**

(Liquidity coverage ratio, percent)

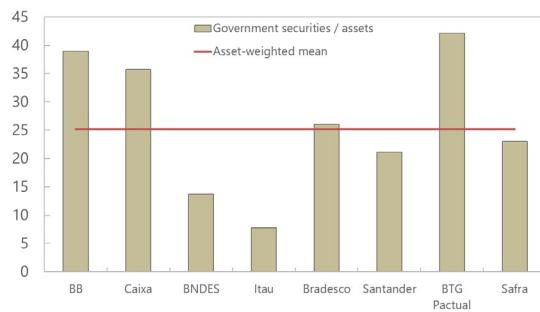


Sources: FitchConnect, IMF staff

1/ BNDES removed as it has limited short-term liabilities

**Banks' Sovereign Securities Holdings**

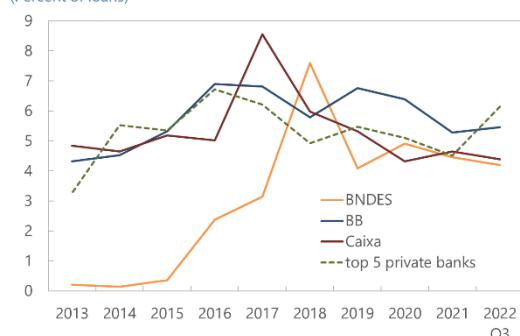
(Percent of assets, Q3 2022 or latest available)



Sources: BCB, FitchConnect, IMF staff

**Asset Quality - 60-Day Delinquency**

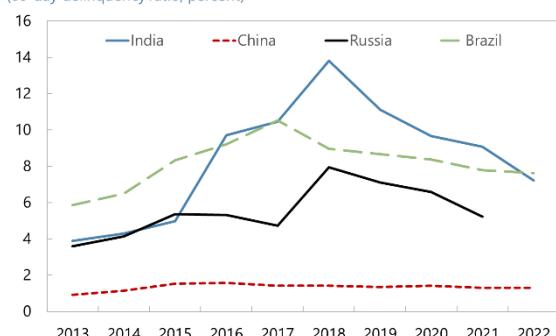
(Percent of loans)



Sources: FitchConnect, IMF staff

**Asset Quality of Public Banks**

(60-day delinquency ratio, percent)



Sources: FitchConnect, IMF staff

## Annex VIII. Past IMF Recommendations and Implementation Status

<i>Past IMF Recommendations</i>	<i>Implementation Status</i>
<b>Fiscal Policy</b>	
Develop a fully-fledged medium-term fiscal framework at the federal level and impose credible hard budget constraints at the subnational level to further support fiscal credibility.	The authorities' new fiscal rule guides an improvement of the federal fiscal primary balance, constrains spending growth based on fiscal and revenue developments, and protects public investment spending (see Box 3 for details). There is scope to build on the new fiscal rule to strengthen sustainability and credibility, while providing flexibility.
Pursue a comprehensive tax reform that simplifies the system and reduces the cost of tax compliance.	The authorities are planning a well-designed revenue-neutral indirect tax reform. It would merge all consumption taxes and introduce a value added tax (VAT), greatly simplifying the tax system, reducing compliance costs, and boosting potential output.
Remove distortionary tax exemptions.	The direct tax reform planned for the second half of 2023 is expected to generate additional revenues, eliminate inefficient tax expenditures, and increase progressivity.
Reduce budgetary rigidities and mandatory outlays.	Following the 2019 pension reform and a federal public wage freeze lasting several years, the authorities do not see spending reforms as a priority at this point in time. Current fiscal priorities focus on the fiscal rule and revenue measures.
<b>Monetary and Exchange Rate Policies 1/</b>	
Pursue a steady monetary tightening. Policy will need to be data dependent and be particularly cognizant of shifts in inflation expectations.	The BCB was one of the first central banks to raise the policy rate from 2 percent in early 2021 to 13.75 percent in August 2022, significantly above neutral levels. The policy rate has been on hold since then.
Continue clear forward guidance that is linked to economic outcomes and articulates the timeline and pace at which the BCB's inflation goal is expected to be reached.	The BCB has continued to provide clear communication.
Maintain a flexible exchange rate regime as an indispensable shock absorber, with FXI limited to countering dysfunctions in FX markets.	The flexible exchange rate regime continued to work as an important shock absorber, with FX intervention limited to countering FX market dysfunctionalities.
<b>Structural Policies</b>	
Pursue supply side reforms to boost productivity and improve living standards.	The authorities are prioritizing investment, boosting education and training, increasing the supply of day-care centers, and promoting green growth opportunities, among other structural policies.

1/ See Annex VI for an update on implementation of the 2018 FSAP recommendations.



# BRAZIL

## STAFF REPORT FOR THE 2023 ARTICLE IV CONSULTATION—INFORMATIONAL ANNEX

June 29, 2023

Prepared By

The Western Hemisphere Department  
(In consultation with other departments)

## CONTENTS

FUND RELATIONS	2
RELATIONS WITH OTHER INTERNATIONAL FINANCIAL INSTITUTIONS	4
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# FUND RELATIONS

(As of May 31, 2023)

**Membership Status:** Joined January 14, 1946; Article VIII

**General Resources Account:**

	<b>SDR Million</b>	<b>Percent Quota</b>
Quota	11,042.00	100.00
Fund Holdings of Currency (Exchange Rate)	7,789.34	70.54
Reserve Tranche Position	3,262.60	29.55
Lending to the Fund		
New Arrangement to Borrow	36.59	

**SDR Department:**

	<b>SDR Million</b>	<b>Percent of Allocation</b>
Net Cumulative Allocation	13,470.34	100.00
Holdings	14,067.94	104.44

**Outstanding Purchases and Loans:** None

**Financial Arrangements:**

Type	Date of Arrangement	Expiration Date	Amount Approved	Amount Drawn
			<b>(SDR Million)</b>	
Stand-by	09/06/2002	03/31/2005	27,375.12	17,199.64
<i>Of which:</i> SRF	09/06/2002	09/05/2003	7,609.69	7,609.69
Stand-by	09/14/2001	09/05/2002	12,144.40	11,385.37
<i>Of which:</i> SRF	09/14/2001	09/05/2002	9,950.87	9,950.87
Stand-by	12/02/1998	09/14/2001	13,024.80	9,470.75
<i>Of which:</i> SRF	12/02/1998	12/01/1999	9,117.36	6,512.40

**Projected Payments to the Fund** (SDR million; based on existing use of resources and present holdings of SDRs):

	<b>Forthcoming</b>				
	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>2027</b>
Principal		0.00	0.00	0.00	0.00
Charges/Interest		0.18	0.18	0.18	0.18
<b>Total</b>		<b>0.18</b>	<b>0.18</b>	<b>0.18</b>	<b>0.18</b>

**Safeguards Assessments:** A safeguards assessment of the Banco Central do Brasil (BCB) was completed in June 2002 and updated in March 2005.

**Exchange Rate Arrangement:** Since January 18, 1999, Brazil's de facto and de jure foreign exchange regime has been classified as floating. Brazil accepted the obligations of Article VIII, Sections 2(a), 3, and 4, effective November 30, 1999.

The tax on financial transactions (*Imposto sobre Operações Financeiras*, IOF), currently of 5.38 percent on exchange transactions carried out through credit card, debit card, and traveler's checks (including cash withdrawals) by companies in order to fulfill their payment obligations for purchases of goods and services abroad by their customers gives rise to a multiple currency practice (MCP) subject to Fund jurisdiction under Article VIII, Sections 2(a) and 3. In March 2022, Brazil's Executive Branch published Presidential Decree 10.997/2022 that will gradually reduce the IOF-FX rates on all eligible FX settlements to 0 percent by 2029.

### Last Article IV Consultation

The last Article IV consultation with Brazil was concluded by the Executive Board on September 10, 2021. The Financial Sector Assessment Program (FSAP) took place in 2002 and was updated in 2012 and 2018.

### Capacity Development

The Statistics Department provided remote technical assistance on nonfinancial public sector Government Finance Statistics (GFS) data compilation in November 2020 and on Balance of Payments and International Investment Position issues in February 2021. The Fiscal Affairs Department has provided technical assistance on revenue administration and cost accounting system, and the Monetary and Capital Markets Department on debt management issues.

## RELATIONS WITH OTHER INTERNATIONAL FINANCIAL INSTITUTIONS

World Bank: <http://www.worldbank.org/en/country/brazil>

Inter-American Development Bank: <https://www.iadb.org/en/countries/brazil>

New Development Bank: <https://www.ndb.int/>

# STATISTICAL ISSUES

(As of June 7, 2023)

I. Assessment of Data Adequacy for Surveillance
<b>General:</b> Data provision is adequate for surveillance.
II. Data Standards and Quality
Brazil adhered the Special Data Dissemination Standard Plus (SDDS Plus) – the highest tier of the IMF's Data Standards Initiatives – on November 14, 2019, and posts its metadata on the Fund's <a href="#">Dissemination Standards Bulletin Board</a> (DSBB). Brazil's latest SDDS Plus Annual Observance Report is available on the <a href="#">DSBB</a> .  As allowed under the SDDS Plus, the requirements on the outstanding two data categories—sectoral balance sheets and debt securities—will need to be completed within the transition period (i.e., within five years from the adherence date). The BCB and IBGE are working on the development of from-whom-to-whom data on financial instruments, including debt securities, and the compilation of sectoral balance sheets covering all SDDS plus requested institutional sectors and subsectors.  No data ROSC has been conducted.  <b>Implementing G-20 DGI Recommendations:</b> The authorities have already implemented a good number of the recommendations and work is underway to implement the remaining ones. Further progress would focus on monetary and financial statistics, real estate price indexes, and sectoral accounts.

**Brazil: Table of Common Indicators Required for Surveillance**  
**(As of June 7, 2023)**

	Date of Latest Observation	Date Received	Frequency of Data <sup>7</sup>	Frequency of Reporting <sup>7</sup>	Frequency of Publication <sup>7</sup>
Exchange Rates	June 2023	6/7/2023	D	D	D
International Reserve Assets and Reserve Liabilities of the Monetary Authorities <sup>1</sup>	April 2023	5/5/2023	M	M	M
Reserve/Base Money	April 2023	5/12/2023	D	M	M
Broad Money	April 2023	5/31/2023	M	M	M
Central Bank Balance Sheet	April 2023	5/12/2023	M	M	M
Consolidated Balance Sheet of the	April 2023	5/31/2023	M	M	M
Interest Rates <sup>2</sup>	April 2023	5/12/2023	M	M	M
Consumer Price Index	May 2023	6/7/2023	M	M	M
Revenue, Expenditure, Balance and Composition of Financing <sup>3</sup> – General Government <sup>4</sup>	March 2023	4/28/2023	M	M	M
Revenue, Expenditure, Balance and Composition of Financing <sup>3</sup> – Central Government	April 2023	5/31/2023	M	M	M
Stocks of Central Government and Central Government-Guaranteed Debt <sup>5</sup>	April 2023	5/31/2023	M	M	M
External Current Account Balance	March 2023	5/26/2023	M	M	M
Exports and Imports of Goods and Services	May 2023	6/7/2023	M	M	M
GDP/GNP	Q3 2023	6/1/2023	Q	Q	Q
Gross External Debt	Q4 2022	3/31/2023	Q	Q	Q
International Investment Position <sup>6</sup>	Q4 2022	3/31/2023	Q	Q	Q

<sup>1</sup> Any reserve assets that are pledged or otherwise encumbered should be specified separately. Also, data should comprise short-term liabilities linked to a foreign currency but settled by other means as well as the notional values of financial derivatives to pay and to receive foreign currency, including those linked to a foreign currency but settled by other means.

<sup>2</sup> Both market-based and officially-determined, including discount rates, money market rates, rates on treasury bills, notes and bonds.

<sup>3</sup> Foreign, domestic bank, and domestic nonbank financing.

<sup>4</sup> The general government consists of the central government (budgetary funds, extra budgetary funds, and social security funds) and state and local governments.

<sup>5</sup> Including currency and maturity composition.

<sup>6</sup> Includes external gross financial asset and liability positions vis-à-vis nonresidents.

<sup>7</sup> Daily (D); weekly (W); monthly (M); quarterly (Q); annually (A); irregular (I); and not available (NA).



# BRAZIL

## STAFF REPORT FOR THE 2023 ARTICLE IV CONSULTATION—SUPPLEMENTARY INFORMATION

July 13, 2023

Prepared By

Western Hemisphere Department

*The information below has become available following the issuance of the Staff Report. It does not alter the thrust of the staff appraisal.*

- 1. Headline inflation moderated to 3.2 percent y/y in June, from 3.9 percent in May, broadly in line with expectations.** Headline inflation peaked at 12.1 percent in April 2022 and has continued a downward trajectory. Core inflation has been more persistent at 6.6 percent in June (down from 7.2 percent in May and 9.7 percent at the peak in June 2022), including due to high inertia in services prices.
- 2. Inflation expectations declined further following the National Monetary Council (CMN) meeting on June 29<sup>th</sup>.** Analysts started reflecting the decision on the adoption of a continuous 3 percent inflation target in their inflation expectations a few weeks prior to the CMN meeting. Inflation expectations for 2026-27 declined from 4 percent in early June to 3.7 percent just before the CMN meeting and to 3.5 percent as of July 7.
- 3. The final congressional vote on the new fiscal rule is expected to take place in August.** The lower house will have to decide on some changes proposed by the upper house. Staff expects the new fiscal rule to be approved without substantial changes to the version described in the staff report. The 2024 Annual Budget Law, which should be sent to congress at the end of August, would be guided by the new rule.
- 4. The lower house approved the indirect tax reform (PEC 45), paving the way for a possible vote in the upper house by end-2023.** PEC 45 introduces a destination-based dual value added tax (VAT), merging all existing federal consumption taxes into a unified federal VAT (CBS) and all state and local consumption taxes into a subnational VAT (IBS). An excise tax (IS) would replace the tax on industrial goods (IPI). The reform includes a compensation mechanism to subnational governments for foregone revenues and a preferential rate for selected priority sectors. While the reform creates the broad legal framework for the new VAT, implementation details, including VAT rates, would only be defined in 2024 through supplementary laws.

**Statement by Afonso Bevilaqua, Executive Director for Brazil**  
**July 19, 2023**

On behalf of my Brazilian authorities, I thank Ms. Corbacho and her team for the candid and fruitful engagement under the 2023 Article IV consultation. Overall, after the intense policy dialogue, there is significant convergence between the views of the authorities and staff, despite a few remaining differences.

**Growth has been Higher than Expected**

**Growth projections for 2023 have almost tripled since the beginning of the year.** After rebounding from the pandemic shock with 5 percent growth in 2021, real GDP growth decelerated in 2022 to 2.9 percent. Last January, median GDP growth projections for 2023—measured by the central bank’s survey of market analysts—was 0.8 percent. The most recent survey shows projected growth of 2.2 percent this year. That said, some deceleration is expected for the remainder of the year, especially as better-than-expected first quarter results were driven by agriculture, whose contribution peaks in the first quarter. However, the authorities believe growth this year will surprise on the upside, as resilient real disposable income (including social benefits) provides some support to domestic demand. Accordingly, the IBC-Br (a high-frequency economic activity indicator) posted a seasonally adjusted monthly growth in April that was twice the market’s median expectation.

**Potential growth will continue to benefit from productivity enhancing reforms.** Supply-side reforms implemented in the past few years are running their course through the economy. Recently, the authorities launched a new initiative to reduce the cost of finance and boost investment by strengthening credit collaterals, deepening capital markets, and modernizing financial legislation. Moreover, the tax reform already approved by the Lower House—and now being considered in the Senate—will have a meaningful impact on productivity over the next few years (see below). While the labor market has had a strong recovery since the height of the pandemic, the gender gap remains a drag on potential output. The new Administration has been focusing on expanding the coverage of public education to early childhood and increasing daycare services to boost female participation in the labor market. Addressing bottlenecks in infrastructure and enhancing the supply of basic services with the mobilization of private capital facilitated by recent and proposed reforms will also help enhance productive capacity.

**Since the Article IV mission in May, important upside risks have either materialized or are in the process of materializing.** During policy discussions, uncertainty regarding the inflation target and the inflation targeting (IT) framework and doubts about the fiscal framework were front and center in the public debate. In addition, many of the policy measures, especially those related to improving the fiscal primary balance, were received with skepticism by some analysts. Since then, the National Monetary Council reaffirmed the inflation target and refined the IT framework to bring it in line with peers; the new fiscal framework is bound to final approval in Congress; the tax reform has been approved by a very large majority in the Lower House; and the bill

strengthening the administrative review of tax disputes has been approved by the Lower House. Accordingly, since May, confidence has increased, Brazil's CDS declined by 50 bps (to 175 bps), the exchange rate has appreciated, inflation expectations converged further towards the target, and growth projections have been systematically revised up.

**We therefore firmly believe that domestic risks are tilted to the upside.** While we acknowledge that the challenging global scenario poses important downside risks that could meaningfully impact the Brazilian economy, staff's assessment of domestic risks seems excessively negative. Fiscal path uncertainty has largely dissipated, and the risk of policy reversal seems quite small. Inflation has consistently surprised on the downside and inflation expectations have been converging toward the target, as the authorities remain steadfastly committed to bringing inflation down. While extreme climate events can be very harmful to the population and devastating to local economies and could even have some temporary economic impact at the national level, the kind of climate event that could have a sizable and longer lasting impact on the Brazilian economy is much rarer and cannot be qualified as having a medium likelihood. Moreover, the vivid characterization of a social discontent scenario with high impact on the economy seems farfetched—not something that could materialize with a likelihood of between 30 and 50 percent. While all these factors must be closely monitored, the likelihood and impact scorings of domestic risks in the risk assessment matrix are much gloomier than warranted, even from an extremely conservative risk management perspective.

### **The New Administration took Office with a Clear Agenda**

**A new Administration took office on January 1, 2023, with the goal of reconciling responsible macroeconomic management with social justice and environmental sustainability.** The main economic priority since inauguration has been to maintain fiscal and debt sustainability, supporting the fight against high inflation, and opening fiscal space to strengthen social programs. Accordingly, reducing poverty and inequality are key government goals. Moreover, Brazil continues to play a prominent role in the international efforts to cope with the pressing challenges posed by climate change. The authorities understand that sound economic management must be consistent with social and environmental sustainability.

### **A New Fiscal Framework and a Tax Reform are Landmark Achievements Expected for this Year**

**The authorities are taking measures to ensure a sustainable path for the primary fiscal balance and public debt.** When the new Administration took office, many pressing demands—including a significant boost to the cash transfer program to the poor, *Bolsa Família*—had just made their way into the 2023 federal budget, which projected a primary deficit of 2.2 percent of GDP. The authorities took early action to correct that sizable projected deficit, prioritizing immediate spending needs and reversing some tax exemptions that had been granted last year, including on fuels. Moreover, a plan was presented to raise revenues by at least 1 percent of GDP and several measures have already been adopted, including the elimination of major tax loopholes by Congress and by the Courts and a new legislation that aligns the tax treatment of transfer prices

with international best practices. Also, a law to strengthen the review of tax disputes in the administrative revenue collection tribunal (CARF) was approved in the Lower House with a potential impact of 0.3 percent of GDP in revenue collection in 2023 and 0.1 percent of GDP thereafter. As a result, the primary fiscal balance is on track to posting a deficit of 1 percent of GDP in 2023, significantly lower than what was projected in the 2023 budget. Moreover, the authorities have reaffirmed their commitment to a zero primary fiscal balance target for 2024, and primary fiscal surpluses of 0.5 percent of GDP in 2025 and 1.0 percent of GDP in 2026, as envisaged in the Budget Guidelines Law submitted to Congress.

**A new fiscal framework restraining spending growth is in the final stage of congressional approval.** The proposed fiscal rule embedded in the fiscal framework aims first at stabilizing public debt by 2026 and thereafter putting it on a clear downward path. Expenditures will be constrained to grow below revenues—with a real growth floor of 0.6 percent if revenues grow by less than 0.86 percent in real terms—and primary fiscal balance targets will be set in a way consistent with the objective of maintaining debt sustainability. There are also incentives in the rule for meeting the primary fiscal balance targets by further constraining the real growth of expenditures, if needed. The approval of the fiscal framework in both houses in Congress, albeit pending a final stage, has already dissipated uncertainty regarding the fiscal path, improving market sentiment.

**A historical reform of the indirect tax system—to make it simpler and fairer—has been approved in the Lower House.** The long-overdue tax reform to establish a VAT, merging different taxes, simplifying procedures, and taxing goods and services at destination instead of origin, will enhance efficiency, avoid the so-called tax wars among subnational entities, and increase transparency and fairness in the system. The objective of the tax reform is not to increase revenue but rather to improve the quality of revenue mobilization. Brazil's tax system is overly complex, regressive, distortive, and cumbersome. It unduly burdens businesses and accentuates regional and social inequalities. Also, the tax reform includes a comprehensive review of tax expenditures to address perverse and regressive features of the tax regime and tackle state capture.

**Efficiency gains from the tax reform on output have been estimated as very substantial.** There are a couple of obvious sources of productivity gains with the reform. First, the new VAT will eliminate relative price distortions that penalize more heavily sectors of higher value added and longer production chains (which are usually sectors of higher productivity and more extensive downstream and upstream linkages). Second, there is an exogenous impact that tends to be very difficult to quantify but is likely to be substantial—the reduction of tax compliance costs to firms. The tax reform is also expected to boost the stock of capital by eliminating current distortions that penalize investment. Attempts to quantify these benefits are inevitably imprecise and will have to be refined after the final approval of the reform by Congress. However, preliminary estimates for the long-term increase in the level of GDP from reliable sources range from 5 to 20 percent. Some studies suggest that the reform could have an impact of 0.5 to 1 percentage point on the annual rate of growth over a decade. While implementation will be phased in over a long period, the approval of the reform is expected to have an immediate impact on the economy by improving sentiment and expectations. The extraordinary complexity of Brazil's tax system, involving

conflicting interests of many states, municipalities, and economic sectors, had prevented for at least three decades a meaningful tax reform to make progress in Congress. Nevertheless, last week, the Lower House approved by an overwhelming majority the tax reform's constitutional amendment, and the Senate is expected to consider it in the next few months.

**In the second semester, the Administration will present a reform of direct taxes to increase revenues and progressivity.** While details have yet to be disclosed, the overall intention is to close loopholes and fix cumbersome features in personal and corporate income taxation. Increasing progressivity in the personal income tax and property taxation is also an important objective of the reform to be proposed to Congress for consideration before the 2024 budget law. These measures will not only help address the issue of insufficient progressivity in taxation but also support the efforts to increase revenues.

**Even with the pandemic, Brazil's debt to GDP declined between 2019 and 2022.** In 2019, public debt in Brazil was in a decade-long upward trend and many analysts expected it to continue rising in the following years. However, after three years, even with the major disturbance caused by the pandemic, gross public debt in Brazil had fallen—perhaps one of the few large countries that saw their debt levels in 2022 coming below the immediate pre-pandemic level. While growth and inflation surprises played a role, such performance would not have been possible without a conducive fiscal policy stance and strong debt management practices. The authorities continue to display strong resolve to ensure that, going forward, public debt stabilizes and then pursues a clear downward path. The new fiscal framework, the commitment to a robust improvement in primary fiscal balances and the tax reforms in train are consistent with this approach.

**The Fund's debt sustainability analysis (DSA) has been too pessimistic.** While we acknowledge the probabilistic nature of the DSA framework, and the fundamental uncertainty embedded in the exercise, we note that in the past several years errors in debt projections for Brazil have been large, systematically overstating Brazil's debt-to-GDP ratios. For example, before the pandemic, the 2019 DSA projected public debt to reach 95.9 percent of GDP in 2022. However, gross general government debt (GGGD) in 2022 was 85.9 percent of GDP—even after the pandemic, which pushed debt up by 11 percentage points in 2020. The same pattern is seen in 2020 and 2021, with errors of 15 and 5 percentage points on the upside, respectively. We recognize that heightened uncertainty and surprises in growth and inflation have affected these projections. However, the Brazilian National Treasury consistently had much more accurate projections throughout this period, which may suggest that some relevant factors may be missing in the IMF model for Brazil.

### **Bringing Resilient Inflation Down**

**A tight monetary policy stance has continued to bring inflation down.** Brazil was the first large economy to start tightening monetary policy early in 2021, when it became clear that inflationary pressures were broad-based and persistent. After peaking at above 12 percent (y-o-y) in early 2022, headline inflation has fallen to 3.2 percent (y-o-y) in June. Core inflation has also fallen significantly. As in other economies, though, core inflation has proved stickier and is still above

the range consistent with the inflation target. Credit growth has slowed, and the labor market is showing signs of moderation.

**Inflation expectations have fallen significantly.** Market analysts expect inflation to be below 4 percent in 2024 and then converge to 3.5 percent in the long run, still somewhat above the inflation target. The recent decrease in inflation expectations reflects two main factors, in addition to the expected impact of the tight monetary stance. First, increased confidence in the new fiscal framework and its fiscal consolidation path, which has lightened the burden on monetary policy and reduced risk premia in financial asset prices. Second, the decision in late June by the National Monetary Council to reaffirm the 3 percent inflation target and to make it permanent and continuous, in line with international best practices.

**The floating exchange rate regime has continued to play a critical role in helping the economy absorb external shocks.** The BCB does not target any level for the exchange rate, only intervening when it deems that foreign exchange (FX) market conditions are dysfunctional. Brazil has an appropriate level of international reserves, and the authorities assess that there is adequate guidance on the use of FX swaps as a policy tool. Any eventual reduction in the stock of FX swaps will be conditional on market developments and will be properly communicated in a timely fashion by the BCB.

### **Building a Solid and Efficient Financial System for All**

**The financial system remains sound and safe.** The banking system is well capitalized and highly liquid. Banks increased their provisions concurrently with the recent moderate rise in problem assets and coverage remains strong. The ratio of provisions to expected losses was 1.29 at end-2022. Credit standards in household lending have become stricter, which is already having an effect, with more recent credit vintages performing better than the ones from the height of the pandemic. In business lending, despite the recent increase, measures of delinquency and problem assets are below their pre-pandemic levels. Furthermore, the banking system has low exposure to interest rate risk and unrealized losses from held-to-maturity bond portfolios are insignificant.

**Financial innovation contributes to stronger financial sector competition, greater efficiency, and increased financial inclusion.** The Open Finance initiative, the highly successful Pix instant payment system, and the Digital Real, which is in development, will mutually reinforce each other in creating an environment ripe for innovation and contestable markets. Brazil's Open Finance environment built on the lessons of pioneer jurisdictions and has had one of the fastest uptakes in history, reaching 5 million users in less than one year and 22 million after two years. The Pix instant payment system has helped level the playing field between new digital entrants and incumbent banks with large networks and physical infrastructure. Pix has also led to greater financial inclusion, with tens of millions of new users of payment accounts who are building a history that will help them access additional financial services, including credit. The BCB continues to add new features to Pix, allowing financial institutions to offer new and innovative products to meet the needs of clients. The next planned major innovation is the Digital Real, a wholesale CBDC. The goal of the CBDC is to provide a secure platform for the private sector to

create innovative solutions using new technologies. End-users will only have indirect access to the Digital Real through regulated financial and payment institutions, mitigating the risk of financial disintermediation.

**Policymakers are addressing the issue of households' overdue debt obligations.** The government is rolling out the *Desenrola* program to help millions of low-income households with overdue loans and other past-due obligations, including to utility companies, to restructure their debts. The government will offer incentives to creditors in exchange for reductions in the principal and interest on the restructured debts. In the case of the lowest-income borrowers, there will be a government guarantee on the restructured debt, underpinned by funds previously allocated for this purpose. The BCB, together with other regulators and government bodies, has long had a comprehensive financial literacy agenda, which has recently been boosted. Legislation to help prevent and treat overindebtedness was passed in 2021 and is currently being implemented. These measures and other regulatory initiatives will help prevent households, including those benefiting from the *Desenrola* program, from over-extending themselves again in the future.

### Fighting Deforestation and Promoting the Green Economy

**The authorities are fully engaged in their climate change agenda.** They are currently developing a strategic plan to promote the ecological transition of the Brazilian economy. A significant share of the needed investments will be met by enhancing the participation of the private sector. The authorities recognize the criticality of the issue for Brazil and the importance of Brazil's contribution to the world's effort to address climate change challenges. While a new climate strategy is being devised, the Administration has already taken action to combat deforestation in the Amazon in a way that is consistent with enabling the livelihood of the people in the region. The authorities understand that promoting economic development and improving the living conditions of the population can be reconciled with environmental responsibility. Given its clean energy matrix and availability of clean energy sources, Brazil is in a privileged position to pursue a climate-friendly development agenda.

**Productivity has increased substantially in Brazilian agriculture in the past decades and production can continue to expand without further deforestation.** Embrapa (Brazil's agriculture research institute) has undertaken a successful and decades-long effort to improve the productivity of Brazilian agriculture and expand the agricultural frontier in the country, which will focus on restoring degraded areas. The recently launched agricultural credit program (Proagro) shows how incentives to green production can be provided even in a context of limited fiscal space.

**While climate change is high in the authorities' agenda, the characterization of agriculture and energy as "sectors at risk" seems farfetched.** Climate change has obvious impacts on the agriculture and energy sectors. However, the staff report stretches the argument, for example, when it uses the World Bank's estimate that agriculture loses 1 percent of its yearly output due to extreme climate events to create the perception of high economic vulnerability to climate change. Similarly, stating that hydropower generation could lose 5 percent of its capacity by 2050 in a moderate climate change scenario does not corroborate the report's characterization. Even in the extreme

scenario—which must be avoided at any cost—of a potential environmental catastrophe of the Amazon reaching a tipping point, the IDB estimates a cumulative output loss of 10 percent of 2022 GDP spread out over 30 years, or less than a quarter of a percentage point of GDP per annum using throughout the period staff's assumption of 2 percent GDP growth. Again, the point of high economic vulnerability to climate change lacks corroboration. That said, the authorities are fully committed to developing and implementing strategies to halt deforestation, incentivize smart-agriculture, and expand other sources of renewable energy, as part of their climate change agenda.

## **Debt Measures and the Financial Relationship of the BCB and the Treasury**

**Public debt statistics in Brazil are widely available and transparent.** While all debt concepts have pros and cons, the GGGD used by the authorities is well accepted and understood by private sector analysts and credit rating agencies. It also immediately reflects changes in the primary fiscal balance and seems suitable for the case of Brazil, where the government has substantial buffers. That said, all data required for computing other concepts are also publicly available. Indeed, fiscal risks and performance tend to be better depicted by net debt concepts and the public sector net debt statistic—which is widely used by dedicated practitioners—provides important information for fiscal analysis. As for the financial relation between the National Treasury (STN) and the BCB, the staff report clearly acknowledges that: “Despite differing from international practices, the current setup has its own advantages and has allowed Brazil to conduct sterilization, public financing, and exchange rate operations in an efficient manner even under challenging market conditions.” Hence, the authorities do not believe that—after the comprehensive 2019 reform—changing the framework for the BCB-STN financial relation is an agenda item that merits any consideration at this point. Indeed, given the authorities’ assessment of the adequacy of the current framework and the priorities of both the BCB and the STN, the analysis in that SIP chapter will most likely not make its way into their agenda in the foreseeable future.