

ISSN 1517-7289

Inflation Report

Volume 25 | Number 3 | September 2023

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ISSN 1517-7289
CNPJ 00.038.166/0001-05

Inflation Report

Quarterly publication of the Monetary Policy Committee (Copom), according to Decree 3,088, dated 6.21.1999.

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Statistical conventions

- ... data not available.
- nil or non-existence of the event considered.
- 0 or 0.0 less than half the final digit shown on the right.
- * preliminary data.

Hyphen between years indicates the years covered, including the first and the last year.

A bar (/) between years (1970/1975) indicates the average of the years covered, including the first and the last year or even crop or agreement year, when mentioned in the text.

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Principles for the Conduct of Monetary Policy in Brazil

Mission and objectives

The Banco Central do Brasil (BCB) primary goal is to ensure price stability. Without compromising this goal, the BCB also aims to ensure the stability and efficiency of the financial system, smooth out economic activity fluctuations, and foster full employment. The compliance with the price stability goal is achieved by means of the inflation targeting framework, with inflation targets set by the National Monetary Council (CMN).

The experience, both domestic and international, shows that the best contribution of monetary policy to sustainable economic growth, low unemployment and improvement in people's living conditions is to keep inflation low, stable and predictable.

The economic literature indicates that high and volatile inflation rates generate distortions that lead to increased risks and negatively affect investment. These distortions shorten the planning horizons of households, companies and governments and erode business confidence. High inflation rates subtract the purchasing power of wages and transfers, with negative repercussions on household's confidence and consumption. Moreover, they produce inefficient price dispersion and reduce the informational value from prices that contributes to the efficient allocation of resources in the economy.

High and volatile inflation also has regressive distributive effects. The less favored groups of the population, which generally have more restricted access to instruments to protect them from the loss of the currency's purchasing power, benefit the most from price stability.

In short, high inflation rates reduce potential economic growth, affect job openings and income, and worsen income distribution.

Implementation

Monetary policy impacts the economy with long, variable, and uncertain lags, usually estimated to extend up to two years. As a result, there is substantial uncertainty associated with inflation projections in the relevant horizon for the conduct of monetary policy, which arises naturally from the incidence of favorable and unfavorable shocks to the economy over time. It is thus expected that,

even under appropriate policy, realized inflation will fluctuate around target. The Monetary Policy Committee (Copom) should seek to conduct monetary policy so that inflation projections point to inflation converging to the target. Therefore, it is natural that monetary policy is carried out in a forward-looking way.

The inflation targeting framework in Brazil is flexible. The horizon that the BCB sees as appropriate for the return of inflation to the target depends on both the nature of the shocks that affect the economy and their persistence.

The BCB believes that a clear and transparent communication is essential for monetary policy to achieve its objectives efficiently. Thus, the BCB regularly publishes evaluations of the economic factors that determine the inflation trajectory, as well as the potential risks to this trajectory. The Copom Statements and Minutes, and the Inflation Report are key vehicles in communicating these assessments.

Inflation Report

The inflation projections are presented in scenarios that are conditional on assumptions about some economic variables. Traditionally, the assumptions refer to the paths for the exchange and Selic rates throughout the projection horizon. In addition to the baseline scenario, alternative scenarios may also be presented. It is important to stress that the scenarios presented in the Inflation Report (IR) are part of the quantitative tools used to guide Copom's monetary policy decisions and that their assumptions do not constitute and should not be seen as the Committee's forecasts for the future behavior of those variables.

The conditional inflation projections incorporate probability intervals that highlight the associated degree of uncertainty. Inflation projections depend not only on assumptions about the interest rate and the exchange rate, but also on a set of assumptions about the behavior of other variables.

Copom uses a wide range of models and scenarios, with conditioning assumptions associated with them, to guide its monetary policy decisions. By reporting some of these scenarios, the Committee seeks to enhance the transparency of monetary policy decisions, contributing to its effectiveness in controlling inflation, which is its primary objective.

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Executive summary

The global environment became more uncertain, with the increase in long-term interest rates in the United States as well as forecasts of lower growth in China, both demanding further attention from emerging market economies. The central banks of major economies remain committed to bringing inflation back to its targets, and the disinflationary process continues, despite the environment of high core inflation and resilience in the labor market in many countries.

On the domestic front, economic activity surprised again in 2023Q2, growing by 0.9%. The assessment is that the strong growth in the first half of the year partly reflects transitory factors and that remains the prospect of activity growing at a slower pace in the coming quarters and throughout 2024. The GDP growth projection for 2023 rose from 2.0% to 2.9%, mainly reflecting the surprising outcome in 2023Q2. A GDP growth of 1.8% is projected for 2024.

The twelve-month inflation, as measured by the Extended National Consumer Price Index (IPCA), has risen since the previous Inflation Report (IR), as anticipated. This movement reflects the removal from the calculation period of the months in 2022 that were impacted by tax exemptions and fuel price reductions. In this metric, core inflation has fallen, indicating a process of disinflation underway, but remains above the inflation target. Considering the quarterly seasonally adjusted change, core inflation indices fell to a level close to the target, but this movement may reflect oscillations around the disinflation path observed since mid-2022.

In the Jun-Aug quarter, the IPCA change was 0.19 p.p. below that of the reference scenario presented in the previous IR. The downward surprise was mainly due to the food-at-home and services segments.

Expectations for consumer inflation for 2023 and 2024 collected by the Focus survey have reduced slightly to around 4.9% and 3.9%, respectively. Inflation expectations for longer terms, which

partially reanchored after the CMN's decision, have also improved. This decision set the 2026 inflation target at the same values as those for 2024 and 2025.

The projections presented use information available up to the 257th Copom meeting, held on September 19-20, 2023. As for the conditioning factors used in the projections, especially those from the Focus survey, the cut-off date is September 15, 2023, unless otherwise stated.

Regarding the conditional inflation projections, in the reference scenario, the interest rate path is extracted from the Focus survey, and the exchange rate starts at USD/BRL 4.90 and evolves according to the purchasing power parity (PPP). Oil prices follow approximately the futures market curve for the following six months and then start increasing 2% per year onwards. Compared with the previous IR, inflation projections remained at 5.0% for 2023, rose to 3.5% for 2024, and remained at 3.1% for 2025. In this scenario, inflation projections for administered prices are 10.5% for 2023, 4.5% for 2024, and 3.6% for 2025.

In its most recent meeting (257th), considering the evolution of the disinflationary process, the assessed scenarios, the balance of risks, and the broad array of available information, Copom decided to reduce the Selic rate by 0.50 percentage point, to 12.75% p.a., and judges that this decision is consistent with the strategy for inflation convergence to a level around its target throughout the relevant horizon for monetary policy, which includes the year of 2024 and, to a lesser extent, 2025. Without compromising its fundamental objective of ensuring price stability, this decision also implies smoothing economic fluctuations and fostering full employment.

The current context, characterized by a stage in which the disinflationary process tends to be slower and with partial reanchoring of inflation expectations, requires serenity and moderation in the conduct of monetary policy. The Committee reinforces the need to persist on a contractionary monetary policy until the disinflationary process consolidates and inflation expectations anchor around its targets.

If the scenario evolves as expected, the Committee members unanimously anticipate further reductions of the same magnitude in the next meetings and judge that this pace is appropriate to keep the necessary contractionary monetary policy

for the disinflationary process. The Committee emphasizes that the total magnitude of the easing cycle throughout time will depend on the inflation dynamics, especially the components that are more sensitive to monetary policy and economic activity, on inflation expectations, in particular the longer-term ones, on its inflation projections, on the output gap, and on the balance of risks.

This chapter of the Inflation Report (IR) analyzes the recent evolution of the economic outlook, considering the international and domestic scenarios, as well as the prospects for the Brazilian economy in the coming quarters. The assessment of the international scenario addresses the main advanced and emerging economies, emphasizing aspects that tend to influence the Brazilian economy, especially inflation and activity indicators.

The analysis of the domestic outlook comprises the major drivers of economic activity, considering both the evolution of national accounts and the most frequent and timely sectoral indicators. Central aspects related to the movements in the labor market, the evolution of credit markets, and the performance of the country's public and external accounts are also assessed. The final section of this chapter analyzes the behavior of inflation and market expectations, considering the trajectories of key price indicators.

1.1 External scenario

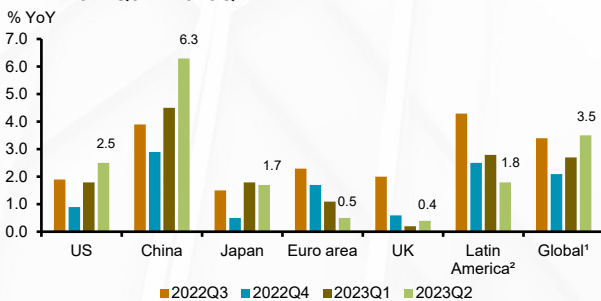
The global environment became more uncertain, although growth expectations for 2023 continue to be revised upwards in several economies. Recently, renewed concerns about the real estate sector in China and the increase of long-term interest rates in developed economies increased risks of global economic deceleration. In an environment where inflation remains at historically high levels, central banks of developed economies continue to reaffirm their commitment to the convergence of inflation rates to their targets by increasing interest rates or emphasizing the need to keep them at high levels for a long time.

Global activity, except for the Chinese economy, has shown resilience in view of the monetary policy tightening and the stressful events in the international banking sector that occurred from March to May. Global growth remains below trend, although sustained by strong labor markets and household consumption. The dynamism of economic activity, especially in the services sector, associated with the depletion of past supply shocks, continues to put pressure on global inflation, which remains high.

There are risks for global activity stemming from the impacts of the crisis in the Chinese real estate sector and from still latent lags of past monetary tightening, since part of the effects of the interest rate increase worldwide has not yet materialized. Conversely, new fiscal stimuli, especially in advanced economies, climate-related events, and tight supply of some commodities pose challenges to the convergence of inflation to its targets. In this context, the cuts in the oil production by the Organization of the Petroleum Exporting Countries and ten other oil-producing countries (Opec+), geopolitical conflicts, and other protectionist trade policies, in addition to risks related to high interest rates in central economies are factors that contribute to maintaining a high degree of uncertainty in the prospective outlook for activity and global inflation.

The US economy continues to show signs of robustness. In 2023Q2, the US GDP rose 2.1% QoQ saar, sustained by household consumption, which has expanded in line with the pre-pandemic trend, despite recent mismatches between the demand for goods and services. Fixed investment has signaled some recovery regarding expenditures in both equipment and the construction sectors. The

Figure 1.1.1 – GDP growth
From 2022Q3 to 2023Q2

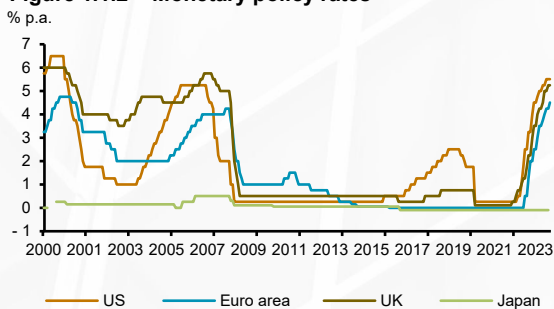


Source: Bloomberg, BCB

1/ Calculated as described in box "Projections and macroeconomic analysis model of the global economy" of the September 2022 IR.

2/ Argentina, Brazil, Chile, Colombia, Mexico, and Peru

Figure 1.1.2 – Monetary policy rates¹



Source: Bloomberg

1/ Until September 22nd.

persistence of inflation rates at still high levels in terms of the recent historical trend is, however, an obstacle to a more solid recovery. Confidence levels have improved, despite remaining at low levels.

High frequency data so far suggest the US economic activity continues to expand, reducing the chances of recession in the medium term. The labor market remains strong, although with signs of moderation over the last months (average of 150 thousand monthly jobs created over the last three months). The unemployment rate remains close to historical lows, at 3.8%. Open vacancies continue at historically high levels, with a mismatch between the supply and demand for workers in all economic sectors. This outlook is complemented by the participation rate, which continues below the pre-pandemic level, despite being on a recovery trajectory, mainly in the prime age segment. The conditions in the US labor market favor a scenario of wage pressures, which have been growing at high rates compared to historical trend – 4.3% per year in August¹, – even accelerating in real terms, benefiting from the inflation deceleration.

The US inflation remains high, reaching 3.7% YoY in August², well above the target of 2%, but gradually decelerating since the second half of 2022, reflecting the dissipation of shocks on energy and food. Core inflation has shown greater persistence, growing 4.3% YoY in August, especially reflecting the dynamics of services prices. This persistence reflects the sustained demand, a still strong labor market, in addition to the inertial component itself. The prospects are that inflation will fall at a slow pace, converging to the target only in 2025, reflecting the cumulative effect of monetary policy actions, the economic activity deceleration, and the normalization of global supply chains.

In response to this context of persistently high inflation, the Federal Reserve (Fed) has been raising the Fed funds rate by 5.25 p.p. since early 2022 until September 2023. In the latest September meeting, the Federal Open Market Committee (FOMC) kept the Fed funds rate in the interval from 5.25% to 5.5%, leaving room for an additional increase still in 2023. Moreover, the Fed continues to reduce the stock of government securities and mortgage-backed securities (MBS) in its balance sheet, scheduled by up to USD 95 billion per month from September 2022 onwards.

1/ Value relative to the Average Hourly Earnings indicator.

2/ Value relative to the Consumer Price Index (CPI).

The euro zone succeeded in avoiding a technical recession in 2023Q1, as the GDP growth was revised upwards by 0.2 p.p., thus registering a 0.1% expansion over 2022Q4. In 2023Q2, the GDP growth was also 0.1%. Nevertheless, Germany, the largest economy of the bloc, had a technical recession in 2023Q1, and stagnated in 2023Q2, reflecting the increased production and financing costs, the sluggish economic dynamics in view of the decline of domestic consumption and the deceleration in the global trade of goods. France, the second largest economy of the bloc, has been resilient, with greater participation of the services sector – in particular tourism – growing 0.5% in 2023Q2. Inflation in the euro zone, measured by the Harmonized Consumer Price Index (HCPI), decelerated in the beginning of the second half of the year, increasing 5.2% in August (against 5.3% in July). The underlying inflation, measured by the HCPI core excluding energy and food (in addition to alcohol and tobacco) persists at a high level, reaching 5.3% in August (against 5.5% in July). Expectations in 2023Q3 suggest that underlying inflation will remain high in Germany but will start declining in France and in other countries. The European Central Bank (ECB), which has successively increased interest rates to the highest historical levels in the meetings of late July and mid-September, has reaffirmed its intention to keep the monetary tightening until the inflation scenario seems more consistent with the goal of returning to the 2% target in the medium term.

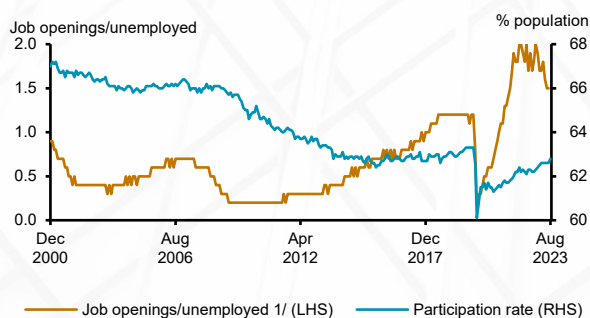
In China, economic activity accelerated in 2023Q2. GDP growth reached 6.3% in 2023Q2 YoY, against 4.5% in 2023Q1 YoY. This result was worse than expected, considering the reduced comparison basis of 2022Q2. All aggregate demand components decelerated, except for the primary and the real estate sector. Monthly indicators relative to July signal some loss of momentum in economic activity in early 2023Q3, with lower growth rates of industrial output, services, retail sales, and fixed investment compared to 2023Q2. The overall unemployment rate is in line with the seasonal trend, although challenges persist in the participation of the young population in the labor market.

Financial difficulties in the real estate sector have affected the confidence of households, which have been limiting consumption expenditures in general and, mainly, the purchase of new real estate. Chinese authorities have announced several economic policy measures to support the economy, highlighting the reduction of interest rates, incentives to private investment, to consumption, mainly of electronic

devices, to foreign direct investment, fiscal incentives to small and medium enterprises, further exemption of income tax of individuals, as well as the easing of restrictions for borrowing real estate credit.

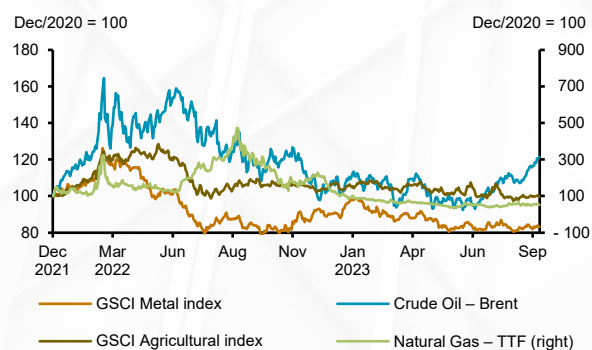
With a few exceptions, emerging economies have been sustaining positive growth rates, despite the tightening of financial conditions over the last three quarters. The risks for these economies remain elevated, with uncertainties regarding the end of monetary tightening in advanced economies and the Chinese growth rate. Exchange rates in emerging economies depreciated in general over 2023Q3, mainly due to the reduction of the risk appetite caused, among other factors, by the increase of long-term interest rates in major advanced economies, especially in the US, and the perception of deterioration in the Chinese real estate market.

Figure 1.1.3 – US – Job openings and participation rate



Sources: Bloomberg
1/ Until July 2023

Figure 1.1.4 – Commodity prices¹



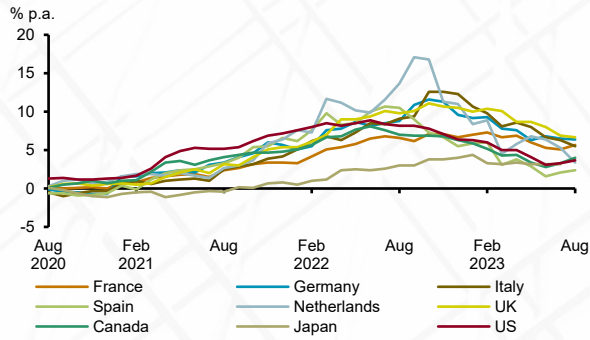
Source: Bloomberg
1/ Until September 18th.

Commodity prices continue to be influenced by the prospects of global growth, particularly of the Chinese economy, as well as by developments related to the war in Ukraine, by climate-related events, and by OPEC+ decisions to reduce oil supply. The rise in the price of energy commodities had a relevant impact on global consumer inflation. Concerns about the supply of oil have risen with the extension of voluntary cuts in the production of Saudi Arabia and cuts in Russia's exports. These measures lead to increased expectations of a supply deficit in this market in the second half of 2023, contributing to further price pressures not only of oil, but also its by-products, such as diesel and gasoline, and production inputs for biofuels, such as sugar.

Natural gas, a critical input for energy generation in much of the world, maintained its downward momentum, reflecting higher-than-expected stock levels due to the milder winter in the northern hemisphere, lower demand for liquefied natural gas (LNG) imports in China, and energy-saving measures by European consumers and the expansion of liquefied gas supply in Europe. Despite the generally favorable dynamics, risks remain arising from the climate change, unexpected halts in the production and distribution of natural gas, due to strikes in Australia, for instance, and the possibility of increased consumption in Europe and Asia in an environment of low prices when compared with the previous year.

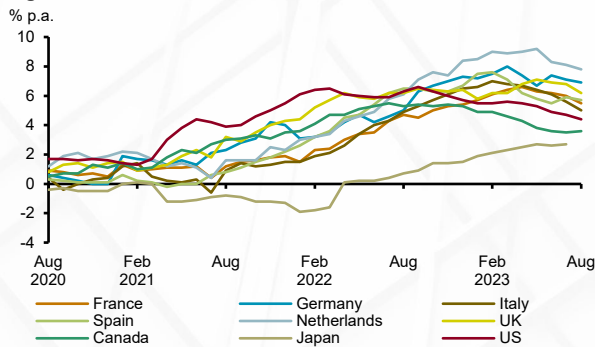
As for metal commodities, iron ore prices rose in 2023Q3, sustained by the still resilient Chinese

Figure 1.1.5 – CPI – Advanced economies¹



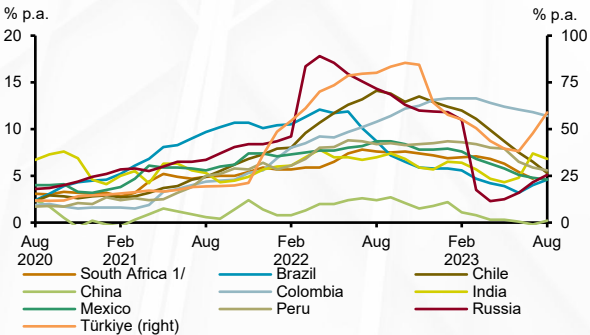
Source: Bloomberg
1/ Until July 2023.

Figure 1.1.6 – CPI core – Advanced economies¹



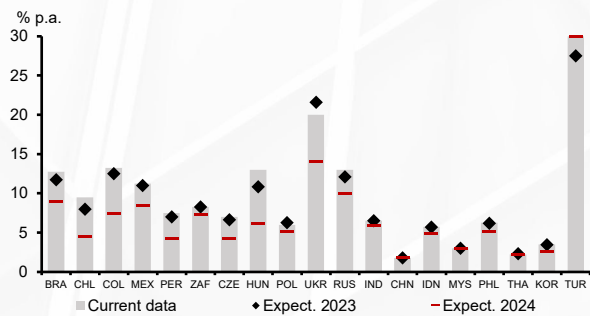
Source: Bloomberg
1/ Until July 2023.

Figure 1.1.7 – CPI – emerging markets



Source: Bloomberg
1/ Until July 2023.

Figure 1.1.8 – Policy interest rates¹



Sources: Bloomberg and central banks' surveys
1/ Until September 21st.

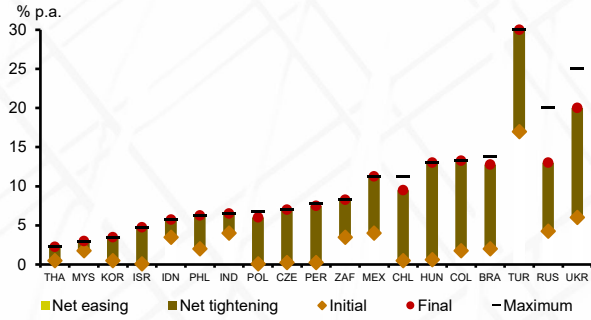
demand for steel, leading to lower inventories, in addition to expectations that stimulus measures by the Chinese government might fuel activity.

Agricultural commodities are still influenced by issues affecting the world supply, such as the impacts of climate-related events on the rice and sugar cane crops in Asia and subsequent protectionist measures, in addition to the continuation of the War in Ukraine, amid Russia's exit from the Black Sea export corridor and attacks on ports that are critical for the trade flow of these goods. Despite these factors, the prospect of larger supply of grains by leading producers has prevented widespread price highs. Climate-related events and specifically the arrival of *El Niño* have raised concerns about the global supply of grains, such as wheat, corn, rice, soybeans, coffee, sugar, among others, especially in some regions in Asia and Australia, but also posing risks to areas in Africa and the Americas.

The materialization of relevant risks such as those related to the war in Ukraine, the arrival of *El Niño*, and the new supply reductions by the Organization of the Petroleum Exporting Countries (OPEC) add pressure to commodity prices, which, adding to the spread of inflationary pressures to more inertial items, should contribute to global inflation remaining high in the short and medium term. Such persistence of inflationary pressures remains a risk to the prospective scenario of monetary policy in advanced and emerging countries.

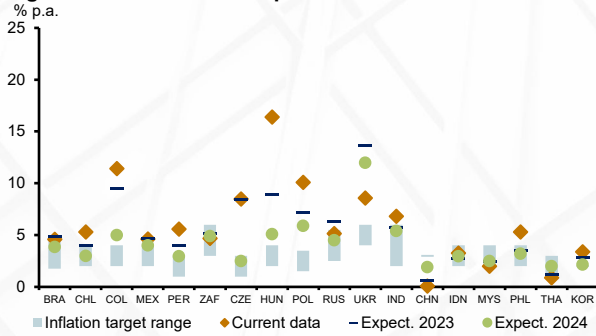
Also in the latter, the general movement of inflation rates has been downwards over the last few months, with some important economies in this group experiencing pronounced declines. Nonetheless, inflation levels continue to differ significantly among countries, with rates mostly above target in Latin America. Surveys of market analysts generally continue to point to a reduction in inflation rates for this year and the next, with convergence towards the target at distinct paces over 2024. Most of the central banks in these economies kept their monetary policies unchanged in the last quarter, with a few exceptions, including Brazil and Chile central banks, which have cut their base rates. Expectations are that many of the central banks of the region's largest countries will reach lower interest rates by the end of this year and will continue to reduce rates throughout 2024.

Figure 1.1.9 – Change in interest rates since Feb/21¹



Sources: Bloomberg and central banks' surveys
1/ Until September 21st.

Figure 1.1.10 – Inflation expectations¹



Sources: Bloomberg and central banks' surveys
1/ Until September 19th.

In summary, growth prospects for the global economy still show a high degree of uncertainty. Recently, renewed concerns about the real estate sector in China and the increase of long-term interest rates in developed economies raised the chances of prospective global economic deceleration. The realignment of relative prices, the normalization of activity in the services sector, tight labor markets, and still robust demand for goods suggest that inflation rates, especially core indexes, should remain persistently high for a longer period than recently expected, requiring interest rates at contractionary levels for a long time. As inflation remains at historically high levels, central banks of developed economies continue to reaffirm their commitment to the convergence of inflation to their targets, increasing interest rates or emphasizing the need to keep them at a high level for a long time.

Table 1.2.1 – Gross Domestic Product

QoQ

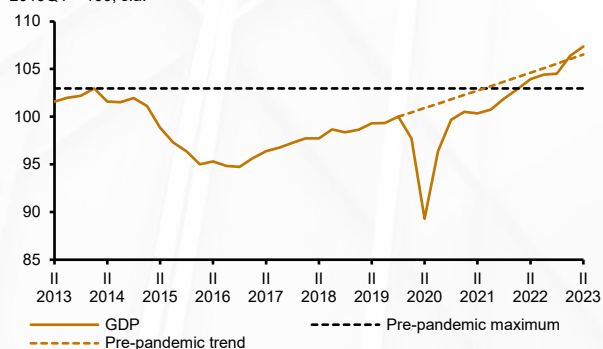
Seasonally adjusted

Itemization	% change					
	2022				2023	
	Q1	Q2	Q3	Q4	Q1	Q2
GDP at market prices	0.9	1.0	0.4	0.1	1.8	0.9
Agric. and livestock	-0.5	0.2	-1.2	-1.3	21.0	-0.9
Industry	1.0	1.2	0.8	-0.2	0.1	0.9
Mining	-2.9	1.3	0.5	2.7	3.0	1.8
Manufacturing	1.2	1.3	-0.1	-1.3	-0.7	0.3
Construction	2.2	1.3	0.9	-0.7	-0.7	0.7
Public utilities	6.4	1.9	1.2	1.4	1.6	0.4
Services	1.0	1.2	0.9	0.2	0.6	0.6
Trade	0.9	1.8	0.2	-0.7	0.3	0.1
Transportation and storage	1.7	2.5	1.0	0.2	1.2	0.9
Information services	-3.0	3.6	3.5	1.0	-1.4	0.7
Financial and related services	-0.9	-1.0	2.6	1.6	1.3	1.3
Other services	3.2	3.1	1.1	1.0	-1.0	1.3
Real estate	0.1	0.8	1.4	0.5	0.4	0.5
Public admin., health and education	0.3	-1.1	1.1	-0.4	0.5	0.4
Household consumption	1.4	1.6	0.8	0.4	0.7	0.9
Government consumption	-0.3	-1.0	1.5	0.3	0.4	0.7
Gross Fixed Capital Formation	-1.3	3.7	2.1	-1.2	-3.4	0.1
Exports	8.6	-4.2	5.5	3.5	0.3	2.9
Imports	-2.2	5.5	5.2	-3.7	-3.9	4.5

Source: IBGE

Figure 1.2.1 – Gross Domestic Product

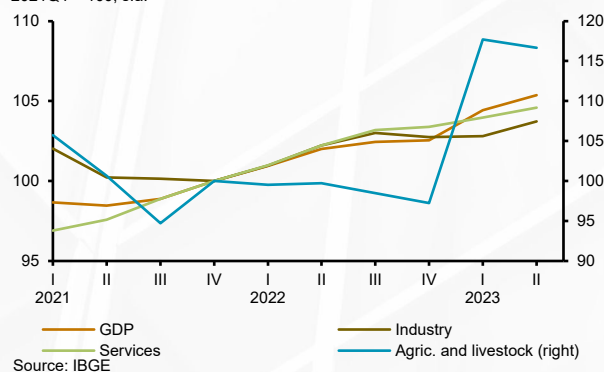
2019Q4 = 100, s.a.



Source: IBGE

Figure 1.2.2 – Gross Domestic Product – Supply

2021Q4 = 100, s.a.



Source: IBGE

1.2 Domestic outlook

Economic activity

The GDP grew by 0.9% in 2023Q2 over 2023Q1, when it expanded 1.8%. The increase in 2023Q2 significantly exceeded the forecasts made at the time of the June 2023 IR and even those made on the eve of the GDP release, when a much broader information set was already known.³

From a supply-side perspective, the GDP growth was driven by the industrial and services sectors. As expected, albeit to a lesser extent, agriculture and livestock fell (-0.9%) after the strong expansion in the previous quarter, reflecting the end of the record harvest of soybeans, concentrated in 2023Q1.

Industrial activity grew by 0.9%, with widespread increases in all segments. The mining industry continued to expand, with growth in iron ore and oil production. This was the fifth consecutive increase, resulting in a cumulative growth of almost 10% in the period. Utilities registered the seventh consecutive growth, while manufacturing grew moderately after three quarterly declines. Data from the Monthly Industrial Survey (PIM) indicate that, in the manufacturing industry, there was a slight increase in the production of intermediate goods, stability in the production of consumer goods, and a sharp decline in the production of capital goods. Despite the slight recovery, manufacturing industry has shown modest performance in recent quarters, remaining fairly stable, below the pre-pandemic level, since late 2021. Finally, construction partially offset the decline of the two previous quarters.

The services sector grew by 0.6%, the same growth rate of the previous quarter. All segments expanded, especially financial activities; “other services”, a sector that includes services rendered to households, such as food-away-from-home, lodging, and leisure activities; transportation; and information services. However, expansions in “other services” and information services follow declines in 2023Q1. In addition, trade presented reduced growth for the second consecutive quarter, despite the strong expansion of household consumption.

The results for 2023Q1 and 2023Q2 interrupted the GDP deceleration observed throughout the second

3/ The YoY GDP change in 2023Q2 was 3.4%. At the cut-off date of the June 2023 IR, the median market growth forecast from the Focus Report was 2.4%. On the eve of the GDP release, it rose to 2.7%. This came as a surprise to the BCB as well.

Figure 1.2.3 – Gross Domestic Product – more and less cyclical sectors

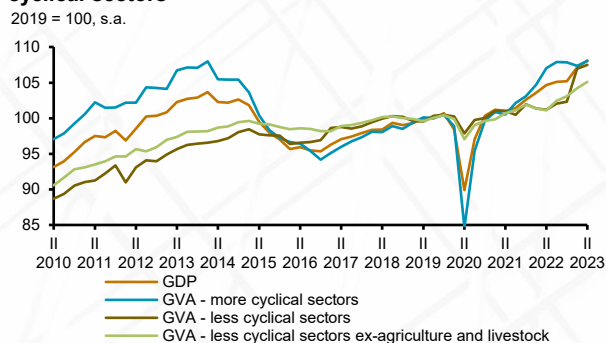


Figure 1.2.4 – Gross Domestic Product – Demand

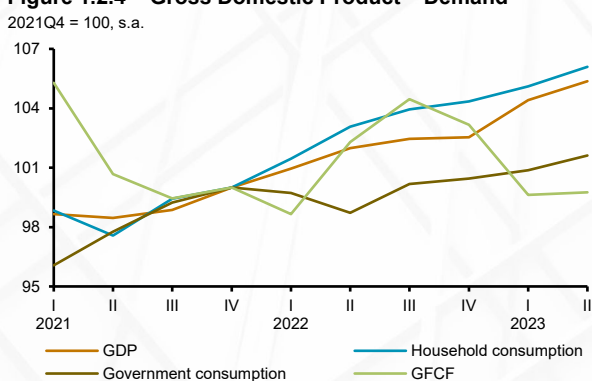


Figure 1.2.5 – Household savings rate

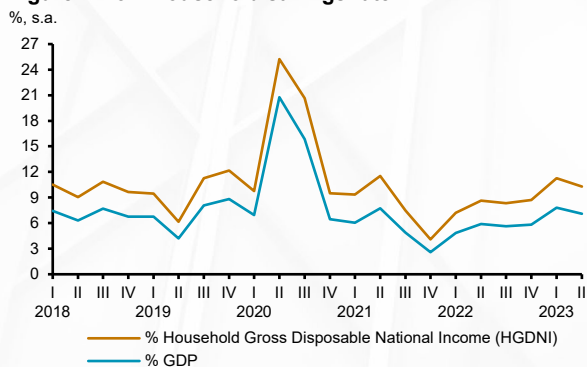
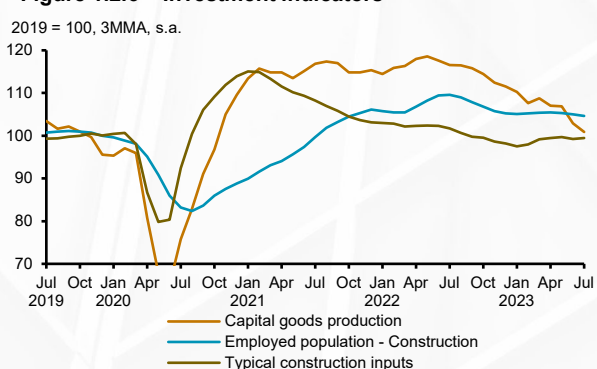


Figure 1.2.6 – Investment indicators



half of 2022. This upturn was primarily associated with the evolution of activities classified as less cyclical, i.e., less sensitive to the domestic economic cycle.⁴ The Gross Value Added (GVA) of less cyclical activities rose 5.0% when compared with 2022Q4. When removing agriculture and livestock, sector that registered an atypical growth rate, the expansion reached 1.9%. In both cases, the mentioned growth rates are much higher than that of more cyclical activities, which was only 0.2% in the half-year period.

Regarding final demand, household consumption grew 0.9% in 2023Q2, after an expansion of 0.7% in 2023Q1, which means a robust growth. With the release of 2023Q2 data, 2023Q1 change was significantly revised (it was 0.2% in the previous release), highlighting some instability in the seasonal adjustment for this demand component, which recommends caution in the interpretation of movements at the margin. The expansion of household consumption in 2023Q2 occurred despite the decline in disposable income (-0.9% in the restricted concept of household gross disposable income) and suggests that household savings rate fell in the quarter, after rising in 2023Q1.⁵ The combination of the previously mentioned expansion in “financial activities, insurance, and related services”, “real estate activities”, and “other services” with the modest trade and industry performance indicates that the expansion of household consumption was significantly influenced by the increase in consumption of services. The expansion of services rendered to households in the quarter, according to the Monthly Survey of Services (PMS), and the stability in retail sales in the restricted concept, according to the Monthly Survey of Trade (PMC), points in the same direction. As for the consumption of goods, a notable exception was the increase in vehicles sales in the quarter, benefited by the federal government’s purchase incentive program.

The Gross Fixed Capital Formation (GFCF) rose slightly, 0.1%, following two consecutive quarterly declines of significant magnitude. The positive result of the construction sector GVA suggests a positive contribution of this sector to the GFCF. According to data from PIM, the production of capital goods contributed in the opposite direction, registering the

4/ The following distinction was adopted. Less cyclical: agriculture and livestock; mining; financial activities, insurance and related services; real estate activities; and administration, defense, public health and education, and social security. More cyclical: other activities.

5/ Household savings were computed using the BCB’s HGDNI estimate – for more details, see box “[Monthly estimate of the Household Gross Disposable National Income](#)”, of the December 2021 IR – and the household consumption from the Quarterly National Accounts.

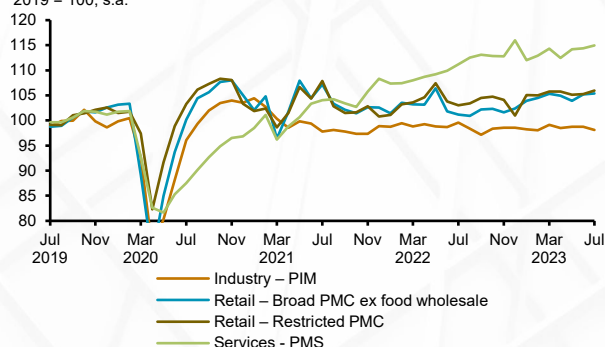
Figure 1.2.7 – IBC-Br

2019 = 100, s.a.



Figure 1.2.8 – Economic activity indicators

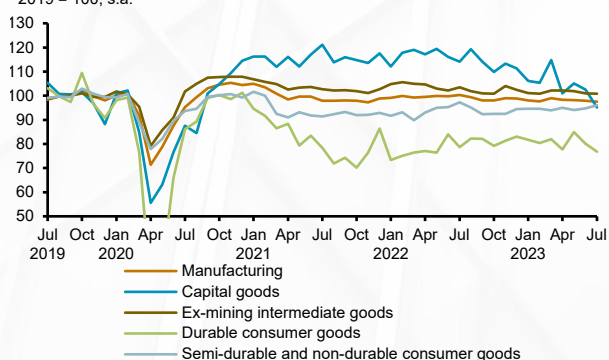
2019 = 100, s.a.



Sources: IBGE and BCB

Figure 1.2.9 – Industrial production

2019 = 100, s.a.



Sources: IBGE and BCB

Table 1.2.2 – Economic activity coincident indicators

Seasonally adjusted

Itemization	% change					
	2023					
	Apr	May	Jun	Jul	Aug	Q3 ¹
Circulation of heavy vehicles	-2.4	2.0	0.3	0.3	1.2	1.7
Corr. cardboard shipment	2.8	-0.5	-1.5	0.0	1.3	-0.5
Vehicles production	-2.1	11.4	-8.8	-0.1	2.5	-1.5
Trucks production	-27.9	-10.1	-15.2	10.0	10.7	-0.5
Vehicles sales	-3.7	-2.9	6.1	11.6	-6.1	11.4
Capacity utilization - mfg. (%)	80.7	80.1	80.4	81.0	80.8	0.6
Inventories - mfg. ²	105.0	106.6	110.2	114.5	113.6	6.8

Sources: ABCR, ABPO/Empapel, Anfavea, Fenabrave, and FGV

¹ Average Jul-Aug 2023/Average Apr-Jun 2023.

fourth consecutive quarterly decline. Government consumption rose 0.7%, against expansion of 0.4% in 2023Q1. Finally, both exports and imports rose strongly. Exports grew 2.9%, the fourth consecutive quarterly growth, while imports grew 4.5%, partially offsetting the previous two quarterly declines. The expansion of exports was influenced by the increase in shipments of primary goods, while the growth of imports was widespread across categories.

Monthly data for July and coincident indicators for August show mixed results for economic activity in 2023Q3.

Industrial output fell in July, reflecting declines in manufacturing and in mining. Also in July, the volume of services expanded, with a notable increase of services rendered to households, the fourth consecutive one, following the 2023Q1 decline. Retail sales increased in the restricted concept and remained stable in the broad concept⁶ in July. The BCB Economic Activity Index (IBC-Br), which incorporates these results and other relevant information, rose by 0.4% in July, leaving a null statistical carry-over for 2023Q3.

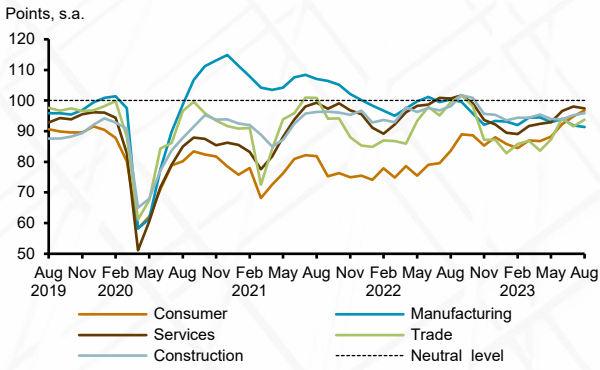
The expansion in the production of vehicles and the increased shipment of corrugated cardboard and the higher truck traffic in toll highways indicate manufacturing growth in August, after a decline in July. Nevertheless, sectoral surveys show high inventories and low business confidence, factors that do not suggest a sustainable manufacturing growth in the short-term. Retail sales indicators constructed using data from card transactions⁷ mostly suggest stability or decline in the retail sales and in services rendered to households, in August.

Consumers and entrepreneurs' confidence indexes rose in the Jun-Aug quarter (except in manufacturing), although remaining below the neutral level. In manufacturing and trade, in particular, indexes are also below the pre-pandemic level. Consumers' confidence, in turn, with the expansion observed in the last four months in both the current situation and expectations components, reached in August its highest level since 2014. The labor market resilience and the reduction of inflation might be associated with the improved consumers' perception about the current situation and to the more optimistic expectations for the next months.

6/ It refers to the broad concept, excluding the wholesale of food, beverages, and tobacco.

7/ Assessed indicators include IDAT (Banco Itaú), IGet (Santander/Getnet), ICVA (Cielo), and the Stone-Varejo (Stone).

Figure 1.2.10 – Confidence indexes



Source: FGV

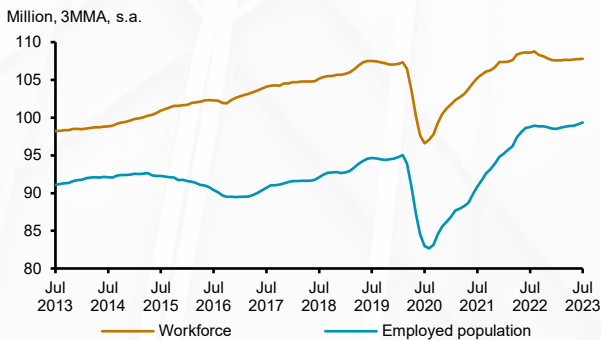
Figure 1.2.11 – Unemployment rate¹



¹ Historical unemployment rate estimates following Alves, S. A. L. and Fasolo, A. M., "Not Just Another Mixed Frequency Paper", Banco Central do Brasil (2015), Working Paper 400.

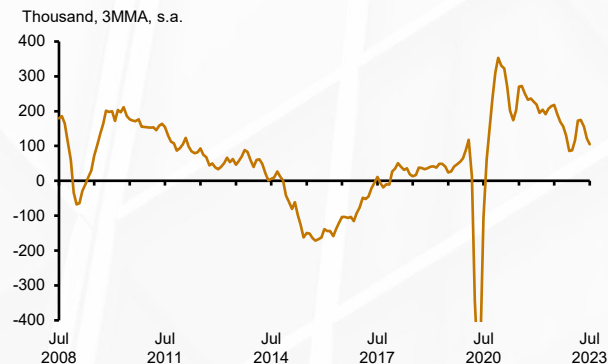
Sources: IBGE and BCB

Figure 1.2.12 – Workforce and employed population



Source: IBGE

Figure 1.2.13 – Net formal job creation



Source: Ministry of Labor and Employment

As detailed in a box of this IR, the GDP growth projection for 2023 rose from 2.0% in the previous IR to 2.9%, reflecting the positive surprise in 2023Q2 and a slight improvement in the prospects for the growth of industry, services, and domestic consumption. Agriculture and livestock should contribute negatively to quarterly variations in the remainder of 2023, as the harvest of the crops with the highest annual growth mostly occurred in the first half of the year. For 2024, the first estimate is of an expansion of 1.8%, with a larger contribution of the more cyclical economic sectors, in an environment of gradual monetary policy easing.

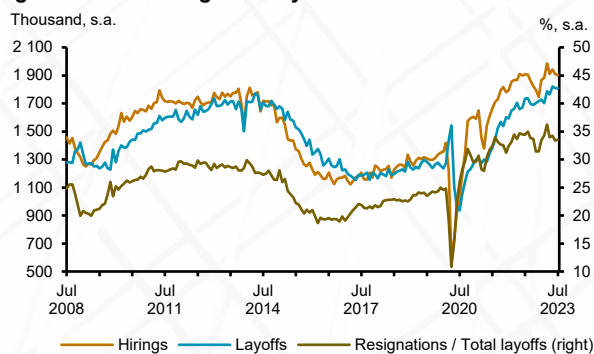
Labor market

The better-than-expected economic activity performance in 2023Q2 was accompanied by a labor market that continues to expand and by relatively stable real wages.

Seasonally adjusted data from PNAD Continuous show that the unemployment rate, which was 11.5% in February 2020 and reached the peak of 15% in September 2020, continued to fall in the May-Jul quarter of 2023, reaching 7.8%, the lowest level since 2015. Unlike in the previous three quarters, when the main contribution to the fall in the unemployment rate was the workforce decline, in the May-Jul quarter, the unemployment rate decrease reflected the employed population growth. The participation rate – the ratio of the workforce to the working-age population – remained stable in the quarter, still considerably below the pre-pandemic level.

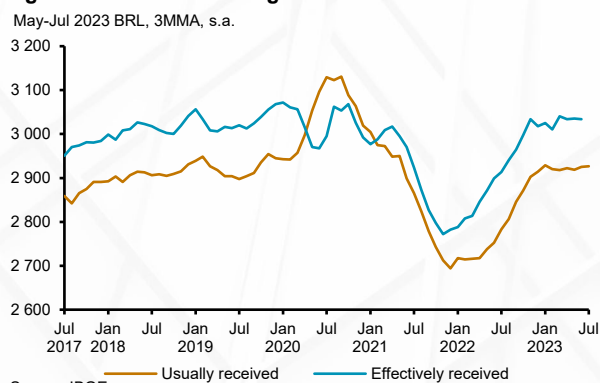
According to the New General Registry of Employed and Unemployed Persons (New Caged), formal job creation remained positive and robust in the May-Jul quarter, although lower than in the early months of 2023. In a longer-term perspective, the slowdown movement observed, with some oscillations, since 2021, continues. Among activities, services performed better – in line with PNAD Continuous – contrasting with the employment balances in manufacturing, which had been virtually zero in recent months. Hirings and layoffs remain at high levels, although there was a widespread decline in hirings across sectors, after a strong growth in the previous quarter. Another sign of labor market slowdown in recent months, according to New Caged data, was the reduction in the share of voluntary

Figure 1.2.14 – Hirings and layoffs



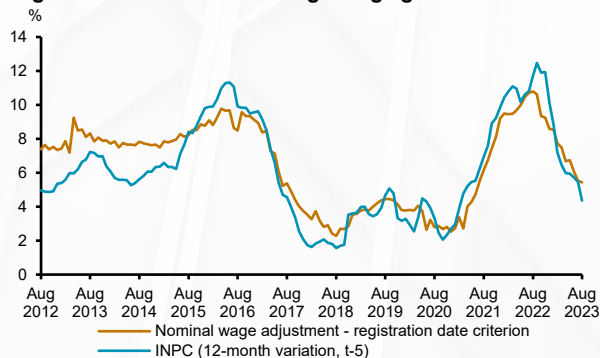
Source: Ministry of Labor and Employment

Figure 1.2.15 – Real average labor income



Source: IBGE

Figure 1.2.16 – Collective bargaining agreements



Sources: IBGE, MLE and BCB

resignations in relation to total job separations, although this variable is still at a high level.

Real average income, both effectively and usually received, as measured by the PNAD Continuous, showed minor changes in the May-Jul quarter when compared with the previous one. The recent stabilization of real average income at levels close to those of the pre-pandemic period interrupts the upward trend which began in early 2022, when the real average income was depressed due to the increased inflation in the period.

Data from collective bargaining agreements (CBA)⁸, which cover the formal private market, are used to complement the wage level evaluation. Using the registration criterion⁹, nominal wage adjustments have been declining, in line with the disinflation movement. Despite the drop in nominal terms, the adjustments remained above the 12-month inflation in the last seven months, as opposed to the sequence of average adjustments below inflation throughout 2021 and 2022. From January to August, nearly 55% of adjustments outweighed inflation, compared with 33% in the same period in 2022.

The restricted HGDNI¹⁰, an indicator that incorporates other sources of household income besides labor, increased 2.1% in the May-Jul quarter compared with the Feb-Apr one, in the seasonally adjusted series. In addition to the expansion in the overall labor income, mainly reflecting the growth in the employed population, a significant increase in social security income was observed, influenced by changes in the payment schedule for wage bonuses and the anticipation of the Christmas bonuses for retirees and pensioners of the National Social Security Institute (INSS)¹¹, as well as the higher volume of social assistance benefits, especially the *Bolsa Família*. The anticipation of the Christmas bonuses for pensioners of the INSS, mentioned above, and

- 8/ This refers to the arithmetic average of nominal adjustments of the collective bargaining agreements in São Paulo and Rio de Janeiro by criterion of registration date in the Collective Labor Negotiations System (Mediador) of the Ministry of Labor and Employment (MLE). The agreements considered are those for which it was possible to adequately capture the percentage of adjustment agreed upon.
- 9/ Usually, there is a lag between the negotiation and the registration in the system. Exercises suggest that, based on the date of registration, the agreed adjustments have a higher correlation with the 12-month National Consumer Price Index (INPC) measured five months earlier, the deflator used in this analysis. If the effective start date is considered, the highest correlation is with the INPC of the previous month. However, the disadvantage of the effective start date criterion is its low representativeness in recent months.
- 10/ Further details on the BCB's HGDNI in the box [Monthly estimate of the Household Gross Disposable National Income](#), of the December 2021 IR.
- 11/ In 2023, the anticipation of the Christmas bonuses for retirees and pensioners of the INSS was paid in May, June, and July; while, in 2022, in April, May, and June. The payment schedule of the wage bonuses was also changed: in 2022, payments were concentrated in February and March; in 2023, from February to July.

Figure 1.2.17 – Restricted HGDNI and overall labor income

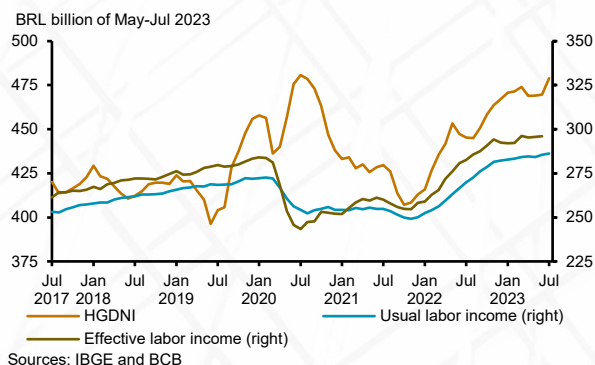


Figure 1.2.18 – Total new credit operations

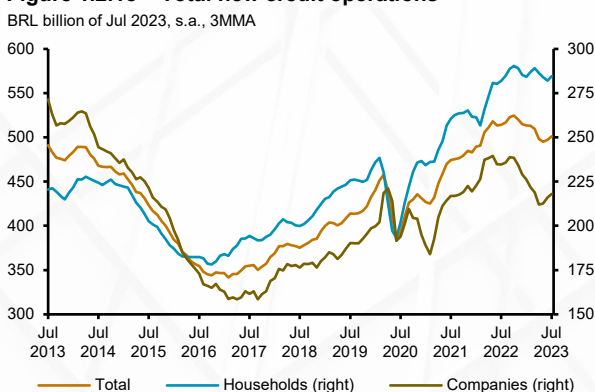


Figure 1.2.19 – Non-earmarked interest rates

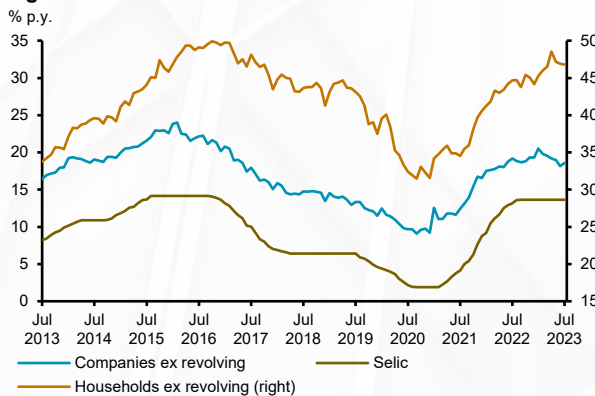
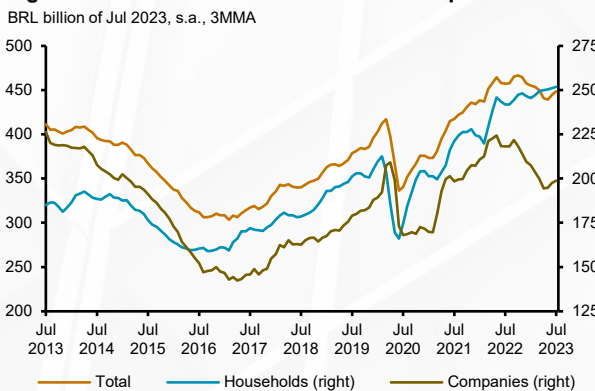


Figure 1.2.20 – New non-earmarked credit operations



the dissipation of the effects of the higher volume of social security benefits should contribute to a slower growth pace of the HGDNI until the end of the year.

Credit

After slowing down since November 2022, the credit market partially recovered in the May-Jul quarter, in a context of monetary policy inflection.

With the fall in medium and long-term interest rates, which occurred before the start of the monetary policy easing cycle, interest rates declined in several credit modalities with non-earmarked resources. The average rate on these modalities fell by 0.7 p.p. from April to July, with a more pronounced drop in the household segment. Across modalities, the fall in the rates for vehicles financing stood out, due to the federal government's incentive program and the high sales efforts in the sector. Interest rates for corporate credit, after rising in January, pressured by seasonality and the increased risk aversion associated with requests for judicial reorganization from large companies, have been gradually declining.

Corporate credit uptake resumed growth, following a significant downturn due to the restrictive interest rate cycle and the events that increased risk aversion in early 2023, but it remains 10.3% below the 2022Q3 level. Non-earmarked credit granting, which had been falling since October 2022, grew by 2.3% in the May-Jul quarter – considering seasonally adjusted data deflated by the IPCA – with the modalities of *compro*, discount of credit card bills, and credit card purchases standing out. The discount of trade bills and receivables – credit modality that registered increased delays in the payment of “forfeit” operations in the first half of the year – continued to fall.

The domestic capital market also improved, partly reflecting the reduction in fiscal uncertainties and the prospect of monetary easing. The volume of corporate financing through the issuance of fixed income securities partially recovered from the fall recorded in the early months of the year: from June to August, the volume of funds raised through the issuance of debentures and promissory/commercial notes grew 83% over the Mar-May quarter (seasonally adjusted data deflated by the IPCA), although remaining 29% below the monthly funding recorded

Figure 1.2.21 – Non-banking corporate financing

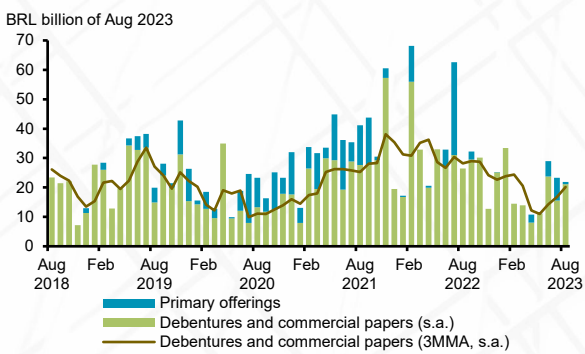


Figure 1.2.22 – New non-earmarked household credit operations

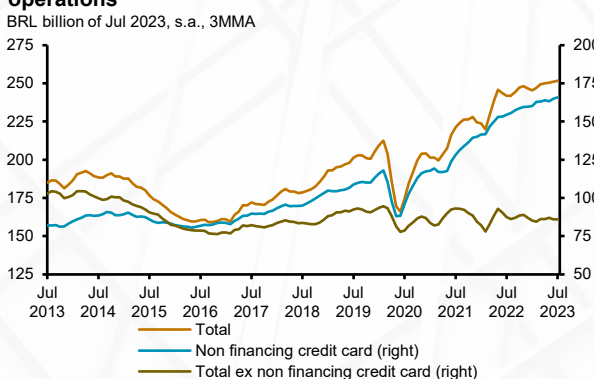


Figure 1.2.23 – New earmarked credit operations

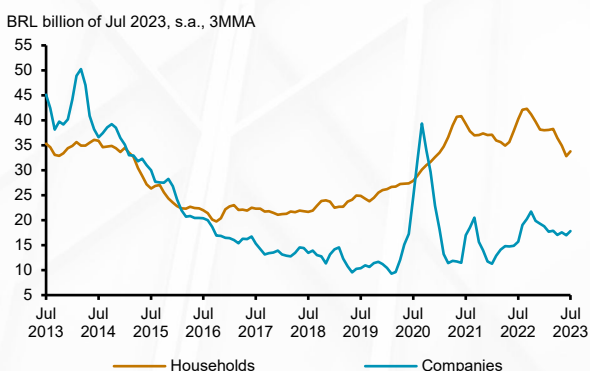
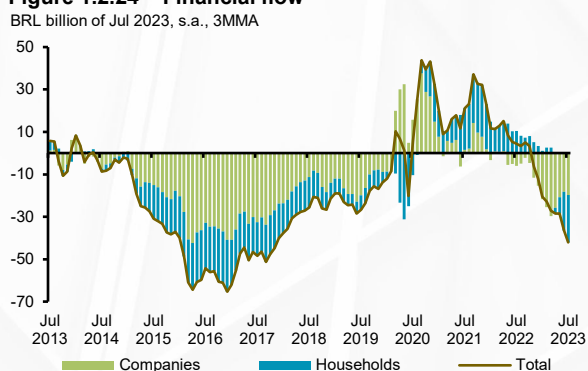


Figure 1.2.24 – Financial flow



Financial flow: Granting - Payments

in 2022. The volume of primary issuance of shares also increased, reaching BRL 13.8 billion in this period, compared with BRL 2.8 billion in the Mar-May quarter.

SFN's non-earmarked household credit granting continued to grow, although at more moderate rates, driven by interest-free credit card spending. There is relative stability when these expenses are excluded, with expansion in overdraft facility and credit card financing and a drop in payroll-deducted credit operations. The volume of vehicles financing also grew moderately in June and July, possibly stimulated by the federal government's sales incentive program.

Different dynamics were observed in the earmarked segment. Corporate credit grew in July, driven by the high volume of rural credit granted in that month (the start of the 2023/2024 Plano Safra), which interrupted the downward trend recorded since November 2022. The volume of Pronampe and PEAC operations remained high, with a monthly average of nearly BRL 6 billion. Regarding household credit, however, granting declined in the May-July quarter, compared with February-April. Real estate financing fell by 17.3% in this period, reflecting, among other factors, the impact of the high cost of credit on the demand.

The financial flow from households and companies to the SFN continued to grow, which means a negative stimulus for economic activity. In recent months, this movement has been observed on the side of household operations, reflecting the slowdown in the growth of non-earmarked credit granting; the fall in new earmarked credit operations, especially real estate financing; and the increase of payments in both segments.

The pace of deterioration in financial institutions' credit portfolios slowed down, with stable delinquency in the household segment¹² and deceleration in the corporate segment. Among the factors underlying the interruption in the increase of household credit delinquency are the adoption of stricter lending criteria¹³, which improved the quality of new lending, and the increase in the volume of

12/ The increased delinquency on non-earmarked household credit reflected the deterioration in high-risk modalities between 2021Q3 and 2023Q2, rising from 9.0% to 14.7%, a level at which it stabilized. The delinquency rate for low-risk modalities, including credit card purchases, has not changed significantly since 2015, oscillating around 2.1%

13/ The Financial Stability Committee (Comef) emphasized in early September, in the Minutes of its 54th meeting, that the improved quality of new lending and the reduction in the estimated probability of portfolios' delinquency indicate a reduction in the materialization of risk in the next months in the household segment.

Figure 1.2.25 – Non-earmarked 90 days past due loans

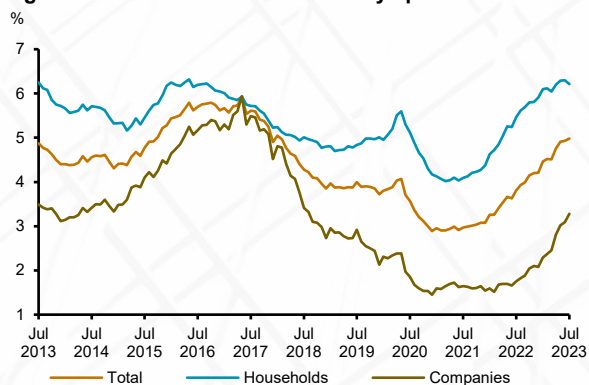


Figure 1.2.26 – Outstanding credit balance

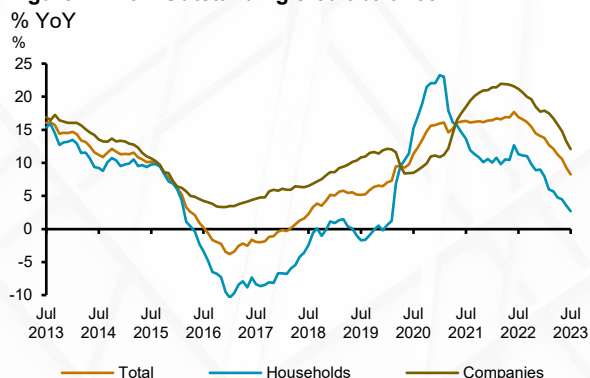


Figure 1.2.27 – Household debt to income and debt service ratio

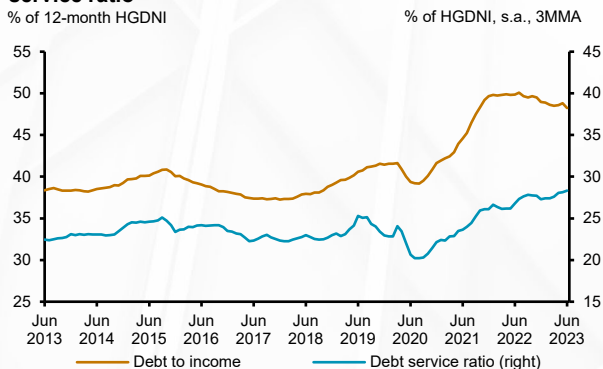


Table 1.2.3 – Public Sector Borrowing Requirements - Primary balance

Accumulated in the year until July

Itemization	BRL billion		
	2021	2022	2023
Central Government	72	-74	75
o/w Federal Government	-123	-261	-133
o/w INSS	195	187	208
Regional governments	-54	-72	-21
State-owned companies	-2	-4	2
Total	15	-150	56

Positive values represent deficit and negative values represent surplus

operations reclassified as losses, as determined by the rules in force. The increased delinquency on non-earmarked corporate credit in the May-July quarter was influenced by payment delays on discount of trade bills and receivables (companies that filed for judicial reorganization in early 2023) and working capital (mainly medium-sized and large companies) modalities.

The pace of growth in the balance of SFN credit operations has slowed down more sharply in the last three months, reflecting both the slowdown in granting and the increase in operations classified as losses. The YoY growth rate of the total balance reached 8.2% in July, falling 3.0 p.p. in the quarter, after a fall of 2.5 p.p. in the previous one. The slowdown in the credit balance was greater in household operations (-3.7 p.p.), with similar influences from both the non-earmarked and earmarked segments; in corporate operations, the growth rate change was smaller (-2.1 p.p.) and reflected a slowdown only in non-earmarked credit. In this context and considering the economic prospect for the remainder of the year, the projected nominal growth in the credit balance for 2023, detailed in a box in this IR, fell from 7.7% to 7.3%.

The slowdown in the growth rate of household credit balances helped to maintain the downward trend in household indebtedness. In turn, the household debt service ratio increased by 0.7 p.p. in 2023Q2, to 28.3% – the largest of the series – reflecting the change in household disposable income in that quarter.

Fiscal

The consolidated public sector registered negative balances in five of the first seven months of 2023, accumulating a deficit of BRL 56 billion in the year, compared with a surplus of BRL 150 billion in the same period of 2022. Central Government was the main responsible for the balance deterioration, recording a deficit of BRL 75 billion in the year, with a BRL 122 billion deficit in the May-Jul quarter alone. Subnational governments, despite the negative balance in the quarter (BRL 12 billion), maintained a surplus in the year.

The dynamics of the primary balance of the Central Government resulted from both a fall in revenues (-5.3% in real terms) and a sharp expansion in

Table 1.2.4 – Central Government primary balance
Accumulated in the year until July

	BRL billion - current values		
	2022	2023	Real var. (%)
1. TOTAL REVENUE	1,367	1,351	-5.3
1.1 - Revenues collected by the Federal Revenue Office	828	851	-1.6
1.2 - Fiscal incentives	0	0	9.8
1.3 - Net Social Security revenues	290	323	6.4
1.4 - Revenues not collected by the Federal Revenue Office	249	178	-31.4
2. TRANSFERS BY REVENUE SHARING	264	261	-5.5
3. NET REVENUE (1-2)	1,103	1,090	-5.3
4. TOTAL EXPENDITURE	1,029	1,169	8.7
4.1 Social Security benefits	477	531	6.6
4.2 Payroll	187	198	1.4
4.3 Other compulsory expenses	165	180	4.0
4.4 Executive Branch expenses subject to financial programming	200	260	24.7
o/w Bolsa Família (Family Allowance) and Auxílio Brasil (Brazil Aid)	51	96	79.6
5. CENTRAL GOVERNMENT PRIMARY BALANCE - ABOVE THE LINE (3 - 4)	73	-78	-

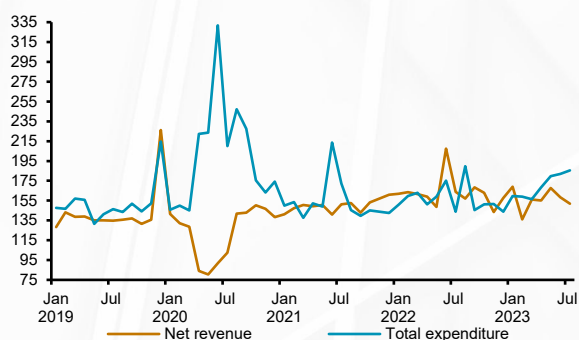
Source: National Treasury

expenses (8.7%). Among the main factors explaining the fall in federal revenues are the reduction in commodity prices in the international market and the BRL appreciation – which mainly affect revenues from the exploitation of natural resources – and the reduction of IPI rates. On the side of expenses, the items with the largest expansions in the year were expenses on social programs, especially the *Bolsa Família*, and social security expenses, affected by the increase in the minimum wage. Expenses on federal payroll have not grown significantly yet, since the 9% salary increase granted to federal civil servants, effective as of May 1st, only started to be paid in early June.

In turn, the reduction in the regional governments' surplus in the year until July, compared with the same period of 2022, reflected the fall in the collection of the State Tax on the Circulation of Goods and Services (ICMS) on fuel, electricity, and telecommunications, mitigated by the increased revenues from the Motor Vehicles Property Tax (IPVA). It is worth noting that, as of June, the collection of a fixed (*ad rem*) ICMS rate on fuels began, as established by Complementary Law (LC) 192/2022, which is expected to have a positive impact on revenues in the second half of the year.

Since the previous IR, the most important events for the medium and long-term fiscal outlook have been the sanction of LC 200/2023, which establishes the new fiscal framework, and the approval, by the House of Representatives, of the Constitutional Amendment Bill (PEC) 45/2019, which addresses the tax reform on consumption. The text of the tax reform approved in the House of Representatives aims to replace five current taxes¹⁴ with two value-added taxes: one of federal competence, the Contribution on Goods and Services (CBS), and another of state and municipal competence, the Tax on Goods and Services (IBS). There will also be a Selective Tax on products harmful to health or the environment. The reference rates will be defined in the future, with the aim of maintaining the tax burden. According to the proposal, the implementation of these taxes will begin in 2026, with a test rate of 0.9% for the CBS and 0.1% for the IBS. These rates will be gradually increased, concurrently with the reduction of the rates of the currently applicable taxes. In 2027, PIS and Cofins will be completely abolished and replaced by the new CBS reference rate. The transition of state and municipal

Figure 1.2.28 – Central Gov. revenue and expenditure
BRL billion of Jul/23, s.a.



Sources: National Treasury, BCB (seasonal adjustment)

14/ Tax on industrialized products (IPI), Social Integration Program (PIS), Contribution for Social Security Financing (Cofins), State Tax on the Circulation of Goods and Services (ICMS), and Tax on Services (ISS).

Figure 1.2.29 – Primary balance - regional governments

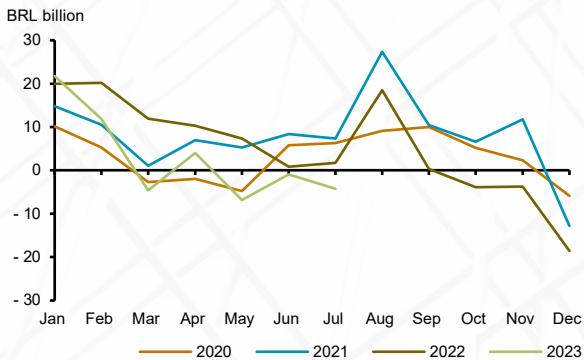


Table 1.2.5 – PCQ: Fiscal forecasts for Copom 257 (Sep 23)

	Central Gov. primary balance (BRL billion)	Regional Gov. primary balance (BRL billion)	PSND (% GDP)	GGGD (%GDP)
2023	-106	10	61	76
2024	-84	10	63	79

Figure 1.2.30 – PCQ: Assessment of fiscal situation

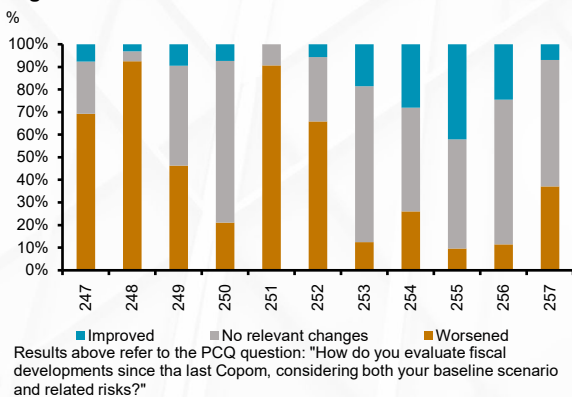
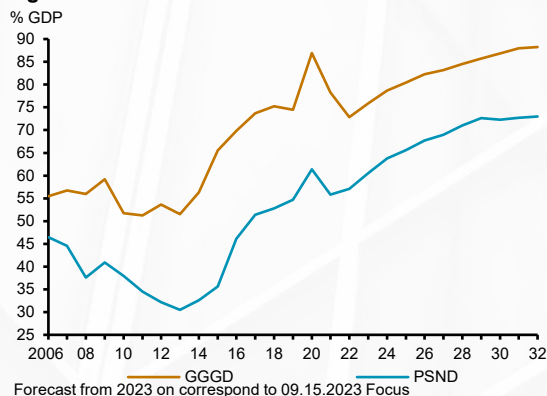


Figure 1.2.31 – Debt forecasts



taxes to the new IBS will be more gradual and will only be completed in 2033. The text is still awaiting the Senate’s assessment and, in case of any change, will be sent back to the House of Representatives.

Regarding the new fiscal framework, LC 200 was sanctioned by the President of the Republic after reassessment by the House of Representatives, which rejected all the changes made by the Senate, except for the exclusion of the Federal District Constitutional Fund (FCDF) and the Fund for the Maintenance and Development of Basic Education (Fundeb) from the expenses subject to the cap established by law. The implementation of the new fiscal regime made it possible to send the 2024 Annual Budget Bill (PLOA) to the Congress with parameters aligned with the new framework, including a zero primary balance as a percentage of GDP. Moreover, regarding the efforts to restore primary revenues, there were developments both in the judiciary, with the judgment of issues related to PIS/Cofins by the Federal Supreme Court and of issues related to the CSLL/IRPJ by the Superior Court of Justice, and in the legislative, with the approval of the legal framework for transfer pricing for multinational companies and the return of the casting vote in Carf¹⁵.

However, there is still some uncertainty among economic agents regarding the overcoming of the fiscal challenges and, in particular, the achievement of a null primary balance in 2024, which depends on the expansion of revenues. The economic analysts’ projections for the primary balance, which still diverge from the primary balance targets indicatively defined in the 2024 Budget Guidelines Bill.¹⁶ The median Pre-Copom Questionnaire (PCQ) response for the Central Government primary balance for 2024 is a deficit of BRL 84 billion (0.7% of GDP), compared with the proposed target of 0%. So far, according to the PCQ median, the value of economic measures for revenue recovery already incorporated into the fiscal projections is BRL 40 billion in 2023 and BRL 80 billion in 2024, amounts close to 0.4% and 0.7% of GDP, respectively. When assessing the fiscal outlook and the risks involved, the PCQ median indicates that market analysts have interrupted the growing improvement prospect observed since the 253rd Copom meeting in March. Finally, long-term public debt projections continue to show upward

15/ Administrative Council for Tax Appeals.

16/ In addition, at the 92nd Cycle of Meetings of the BCB’s Deputy Governor for Economic Policy with economists who participate in the Market Expectations System, held on August 17-18, 2023, several analysts were once again concerned about the fiscal policy, mentioning, among other issues, the frustration with the federal government’s current revenue collection and the feasibility of the proposed zero primary balance target for 2024.

trajectories, both in the Focus Report and in the PCQ, indicating that the fiscal outlook still inspires caution.

External accounts

The balance of payments' current account deficit reached USD 18 billion in the year up to July, slightly declining in comparison with the same period in 2022 (USD 21 billion). The high trade balance contrasted with the increased primary income deficit, which reflected in the expansion of both net interest and income expenses. As for liabilities in the financial account, net inflows of direct investment liabilities decelerated significantly, while portfolio investment flows are positive.

The substantial trade surplus accumulated in the first seven months of 2023 (USD 45 billion) was the highest for this period since the start of the time series in 1995. The value of exports remained high, with the growth of quantum – to a record level of the time series, considering the index monthly average in 2023 – sustained by primary goods, mainly due to the record harvest of grains that allowed a strong expansion of shipments of soybeans and corn. Prices, however, registered a widespread decline, following the global downward trend in commodity prices when compared with the values of mid-2022.

Regarding imports, the volume dropped significantly in 2023Q1, indicating the adjustment in inputs inventories. As of 2023Q2, the volume of imports recovered and, subsequently, registered some stability at a level below that of late 2022, reflecting the weak performance of manufacturing, an important consumer of intermediate goods. Similarly to exports, the prices of imports have been falling since the second half of 2022, reflecting the normalization of global supply chains and the decline of commodity prices on international markets.

In the services account, the deficit of USD 21 billion from January to July is slightly lower than in the same period in 2022 (USD 23 billion). Over the last months, expenses on transport services have remained relatively stable, with the decline of international freight prices – currently at a slower pace in view of the normalization of supply chains – offsetting the expansion of the imported quantum. Travel expenses have risen moderately over the recent months, albeit remaining below the pre-pandemic level.

Table 1.2.6 – External accounts

Itemization	Accumulated in the year until July			
	USD billion			
	2020	2021	2022	2023
Current account	-15	-18	-21	-18
Balance on goods	20	26	30	45
Exports	121	164	196	198
Imports	101	137	166	153
Services	-15	-14	-23	-21
of which: Travel	-2	-1	-4	-5
of which: Transport	-4	-6	-11	-8
Primary income	-22	-33	-30	-43
of which: Interests	-15	-15	-12	-16
of which: Dividends	-7	-18	-18	-26
Investment - liabilities	-5	67	60	53
DI liabilities	26	35	49	34
Portfolio investments	-27	23	-8	8
Other investments ¹	-5	10	19	12

1/ Includes loans, commercial credits, deposits, and other investments

Figure 1.2.32 – Current account

USD billion, 3mma s.a.

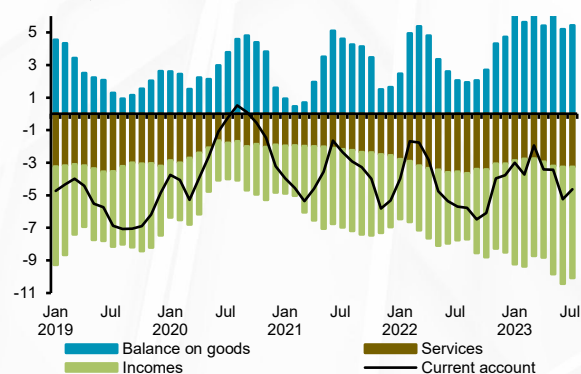
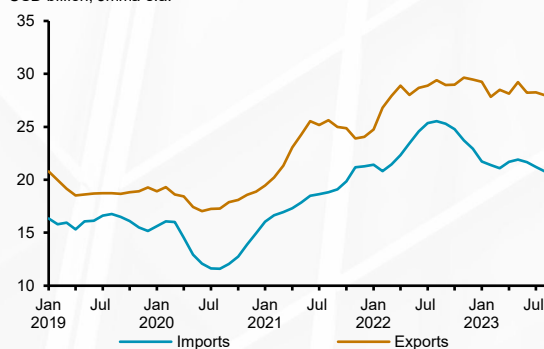


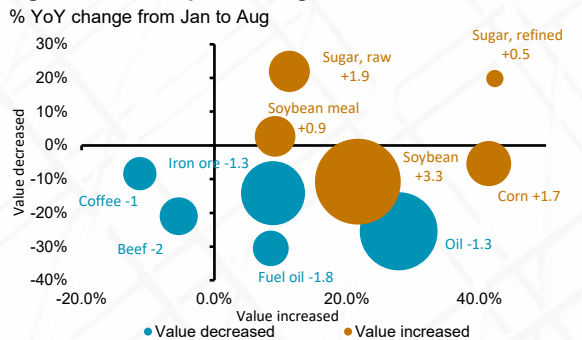
Figure 1.2.33 – Trade balance

USD billion, 3mma s.a.



Source: SECEX/ME, BCB (seasonal adjustment)

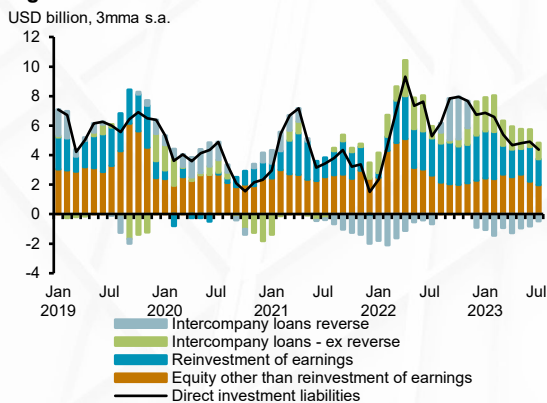
Figure 1.2.34 – Exports with greater variations in value



Source: SECEX/ME
Label value is the difference in exported value (in USD billion), in relation to 2022. Circumference size is the importance in total export value in the previous 12 months.

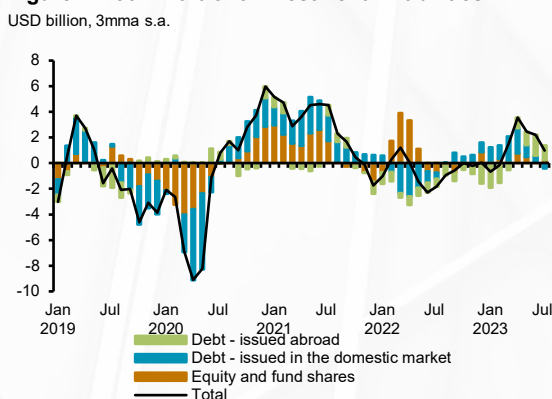
The primary income account deficit rose strongly, from USD 30 billion in 2022 to USD 43 billion in 2023, considering data from January to July. The expansion of interest expenses, which are at the peak of the time series considering the accumulated value in the first seven months of the year, reflects more restrictive financial conditions of leading economies, amid central banks efforts to promote the convergence of inflation rates to their targets. Income expenses, which were already at a relatively high level, also increased, possibly reflecting the favorable performance of sectors such as agriculture and livestock and mining in early 2023.

Figure 1.2.35 – Direct investment liabilities



In the financial account, inflows of direct investment liabilities have been falling in 2023 after the robust result of 2022. The key component underlying this decline is intercompany transactions, mainly due to net amortization by Brazilian companies of their operations with subsidiaries abroad (reverse investment), and to the reduction of net inflows of the other modalities (loans between fellow companies or between the headquarter abroad and a subsidiary in the country) as of the second half of the year. Reinvestment of earnings has also declined, especially reflecting the increase of remittances of earnings by non-resident companies.

Figure 1.2.36 – Portfolio investment – liabilities



Net flows of portfolio investments, in turn, were positive in the accumulated up to July, registering inflows under the two main securities categories. The positive movement with securities traded in the country, a market in which government-issued securities predominate, suggests an improved fiscal risk perception by non-resident investors sufficient to offset the reduction in the differential of the domestic interest rate in relation to those observed in leading global economies. Net issuances of securities abroad also started to show a positive result as of 2023Q2, especially after the National Treasury's successful fundraising in April, for which the good demand served as a positive sign for Brazilian companies to resume raising funds abroad.

Considering data released since the June 2023 IR and the evolution of the prospects for economic activity and prices, the forecasts for the external accounts in 2023 have been revised and are presented in detail in a box of this IR. The projection for the current account deficit of USD 36 billion, against USD 45 billion in the June 2023 IR, and for direct investment liabilities of USD 65 billion (against USD 75 billion), characterize a comfortable scenario for the Brazilian

external accounts, even with lower inflows of direct investment liabilities. Furthermore, the first projections for 2024 have been published, including a current account deficit of USD 37 billion and inflows of direct investment liabilities of USD 75 billion.

Prices

As expected, the 12-month IPCA has accelerated since the previous IR, reflecting smaller effects from tax cuts and the negative fuel price adjustments in the second half of 2022. Less affected by these events, the 12-month change in the average of core inflation measures continued to fall. In the quarterly metric, consumer inflation fell, partly due to the seasonality of the period. The average of core inflation measures also declined in the seasonally adjusted series, ending the Jun-Aug quarter at a level closer to the inflation target. Disinflation, observed in all three major segments of market prices, was stronger in food. Producer prices, both agricultural and industrial, continue to favor this slowdown, although the recent rise in fuel prices and the BRL depreciation act in the opposite direction. The Focus Report registered a further reduction in inflation expectations for 2023, with projections lower for market prices and higher for administered prices. Inflation expectations for longer horizons also fell, after the National Monetary Council (CMN) maintained the inflation target at 3.0%.

The Commodities Index – Brazil (IC-Br), when measured in USD, increased 6.2% in the quarter, continuing the trend observed in the previous quarter (3.3%).¹⁷ The rise in commodity prices was accompanied by the BRL depreciation (1.3%), such that the index rose by 7.6% when measured in domestic currency. In a longer-term prospect, there is a reversal of the downward trend which was observed from the second half of 2022 to early 2023. This movement reflects the behavior of prices of agricultural and, above all, energy commodities.

At the segment level, and considering prices in USD, energy commodities grew 20.5%, due to the rise in the prices of natural gas (19%) and Brent-type oil (23.5%). The behavior of the Brent-type oil price mainly reflected the supply cut announcements by Saudi Arabia and Russia.

Figure 1.2.37 – IC-Br and foreign exchange rate

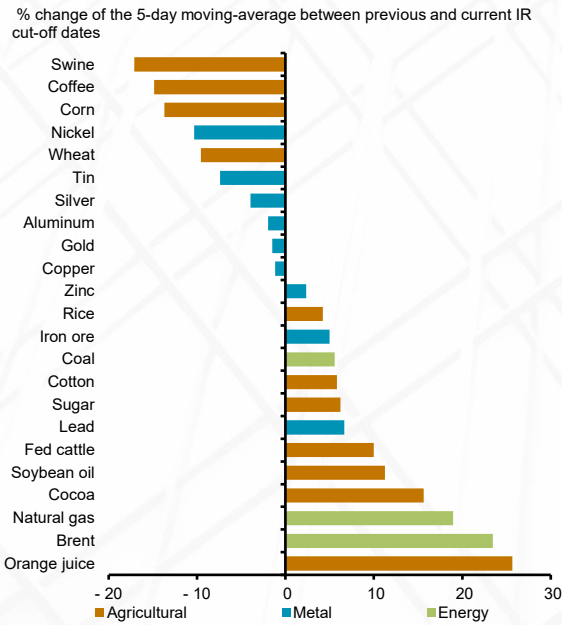
5-day moving average; Dec/31 2020 = 100



Sources: Bloomberg and BCB

^{17/} The IC-Br and exchange rate variations discussed in this section always refer to the five-day moving average between the respective IR closing dates.

Figure 1.2.38 – Change in commodity prices (USD)



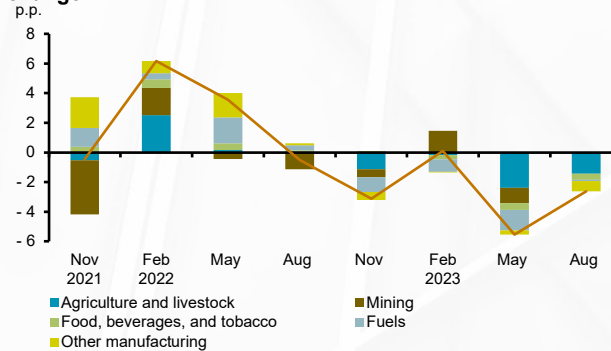
Source: Bloomberg

Agricultural commodities rose by 4.7% QoQ, with a significant contribution from higher prices of orange juice (25.7%), soybean oil (11.3%), and fed cattle (10%). The price of orange juice has reacted to concerns about the product’s supply. In the case of fed cattle, the upward trend in the US differs substantially from that observed in the Brazilian market, which has seen sharp price drops since 2022. Still concerning agricultural commodities, international prices of pork, coffee, corn, and wheat declined.

Metal commodities fell (-2.5%), reflecting negative changes in most of the segment’s products. The price of iron ore rose in the quarter and has been resilient to the frustration with the Chinese economic growth and the uncertainties affecting the residential real estate sector in that country.

Looking ahead, the Russia-Ukraine war and the evolution of the *El Niño* weather phenomenon persist as relevant risks for the supply and price of agricultural commodities. In the case of the *El Niño*, drier weather in Southeast Asia has already been reported, with repercussions in the prices of rice and sugar. Among energy commodities, the extensions of the oil production cuts adopted by Saudi Arabia and Russia bring considerable uncertainty about the evolution of this commodity prices. Finally, from the demand side, the evolution of the Chinese economy continues to be a major risk factor, with signs of a stronger deceleration than anticipated.

Figure 1.2.39 – Contributions to quarterly IPA-DI change



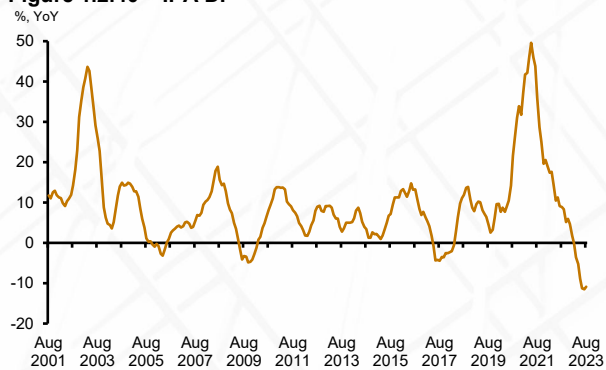
Source: FGV

Domestically, the Producer Price Index (IPA-DI) fell 2.63% in the Jun-Aug quarter, after falling 5.55% in the previous quarter. In the 12-month change series, the drop intensified (-10.83% in August), reflecting negative changes in both agricultural IPA and industrial IPA.

In the QoQ comparison, the price of agriculture and livestock products dropped 5.19%, with a significant contribution from declines in corn, fresh milk, and cattle. The domestic price of corn continues to be pressured by the record local harvest and the fall in its international prices, which also responds to the progress of the harvest in the US. The price of fresh milk fell significantly, despite the off-season, against a backdrop of increased imports and lower animal feed costs. Finally, the price of cattle reflects the high domestic supply¹⁸ and falling export prices.

18/ According to the sector’s reports, the high supply of cattle since mid-2022 is associated with a long-term periodic movement, in which periods of higher investment in production – with the retention of breeding stock – alternate with periods of higher supply, in which increases the proportion of cows among the animals offered to slaughter.

Figure 1.2.40 – IPA-DI



Source: FGV

Still in relation to producer prices, the aggregate of industrial products fell by 1.65% in the Jun-Aug quarter. There was a reversal to a slight increase in the mining industry (0.10%), which was more than offset by a 1.84% drop in manufacturing. In the case of mining, the fall in iron ore prices slowed down (-0.09%, compared with -16.09% in the previous quarter). In manufacturing, the change was due to falls in meat and meat products (-6.13%) and cellulose (-29.44%). In general, the behavior of producer prices in the quarter remains consistent with the process of disinflation of goods, although declines continue to be concentrated in products of the initial stages of the industrial chain. Final consumer goods, excluding fuels and food, have been slowing down sharply since 2022, albeit continue to show positive monthly changes in the IPA.

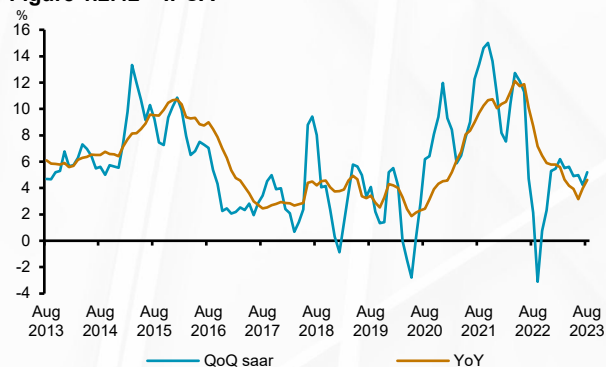
Figure 1.2.41 – Contributions to IPCA quarterly changes



Sources: IBGE and BCB

In consumer prices, the IPCA rose by 0.27% in the Jun-Aug quarter, a much lower change than in the Mar-May quarter (1.56%). The deceleration occurred in the prices of food-at-home, industrial goods, and administered goods, while the services segment registered a slightly higher change compared with the previous quarter. These movements are partly due to seasonal factors, both in the aggregate IPCA and in major segments.

Figure 1.2.42 – IPCA



Sources: IBGE and BCB

With the result for the quarter, the 12-month IPCA change rose from 3.94% in May to 4.61% in August, following consecutive declines. This 12-month inflation increase in the period was already expected, given that the YoY change in May still reflected significant monthly decreases in July and August 2022, the months most directly affected by tax cuts and the negative fuel price adjustments in the second half of 2022. Less affected by these events, the 12-month change of the average of core inflation measures fell from 6.72% in May to 5.22% in August.

In the seasonally adjusted and annualized quarterly series, on a shorter-term perspective, the average core inflation fell from 5.45% in the Mar-May quarter to 3.30% in Jun-Aug, a level close to the inflation target. Both the upward movement of the quarterly average in the first half of the year and the more favorable result in August may reflect the usual oscillations around the disinflation path observed since mid-2022.

Across segments, food-at-home prices fell by 3.02% in the Jun-Aug quarter, after a rise of 0.59% in the Mar-May quarter. The favorable behavior partly

Figure 1.2.43 – Average of core inflation measures

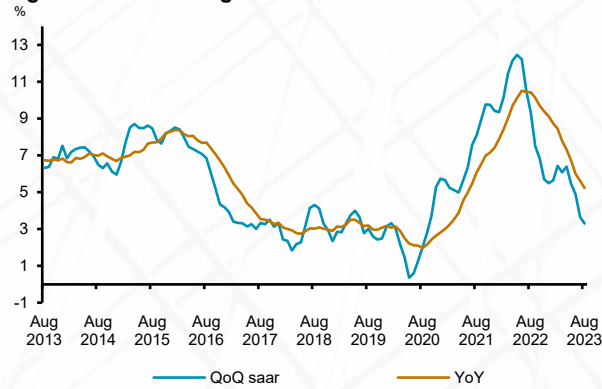
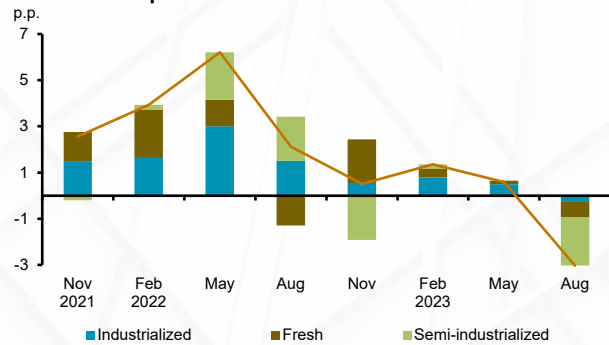
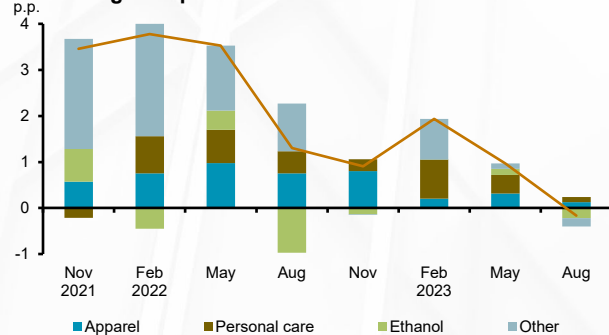


Figure 1.2.44 – Contributions to quarterly changes in food-at-home prices – IPCA



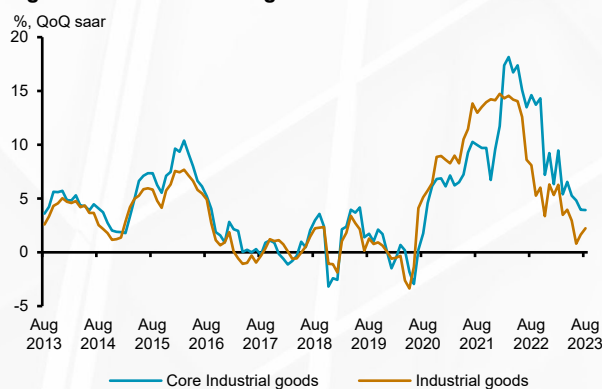
Sources: IBGE and BCB

Figure 1.2.45 – Contributions to quarterly changes in industrial goods prices – IPCA



Sources: IBGE and BCB

Figure 1.2.46 – Industrial goods inflation

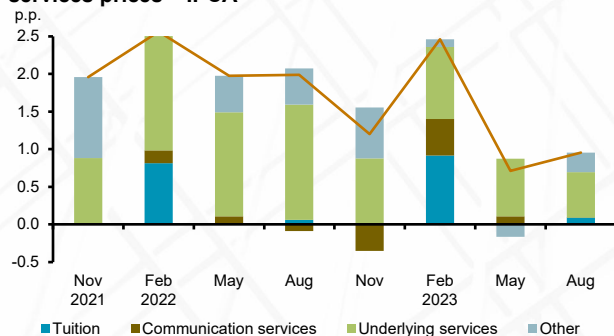


reflects the seasonality of the period but can also be seen in the seasonally adjusted series. Across the items with typically low inflation in the period, the prices of tubers, roots, and vegetables fell by 8.4% in the quarter, compared with a rise of 1.1% in the Mar-May quarter. The benign behavior of prices, however, was also observed in meat, milk, and dairy products, poultry and eggs, cereals, leguminous and oilseeds, and oil and fats, all of which showing significant deflation in the period. The meat item, which has a concentration of beef cuts, has been showing low or negative changes since the second half of 2022, in line with the high supply of animals for slaughter and the significant fall of wholesale prices. Prices for milk and dairy products, which usually register higher increases in the period, fell by 3.5%. In this case, the sector's reports indicate competition with imported products from Mercosur. Even though the historical correlation does not indicate a mechanical and immediate pass-through to protein prices, the sharp drop in the price of corn observed in 2023 benefits this downward movement in the prices of milk, poultry, and eggs and, via substitution, of other proteins that are less dependent on feed costs. Finally, the decline in oil and fats followed the movement of wholesale prices of soybean oil.

Industrial goods prices reverted from a rise of 0.97% in the Mar-May quarter to a fall of 0.16% in the Jun-Aug quarter. This movement is largely due to the drop in the price of ethanol, which is common during the sugar cane harvest season. Seasonality also benefited a slowdown in apparel prices, whose winter sales are usually captured in the July's IPCA. Personal hygiene products, an item that has been highly volatile, also registered a smaller increase. In general, however, the slowdown in the industrial goods segment is also seen in the seasonally adjusted series and is in line with the fall in producer prices for industrial products mentioned earlier.

As anticipated in the previous IR, automobile prices in the period were heavily influenced by the MP 1,175, which sponsored discounts on the purchase of new vehicles with funds from the federal budget. According to the IPCA, prices of new vehicles fell sharply in June, and fully recovered in July and August, with the exhaustion of funds earmarked for the discounts. The prices of used vehicles registered more moderate falls in June and July and the cumulative change in the Jun-Aug quarter (-2.28%) was of bigger magnitude than in the Mar-May quarter (-0.49%).

Figure 1.2.47 – Contributions to quarterly changes in services prices – IPCA



Sources: IBGE and BCB

Figure 1.2.48 – Services inflation

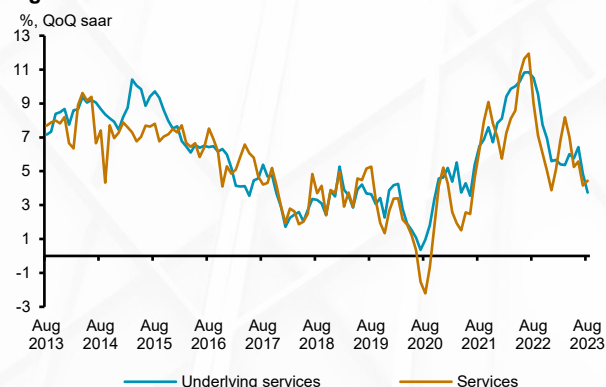
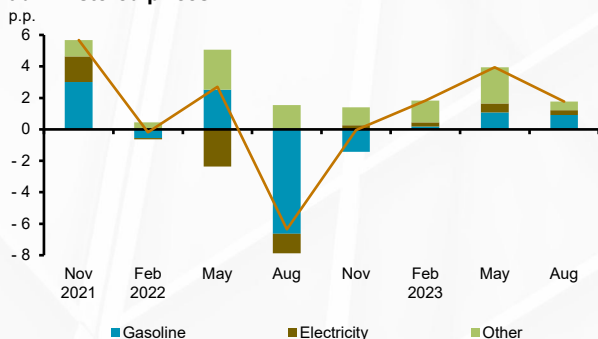


Figure 1.2.49 – Contributions to quarterly changes in administered prices – IPCA



Sources: IBGE and BCB

Services prices rose by 0.96% in the Jun-Aug quarter, compared with a rise of 0.71% in the Mar-May quarter. Despite the acceleration in the segment's aggregate, the underlying share of services slowed down to 1.01%, compared with 1.29% in the previous quarter, a movement also observed in the seasonally adjusted series. The main contribution to this fall in underlying services inflation came from food-away-from-home, whose prices may be responding to the food deflation, especially of proteins. Residential rent, which has shown some volatility, and car repair, also decelerated. In general, the quarterly results corroborate a process of slowdown in the underlying share of services prices, although subject to shorter-term fluctuations. In the ex-underlying share, the strongest changes occurred in airline tickets and educational services, both of which having seasonal characteristics.

Finally, administered prices also increased more slowly, 1.78% in the Jun-Aug quarter, compared with 3.94% in the Mar-May quarter. The largest contributions to the segment's slowdown came from pharmaceutical products, urban buses, bottled gas, electricity, health insurance, and games of chance. The lower price increase in pharmaceutical products reflects its typical seasonal evolution. The lower change in urban buses was largely due to the reversal of the bus fare increase in Belo Horizonte.¹⁹ As for electricity, the change in the previous quarter had been influenced by the higher ICMS calculation base.²⁰ The slowdown in health insurance prices was already expected, given the announcement by the National Supplementary Health Agency (ANS) of a lower cap for adjustment of regulated individual and family regulated plans than that authorized in the previous year. In the case of games of chance, the highest change in the Mar-May quarter reflected an increase in the price of lottery games run by Caixa Econômica Federal, announced in April.

The drop in the price of bottled gas in the IPCA between June and August reflects price reductions by Petrobras in mid-May and early July, which were gradually passed through to consumer prices. Finally, the price of gasoline responded to the higher ICMS with the implementation of the *ad rem* rate in early June and the reinstatement of federal taxes on the fuel in late June, whose impact was mitigated by

19/ The price increase in Belo Horizonte was effective from late April to early July. Its reversal was already being discussed at the time of the previous IR, and this possibility was mentioned in the text.

20/ In early February, the STF suspended the provision of LC 194 that mandated the reduction of the ICMS tax base on electricity. The impact of this decision was partly observed in February, but more strongly in March.

Table 1.2.7 – Breakdown of the revision on the 2023 Focus survey

	Weights	Focus expectations (% p.a.)		
		Jun-16	Sep-15	Contr. to Δ (p.p.)
IPCA	100	5.12	4.86	-0.27
IPCA (by aggregation)	100	5.20	4.89	-0.30
Food-at-home	16	1.46	-1.05	-0.40
Industrial goods	24	2.88	2.57	-0.07
Services	35	5.75	5.46	-0.10
Administered prices	25	9.09	10.20	0.28
Market prices	75	3.96	3.18	-0.59
Market prices (by aggreg.)	75	3.82	3.10	-0.54

Figure 1.2.50 – Median market expectations (Focus) – 2023 and 2024 IPCA

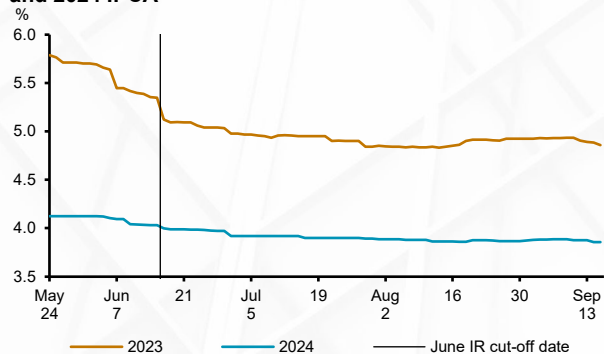
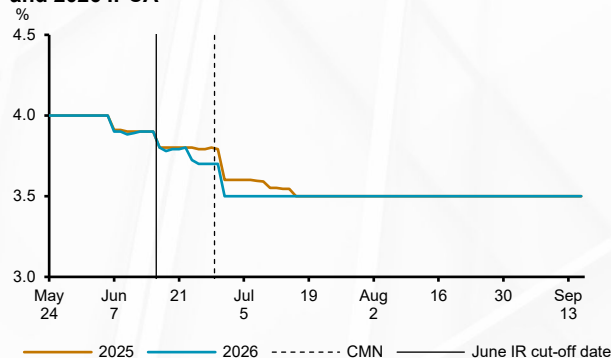


Figure 1.2.51 – Median market expectations (Focus) – 2025 and 2026 IPCA



price reductions for distributors by Petrobras and seasonally lower ethanol prices.²¹

The median expectations for inflation in 2023 decreased again since the previous IR, from 5.12% to 4.86%, according to the Focus report. The analysis of projections disaggregated into segments reveals that the revision was once again concentrated in the market prices segment, with the expectation of slight deflation in food-at-home, but also with downward revisions in the projections for industrial goods and services. The revision in food-at-home is possibly associated with the recent benign evolution of producer and consumer prices, described earlier in this section. The median projections for administered prices increased, possibly reflecting the August rise in gasoline producer prices. Expectations for 2024 also fell, from 4.00% to 3.86%, widespread across all segments.

Inflation expectations for the more distant years have partially reanchored since the previous IR. The fall in inflation expectations was observed just after the CMN’s decision in June setting the 2026 inflation target at the same values as those for 2024 and 2025. According to the Copom assessment recorded in the minutes of its August meeting, among the possible explanations for the remaining deanchoring in these horizons are uncertainties about fiscal dynamics, a global scenario of higher inflation, and the perception of agents that, over time, the BCB could become more lenient in the fight against inflation. A box in this IR discusses what can be inferred in this respect from the analysis of the dispersion of the individual analysts’ projections in the Focus and PCQ.²²

21/ On August 16, Petrobras increased the price of fuel by 16%. This increase is only partially captured by the August IPCA, which reflects average prices for the month.

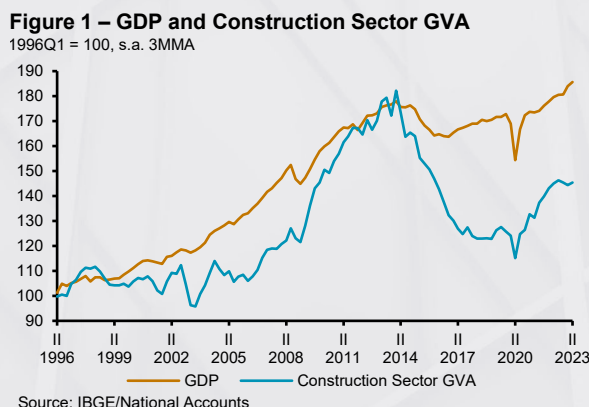
22/ See box “Dispersion of inflation expectations for 2025” of this IR.

Recent performance and prospects for residential construction

Firstly, this box shows an overview of the latest construction cycles in Brazil and of the share of residential construction within the sector. Then, the recent performance of residential construction – including exercises on the role of some of its determinants – and its short-term prospects are more deeply discussed.

Recent performance of construction

Construction is characterized by long cycles that, in general, coincide with economic activity cycles. In Brazil, the Gross Value Added (GVA) of the construction sector has grown modestly from 1996 to 2006, partly due to high interest rates and low earmarking of resources to real estate financing in the period¹. From 2007 to 2013, the construction sector GVA expanded strongly, driven by the economic activity expansion, microeconomic reforms that promoted credit market deepening², and government incentives³. From 2014 to 2019, a downturn in the sector's activity was observed in the wake of the economic crisis in an environment of reduced government incentives⁴, higher interest rates, and increased uncertainty (Figure 1).

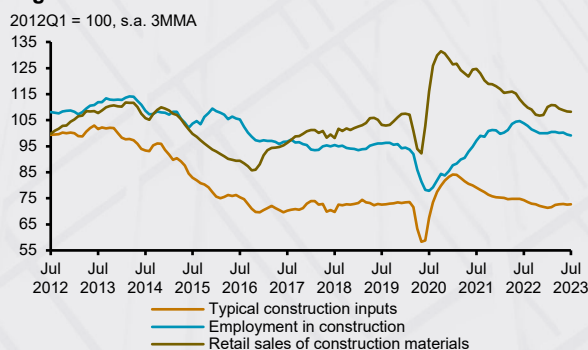


From 2020 to 2022, construction expanded again, favored by a reduction in real estate financing interest rates, increased household savings resulting from restrictions on consumption of services imposed by the health crisis, and the high volume of government transfers to households. It is worth noting that the fast expansion took place despite the sharp rise in construction costs and difficulties in acquiring some inputs. The construction sector GVA had its growth interrupted in late 2022, but, in 2023Q2, it remained 15.6% above

- 1/ See Rodrigues (2009), chapter 3, for details of the Brazilian housing issue at that time, focusing on the challenges related to real estate financing and on legislative innovations – such as fiduciary alienation, patrimony of affectation, and the resolution of the issue involving FCVS (*Fundo de Compensação de Variações Salariais*) credits – that contributed to the subsequent growth in real estate financing.
- 2/ See BCB (2010) for more details on the factors that led to the acceleration of real estate credit from 2005 onwards, with more emphasis from 2008 onwards.
- 3/ For example, one can mention government incentives gathered in the Growth Acceleration Program (PAC), including projects related to the 2014 FIFA World Cup and the *Minha Casa Minha Vida* Program (MCMV). See Nunes (2018) for the program's details.
- 4/ As shown in the box [Recent evolution of gross fixed capital formation](#) of the September 2019 Inflation Report, Gross Fixed Capital Formation (GFCF) recovery after 2016 was driven by investments in machinery and equipment, with the construction sector following a downward path until the second half of 2019.

the pre-pandemic level. Other indicators that may be used as proxies for economic activity of construction – such as production of typical construction inputs (ITCC)⁵, retail sales of construction materials⁶, and number of people employed in construction⁷ – fell more than the GVA and stabilized at levels close to those seen in the pre-pandemic period (Figure 2).

Figure 2 – Construction indicators

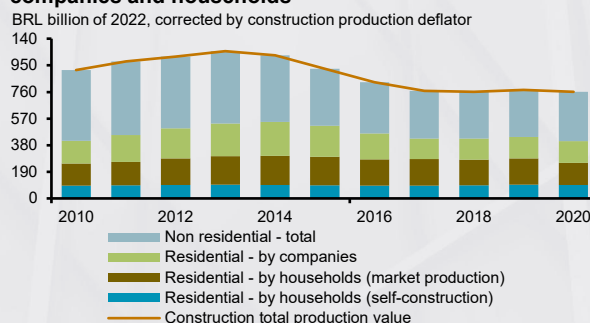


Source: IBGE (PIM, PMC, PNAD Continuous)

Residential construction

Residential construction in Brazil (including renovations) accounts for approximately half of the production value (PV) of the sector (Figure 3) and almost 30% of the GFCF⁸. Of the total PV of residential construction, nearly 38%⁹ comes from construction carried out by companies, 39% from market production by households¹⁰, and 23% from household production for own final use (self-construction). Moreover, from 2010 to 2020, the importance of residential construction in total construction increased, as shown in Figure 3.

Figure 3 – Construction production value, by companies and households



Sources: IBGE (National Accounts, PAIC), BCB estimates

5/ Series from the Monthly Industrial Survey (PIM) of the Brazilian Institute of Geography and Statistics (IBGE).

6/ Series of the Monthly Survey of Trade (PMC), from IBGE.

7/ Series from the Continuous National Household Sample Survey (PNAD Continuous - IBGE).

8/ Division of the gross value of residential production (by companies and households) by the total value of the GFCF. The average from 2019 to 2020 was 28%, and from 2010 to 2020, 31%.

9/ BCB's estimate based on the Annual Construction Survey and the 2020 National Accounts. The following values were considered:

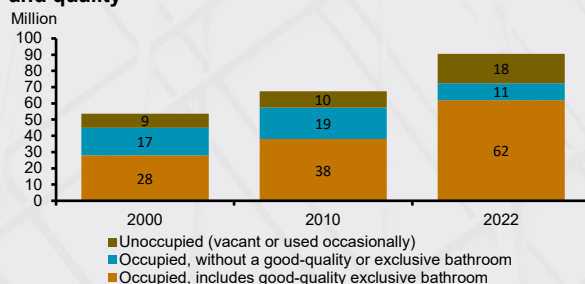
- The value of strictly residential construction carried out by companies, which accounted for 25.2% of the total value of the sector in those years.
- The value of construction carried out by companies, which can be residential or not, such as "plaster finishing", multiplied by the importance of strictly residential construction (25.2%).

The sum of these two groups resulted in the estimate that 32.4% of the companies' PV referred to residential construction in this period. The value was divided by the total PV, from which it was concluded that residential construction carried out by companies accounted for nearly 20% of the sector's PV in those years (and 38% of residential construction PV).

10/ The value of construction production by households was obtained from the National Accounts. It is assumed that 100% of self-construction and nearly 88% of market production by households refers to residential construction. For more details on the methodology for estimating construction activity, including self-construction, for the National Accounts, see IBGE (2015).

The evolution of residential construction activity from 2010 to 2022 had a positive impact on the stock of homes, which increased by 34.4%, from 67.5 million in 2010 to 90.7 million in 2022 (+ 23.2 million homes). The housing average quality also improved (Figure 4): the number of homes with an exclusive bathroom of good quality¹¹ increased by 63%, while the number of homes without a bathroom or with bathrooms of inferior quality fell by 42%.

Figure 4 – Number of households, by occupation status and quality



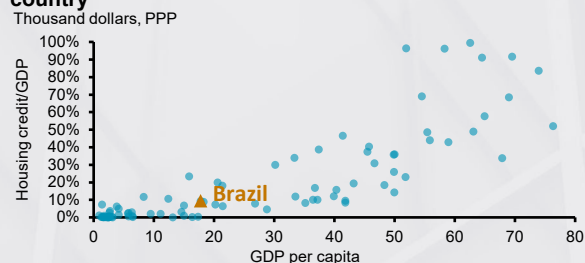
Source: Demographic census¹

¹ For 2022, Census data for the number of occupied and unoccupied households and PNAD 2022 for the quality distribution of occupied households.

The relevance of real estate financing to residential construction

In the international comparison, Brazil still has a relatively low real estate credit/GDP ratio (Figure 5). This factor, combined with informality (both of the income of potential borrowers and of the properties that could be financed¹²), contributed to the 23.2 million increase in the national housing stock between 2010 and 2022 occurring mainly through the use of households' own resources^{13, 14}, i.e. without financing for their purchase or construction.

Figure 5 – Housing credit/GDP and per capita GDP, by country



Source: CAHF (2021), EMF (2022), BCB, World Bank, central banks. Most recent data (between 2019 and 2023) of 91 countries for which data is available.

For better visualization, values for the horizontal axis were truncated at 80k and the vertical axis at 100%. As a result, 4 countries no longer appear on the chart.

11/ The presence of an exclusive bathroom of good quality (connected to the rainwater sewage system or with a septic tank) was used as a proxy for the property quality. The use of other measures, such as the presence of durable walls and roofing, does not change the conclusion that the average quality of homes has improved. It should be noted that home quality is only observed in occupied homes.

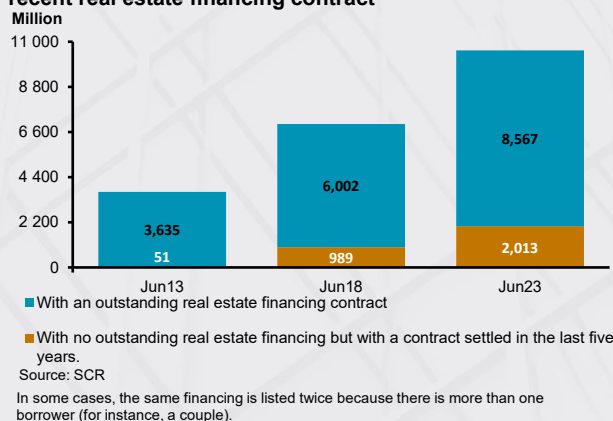
12/ Krause et al (2022) researched informal urban centers in Brazil. The study did not carry out a survey of real estate registries, but one can presume that many properties in these centers are in a situation of land irregularity (without a deed title, with a deed title in the name of someone other than the actual owner, built without a certificate of occupancy and other situations that prevent real estate financing). According to the study, these households in informal urban centers represent between 14% and 48% of the total number of permanent private households in each region surveyed (the lowest percentage was observed in Porto Alegre, and the highest in Recife). The study did not investigate real estate informality in neighborhoods that are not in informal urban centers.

13/ During this period, 10.6 million housing units were financed, both new and used, with funding from savings deposits and the Employment Compensation Fund (FGTS). Data may contain double counting (a housing unit may have been financed twice, as it may have been sold and refinanced during this period). But even if the financing referred only to new units and there was no double counting, the 10.6 million units financed do not even represent half of the increase in the stock of properties observed in the period (23.2 million).

14/ The comment refers to the financing of the individual purchaser of the property and not to the activity of the construction company.

However, in the formal segment, in which properties usually have higher values, acquisition often takes place through real estate financing. In the last decade, the importance of real estate financing increased, from 3.4% to 9.4% of the GDP, with the number of households with outstanding real estate financing rising from 3.6 to 8.6 million (+136%)¹⁵. The increase has been more intense from 2020 onwards, when financing conditions became more favorable, as discussed below.

Figure 6 – Individuals (CPFs) with an outstanding or recent real estate financing contract



The affordability of real estate financing installments is influenced by the following factors: (i) housing price¹⁶; (ii) maturity; (iii) interest rate applicable to the financing; and (iv) household income, especially formal income. The first three factors together determine the installment to be paid by the borrower. The latter is the main source of funding for the financing payment. A housing affordability index was elaborated using the factors listed above, dividing the formal overall labor income by the installment value of a hypothetical property¹⁷. Figure 7 shows the evolution in time of this indicator, which peaked in July 2021 and has since declined by 22%, helping to explain the decline in real estate credit granting (Figure 8).

Figure 7 – Housing affordability index

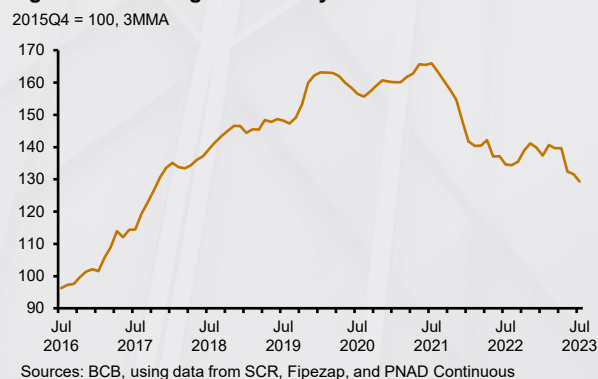


Figure 8 – Interest rates and new real estate financing

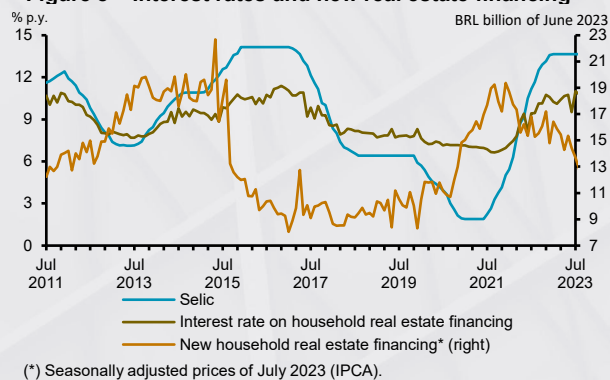


Figure 9 shows the cumulative change in the housing affordability index, broken down by the contribution of its components. The fall in the affordability index since mid-2021 is essentially due to the rise in the interest rate on real estate financing. This effect more than offset the increase in the average maturity of these loans, the increase in the formal overall labor income from 2022 onwards, and the fall in property real prices¹⁸ (Figure 10).

15/ Figures do not include properties fully subsidized with non-onerous resources ("Track 1"), as these, by definition, are not financed by the Brazilian National Financial System (SFN).

16/ Price perceived by the customer, i.e., the property's price minus any subsidy received. Subsidies are common in low-income housing.

17/ Monthly installment to be paid for a two-bedroom property (40m²), considering the interest rate and the average maturity in force each month, a uniform installment (Price table), and the average square meter price series for Brazil calculated by Fipe/Fipezap from advertised properties. Overall labor income is computed using PNAD Continuous information.

18/ The housing affordability index was calculated using the Fipezap Index, based on property sales advertisements on the Zap portal (www.zapimoveis.com.br) in 50 cities. However, Figure 10 also shows the Real Collateral Value Index (IVG-R), which estimates the long-term price trend of housing values in Brazil using information from the BCB's Credit Information System (SCR). Both show that housing prices increased less than the IPCA over the last two years. A third index, Abecip's IGMI-R, not shown in Figure 10, stands out from the others by indicating housing prices increasing above inflation.

Figure 9 – Housing affordability index and components' contribution

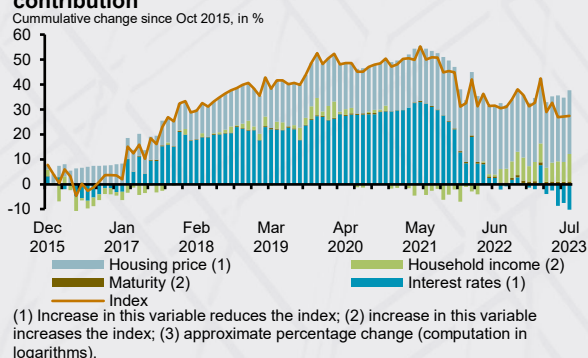
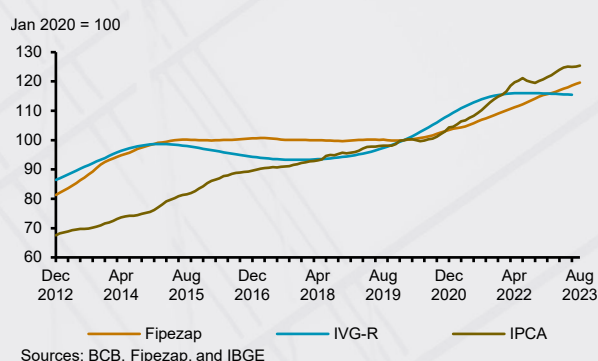


Figure 10 – Real estate price indexes and IPCA



The housing affordability index influences the demand for real estate, causing companies in the sector to react by adjusting the supply of real estate. An econometric exercise suggests that the housing affordability index movement anticipates the number of housing projects that will be started (launches)¹⁹. Consistently, the recent fall in the index was accompanied by a 19.1% drop in housing projects started in the first half of 2023, compared with the first half of 2022²⁰ (Figure 11). However, considering that it takes time to build a residential property and the large number of launches in recent years, the number of properties under construction is expected to remain above the pre-pandemic level, contributing positively to the level of economic activity in the segment in the short term²¹.

Figure 11 – Residential real estate – launches and ongoing housing projects



Demand for residential property is also affected by factors that do not make up the housing affordability index. Among them are the historically high levels of household debt service ratio²² and delinquency²³, which can have a negative influence on sales and launches of residential property, particularly medium and high-

19/ The econometric exercise suggests that the housing affordability index Granger causes launches with a one-quarter lag, and that the inverse relationship does not hold. This exercise used a Vector autoregressive (VAR) model, with quarterly data (from 2016Q3 to 2023Q1), a lag of one quarter, endogenous variables (starting projects and housing affordability, with logarithmic transformation), and exogenous variables (constant, a dummy variable for 2020Q2, and three seasonal dummy variables for the quarters). The short sample suggests caution when interpreting the results.

20/ The Brazilian Chamber of Construction (CBIC) series was used, which includes data for 207 Brazilian cities. Other available sources of data on real estate launches include: (a) Abrainc (Brazilian Association of Real Estate Developers), which together with the *Fundação Instituto de Pesquisas Econômicas* (Fipe) publishes indicators for a group of 20 national developers and (b) São Paulo Housing Union (Secovi-SP), which publishes data for São Paulo-SP.

21/ The number of properties under construction has been estimated in this box as the sum of projects started in the last 36 months according to CBIC. The assumption is that vertical residential constructions take around three years to complete (between launch and delivery).

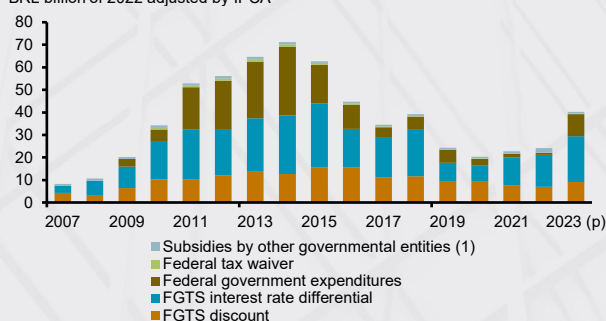
22/ In June 2023, households debt service ratio with the SFN reached 28.3% of their monthly income, above the average for the last ten years (23.9%).

23/ In July 2023, 4.2% of households' credit portfolio were overdue for more than 90 days. This value is higher than the average for the decade (3.7%).

end properties. In turn, total subsidies (implicit and explicit) for low-income housing are expected to grow significantly in 2023²⁴, to the highest level since 2016 (Figure 12)²⁵. The increase in subsidies corresponds to 2.1% of the gross value of construction projects in 2022 and nearly 10%²⁶ of the PV of residential construction carried out by companies²⁷ – significant magnitudes, suggesting that there will be a significant stimulus to the construction sector in the coming quarters.

Figure 12 – Housing subsidies

BRL billion of 2022 adjusted by IPCA



Sources: Ministry of Cities, Federal Revenue Office, Annual Budget Law, responses to LAI requests
(1) 11 states and municipalities.

Conclusions

The set of indicators presented in this box shows ambiguous signs for the evolution of demand for residential construction over the next quarters. The high level of interest rates on real estate financing has reduced the affordability of purchasing properties, reducing demand and new construction projects in the medium and high-end market, affecting the number of projects under construction. In turn, affordable construction projects should benefit from the increase in subsidies for low-income housing. The expectation of a reduction in the degree of monetary tightening in the Brazilian economy, conditional on the disinflation process and the reanchoring of inflation expectations, could also contribute positively in the future.

24/ Provisional Measure 1,162/2023, that regulates the MCMV, outlines that the program's objectives include expanding the supply and promoting the improvement of housing quality. Furthermore, the FGTS Board of Trustees decided to reduce interest rates and increase subsidies for housing purchases.

25/ The popular housing subsidies considered were:

- FGTS discount: a FGTS subsidy offered as a discount on the down payment for housing purchases. Data obtained via the Access to Information Law (LAI) from the Ministry of Cities and public notice (for 2023).
- FGTS differential of interest rates: calculated as the difference between the "present value of monthly loans using the ten-year interest rate" and the "present value of monthly loans using the interest rate on real estate financing with FGTS funding". Calculated by the BCB.
- Federal funds: funds from the General Federal Budget (OGU) intended to subsidize the production and purchase of housing by households in the "subsidized acquisition" (Track 1) and "financed acquisition" (Tracks 1 and 2) modalities of the MCMV. The subsidy percentage varies per household. Data obtained via LAI from the Ministry of Cities and LOA (for 2023).
- Federal tax waivers: tax waivers directed at *Minha Casa Minha Vida/Casa Verde e Amarela* Program. Source: Brazilian Federal Revenue Office (RFB) (tax expenditures).
- Subsidies from other entities: funding for low-income housing production by 11 federal units, including the Federal District, and 2 municipalities. Data obtained via LAI or in the federal unit website.

Other subsidies to the real estate and construction sector, such as differential of interest rates on loans using savings funding, and the exemptions on the Tax on Financial Operations (IOF) and on the income tax, were not included because they are not restricted to low-income housing. In addition, spending on social rentals (concentrated in federal units) was not considered.

26/ PV estimate for residential construction carried out by companies using the same methodology as for Figure 3. It assumes that the PV of residential construction carried out by companies in 2022 corresponds to 20.4% of the total PV of construction (same percentage observed in 2020; data for 2021 and 2022 have not yet been released).

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GDP growth projections for 2023 and 2024

This box presents the GDP growth projections for 2023 and 2024 in the BCB's reference scenario.

The large positive GDP surprise in 2023Q2 increased the statistical carry-over for 2023, contributing significantly to the increase in the forecast for economic activity growth this year. However, some factors contribute to economic activity growing at a slower pace over the next quarters and throughout 2024 than in the first half of 2023. Firstly, the direct and indirect impacts¹ of the strong rise in agriculture and livestock in the first half of 2023 should dissipate over the remainder of the year and, for 2024, the sector is not expected to rise so strongly. Secondly, the stimulus to household income from the expansion of social assistance and social security benefits – the latter influenced by the rise in the minimum wage and changes in the calendar that anticipated payments to the first half of the year – that occurred in the first half of 2023 is unlikely to repeat at the same magnitude in the second half of the year and throughout 2024. Moreover, monetary policy is in contractionary territory and is expected to remain so over the projection horizon, although it has been gradually eased². Finally, the external scenario became more uncertain, with the prospect of economic activity slowdown in major economies, in an environment of persistent inflationary pressures, and lower Chinese economic growth.

Revision of the 2023 GDP projection

The projection for GDP growth in 2023 rose from 2.0% in the June 2023 IR to 2.9%. The revision stems from the large positive surprise in 2023Q2 and, to a lesser extent, slightly more favorable forecasts for the evolution of industry, services, and household consumption in the second half of the year.

From the supply perspective, the rise in the GDP growth projection reflects increased projections for the three economic sectors. The projection for agriculture and livestock growth rose from 10.0% to 13.0%, reflecting increases in IBGE's forecasts for agricultural production, mainly of soybeans, corn, and sugar cane, and higher-than-expected growth in livestock slaughtering in the first half of the year. Despite agriculture and livestock's highly positive contribution to the 2023 GDP result, the sector is expected to contribute negatively to the quarterly GDP variations throughout the second half of the year, especially in 2023Q3, since most of the harvest of products with the largest annual expansions occurred in the first half of the year.

For industry, the forecast changed from 0.7% to 2.0%, with higher forecasts for construction, the utilities sector, and, especially, mining. The significant forecast revision for mining stems from the high growth in iron ore and oil production in the first half of the year. This expansion took place at a faster pace than that compatible with the production guidances of main producers of these commodities available at the time of the previous IR. The forecast of decline for manufacturing in the year remained practically unchanged, with modest quarterly increases expected in the second half of the year.

1/ Both the spillover to the production of other economic sectors (discussed in the box [Impact of the crop harvest on the economic activity of the June 2017 IR](#)) and the impact on household consumption of the recent fall in food prices (discussed in the box [Supply shocks, prices, and consumption](#) of the March 2022 IR).

2/ Expectations for the Selic rate extracted from the Focus survey are shown in the section 2.2 of this IR.

Table 1 – Gross Domestic Product
Accumulated in the year

Itemization	% growth		
	2022	2023 ¹	
		Previous	Current
Agriculture and livestock	-1.7	10.0	13.0
Industry	1.6	0.7	2.0
Mining	-1.7	3.5	7.5
Manufacturing	-0.3	-0.8	-0.9
Construction	6.9	-1.1	0.7
Public utilities	10.1	5.0	6.5
Services	4.2	1.6	2.1
Trade	0.8	0.8	0.7
Transportation and storage	8.4	2.0	3.1
Information services	5.4	2.3	3.3
Financial and related services	0.4	3.0	5.2
Other services	11.1	2.1	2.4
Real estate	2.5	2.1	2.4
Public admin., health and education	1.5	0.7	1.0
Value added at basic prices	3.0	2.1	2.9
Taxes on products	2.1	1.1	2.5
GDP at market prices	2.9	2.0	2.9
Household consumption	4.3	1.6	2.8
Government consumption	1.5	1.0	1.8
Gross Fixed Capital Formation	0.9	-1.8	-2.2
Exports	5.5	3.7	6.7
Imports	0.8	0.0	0.0

Source: IBGE and BCB

1/ Estimated.

the forecast for the annual GFCF change was reduced, mainly reflecting the lower-than-expected result in 2023Q2, influenced by the sharp decline in the production of capital goods.

The projection for the expansion of exports in 2023 was revised from 3.7% to 6.7%, mainly derived from more favorable forecasts for exports of agriculture and livestock and mining industries products. The forecast for imports remained stable when compared with the previous year. Given the estimated variations in the aggregate demand components, the respective contributions of domestic demand and the external sector to the GDP growth in 2023 are 1.6% and 1.3%.

GDP projection for 2024⁴

The GDP growth is projected at 1.8% for 2024, with more homogeneous variations in the supply and demand components than in 2023.

On the supply side, agriculture and livestock, industry, and services are expected to grow by 1.5%, 2.0%, and 1.8% respectively. The high comparison base of 2023, a year with a record grain harvest, contributes to

3/ See the “Economic Activity” and “Labor Market” sections in Chapter 1 of this IR.

4/ 2024 will be a leap year and, therefore, will have one day more than 2023. As already mentioned in the box Revision of the 2021 GDP projection of the June 2021 IR, given the GDP seasonal and calendar adjustment specifications adopted by the IBGE, there may be differences when calculating the 2024 growth using data with or without seasonal and calendar adjustment. In this box, as usual, the annual growth rate refers to that calculated with data with no seasonal and calendar adjustment.

The growth projection for the services sector was revised from 1.6% to 2.1%, with higher estimates for all activities but commerce, which is heavily influenced by the performance of manufacturing. The higher projection reflects widespread positive surprises in 2023Q2, as well as a slight improvement in the estimated quarterly changes in the tertiary sector’s activities in the second half of the year.

In terms of domestic demand, the forecasts for household and government consumption increased, while the estimate for the performance of Gross Fixed Capital Formation (GFCF) decreased. The rise in household disposable income in 2023Q2, resulting from expansion in labor income and social benefits, and the fall in the household savings rate³ led to a stronger-than-anticipated rise in household consumption. For the remainder of the year, the pace of growth in household income is expected to slow down, with a smaller contribution from social benefits. Furthermore, households’ net payments to financial institutions have increased and indebtedness and debt service ratio levels remain high. Against this backdrop, household consumption is expected to continue increasing in the second half of the year, albeit at a slower pace than in the first one.

Government consumption, in 2023Q2, was also higher than previously estimated, resulting in the increase of the annual growth projection. Finally,

Table 2 – Gross Domestic Product
Accumulated in the year

Itemization	% growth		
	2022	2023 ¹	2024 ¹
Agriculture and livestock	-1.7	13.0	1.5
Industry	1.6	2.0	2.0
Services	4.2	2.1	1.8
Value added at basic prices	3.0	2.9	1.8
Taxes on products	2.1	2.5	1.8
GDP at market prices	2.9	2.9	1.8
Household consumption	4.3	2.8	1.9
Government consumption	1.5	1.8	1.5
Gross Fixed Capital Formation	0.9	-2.2	2.1
Exports	5.5	6.7	1.5
Imports	0.8	0.0	1.6

Sources: IBGE and BCB

1/ Estimated.

the forecast for world economic activity deceleration, especially in China.

The services sector is expected to grow marginally less than projected for 2023. The gradual easing of monetary conditions should benefit the sector's performance, especially those activities more sensitive to the economic cycle. However, the lower spillover from agriculture and livestock and lower stimulus from government transfers tend to limit the pace of expansion.

In the domestic demand, the expected growth rates for household consumption, government consumption, and the GFCF are 1.9%, 1.5%, and 2.1%, respectively. A more moderate expansion in social benefits and other government expenses than observed in 2023 should contribute to reduce the growth in household and government consumption when compared with the 2023 forecast. The GFCF is expected to grow throughout 2024, with moderate expansion in construction and absorption of capital goods.

Exports and imports of goods and services are expected to grow by 1.5% and 1.6%, respectively. The prospect of a more modest growth in exports in comparison with the 2023 growth forecast primarily reflects the forecast of lower growth in agriculture and livestock and in mining. The expansion of imports, in turn, reflects expectations of moderate growth in manufacturing, household consumption, and the GFCF. The contributions of domestic and external demand are estimated at 1.8% and 0.0%, respectively.

the expectation of a more modest agriculture and livestock expansion in 2024. In addition, depressed prices for some crops may discourage the expansion of cultivated areas.

In the secondary sector, manufacturing, and construction, which are more sensitive to the economic cycle, are expected to register a slightly higher pace of quarterly growth, compared with the average growth rate forecast for 2023, in a scenario of gradual monetary policy easing. Regarding the construction sector, the construction of economy class housing should benefit from the increase in subsidies for affordable housing, as discussed in a box of this IR⁵. Conversely, the growth projected in mining for 2023 is not expected to be repeated in 2024, given that the demand for products of this sector, notably iron ore, may slow down in view of

5/ Box in Chapter 1 of this IR "Recent performance and prospects for residential construction".

Projection for credit growth in 2023 and 2024

This box presents the revised projection for the nominal National Financial System (SFN) credit growth for 2023 and the first projection for 2024.

Projection for 2023

Since the previous IR, credit market data have been below previous projections, mainly due to the trajectory of the non-earmarked corporate credit. The incorporation of these data and the revision of the prospective macroeconomic scenario reduced the projected nominal credit balance growth for 2023 from 7.7% to 7.3% (Table 1). The projected growth for the stock of non-earmarked household credit was maintained at 9.0%, reflecting the resilience in granting until July 2023 and the updated prospect for economic activity. The projected growth for non-earmarked corporate credit, meanwhile, was reduced from 3.0% to 1.5%, due to a sharper deceleration in the balance than expected in the previous IR.

In the earmarked segment, the growth projection for household credit was maintained at 11.0%, with the slowdown in the real estate balance being offset by the increase in the volume of the Plano Safra for 2023/24. Finally, in the corporate segment, the growth projection was also maintained at 7.0%.

Table 1 – Credit balance

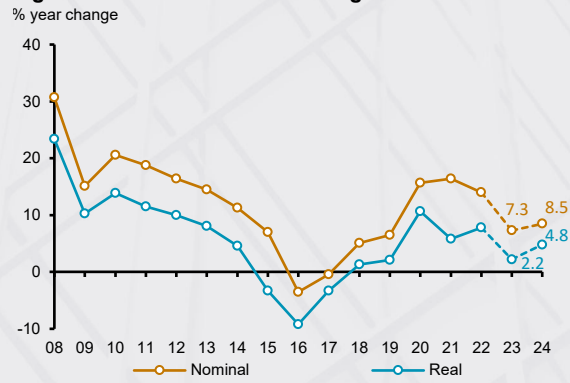
	12-month % change					
	Occurred			Proj. 2023		Proj. 2024
	2021	2022	Jul 2023	Previous	Current	Current
Total	16.4	14.0	8.2	7.7	7.3	8.5
Non-earmarked	20.4	14.1	5.5	6.3	5.7	7.9
Household	23.0	17.5	10.4	9.0	9.0	8.5
Corporate	17.4	10.1	-0.6	3.0	1.5	7.0
Earmarked	10.9	14.0	12.5	9.6	9.6	9.3
Household	18.5	18.0	14.3	11.0	11.0	10.0
Corporate	-0.1	6.9	9.0	7.0	7.0	8.0
Total Household	21.0	17.7	12.1	9.9	9.9	9.2
Total Corporate	10.6	9.0	2.7	4.4	3.4	7.4

Projection for 2024

The credit balance growth in 2024 is expected to exceed the observed in 2023, in both nominal and real terms, as a result of the performance of non-earmarked credit, which is more sensitive to the expected evolution of monetary policy. The acceleration should be driven by the non-earmarked corporate segment, as the impacts of events involving large companies dissipate. In turn, the household segment is expected

to slow down slightly, in operations with both non-earmarked and earmarked resources, reflecting, among other factors, the high levels of indebtedness and debt service ratio and the lower household income growth. The prospect of nominal credit acceleration and inflation slowdown suggests a more robust real credit balance growth for 2024 (Figure1).

Figure 1 – Total credit outstanding



Projections for the external accounts in 2023 and 2024

This box presents the revised external accounts projection for the Brazilian economy for 2023 and the first projection for 2024. A favorable scenario is expected for 2023 and 2024, characterized by robust trade balance surpluses, low current account deficits, and net inflows of direct investment liabilities at a level higher than the current account deficit.

Table 1 – Projections for the external accounts

Itemization	USD billion				
	2022	2023	2023 forecast		2024 forecast
	Year	Jan - Jul	Previous	Current	Current
Current account	-54	-18	-45	-36	-37
Balance on goods	44	45	54	68	71
Exports	340	198	335	341	348
Imports	296	153	281	273	277
Services	-40	-21	-36	-36	-40
of which: Travel	-7	-5	-11	-9	-12
of which: Transport	-19	-8	-14	-13	-14
Primary income	-62	-43	-63	-69	-68
of which: Interests	-20	-16	-25	-27	-29
of which: Dividends	-42	-26	-38	-42	-39
Investment - liabilities	107	53	75	79	85
DI liabilities	87	34	75	65	75
Portfolio investments	-4	8	0	10	10
Other investments ¹	24	12	0	5	0

1/ includes loans, commercial credits, deposits, and other investments

Projection for 2023

The projection for the current account deficit in 2023 was revised downward from USD 45 billion in the June 2023 IR to USD 36 billion, corresponding to 1.7% of GDP. The decrease in the projected deficit is mostly due to the improvement in the trade balance, from USD 54 billion to USD 68 billion, reflecting increased exports and decreased imports.

The revision in the projected value of exports in the year mainly reflects the higher volume of primary goods shipped, especially oil and iron ore. The expected exports of agricultural commodities in the year, such as soybeans and corn, also increased in view of positive surprises in recent months, although previous projections already anticipated robust volumes related to the record harvest of grains. The projection also considers a volume of exports for the year slightly lower than previously expected for manufactured and semi-manufactured goods, incorporating more recent trade balance data.

As for imports, the revision incorporates the stronger prices decline, mainly for intermediate goods and durable consumer goods. The imported volume, also negatively revised, incorporates the slower recovery of intermediate goods, in addition to the moderation in the imports of fuels, leading to a large decline in total imports compared with 2022.

The expected deficit in the services account was maintained at USD 36 billion. The slight reduction in deficits in the transport and travel subaccounts has been offset by increased expenses on other services, such as operating leasing services. In addition, the inclusion of expenses on gaming or betting¹ favors the increase of the deficit in this account.

As for the primary income account, the deficit projection was revised upward, driven by increased net interest expenses and, mainly, dividends, which are expected to reach the same level of 2022, the largest of the last 10 years. The new projection incorporates a stronger-than-expected performance of sectors such as agriculture and livestock and mining, in addition to declines of revenues from direct investment assets. The projection for net interest expenses, which has also been revised upwards, reflects the prospects of expansion in comparison with 2022 due to the higher policy interest rates in developed economies.

In the financial account, the projection for the net inflows of direct investment liabilities was reduced to USD 65 billion (3.0% of GDP). Despite the strong result in early 2023, continuing the 2022 trend, more recent data included in the projection are below expectations, prompting the revision. However, amortizations of intercompany transactions are expected to decline, as they might have been favored by revenues from the international trade on goods in the first half of the year.

The projection for portfolio investments was revised from neutrality to inflows of USD 10 billion. In addition to the positive balance observed in the year up to July, concentrated in securities, the revision in relation to the June 2023 IR reflects an improved environment for the issuance of securities abroad, with reduced fiscal uncertainty, greater-than-expected resilience of domestic activity, and the reduced stock of securities issues in foreign currency in comparison with the pre-Covid period.

Projection for 2024

The projections for the external accounts in 2024 consider a larger expansion of exports than imports in relation to 2023, with the prospect of a new trade balance record of USD 71 billion. The correspondent reduction in the current account deficit, however, is expected to be offset by an increased services deficit, while primary income expenses are expected to be slightly lower. Therefore, the current account deficit is projected at USD 37 billion for 2024, equivalent to 1.6% of GDP.

As for exports, the volume of sales is expected to continue at a high level, reflecting the prospect of another favorable harvest of grains. Moreover, in view of the composition of the exports basket and the statistical carry-over of the current price levels of key products, average prices for 2024 are expected to be moderately higher than in 2023. Nevertheless, there are significant risks to the prospective scenario, with notable uncertainties regarding the weather, worsened by the *El Niño* phenomenon, and those related to the Chinese economy, the main destination of major items in the Brazilian exports basket, as iron ore and soybeans.

1/ Transactions related to gaming and betting were previously accounted as adjustments of exports and imports in the trade balance account. As of January 2023, the share related to services fee paid to the company responsible for the game or bet is accounted as services, and the share of paid premia and prizes received by winners are accounted as secondary income. As all the accounts involved are part of the current account balance, this change does not modify the aggregate result of this account. Further information available at the [Press Release of the External Sector of April 2023](#).

Regarding imports, in a trajectory consistent with the pace of economic activity, a gradual recovery is expected in the imported volume of intermediate goods, the main category in the imports basket. Furthermore, average import prices in 2024 are expected to be slightly lower than in 2023. The statistical carry-over of the time series of import prices is negative in the categories of intermediate goods and fuels.

The services account deficit is expected to grow, with increased travel expenses, further converging to the level observed before the pandemic, and some stability in the other categories. In the primary income account, increased net interest expenses are expected, in line with the lagged effects of higher interest rates in developed economies and some expansion in the stock of securities abroad. As for dividends, the projected reduction in net expenses reflects the moderation in net profitability following the exceptionally positive results in the first half of 2023.

Net inflows of direct investment liabilities are projected at USD 75 billion, equivalent to 3.2% of GDP, following a more benign dynamics expected for the second half of 2023 and converging to a level consistent with the pre-pandemic period in terms of GDP percentage. Further net inflows are expected for portfolio investments, of a similar magnitude of those in 2023. Despite the effects of the monetary tightening cycle in advanced economies on the demand for securities traded in the domestic market, the interest rate differential should remain attractive to foreigners, mainly due to the perception of more moderate fiscal risk. Moreover, after the end of the acutest phase of the banking stress in developed countries in early 2023, Brazilian companies should restore part of the stock of securities abroad.

Figure 1 – Current account

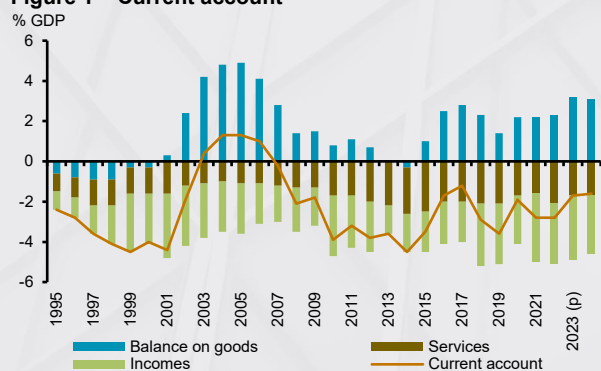
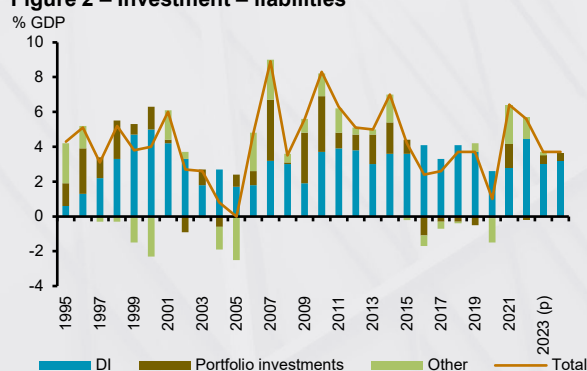


Figure 2 – Investment – liabilities (% GDP)



Recent evolution of food prices in Brazil

Food price changes have been of great relevance for the Brazilian inflation dynamics over the last years. From 2020 to 2022, the cumulative price increase in the food-at-home group was more than twice the headline Extended National Consumer Price Index (IPCA) change (Table 1). In 2023, in turn, food prices have been declining. These movements are explained by global factors, closely related to the Covid-19 pandemic but also by specific Brazilian factors. This box revises the evolution of food prices in the period and comments on the risks derived from the current *El Niño* weather phenomenon.

Table 1 – IPCA, household food inflation, and IC-Br

QoQ (%)	Weight	2019	2020	2021	2022	2023 (up to Aug)	Accum. 20-22
IPCA	100.0	4.3	4.5	10.1	5.8	3.2	21.7
Food-at-home	15.5	7.8	18.2	8.2	13.2	-1.8	44.8
Cereals, leguminous, and oilseeds	0.9	12.9	60.4	-13.6	8.7	2.7	50.6
Flour, starches, and pasta	0.5	-1.5	7.3	10.6	22.7	1.9	45.7
Tubers, roots, and legumes	0.8	-15.2	46.7	4.8	40.2	-15.0	115.3
Sugar and sweets	0.8	2.8	11.1	18.4	10.8	5.3	45.7
Vegetables and greens	0.2	2.9	21.2	7.7	13.6	12.0	48.2
Fruits	1.1	7.3	25.4	3.4	24.0	1.5	60.7
Meat	2.6	32.4	18.0	8.5	1.8	-9.7	30.3
Fish	0.2	1.7	6.4	3.3	3.1	3.1	13.3
Processed meat and fish	0.7	5.2	15.9	9.3	4.5	-0.2	32.4
Poultry and eggs	1.3	13.8	14.5	23.6	7.9	-6.3	52.6
Milk and dairy products	2.0	1.9	16.8	5.7	22.1	3.1	50.8
Bread and bakery products	1.8	0.8	5.0	7.7	20.6	3.1	36.3
Oils and fats	0.4	4.9	61.8	8.3	7.5	-17.4	88.3
Beverages and infusions	1.7	-0.5	5.2	14.1	11.5	2.4	33.8
Canned and preserved foods	0.2	2.3	13.3	7.9	14.8	3.4	40.4
Salt and seasonings	0.4	8.3	7.0	8.2	14.3	4.9	32.3
International prices							
Exchange rate (USD/BRL)		5.7	25.3	9.8	-7.2	-5.2	27.6
Commodities Index (IC-Br) (USD)		0.3	2.3	37.3	6.1	-5.7	49.0
IC-BR Agricultural (USD)		3.5	2.2	32.3	3.9	8.1	40.5
IC-BR Energy (USD)		-7.1	-16.6	58.4	35.7	-34.9	79.2

Note: The changes refer to the average price in December compared with the average price in December of the previous year. For 2023, they refer to the change between December 2022 and August 2023. The weights refer to August 2023.

2020: Covid-19 pandemic and the BRL depreciation

In 2020, food prices increased by 18.2%, considerably above inflation (4.5%), both measured by the IPCA (Table 1). Overall, the evolution of prices over the year was largely influenced by the initial impact of the Covid-19 pandemic and by the quick activity and commodity prices recovery in the subsequent months.

Early 2020 was characterized by the decline in meat prices, partially offsetting the strong increase observed in late 2019.¹ As of March, the pandemic effects were preponderant in the evolution of food prices. At first, the

1/ The rise was associated with the expansion of beef exports to China, which was facing the impacts of the African Swine Fever (ASF). Further details in the box [Meat prices shock](#) of the March 2020 IR.

health crisis led to declines in international commodity prices (Figures 1 and 2) and, in Brazil, exchange rate depreciation (Figure 3). Still in March, the median assessment of economic analysts was that the pandemic shock would be disinflationary in the country.

Figure 1 – IC-Br in USD

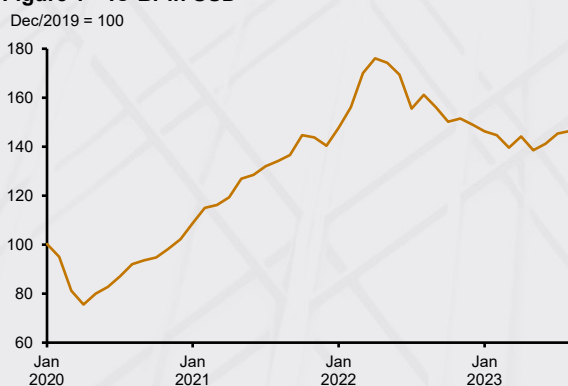
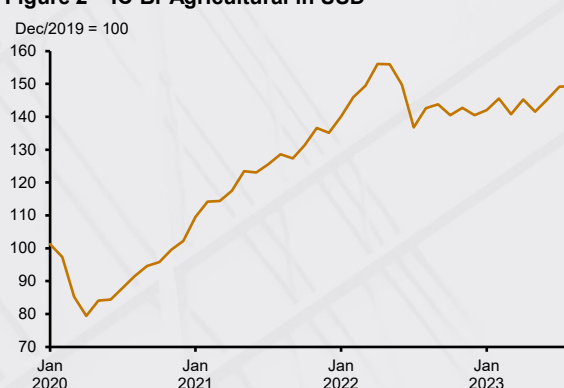
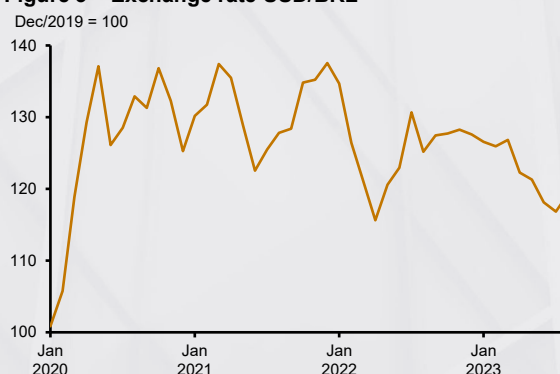


Figure 2 – IC-Br Agricultural in USD



The pandemic and social distancing measures have led to a large shift in household demand. In general, expenses on services, which are more dependent on personal contact, decreased, while expenses on goods increased. Regarding food, food-at-home consumption increased to the detriment of the consumption in restaurants and snack bars. This additional food-at-home consumption was sustained by higher income transfers, which focused on assisting workers affected by the economic shutdown.

Figure 3 – Exchange rate USD/BRL



In 2020Q2, initial pressures on food wholesale and retail prices were already observed, reflecting the exchange rate depreciation, the increased demand, and logistical issues caused by the pandemic. In this period, main rises occurred in fresh food, rice, and beans.

The recovery of economic activity and international prices was fast. In late 2020, agricultural commodity prices in USD had already returned to the pre-pandemic level. The agricultural IC-Br in BRL closed the year 28% above the level of late 2019, with the persistence of the exchange rate depreciation. Producer prices in Brazil reacted to this rise over the entire second half of the year and presented historically high premia in relation to the international price for some products.

The acceleration of consumer prices in the second half of the year reflected widespread increases. Strong increases were observed, in 2020, in the subgroups of oil and fats (62%), cereals, leguminous, and oilseeds (60%).²

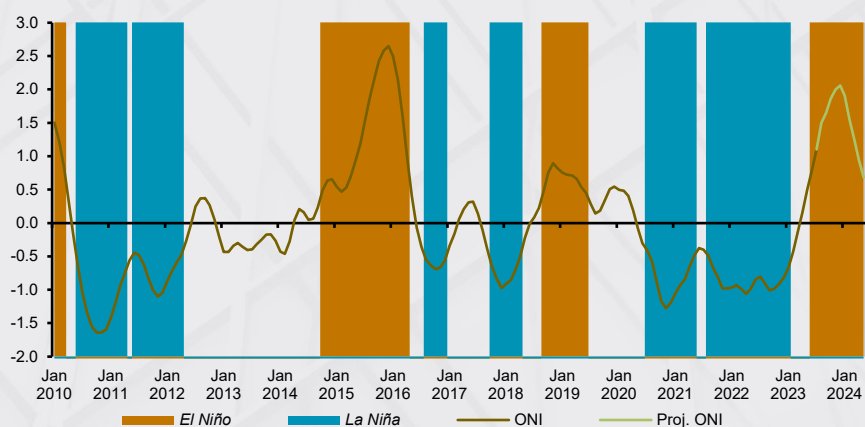
The exchange rate depreciation was crucial to the food inflation increase in 2020, given the sensitiveness

2/ The subgroup cereals, leguminous, and oilseeds essentially comprises rice, with greater weight, and beans.

of this segment to exchange rate variations.³ BRL stood out as one of the currencies which depreciated the most in the year (25.3%), going from USD/BRL 4.11 in January to USD/BRL 5.15 in December, and reaching rates above USD/BRL 5.50 in several moments of the period. In particular, the negative correlation between the exchange rate and commodity prices, that characterized the pre-pandemic period, was not observed.

Concerning the weather, the end of 2020 was marked by the formation of the weather phenomenon *La Niña*, which persisted almost uninterrupted until early 2023 (Figure 4). In the December 2020 IR the risks stemming from this climate anomaly were already mentioned, with negative revisions for the 2021 harvests and rises on the prices of international agricultural commodities.

Figure 4 - Oceanic Niño Index (ONI), *El Niño* and *La Niña*
°C of anomaly



The ONI projection follows the average of dynamic models available on the International Research Institute for Climate and Society (IRI) website, as of the projections made on August 18th, 2023.

Sources: NOAA and IRI

2021: *La Niña*, water shortage, and the increase of commodity prices

In 2021, food prices continued to increase strongly (8.2%), although below the IPCA change (10.1%). In view of the previous year's rise, much above inflation, relative food prices persisted at a high level.

The rise of commodity prices since mid-2020 continued to pressure food prices and prices in general in 2021. In the year, as in 2020, the usual negative correlation between commodity prices and the exchange rate was not observed. The IC-Br rose 37% in USD and 51% in BRL, reflecting further BRL depreciation. In the agricultural segment, the increases were 32% in USD and 45% in BRL.

The widespread rise of commodity prices resulted from the persistence of global factors observed since mid-2020. The demand continued to be favored by monetary and fiscal stimuli and by the shift of consumption baskets towards goods, while, on the supply side, bottlenecks in global supply chains prevailed, in a context of limited economic reopening and new Covid-19 waves.

Costs of agricultural production and food transportation rose sharply in 2021. Among energy commodities, prices of diesel and natural gas increased. Prices of fertilizers also rose strongly, due to both the rise of input prices, including natural gas, and economic sanctions against Belarus, a major exporter of these products.

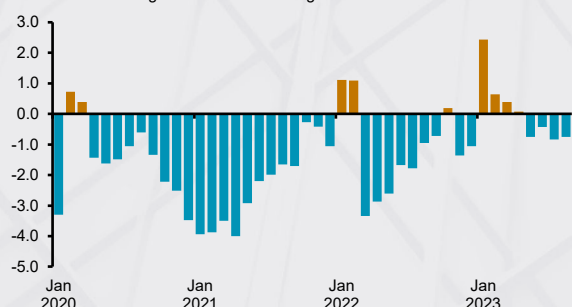
3/ The estimated pass-through of exchange rate variations to consumer prices is higher for food than for the other segments of market prices. See, for instance, Figure 2c of the box [New small-scale disaggregated model](#), of the March 2021 IR. According to the box [Breakdown of 2020 inflation](#) of the March 2021 IR, the exchange rate variation contributed with 1.98 p.p. to the inflation deviation from the target in 2020.

Domestically, despite the record soybean harvest in early 2021, some crops scheduled to be harvested in the remainder of the year were heavily affected by the less favorable weather. Under the influence of *La Niña*, Brazil faced a severe water shortage (Figures 5a and 5b),⁴ which negatively impacted crops such as sugar cane and second-crop corn.⁵ Lower-than-expected rainfall at first benefited the prices of fresh food, which are sensitive to excessive rainfall. However, the persistence of dry conditions in the subsequent months and the occurrence of frosts damaged the production, leading to new price increases in this segment. Although with a lesser influence on the 2021 harvest, the drought and the atypical cold weather also damaged the development of coffee plantations, contributing to the failure in the coffee harvest of the subsequent year.

Figure 5a – ANE in the Southeast and Central-West

Monthly deviation from the typical pattern

% of the annual long-term historical average

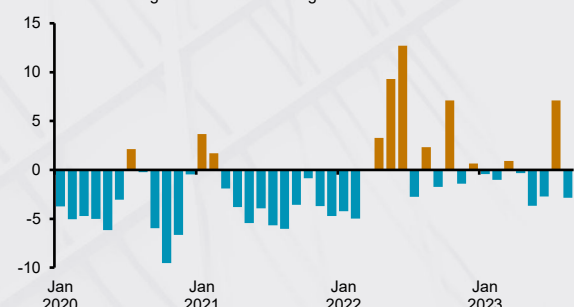


Source: ONS, BCB's elaboration

Figure 5b – ANE in the Southern region

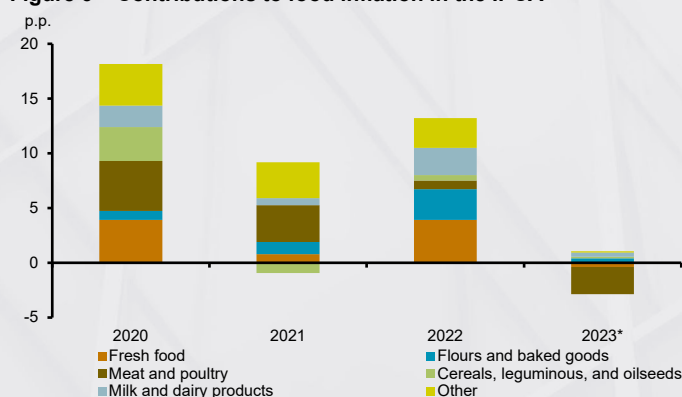
Monthly deviation from the typical pattern

% of the annual long-term historical average



Source: ONS, BCB's elaboration

Figure 6 – Contributions to food inflation in the IPCA

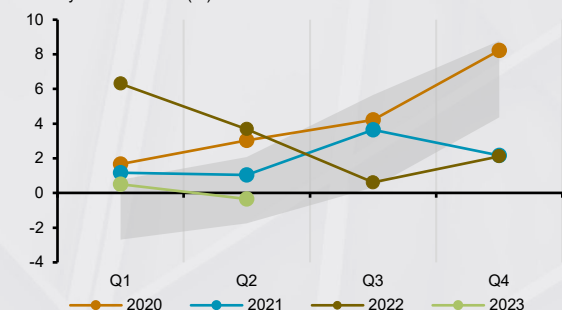


Source: IBGE, BCB's elaboration

* In the eight months up to August

Figure 7a – Food-at-home

Quarterly IPCA variation (%)

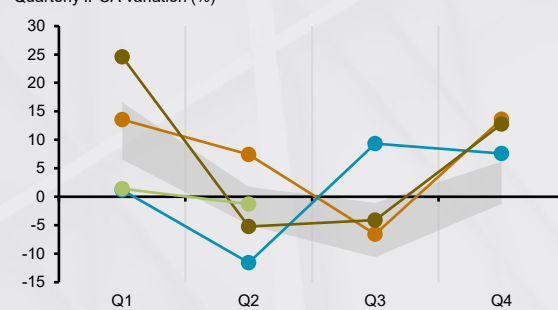


Obs.: The interquartile band in gray uses data from 2000 to 2019.

Sources: IBGE and BCB

Figure 7b – Fresh Food

Quarterly IPCA variation (%)



Note: Includes tubers, roots and legumes, fruits, vegetables, and eggs.

4/ The Affluent Natural Energy (ANE) is a measure related to the stream flow of rivers into hydroelectric power plants in each subsystem of the Interconnected National System (SIN) of energy. In this box, ANE figures are used as approximative indicators for the aggregate rainfall in the regions.

5/ Between the January and December editions of the IBGE's Systematic Agricultural Survey (LSPA), estimates for second-crop corn and sugar cane were revised by -20% and -9%, respectively.

Figure 7c – Cereals, leguminous, and oilseeds

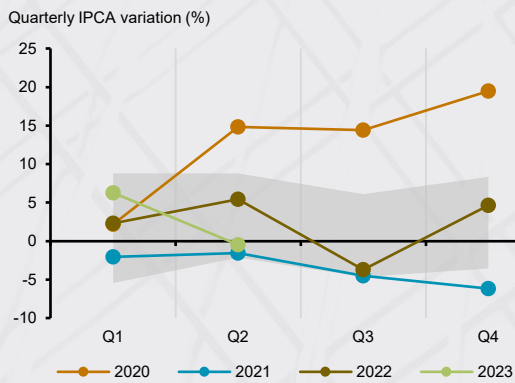


Figure 7d – Milk and dairy products

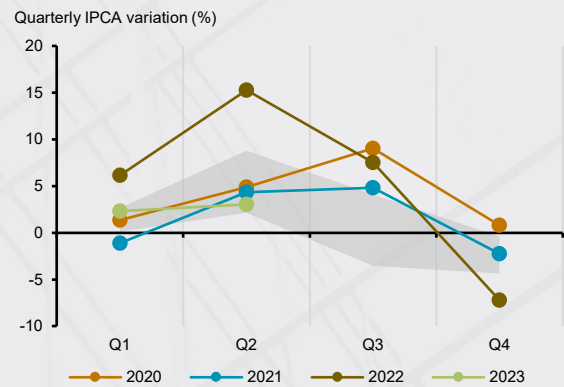


Figure 7e – Meat and poultry

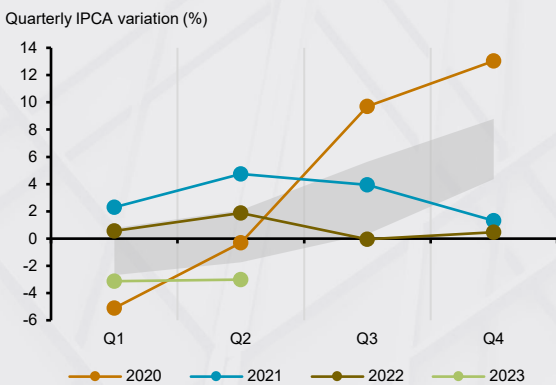
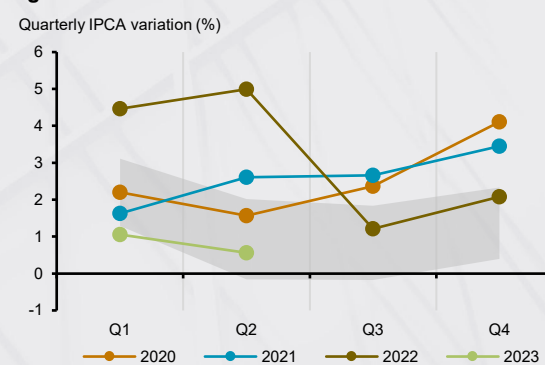


Figure 7f – Other food items



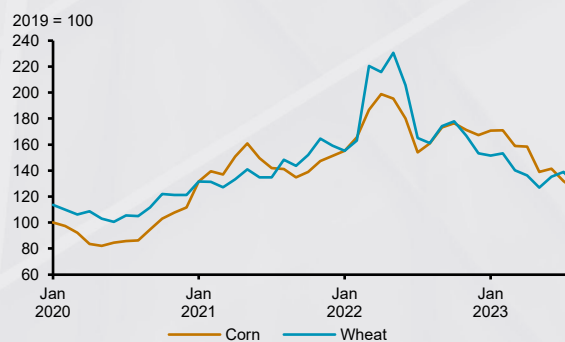
Note: Includes food items not listed in figures 7a-7e.

2022: Ukraine war and the slowdown of prices in the second half of the year

In 2022, food price increases were stronger in the first half of the year, slowing down in the second half, a trend in general like other IPCA segments. In the entire year, food-at-home prices grew 13.2%, while the headline IPCA change, benefited by tax cut measures, was much lower (5.8%).

In early 2022, international prices of agricultural commodities rose quickly and sharply with the outbreak of the war in Ukraine. Prices of corn and wheat (Figure 8) – products largely exported by Ukraine and Russia – and soybean oil have been particularly affected, as these countries are exporters of substitute products (including sunflower oil). Some countries started to limit their agricultural exports due to concerns with their food safety, which also contributed to the rise in international prices.

Figure 8 – International corn and wheat prices (in USD)



Source: Bloomberg, chained series of 2nd futures contracts

Following the initial period of uncertainties about the conflict, the prospect of normalization of grain exports from Russia and Ukraine led to declines in international prices of grains. In the subsequent months and in 2023, however, the relevant risks for the continuity of the flow of grains from the region persisted, impacting prices.

Although the agricultural IC-Br increased only 3.9% in the entire 2022, it reached, in April, a monthly peak 15% above the level of late 2021. The exchange rate resumed its usual negative correlation with commodity prices, which had not been observed in the previous two years. The BRL appreciated until April but with the fall in commodity prices it started to depreciate, partially offsetting changes in USD prices.

Throughout 2022, the weather – still under the influence of *La Niña* – continued to pressure food prices. From 2021 to 2022, the water scenario improved, with rainfall levels closer to the usual in the Southeast/Central-West region of the Interconnected National System. However, there was a rainfall shortage in the Southern states of Brazil and in the south of Mato Grosso do Sul, which led to a partial failure of the soybean crop in early 2022. The drought also contributed to restrict milk supply, already under pressure due to rising production costs, and to reduce the productivity of coffee crops. In 2022Q4, heavy and early rainfalls – considering the seasonal pattern – led to a strong rise in fresh food prices.

The evolution of consumer food prices basically reflected the evolution of agricultural commodity prices. After strong price changes in 2022Q1 – associated with weather effects on the supply of fresh food – food-at-home price increases were widespread in 2022Q2. The sharp rise in bakery products, flours, and oils can be at least partly associated with the immediate effects of the war in Ukraine. As of 2022Q3, consumer prices slowed down as commodity prices and the sector's input costs declined.

The downward movement in beef and milk prices in the second half of 2022 also reflected specific factors, which extended to 2023. As for milk, the decline of input prices was accompanied by a sharp increase in the imports of dairy products from Mercosur. As for beef, a stronger cycle of fed cattle supply began, with increased slaughter of females.

2023: Exchange rate appreciation and declining domestic prices of grains and fed cattle

The price evolution observed in 2023 partly extends the favorable trends observed in the second half of 2022, with a widespread improvement among the components of the IPCA food-at-home group.

In early 2023, failures in the crops of grains occurred in the Southern Brazilian region and in Argentina due to the drought associated with *La Niña*. Even with these failures, which are more localized, Brazil is expected to harvest record crops of soybeans and corn in 2023, with an estimated grain harvest increase of 19% compared with 2022.⁶ Logistical issues related to the transport of grains have led to historically low premia for domestic prices. The exchange rate appreciation has also contributed to a strong decline in domestic prices of grains, especially corn.

Although the pass-through to final prices is not automatic, the drop in domestic prices of grains affects animal feed costs and benefits the supply of chicken and pork, as well as milk and eggs. Other factors that also contribute to the favorable prospect for the supply of livestock products are the high availability of fed cattle for slaughter – a function of the sector's specific cycle – and the high level of dairy imports. From the demand side, the temporary suspension of beef exports to China in the first half of 2023⁷ and lower export prices compared with 2022 also contributed to lower domestic prices.

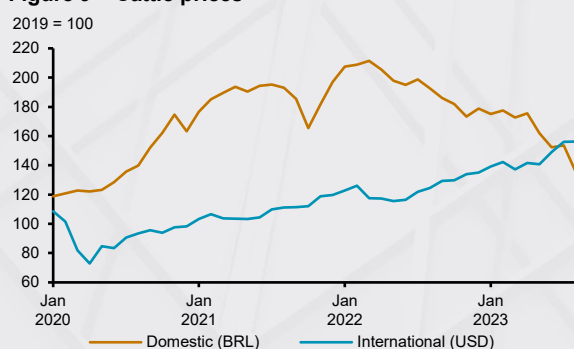
6/ Estimate based on the LSPA from the IBGE. An equivalent Conab estimate indicates expansion of 18.4% in the harvest of grains.

7/ Brazilian beef exports to China were suspended for one month, due to an atypical case of bovine spongiform encephalopathy, commonly called "mad cow disease", in Pará.

Aggregate agricultural commodity prices in the IC-Br have risen slightly in 2023 in USD, a movement that contrasts with the evolution observed in domestic prices. In addition to the exchange rate appreciation and the low premia for domestic prices of some products, the difference can be explained by the upward trend of specific commodities, such as orange juice, and, specially, by the price spread of fed cattle in Brazil and in the US. While the price of fed cattle in Brazil continued to fall strongly in 2023, the equivalent price in the US – which makes up the IC-Br – follows an upward trend (Figure 9).

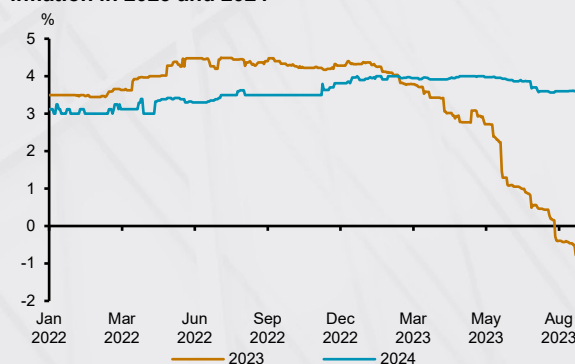
In the year, in addition to the fall in the price of grains and proteins in Brazil, it is noteworthy a strong decline in the price of fertilizers and the exchange rate appreciation, with more widespread impacts across products. At the Aggregate level, food prices to consumers have shown a negative change (-1.82% in 2023 until August, -0.62% in 12 months), largely contributing to the wider disinflation movement. Expectations extracted from the Focus survey for food inflation in the year have followed these movements, falling sharply since early 2023 (Figure 10).

Figure 9 – Cattle prices



Source: Bloomberg, chained series of 2nd futures contracts (international) and spot prices (domestic)

Figure 10 – Focus' median expectations for food inflation in 2023 and 2024



From the weather perspective, *La Niña* weakened in early 2023, with the transition of the Oceanic *Niño* Index (ONI)⁸ to a neutral level, which contributed to the normalization of rainfall in southern Brazil and in Argentina and improved prospects for the US grain production. In the subsequent months, the formation of the *El Niño* phenomenon was confirmed, and it is expected to reach a high intensity by the end of 2023.

Outlook for the next months and 2024

The increase in food prices in Brazil from 2020 to 2022 reflects domestic and global factors, such as those derived from the Covid-19 pandemic. The more favorable trend since the second half of 2022 is also due to several factors, including the decline in commodity prices, the BRL appreciation, and the high domestic supply of fed cattle.

In the next months, the BCB's reference scenario incorporates a reversal of the downward price trend, mainly due to the limited impact of *El Niño*. There is significant uncertainty regarding the magnitude and timing of these impacts, which in the short term tend to manifest themselves in higher prices for fresh products, sensitive to higher temperatures and stronger and irregular rainfall. Besides the expected effect on fresh foods, the recent increases in the international prices of sugar and rice may be partially related to the weather phenomenon, with a rainfall shortage in Southeast Asia.

In particular, regarding rice, increased international prices add an upside risk for domestic prices of the grain, which still has reduced domestic availability. In addition to the drop in the harvest in early 2023, reflecting the droughts in the Southern region of Brazil associated with *La Niña*, rice exports have been robust in 2023.

8/ This index reflects the temperature anomalies in the Pacific Ocean defining the occurrence of *El Niño* and *La Niña*.

This risk to domestic prices, stronger in the late final months of the year, is mitigated by the prospect of more abundant rainfall in the Brazilian Southern region with the transition to *El Niño* and a larger harvest of the grain in the first half of 2024.⁹

For 2024, estimates from the Brazilian agricultural sector indicate a smaller expansion in the total cultivated area, due to lower profitability, suggesting less room for additional declines in grain prices. In the livestock sector, despite reports indicating that the cycle of higher fed cattle supply will continue until 2024, Conab recently projected relative stability in slaughters and moderate price increases when compared with 2023. In the poultry sector, the bird flu with high pathogenicity persists as a risk for the sector both from the point of view of supply and potential impacts on the Brazilian exports.

At a global level, there is evidence of a negative impact of *El Niño* on the productivity of corn, rice, and wheat crops, although it might benefit the productivity of soybeans. A more-extreme-than-anticipated event could have stronger impacts. The Pre-Copom Questionnaire (PCQ)¹⁰ for the Copom September meeting included a question about the impact of an *El Niño* of similar magnitude to that of 2014/2015. The median answers indicate a significant potential effect of 0.85 p.p. on the IPCA accumulated from 2023 to 2024. Of this potential effect, the median indicates that 0.20 p.p. is incorporated into the current analysts' projections.

Table 2 – Impacts on the IPCA in the event of an *El Niño* similar to the one of 2014/2015
Potential impacts and impacts incorporated into projections - PCQ 25th Percentile, 75th Percentile, and Median

	2023			2024			Accumulated 23-24		
	p25	Med	p75	p25	Med	p75	p25	Med	p75
Potential	0.10	0.20	0.38	0.30	0.58	1.08	0.50	0.85	1.50
Incorporated	0.00	0.00	0.10	0.00	0.10	0.28	0.00	0.20	0.38

Participants' answers to the PCQ question: "What is the potential impact on inflation in case *El Niño* has a similar intensity to the 2014/2015 event? How much of this impact is incorporated into your projection?"

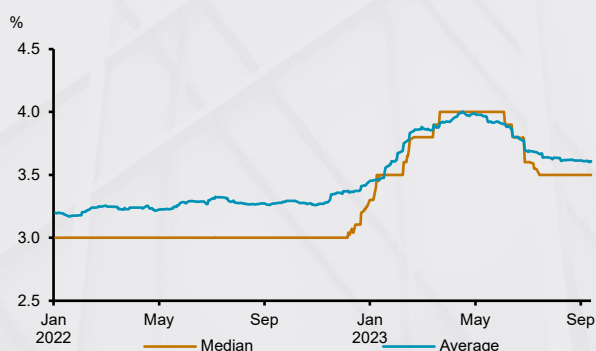
9/ See, for instance, Conab statistics and projections for the 2022/2023 and 2023/2024 harvests in the report (Portuguese only) [Perspectivas para a Agropecuária - V.11 2023-2024](#).

10/ Further information about the Pre-Copom Questionnaire is available at <https://www.bcb.gov.br/controleinflacao/precopom> (Portuguese only).

Dispersion of inflation expectations for 2025

At the turn of 2022 to 2023, long-term inflation expectations of economic analysts for longer horizons deanchored from the inflation target. For instance, according to the Focus survey, the median expectations for the 2025 inflation, as measured by the Extended National Consumer Price Index (IPCA) in 2025, for example, rose from 3% in December 1st to 4% in March 24th. Several factors were listed in that period as potential explanations for the deanchoring, including the possibility of a change in the inflation target.¹ As the National Monetary Council (CMN) confirmed the target of 3.0% in late June 2023, long-term inflation expectations declined in the subsequent weeks, corroborating the assumption that the possibility of a change in the target was, in fact, an explanatory factor with an impact of relevant magnitude. However, the reanchoring of expectations was only partial, to 3.5%, suggesting that other factors remain relevant.

Figure 1 – Expectations (Focus) for 2025 IPCA inflation



With the aim of better understanding the reasons why inflation expectations have only partially reanchored, this box analyses the dispersion of projections reported by economic analysts in the Focus survey and in the Pre-Copom Questionnaire (PCQ) for inflation and other variables. The analysis presented in this box considers 21 explanatory variables, covering the issues of inflation, economic activity, labor market, international economy, and fiscal and monetary policy.² In general, explanatory variables refer to analysts' projections for 2024.³ The period analyzed is that following the CMN's decision. As for the headline IPCA, data is obtained from the Focus survey relative to the critical dates before the Copom meetings of September and August.⁴ For the other variables, PCQ's data relative to the Copom meetings of September (257th), August (256th), and, only for estimates relative to neutral interest rate and potential GDP, June (255th)⁵.

The underlying idea of this analysis is that the reason why analysts project inflation above the target in 2025 may be reflected in their projections for other variables, such as the inflation rate in the US – if analysts

1/ See, for instance, the Minutes of the 252nd Copom meeting (February 2023): "The Committee noted with particular concern the deterioration in longer-term inflation expectations. Such deterioration may have happened for several reasons, among them a possible perception of the Banco Central do Brasil's (BCB) leniency with the targets set by the National Monetary Council (CMN), an expansionary fiscal policy that pressures the aggregate demand over the projection horizon, or the possibility of changes in the inflation targets currently set."

2/ It consists of a selected subset of tested variables. To maintain the box's conciseness, not all results are presented.

3/ Projections for 2023 in general were less relevant than those for 2024.

4/ Only the IPCA was used from the Focus survey, since the PCQ does not include projections for 2025.

5/ The PCQ relative to the 255th Copom meeting was used only for the variables relative to neutral interest rate and potential GDP, since they were collected for the last time in that questionnaire. In theory, these are the variables less often subject to revisions. The following analysis measures the extent to which these variables explain analysts' inflation projections in September.

assess that as a global phenomenon of inflationary persistence – the output gap – if analysts have in mind a classical aggregate demand channel – etc. The analysis assumes that there is some consistency among an institution’s projections for several macroeconomic variables⁶ and some similarity among the economic mechanisms considered by different analysts in their projections.⁷

With the goal of investigating the connections among inflation projections for 2025 and the other variables projected by analysts, the following panel data model was employed⁸:

$$IPCA_2025_{i,t} = \alpha_t + \beta X_{i,t} + u_{i,t},$$

where $IPCA_2025_{i,t}$ represents the projection for the IPCA change in 2025 of the analyst i at the moment t (Copom 256 or 257), $X_{i,t}$ is the projection for one variable of the evaluated set and $u_{i,t}$ is the error term. In this model, α_t represents time-fixed effects and β represents the slope of the connection among these variables.

Table 1 shows the result of the regressions of IPCA projections for 2025, obtained from the Focus survey, against each of the 21 explanatory variables considered in the analysis. Figures 2 to 5 present a visualization of the relationship between the IPCA 2025 and selected variables.

Table 1 – Summary of the univariate analysis

		panel?	n	adj. R ²	β	β p-value ¹
Inflation	IPCA 2024	x	264	0.19	0.54	0.00
	IPCA Serv. 2024	x	144	0.03	0.15	0.00
Activity and labor market	GDP growth 2024	x	201	0.00	-0.06	0.46
	Potential growth		79	-0.01	0.07	0.67
	Output gap 24Q4		60	-0.01	0.03	0.48
	Δ Output gap 2024		60	-0.01	-0.08	0.45
	Unemployment 2024		71	0.05	-0.17	0.10
	Δ Unemployment 2024		71	-0.01	0.00	0.99
External	China GDP growth 2024	x	158	0.00	0.11	0.29
	USA GDP growth 2024	x	160	-0.01	0.02	0.82
	USA CPI inflation 2024	x	150	0.03	0.29	0.07
	Brent price 2024 (+10)	x	150	0.00	0.09	0.09
	Δ Brent price 2024 (+10)	x	150	-0.01	-0.04	0.62
Fiscal	Primary balance/GDP 2024	x	153	0.04	-0.27	0.04
	Δ Primary balance/GDP 2024	x	153	0.00	-0.18	0.16
	Gov. expenditures/GDP 2024	x	131	0.02	0.12	0.02
	GGGD/GDP 2032	x	147	0.00	0.01	0.32
Monetary	Exchange rate 2024	x	196	0.00	0.24	0.20
	Δ Exchange rate 2024	x	196	0.01	0.02	0.11
	Selic	x	197	0.04	0.17	0.01
	Neutral interest rate		81.0	0.03	0.12	0.17

¹ Computed with heteroskedasticity-robust standard errors. In bold, p-value < 0.1.

- 6/ In practice, some factors might prevent forecasts from one institution to be internally consistent with one another. It is possible that: (i) some analysts opt to project each variable separately, without considering its possible interconnections; (ii) different analysts project different variables; (iii) some variables are deemed less relevant than others and are not treated with the same attention; (iv) projections for different variables are not updated synchronously, etc.
- 7/ It is possible that each analyst’s projections are internally consistent but different analysts emphasize different channels when projecting economic variables. In the extreme case, if each institution emphasizes different associative mechanisms across variables, one may be not able to find any connection among them in the cross-section of forecasts despite the internal consistency of projections.
- 8/ For some variables – those collected by a specific PCQ – a panel could not be estimated. In these cases, an analogous regression was carried out for just one period.

Figure 2 – IPCA 2025 x IPCA 2024
Deviation to period's cross-section average

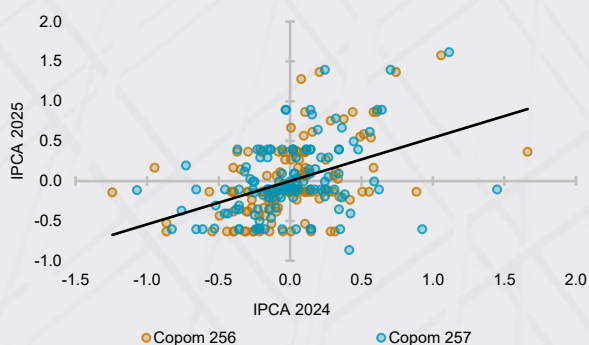


Figure 3 – IPCA 2025 x Unemployment rate 2024
Deviation to period's cross-section average



Figure 4 – IPCA 2025 x primary balance 2024
Deviation to period's cross-section average

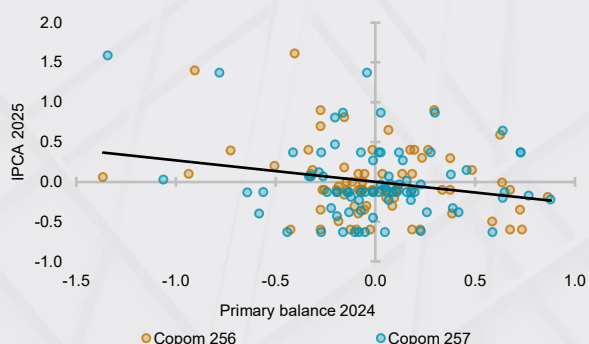
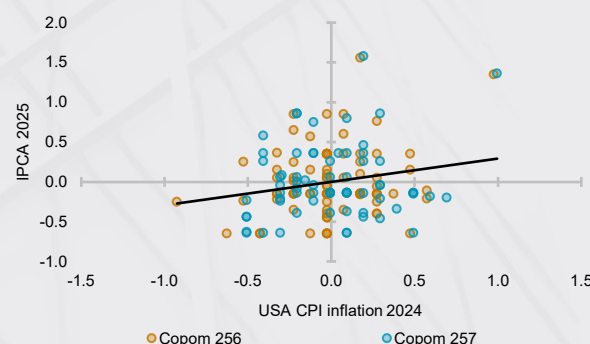


Figure 5 – IPCA 2025 x USA CPI inflation 2024
Deviation to period's cross-section average



The goodness-of-fit of these regressions to data (R^2 -adjusted⁹) is low, i.e., variables have low individual capability of explaining the difference of expectations for the IPCA 2025 across analysts. The poor fit may be a sign that the deanchoring has multiple causes and cannot be properly explained by just one single variable. It may also reflect, to some extent, issues concerning the internal consistency of projections and divergence of economic mechanisms considered by analysts, as previously mentioned in footnotes 6 and 7. Even so, seven of these individual connections are statistically significant at the 10% significance level, which might be suggestive of the channels that analysts at this moment generally have in mind when projecting inflation for a longer horizon.¹⁰

The strongest association is observed with the inflation projection for 2024. On average, an analyst with a 1 p.p. higher projection than another for inflation in 2024 also has a 0.54 p.p. higher projection for inflation in 2025. There may be a direct causal mechanism, due to inflationary inertia, but it is also likely that factors explaining the analyst's general view about inflation in the medium and long-term affect their projections for both 2025 and 2024. Expectations for services inflation in 2024 also have an explanatory power, although not as strong as the headline inflation itself.¹¹

Considering the activity and labor market variables, none seemed capable of explaining the dispersion of analysts' inflation projections. This result might partially reflect the fact that a panel data analysis could not be constructed for most of these variables – which reduced the number of observations and the accuracy of the estimator. The variable that came closer to statistical significance was the unemployment rate, with

9/ Since these are models that use the same dependent variable, the comparison of the quality of adjustment among models is significant. However, there is the caveat that the sample differs amongst models, since some variables have more respondents than others or cover longer periods than others.

10/ However, it is noteworthy that, when multiple associations are tested, some will show up as statistically significant even if there is no true relationship between these variables.

11/ All inflation components for 2024 (administered, food, industrial, and services) present some explanatory power.

a p-value slightly above 10%. The point estimate suggests that an analyst projecting an unemployment rate 1 p.p. higher than another has, on average, an inflation projection 0.17 p.p. lower.

As for the international economy variables, only inflation expectations in the US and the Brent-type oil price were relevant. On average, an analyst projecting US inflation in 2024 1 p.p. higher than another for the US inflation in 2024 has a projection 0.29 p.p. higher for the Brazilian inflation in 2025, suggesting the perception of persistent global inflation as an explanatory factor for the deanchoring of expectations.¹² As for the oil price, an analyst projecting a price USD 10 higher than another on average projects an inflation 0.09 p.p. higher.

As for fiscal variables, both the primary balance and central government expenses in 2024, both as a GDP percentage, seemed relevant. An analyst projecting a primary deficit 1 p.p. higher than another, as a GDP percentage, has on average a projection 0.27 p.p. higher for inflation in 2025. And an analyst projecting expenses 1 p.p. higher has on average a projection 0.12 p.p. higher. Analysts' projections for the GGGD/GDP ratio in 2023 – variable that tries to capture the perception about the debt sustainability – did not show an explanatory power.

Finally, among monetary variables, only the projection for the Selic rate in late 2024 showed statistical significance. The projection for the Selic rate revealed a positive correlation with inflation expectations – suggesting the expectation of a BCB response to a worsening of inflation dynamics. On average, an analyst projecting 1 p.p. higher Selic rate for late 2024 has an inflation projection for IPCA in 2025 0.17 p.p. higher. At first, it is not clear what sign should be expected for this association. On the one hand, the monetary policy conduct is such that, when inflation or inflation expectations increase, the Selic rate increases (positive association). On the other hand, there is an economic relationship concerning the increase of interest and the decline of inflation (negative association), which might occur through several transmission channels, including the aggregate demand. Depending on the context, analysts might give higher weight to one or other mechanism in their projections.¹³

Given that the hypothesis of analysts' perception of leniency by the BCB was raised when expectations deanchored, an additional comment on the relationship found for the Selic is in order. The magnitude of the coefficient should not be used to assess whether there is a perception that the BCB follows the so-called Taylor principle, according to which an increase of 1 p.p. on inflation should result in a larger increase in the nominal interest rate. Firstly, because the coefficient of the Taylor rule is of an inverse relationship (interest rates explained by inflation).¹⁴ Secondly, because the relationship found might reflect a balance between mechanisms with distinct signs, as previously mentioned.

Table 2 shows the results of a robustness test to evaluate the stability of associations when control variables are added. For this purpose, all regression combinations are estimated¹⁵ with up to four explanatory variables, as long as the sample had fifty or more observations.¹⁶ The table shows statistics describing the set of estimations carried out, grouped by the presence of each variable. For example, the first line presents statistics describing the set of estimations including the variable "IPCA 2024" among regressors.

12/ However, it is noteworthy that the inflation projection for Europe and China did not seem relevant.

13/ In the time series of actual variables, the correlation between the Selic rate (accumulated in the month) and smoothed inflation expectations 12 months ahead (average in the month of daily Focus data) is 0.63.

14/ Considering the reverse regression – of the Selic rate projection in late 2024 against the projection for the IPCA variation in 2025 – the estimated coefficient is 0.29.

15/ Following the previously mentioned specification, with time-fixed effects, whenever the combination of explanatory variables resulted in panel data.

16/ This procedure is not adequate when the addition of control variables aims to estimate a causal parameter. In this box, the goal is only to evaluate to which extent the correlations can change with the inclusion of other variables.

Table 2 – Summary of the robustness analysis

		number of models	freq. panel	avg. number of obs.	statistics of coef(x)			
					avg.	std. dev.	freq. sign unch.	freq. sig. 10% ¹
Inflation	IPCA 2024	999	47%	90.6	0.81	0.16	100%	100%
	IPCA Serv. 2024	731	64%	90.3	0.14	0.06	99%	69%
Activity and labor market	GDP growth 2024	999	47%	90.5	-0.03	0.11	62%	3%
	Potential growth	366	0%	55.8	0.04	0.08	73%	0%
	Output gap 24Q4	293	0%	52.5	0.06	0.04	90%	7%
	ΔOutput gap 2024	293	0%	52.5	-0.09	0.05	97%	0%
	Unemployment 2024	563	0%	56.4	-0.19	0.10	100%	33%
	ΔUnemployment 2024	563	0%	56.4	0.10	0.15	79%	19%
External	China GDP growth 2024	798	59%	91.4	0.20	0.11	99%	30%
	USA GDP growth 2024	813	58%	91.7	-0.02	0.08	47%	0%
	USA CPI inflation 2024	766	61%	90.8	0.30	0.14	97%	29%
	Brent price 2024 (+10)	800	59%	90.3	0.11	0.06	98%	22%
	ΔBrent price 2024 (+10)	800	59%	90.3	-0.05	0.09	67%	8%
Fiscal	Primary balance/GDP 2024	839	56%	90.4	-0.29	0.19	97%	48%
	ΔPrimary balance/GDP 2024	839	56%	90.4	-0.09	0.23	79%	21%
	Gov. expenditures/GDP 2024	576	82%	97.1	0.12	0.04	100%	73%
	GGGD/GDP 2032	754	62%	90.4	0.01	0.01	84%	8%
Monetary	Exchange rate 2024	981	48%	90.9	0.22	0.24	82%	3%
	ΔExchange rate 2024	981	48%	90.9	0.02	0.01	97%	21%
	Selic	985	48%	90.7	0.15	0.09	95%	48%
	Neutral interest rate	404	0%	55.9	0.12	0.07	99%	37%

¹ Computed with heteroskedasticity-robust standard errors.

In general, results corroborate data presented in Table 1. The average value of coefficients among the hundreds of estimates for each variable is generally similar to that obtained by the univariate regression. The coefficient sign is often maintained for most of the variables. Furthermore, statistically significant variables in the univariate analysis are those that more often show statistical significance in several estimations.

In short, results suggest that there is no single factor explaining the dispersion of agents' expectations for inflation in 2025. Considering the projections of macroeconomic variables that best explain the variation of inflation expectations among economic analysts, the factors that seem to stand out are inflationary inertia, global inflation persistence, and the prospect of primary deficits or larger public expenses. Moreover, analysts more pessimistic with the prospective inflation project a higher trajectory for the Selic rate.

These results should be taken with caution and treated as suggestive, not as conclusive, about what motivates economic analysts to maintain their inflation projections above the inflation target.

This chapter analyzes the inflation outlook up to 2026, therefore covering all years for which the CMN sets inflation targets, considering the cut-off date of this document.

Inflation projections presented herein represent the Copom's view. Projections are generated using a set of models and available information, combined with judgment.

Inflation projections are conditional on a set of variables. In particular, the scenarios use as conditioning factors the trajectories of the Selic rate from the BCB's Focus survey and the exchange rate based on the purchasing power parity (PPP) theory.²³

The projections depend not only on assumptions about interest and exchange rates, but also on a set of assumptions about the behavior of other exogenous variables. Projections are presented together with probability intervals that highlight the degree of uncertainty involved.

In this IR, projections use data available up to the 257th Copom meeting, held on September 19-20, 2023. As for the conditioning factors used in the projections, especially those from the Focus survey, the cut-off date is September 15, 2023, unless otherwise stated.

23/ Further details in the box [Exchange rate path in BCB projections and the purchasing power parity](#), of the September 2020 IR.

2.1 Revisions and short-term projections

Table 2.1.1 – Inflation surprise

	% change				
	2023				
	Jun	Jul	Aug	Quarterly	12-month up to Aug.
Copom scenario ^{1/}	-0.08	0.29	0.25	0.46	4.81
Actual IPCA	-0.08	0.12	0.23	0.27	4.61
Surprise	0.00	-0.17	-0.02	-0.19	-0.20

Sources: IBGE and BCB

1/ Scenario at the cut-off date of the June 2023 IR.

Consumer inflation, measured by the IPCA, surprised downward in the Jun-Aug quarter, 0.19 p.p. below the level expected by Copom in the June reference scenario (Table 2.1.1). In the opposite direction, the inflation projection for September was revised from 0.26% in the previous IR to 0.38% in this IR.²⁴

In relation to the Copom reference scenario, the downward surprise in the quarter was mainly due to the food-at-home segment, especially lower-than-expected changes in semi-manufactured foods such as milk, meat, and chicken. The change of the underlying component of services inflation was also lower than anticipated in the quarter. The downward surprises, largely influenced by the evolution of the residential rent item, were concentrated in July and August, and offset the higher change of June. From June to August, the change in industrial goods prices was close to that projected in the previous IR, while the administered prices segment showed a slightly higher-than-expected change, reflecting the adjustment in fuels, especially gasoline.²⁵

Table 2.1.2 – IPCA – Short-term projection^{1/}

	% change			
	2023			
	Sep	Oct	Nov	Dec
Monthly change	0.38	0.41	0.39	0.53
Quarterly change	0.73	1.02	1.18	1.34
12 months change	5.31	5.12	5.10	5.01

Sources: IBGE and BCB

1/ Scenario at cut-off date.

Prospectively, in the Copom's reference scenario, short-term projections consider changes of 0.38% in September, 0.41% in October, 0.39% in November, and 0.53% in December (Table 2.1.2).

The revision in the September projection in relation to the previous IR is concentrated in the administered prices segment, whose variation in the month should still reflect the adjustment in the price of gasoline to distributors in mid-August. Conversely, the September projection for food-at-home prices was reduced, largely influenced by an additional fall expected in the price of beef.

The reference scenario up to December foresees higher changes than those observed in the Jun-Aug quarter, in line with the stronger seasonality of the period. In the case of food-at-home prices, the projection incorporates, in addition to the less favorable seasonality, impacts of limited magnitude

24/ Inflation released in the Jun-Aug quarter was also below that expected by market analysts, whereas the current median expectation for the September inflation is higher than that observed in the cut-off date of the previous IR. The median inflation in the Jun-Aug quarter projected by Focus participants on June 16, 2023, was 0.51%. The percentiles 10 and 90 of the distribution were 0.25% and 0.86%, respectively. The Focus median inflation projection for September was 0.30% on June 16, 2023, and increased to 0.41% in the cut-off date of this IR.

25/ As indicated in the Prices section of Chapter 1.2, the price of Brent-type oil has grown sharply since the cut-off date of the previous IR.

derived from the *El Niño* weather phenomenon. There is significant uncertainty regarding the magnitude and timing of these impacts, which in the short term tend to manifest themselves in higher prices for fresh products.²⁶ Industrial goods prices should continue a path of disinflation, in line with the still favorable evolution in producer prices. In services, the reference scenario envisages modestly higher changes in the underlying component by the end of 2023, considering that the lower level recorded in the July and August readings partly reflected idiosyncratic movements in specific components, such as residential rent. Overall, the prospects for a gradual slowdown in the component remain. Finally, in the reference scenario, the monthly change in the average core inflation should persist above the level compatible with the inflation target, but within the tolerance band interval.

After reaching the lowest level of the year in June, 12-month inflation is expected to return to a level above 5% in September, a rise that had been already anticipated since previous Inflation Reports and that reflects the end of the direct effects of tax exemptions implemented in 2022 on the year-on-year inflation rate.

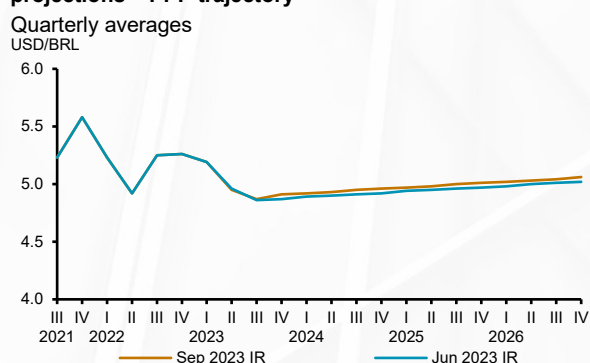
2.2 Conditional projections

Conditioning factors

The considered inflation scenarios are built using several conditioning factors. The exchange rate starts at USD/BRL 4.90²⁷, 1% up from the value of USD/BRL 4.85 of the June 2023 IR, and follows a path according to the PPP²⁸ (Figure 2.2.1). Averages for the last quarters of 2023, 2024, 2025, and 2026 are USD/BRL 4.91, USD/BRL 4.96, USD/BRL 5.01, and USD/BRL 5.06, respectively.

The starting values for the exchange rate and oil price used in the projections are based on the five business days ending on the last day of the week

Figure 2.2.1 – Exchange rate assumptions for projections – PPP trajectory

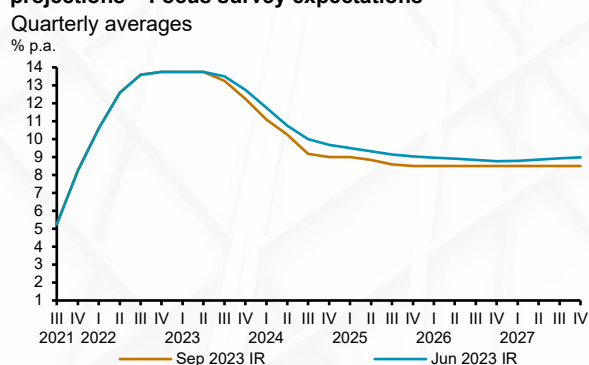


26/ In the Pre-Copom Questionnaire for the September Copom meeting, the median projection of market analysts does not incorporate the effects of *El Niño* in 2023, although it estimates a significant potential impact if the magnitude of the phenomenon approaches that observed in 2015/2016.

27/ Value obtained according to the usual procedure of rounding the average USD/BRL exchange rate observed on the five business days ending on the last day of the week before the Copom meeting.

28/ For the easiness in the formulation of projections and the simplicity of communication, the assumed inflation differential is the difference between the Brazilian inflation target for each year and the long-term external inflation, considered as 2% p.a., in line with the inflation target of most developed countries.

Figure 2.2.2 – Selic rate target assumptions for projections – Focus survey expectations



before the Copom meeting. This procedure tries to capture the most recent movements in these variables. However, as the exchange rate and the oil price are very volatile, projections are susceptible to very short-term movements in these variables. In an attempt to reduce this susceptibility and in line with the practices of other central banks, Copom has decided as of its next meeting to adopt, in its reference scenario, a period of ten business days instead of five for the starting values of the exchange rate and the oil price. This is deemed to provide a better balance between the use of more recent information and lower sensitivity to high-frequency variations. This change, however, does not prevent Copom from analyzing scenarios using different criteria in its decision-making process.

As for the Selic rate, the median expectations trajectory extracted from the Focus survey of September 15, 2023, is a sequence of eight declines of 0.50 p.p. and one of 0.25 p.p., that starts on the September meeting, reaching 9.00% p.a. at the September 2024 meeting (Figure 2.2.2). In this trajectory, the Selic rate for the end of 2023, 2024, 2025, 2026, and 2027 is 11.75% p.a., 9.00% p.a., 8.50% p.a., 8.50% p.a., and 8.50% p.a., respectively.²⁹ These values are lower than those indicated in the survey used in the previous IR, carried out on June 16, 2023, of 12.25%, 9.50%, 9.00%, and 8.75% at the end of 2023, 2024, 2025, and 2026, respectively.

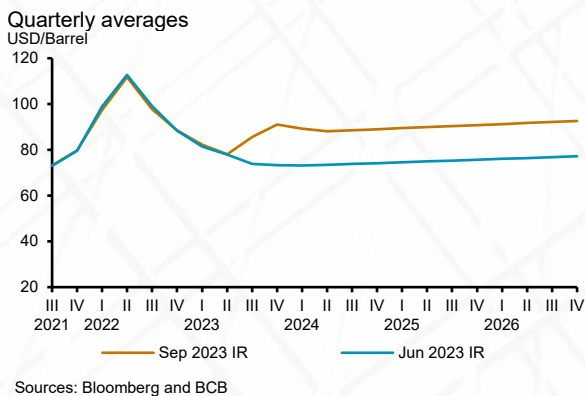
The considered scenarios also have assumptions for several other conditioning factors. The current level of economic uncertainty is expected to decrease over time. From the fiscal point of view, it is supposed that the central government primary balance corrected by the economic cycle and by outliers, in the 12-month period, declines significantly throughout 2023 and then recovers partially. The neutral real interest rate assumed in projections is 4.5% p.a. in the considered horizon.³⁰ The scenarios also incorporate the occurrence of the *El Niño* phenomenon. In terms of electricity flag rates, the green flag is assumed for December 2023, 2024, 2025, and 2026.

Regarding the oil price used in the projections, the assumed value is that around the average of prices effective during the week before the Copom's

29/ As described in the box [Revision of the small-scale aggregate model](#) of the December 2021 IR, the Selic rate used in the IS curve refers to the Selic rate path one year ahead. Therefore, the interest rate over 2026 also depends on the Selic path over 2027. The construction of the Selic rate path in this scenario includes interpolation for the months in which the survey does not collect the respective data, using as reference the values of each year's end.

30/ For several estimates of the neutral interest rate, see box [Measures of neutral real interest rate in Brazil](#), of the June 2023 IR.

Figure 2.2.3 – Brent-type oil price



meeting. The assumption is that oil prices follow approximately the futures market curve for the following six months, reaching around USD 88/barrel, and then start increasing 2% p.a. onwards (Figure 2.2.3). Oil prices have grown significantly since the June 2023 IR. When compared with the previous IR, the average oil price assumed for 2023Q4 is about 24% higher.

Projections evaluated by Copom depend on assessments about the evolution of fiscal and quasi-fiscal policies and their institutional framework, reforms, and necessary adjustments in the economy. Their effects on projections are captured through asset prices, the degree of uncertainty, expectations from the Focus survey, and their effect on the economy's structural interest rate. Besides these channels, fiscal policy influences inflation conditional projections by impulses over the aggregate demand.

Inflation determinants

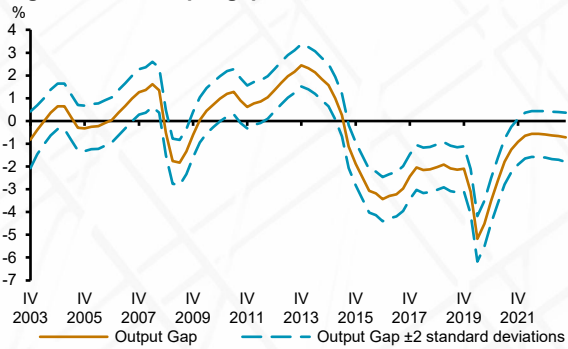
The prices of energy and agricultural commodities have increased since the previous IR, pressuring the IC-Br measured in USD. When comparing 2023Q3 and 2023Q2 averages, the IC-Br grew 3.4%. In this comparison, changes in the agricultural, metal, and energy segments reached 3.7%, -1.6%, and 6.2%, respectively.

The output gap – an unobservable variable whose measurement is subject to high uncertainty – is measured by the BCB using different methodologies. This chapter presents the estimated output gap according to the small-scale aggregate model.³¹ In this estimation, the output gap is an unobservable variable whose trajectory incorporates information from four economic activity variables referring to the economy output and the slack of production factors. Specifically, the estimation uses the GDP, the Nuci, calculated by the Getulio Vargas Foundation (FGV), the unemployment rate (measured by the IBGE), and the stock of formal jobs (measured by New Caged of the Ministry of Labor and Employment – MLE).³² It is noteworthy that the model adds economic structure to the estimation of the output gap trajectory by considering its relationship with market prices inflation, via the Phillips curve, and the IS curve itself.

31/ See box [Revision of the small-scale aggregate model](#), of the December 2021 IR.

32/ Seasonally adjusted series are used.

Figure 2.2.4 – Output gap estimates



Note: Figure data: 2003Q4–2023Q3.

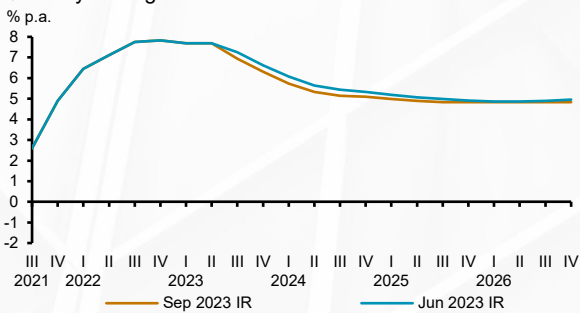
Using this methodology, the estimated output gap, which had been following a narrowing trajectory, began to widen in the second half of 2022 (Figure 2.2.4). The output gap is estimated at -0.7% in both 2023Q2 and 2023Q3³³, against the values of -1.2% and -1.4%, respectively, used in the previous IR. Stronger-than-expected activity indicators, especially regarding the 2023Q2 GDP³⁴ and the unemployment rate, and the revision of short-term projections of those indicators contributed to a tighter output gap estimate by the model. It is noteworthy that, due to high uncertainties involving output gap estimates, Copom evaluates projections with different estimates and scenarios for this variable.

The recent evolution of economic activity has been positive. The seasonally adjusted GDP rose 0.9% in 2023Q2, compared with 2023Q1, against an increase of 1.8% in 2023Q1 over 2022Q4. In view of the positive surprise in 2023Q2, the GDP growth projection for the year rose from 2.0% to 2.9%.³⁵ Labor market has shown some resilience. The unemployment rate, measured by the PNAD-C, dropped again, while the employed population expanded. When considering the creation of formal jobs measured by the New Caged, net hirings have been positive, albeit showing relatively decreasing figures. Similarly, the Nuci, which had reached the highest values since 2014 in 2022Q3 and then started a downward trajectory up to early 2023, partially recovered.

The projected output gap for 2023Q4 is -0.8%, therefore a little wider than estimated for 2023Q3, but tighter than projected in the previous IR, -1.5%. For 2024Q4, the output gap is projected at -0.8%, following a narrowing path onwards. The main factor explaining this trajectory is the used Selic rate path, with a decrease of 0.50 p.p. in the August 2023 meeting and a downward movement ahead extracted from the Focus survey.

Compared with the previous IR, the four-quarter-ahead Selic rate discounted from inflation expectations for the same period, both variables extracted from the Focus survey and measured in terms of quarterly averages, fell in the entire horizon considered (Figure 2.2.5). These values reflect the decline in the nominal Selic trajectory (Figure 2.2.2), which was stronger than the reduction in inflation expectations. According to this metric, after reaching

Figure 2.2.5 – Four-quarter-ahead real Selic
Quarterly averages



Note: Real Selic calculated as the four-quarter-ahead Selic rate, discounted from inflation expectations for the same period, both variables extracted from the Focus survey

33/ For 2023Q3, projections of these activity variables were used when data were not available.

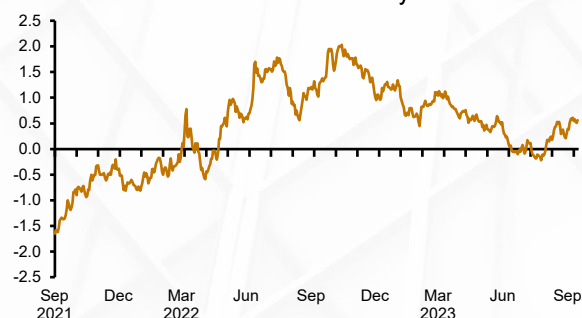
34/ See Section 1.2 of this IR.

35/ See box “Projections for 2023 and 2024 GDP growth”, of this IR.

the trough of -1.3% in 2020Q4, the real interest rate entered a rapidly ascending trajectory, reaching a peak of 7.8% in 2022Q4. The rate decline was slight in the first half of 2023 (7.7%), further intensifying in the subsequent quarters. The real interest rate falls to 6.9% in 2023Q3 and reaches 6.3% at the end of the year, 5.1% at the end of 2024, and 4.8% at the end of 2025 and 2026, still above the assumed neutral interest rate of 4.5%.

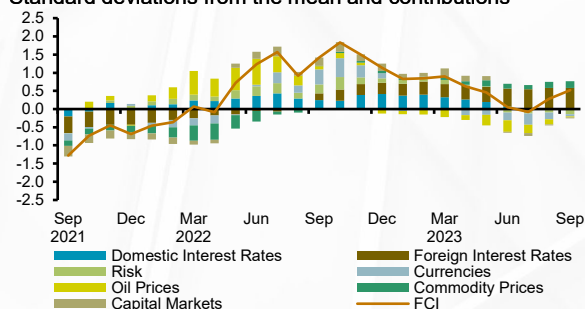
Uncertainty decreased in June and July and increased in August, but is still below the May level, according to the FGV's Brazilian Economy Uncertainty Index – Brazil (IIE-Br). The behavior of uncertainty should depend on both external variables, such as volatility in international markets, and domestic variables, such as the trajectory of fiscal variables.

Figure 2.2.6 – Financial Conditions Index
Standard deviations from the mean – daily series



Note: The higher the value of the index, the more restrictive the financial conditions. Figure data: 09.01.2021–09.15.2023.

Figure 2.2.7 – Financial Conditions Index
Standard deviations from the mean and contributions



Note: The higher the value of the index, the more restrictive the financial conditions. Values refer to monthly averages. Sep/2023 value refers to the average until the 15th.

Financial conditions have oscillated since the previous IR, as measured by the BCB's Financial Conditions Index (FCI) (Figures 2.2.6 and 2.2.7).³⁶ The FCI dropped in July and rose in August and September (average value until September 15th), interrupting the downward trend after the peak of October 2022. The main factors explaining the FCI fall in July were the decrease of future interest rates in Brazil, the drop in the country-risk, the BRL appreciation, the increase of agricultural and metal commodity prices, and the appreciation of domestic and foreign stock exchanges, which more than offset the increase in oil prices and the rise in futures interest rates in developed economies. However, in August and September, the latter two factors continued to strengthen, accompanied by the global USD appreciation, the BRL depreciation, a decline of agricultural and metal commodity prices, and a fall in the domestic stock exchange. It should be emphasized that the FCI reflects a series of elements and should not be interpreted as an indicator of monetary stimulus or tightening. Moreover, the relationship of this indicator with inflation is ambiguous because some of its components, such as those related to the risk premium and the exchange rate, are in general positively related to inflation and negatively related to activity. Therefore, tighter financial conditions indicate lower economic activity growth ahead, but may imply either higher or lower inflation, depending on the factors conditioning its movement.

36/ By construction, the FCI is a dimensionless measure, with a zero mean and unit variance in the sample considered since January 2006. For a description of the methodology used in the FCI calculation, see box [Financial Conditions Indicator](#), of the March 2020 IR, and for the FCI decomposition into domestic and external factors, see box [Decomposition of the Financial Conditions Index into domestic and external factors](#), of the December 2022 IR.

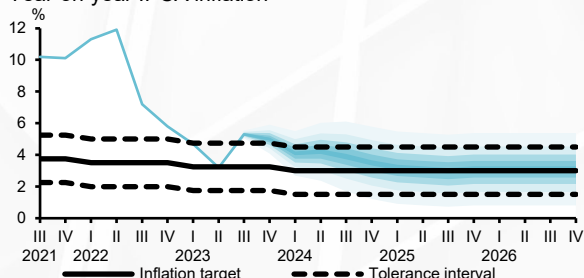
Table 2.2.1 – Inflation projections – Scenario with Selic from Focus survey and PPP exchange rate

Year-on-year IPCA inflation						%
Year	Qtr	Target	June IR	September IR	Difference (p.p.)	
2023	III		5.4	5.3	-0.1	
2023	IV	3.25	5.0	5.0	0.0	
2024	I		4.1	4.1	0.0	
2024	II		4.1	4.2	0.1	
2024	III		3.7	3.9	0.2	
2024	IV	3.00	3.4	3.5	0.1	
2025	I		3.2	3.2	0.0	
2025	II		3.1	3.1	0.0	
2025	III		3.0	3.0	0.0	
2025	IV	3.00	3.1	3.1	0.0	
2026	I		-	3.1	-	
2026	II		-	3.1	-	
2026	III		-	3.1	-	
2026	IV	3.00	-	3.1	-	

Table 2.2.2 – Inflation projection and probability intervals – Scenario with Selic from Focus survey and PPP

Year-on-year IPCA inflation									%
Year	Qtr	Probability Intervals							
		50%	30%	10%	Central	10%	30%	50%	
2023	III	5.2	5.2	5.3	5.3	5.3	5.3	5.4	5.4
2023	IV	4.6	4.8	4.9	5.0	5.1	5.2	5.2	5.4
2024	I	3.5	3.8	4.0	4.1	4.2	4.4	4.4	4.7
2024	II	3.5	3.8	4.1	4.2	4.3	4.6	4.6	5.0
2024	III	3.0	3.4	3.7	3.9	4.1	4.4	4.4	4.8
2024	IV	2.6	3.0	3.3	3.5	3.7	4.0	4.0	4.4
2025	I	2.3	2.7	3.0	3.2	3.4	3.7	3.7	4.1
2025	II	2.2	2.6	2.9	3.1	3.3	3.6	3.6	4.0
2025	III	2.1	2.5	2.8	3.0	3.2	3.5	3.5	3.9
2025	IV	2.2	2.6	2.9	3.1	3.3	3.6	3.6	4.0
2026	I	2.2	2.6	2.9	3.1	3.3	3.6	3.6	4.0
2026	II	2.2	2.6	2.9	3.1	3.3	3.6	3.6	4.0
2026	III	2.2	2.6	2.9	3.1	3.3	3.6	3.6	4.0
2026	IV	2.2	2.6	2.9	3.1	3.3	3.6	3.6	4.0

Figure 2.2.8 – Inflation projection and fan chart – Scenario with Selic from Focus survey and PPP



Note: The lines of the inflation target and the tolerance interval refer only to the calendar year, but, for better visualization, they are presented for all quarters.

The median inflation expectation collected by the Focus survey, when compared with the previous IR, fell in all years, similarly to what was observed in the previous IR. For 2023, the median dropped from 5.12% to 4.86%; for 2024, from 4.00% to 3.86%; and, for 2025 and 2026, from 3.80% to 3.50%.

Inflation projections

Projections in this IR represent the Copom's view and resulted from the combination of the following elements: i. experts' analysis of recent developments and projections for market prices in shorter horizons and for administered prices up to a certain horizon; ii. use of studies and macroeconomic models, satellite models, and specific models for administered price items; iii. building of trajectories and assumptions for the conditioning variables; and iv. assessment on the state and prospects of the economy.³⁷

In the reference scenario, which uses the oil price trajectory following approximately the futures curve for the next six months, the Selic rate of the Focus survey, and the exchange rate following the PPP, four-quarter inflation oscillates throughout 2023, depending on the inclusion or not, in the period, of the effects of the tax exemption on fuels, concentrated in 2022Q3, and the reinstatement of taxes on gasoline and ethanol occurred in 2023Q1 and 2023Q3. One of the results is the sharp increase in the 12-month inflation projection from 2023Q2 to 2023Q3 with the exclusion of 2022Q3. The 2023 inflation is projected at 5.0%, lower than in 2022 (when it was 5.8%), and above the upper limit of the tolerance range (4.75%) of the inflation target (3.25%). Projected inflation falls to 3.5% in 2024 and to 3.1% in 2025 and 2026, against inflation targets of 3.00% for these years (Tables 2.2.1 and 2.2.2 and Figure 2.2.8).

In terms of the estimated probabilities that inflation exceeds the limits of the tolerance range (Table 2.2.3), it is noteworthy in the reference scenario the rise in the probability of inflation exceeding the upper limit in 2023, which rose from around 61% in the previous IR to 67%.

In comparison with the June 2023 IR, in the reference scenario, inflation projections registered minor

37/ See box [BCB's analysis and projection system](#), of the March 2023 IR.

Table 2.2.3 – Estimated probabilities of inflation surpassing the target's tolerance interval

Year	Lower limit	Probability of surpassing the lower limit	Upper limit	%
				Probability of surpassing the upper limit
2023	1.75	0	4.75	67
2024	1.50	7	4.50	24
2025	1.50	12	4.50	16
2026	1.50	12	4.50	16

Note: Numbers rounded to the nearest integer value.

Table 2.2.4 – Inflation projections of market and administered prices – Scenario with Selic from Focus
Year-on-year IPCA inflation

Year	IPCA		Market prices		Administered prices	
	June IR	September IR	June IR	September IR	June IR	September IR
	2023	5.0	5.0	3.7	3.2	9.0
2024	3.4	3.5	2.9	3.1	4.6	4.5
2025	3.1	3.1	2.9	2.9	3.4	3.6
2026	-	3.1	-	3.1	-	3.4

Note: the values shown are rounded off. Therefore, aggregated values may not match the simple combination of rounded disaggregated values.

changes. Several upside and downside factors were observed, but, to a large extent, they tended to offset one another. The main factors leading to the increase or decline of inflation projections are listed below.

Main upside factors:

- lower Selic rate trajectory in the Focus survey;
- strong oil prices increase; and
- stronger-than-expected economic activity indicators.

Main downside factors:

- recent lower-than-expected realized inflation; and
- fall in inflation expectations.

When the groups of market and administered prices are considered (Table 2.2.4), in comparison with the June 2023 IR, the opposite movement between market and administered prices stands out. In particular, for 2023, a significant decline was observed in the projection for market prices inflation, mainly driven by food-at-home, and a strong increase in the projection for administered prices, impacted by the sharp oil prices increase.

In comparison with the 256th Copom meeting held in August, inflation projections increased 0.1 p.p. for 2023, 2024, and 2025 (see the Minutes of the 256th meeting). Key factors were basically the same indicated in the comparison with the previous IR projections, highlighting among the differences the higher exchange rate variation considered.

2.3 Monetary policy conduct and balance of risks

The global environment became more uncertain, with the disinflationary process continuing despite an environment of high core inflation and resilience in the labor market of many countries. The central banks of major economies remain committed to bringing inflation back to its targets. The Committee noted an increase in long-term interest rates in the United States as well as forecasts of lower growth in China, both demanding further attention from emerging market economies.

Regarding the domestic scenario, economic activity showed greater-than-expected resilience, but

the Committee continues to anticipate economic deceleration for the next quarters. As expected, twelve-month headline consumer inflation increased in the recent period. Various measures of underlying inflation have recently fallen but remain above the inflation target. Inflation expectations for 2023, 2024, and 2025 collected by the Focus survey are around 4.9%, 3.9%, and 3.5%, respectively.

In its most recent meeting (257th), the Committee emphasizes that its inflation scenarios encompass risk factors in both directions. Among the upside risks for the inflationary scenario and inflation expectations, it should be emphasized (i) a greater persistence of global inflationary pressures; and (ii) a stronger-than-expected resilience of services inflation due to a tighter output gap. Among the downside risks, it should be noted (i) a greater-than-projected deceleration of global economic activity; and (ii) an impact on global disinflation larger than expected from synchronized monetary policy tightening.

Given the importance of the execution of the fiscal targets already established for the anchoring of inflation expectations, and hence for the conduct of monetary policy, the Committee reinforces the importance of firmly pursuing those targets.

On that occasion, considering the evolution of the disinflationary process, the assessed scenarios, the balance of risks, and the broad array of available information, Copom decided to reduce the Selic rate by 0.50 percentage point, to 12.75% p.a., and judges that this decision is consistent with the strategy for inflation convergence to a level around its target throughout the relevant horizon for monetary policy, which includes the year of 2024 and, to a lesser extent, 2025. Without compromising its fundamental objective of ensuring price stability, this decision also implies smoothing economic fluctuations and fostering full employment.

The current context, characterized by a stage in which the disinflationary process tends to be slower and with partial reanchoring of inflation expectations, requires serenity and moderation in the conduct of monetary policy. The Committee reinforces the need to persist on a contractionary monetary policy until the disinflationary process consolidates and inflation expectations anchor around its targets.

If the scenario evolves as expected, the Committee members unanimously anticipate further reductions

of the same magnitude in the next meetings and judge that this pace is appropriate to keep the necessary contractionary monetary policy for the disinflationary process. The Committee emphasizes that the total magnitude of the easing cycle throughout time will depend on the inflation dynamics, especially the components that are more sensitive to monetary policy and economic activity, on inflation expectations, in particular the longer-term ones, on its inflation projections, on the output gap, and on the balance of risks.

Appendix

Banco Central do Brasil Management Monetary Policy Committee (Copom)

Banco Central do Brasil Management

Board of Governors

Roberto de Oliveira Campos Neto
Governor

Carolina de Assis Barros
Deputy Governor for Administration

Diogo Abry Guillen
Deputy Governor for Economic Policy

Maurício Costa de Moura
Deputy Governor for Institutional Relations and
Citizenship

Fernanda Magalhães Rumenos Guardado
Deputy Governor for International Affairs and
Corporate Risk Management

Renato Dias de Brito Gomes
Deputy Governor for Licensing and Resolution

Gabriel Muricca Galipolo
Deputy Governor for Monetary Policy

Otávio Ribeiro Damaso
Deputy Governor for Regulation

Ailton de Aquino Santos
Deputy Governor for Supervision

Members of the Monetary Policy Committee (Copom)

Members

Governor

Roberto de Oliveira Campos Neto

Deputy Governor

Ailton de Aquino Santos

Deputy Governor

Carolina de Assis Barros

Deputy Governor

Diogo Abry Guillen

Deputy Governor

Fernanda Magalhães Rumenos Guardado

Deputy Governor

Gabriel Muricca Galípolo

Deputy Governor

Maurício Costa de Moura

Deputy Governor

Otávio Ribeiro Damaso

Deputy Governor

Renato Dias de Brito Gomes

Heads of Department Participating in the Copom Meetings (Resolution nr. 61/2021)

Department of Banking Operations and Payments System – Deban

Rogério Antônio Lucca

Department of Economics – Depec

Ricardo Sabbadini

Department of Foreign Reserves – Depin

Alan da Silva Andrade Mendes

International Affairs Department – Derin

Fabia Aparecida de Carvalho

Open Market Operations Department – Demab

André de Oliveira Amante

Research Department – Depep

André Minella

Acronyms

3MMA	3-month moving average
ABCR	Brazilian Association of Highway Concessionaires
Abecip	Brazilian Association of Real Estate Credit and Savings Companies
ABPO	Brazilian Corrugated Board Association
Abrainc	Brazilian Association of Real Estate Developers
ANS	National Supplementary Health Agency
APU	Administration, Defense, Public Education and Healthcare and Social Security
BCB	Banco Central do Brasil
CBIC	Brazilian Chamber of Construction
CBS	Contribution on Goods and Services
CCT	Collective Bargaining
CMN	National Monetary Council
Cofins	Contribution for Social Security Financing
Comef	Financial Stability Committee
Conab	National Supply Company
Continuous PNAD	Continuous National Household Sample Survey
Copom	Monetary Policy Committee
Covid-19	Coronavirus disease 2019
CPI	Consumer Price Index
CSLL	Social Contribution on Net Income
Depec	Department of Economics
Depep	Research Department
Derin	International Affairs Department
Dstat	Department of Statistics
ECB	European Central Bank
Empapel	Brazilian Association of Paper Packaging
ENA	Affluent Natural Energy
FCDF	Constitutional Federal District Fund
FCI	Financial Conditions Indicator
FCVS	Wage Variation Compensation Fund
Fed	Federal Reserve
Fenabrave	National Federation of Automotive Vehicle Distribution
FGTS	Employment Compensation Fund
FGV	Getulio Vargas Foundation
Fipe	Institute of Economic Research Foundation
FOMC	Federal Open Market Committee
Fundeb	Fund for Maintenance and Development of Basic Education and Enhancement of Education Professionals
GAV	Gross Added Value
GDP	Gross Domestic Product
GFCF	Gross Fixed Capital Formation

GGGD	Gross General Government Debt
GNL	Liquefied Natural Gas
HGDNI	Household Gross Disposable National Income
HICP	Harmonized Consumer Price Index
IBC-Br	Central Bank Economic Activity Index
IBGE	Brazilian Institute of Geography and Statistics
IBS	Tax on Goods and Services
IC-Br	Commodities Index – Brazil
ICMS	State Value-Added Tax on Sales and Services
ICVA	Cielo Broad Retail Index
IDAT	Itaú Economic Activity Index
IIE-Br	Economic Uncertainty Index
INPC	National Consumer Price Index
INSS	National Social Security Institute
IPA-DI	Producer Price Index – Domestic Supply
IPCA	Extended National Consumer Price Index
IPI	Industrialized Products Tax
IPVA	Tax on Automotive Vehicle Ownership
IR	Inflation Report
IRPJ	Corporate Income Tax
ISS	Tax on Services
ITCC	Typical inputs for civil construction
LC	Complementary Law
LOA	Annual Budget Law
LSPA	Systematic Survey of Agricultural Production
MBS	Mortgage-backed securities
MCMV	My House, My Life
ME	Ministry of Economy
Mediator	Labor Collective Bargaining System
MTE	Ministry of Labor and Employment
New Caged	New General Registry of Employed and Unemployed Persons
NOAA	National Oceanic and Atmospheric Administration
Nuci	Industry Installed Capacity Usage Level
ONI	Oceanic Niño Index
ONS	National Power System Operator
OPEC	Organization of the Petroleum Exporting Countries
OPEC+	Organization of the Petroleum Exporting Countries Plus
p.a.	Per annum
p.p.	Percentage points
PAC	Growth Incentive Program
PCQ	Pre-Copom Questionnaire
PEAC	Emergency Employment Support Program
PEC	Constitutional Amendment Proposal
PF	Natural person, individuals
PIM	Monthly Industrial Survey
PIS	Social Integration Program
PJ	Legal entity, companies
PLOA	Annual Budget Bill
PMC	Monthly Retail Trade Survey
PMS	Monthly Survey of Services

PPI	Producer Price Index
PPP	Purchasing Power Parity
Pronampe	National Program for the Support of Micro and Small Businesses
PSND	Public Sector Net Debt
RFB	Brazilian Federal Revenue Secretariat
s.a.	Seasonally adjusted data
saar	Seasonally Adjusted Annual Rate
SCR	Credit Information System
Secex	Foreign Trade Secretariat
Secovi-SP	São Paulo Housing Union
Selic	Special System for Clearance and Custody
SFN	National Financial System
SIN	Interconnected National System
SIUP	Public utility industrial services
STF	Federal Supreme Court
STN	National Treasury Secretariat
US	United States of America
VAR	Autoregressive Vector
VP	Produced Value