



# BANCO CENTRAL DO BRASIL

Translation of the Open Letter sent by the Governor of the Banco Central do Brasil, Roberto de Oliveira Campos Neto, to the President of the National Monetary Council, Fernando Haddad\*

Notice 423/2023-BCB/Gapre

Brasília, January 10, 2023.

Mr.  
Fernando Haddad  
Minister of Finance  
President of the National Monetary Council

Subject: Open letter explaining inflation above the upper limit of the target tolerance band in 2022

Dear Minister,

The “inflation-targeting regime” was created as a monetary policy framework by means of Decree 3,088, of June 21, 1999. In its sole paragraph of article 4, the decree establishes that when year-over-year (yoy) inflation falls outside the tolerance interval at the end of a given calendar year,

“the Governor of the Banco Central do Brasil will publicly disclose the reasons for the non-fulfillment of the inflation target by means of an open letter to the Minister of Finance, which must include:

- I - a detailed description of the causes for the non-fulfillment;
- II - measures to ensure the return of inflation to the established limits; and
- III - the time span in which the measures are expected to be effective.”

2. In 2022, the yoy inflation rate measured by the Extended National Consumer Price Index (IPCA) reached 5.79%, above the upper limit of the tolerance interval of 1.50 percentage points (p.p.) around the 3.50% target set by the National Monetary Council (CMN) in its Resolution 4,724, of June 27, 2019.

3. Therefore, in compliance with what is established by the sole paragraph of Article 4 of the aforementioned decree, I hereby submit this open letter.

\* In case of any inconsistency, the original version in Portuguese prevails.

**Governor**

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## I. Reasons for the realized inflation being above the tolerance band of the 2022 target

4. The main factors leading the 2022 inflation to exceed the upper tolerance limit were the following: i. inertia of the 2021 inflation; ii. commodity prices increase, especially oil; iii. imbalances between demand and supply of inputs and bottlenecks in global production chains; iv. food prices shocks, resulting from climate issues; and v. resumption in the demand for services and in the employment, driven by the sharp decline of the Covid-19 cases and the consequent increase in mobility. Conversely, several factors worked in the opposite direction, reducing the inflation's deviation from the target: i. tax reduction on fuels, electricity, and telecommunications; ii. behavior of the electricity tariff flag, which changed from water scarcity to green flag; iii. exchange rate appreciation; and iv. negative output gap. In this regard, it is noteworthy the role of the monetary policy tightening to contain inflation. Monetary policy, which in 2021 had already moved from extraordinarily strong stimulus to contractionary stance, became significantly more contractionary in 2022.

5. The factors mentioned above produced uneven variations across price groups (Table 1 and Figure 1). In 2022, market prices increased by 9.39%, while administered prices fell by 3.83%. Food-at-home inflation was 13.23%, as a result of climate events, pressures from rising prices of inputs and international agricultural commodities. Industrial goods inflation reached 9.54%, still reflecting bottlenecks in production chains, especially in the first half of the year. However, the pace of the growth of industrial goods prices declined throughout the year (increase of 6.73% during the second half of 2021, 6.52% in the first half of 2022, and 2.84% in the second half of 2022). Services inflation in 2022 was 7.58%, influenced by the activity resumption in the sector following the contraction during the pandemic. As a result of these factors, services inflation moved upward in early 2022, but remained relatively stable from mid-year on. Finally, administered prices decreased as a result of the tax exemption on fuel and electricity prices and, in the latter, also due to the change in the tariff flag.

**Table 1 – Selected components of the IPCA in 2022**

Selected components and items	Change (%)	Weight	Contribution to IPCA change (p.p)
Market prices	9.39	72.73	6.83
Food-at-home	13.23	14.98	1.98
Industrial goods	9.54	23.32	2.23
Ethanol	-25.42	0.96	-0.25
Ex-Ethanol	11.05	22.36	2.47
Services	7.58	34.43	2.61
Telecommunications	-1.01	5.21	-0.05
Services - underlying	8.90	20.35	1.81
Administered prices	-3.83	27.27	-1.04
Gasoline	-25.78	6.58	-1.70
Bottled gas	6.27	1.38	0.09
Household electricity	-19.01	5.07	-0.96
Consumer Inflation (IPCA)	5.79	100.00	5.79

Source: IBGE and BCB

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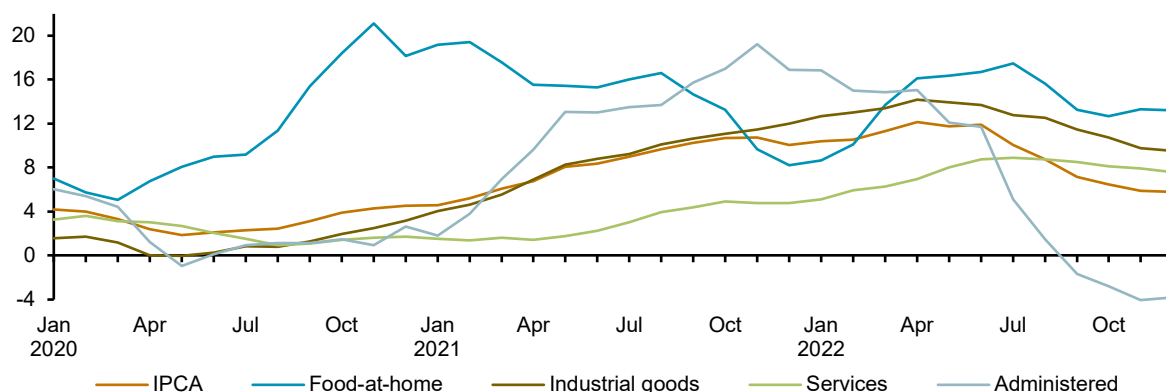


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**Figure 1 – IPCA inflation and components**

12-month change

%



Source: IBGE and BCB

6. The role of inflation drivers can be quantitatively assessed by an inflation decomposition procedure, whose results are usually presented every year in the Inflation Report<sup>1</sup>. Using models from the Banco Central do Brasil (BCB)<sup>2</sup>, the contributions – whether positive or negative – of the following determinants of the inflation deviation from the target are identified: (i) inertia associated with the deviation of previous year’s inflation from the target; (ii) deviations of agents’ inflation expectations – measured by the Focus survey conducted by the BCB – from the inflation target; (iii) imported inflation (combination of exchange rate and changes in commodity prices – including oil) as deviation from the target; (iv) output gap; (v) electricity tariffs flags; (vi) tax exemption on fuel, electricity and communications prices; and (vii) other factors. The last item includes factors not considered in the previous ones, mainly specific factors conditioning administered prices, the effect of climate anomalies, and a part not explained by the model (shocks in the Phillips curve of market prices and in the equations of administered prices). It is worth noting that these estimates are based on models and, therefore, are subject to uncertainties inherent to the modeling and estimation processes.

7. Using the aforementioned methodology, the main factors for the 2.29 p.p. inflation’s deviation from the target came from the 2021 inertia (as deviation from the target), with a contribution of 2.74 p.p., from inflation expectations (as deviation from the target), with a contribution of 1.02 p.p., and from the shock-related component in the Phillips curve for market

<sup>1</sup> See, for example, the box “Breakdown of 2021 inflation”, of the March 2022 Inflation Report (IR). Further details on methodological procedures are available in the box “2017 inflation decomposition”, of the March 2018 IR, and CUSINATO, R. T., FIGUEIREDO, F. M. R., MACHADO, V. G., MELLO, E. P. G. and PEREZ, L. P. (2016), “*Decomposição de Inflação: revisão da metodologia e resultados para 2012 a 2014*”, Banco Central do Brasil, Working Paper 440.

<sup>2</sup> In particular, see the box “Revision of the small-scale aggregate model”, of the December 2021 IR. The analysis of some factors related to administered prices, such as tax exemptions or electricity tariff flags, is made by specialists, since the model does not consider these aspects.

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prices<sup>3</sup> – with a contribution of 2.03 p.p. – which is included in “other factors” (2.22 p.p.) (Figure 2). Still on the last item, using the disaggregated small-scale model<sup>4</sup>, it is possible to decompose the market prices Phillips curve shock by sectors. In this case, it is estimated that the shocks to the prices of food-at-home, industrial goods, and services contributed with 1.01 p.p., 1.13 p.p., and -0.11 p.p. to the IPCA inflation, respectively.<sup>5</sup> In the case of industrial goods, it is assumed that the shocks reflect a global phenomenon, mainly regarding logistical issues and imbalances between global supply and demand.<sup>6</sup> The shock to industrial goods inflation in 2022 was the second largest in the sample starting in 2005, smaller only than in 2021, when there was a more acute period of problems in global supply chains<sup>7</sup>. Within the imported inflation item (0.11 p.p.), commodity prices and the exchange rate moved in the opposite direction: the increases in the oil prices (of 11.0%, when comparing the average of 2022Q4 with the same period in 2021) and commodities in general, measured by the Commodities Index – Brazil (IC-Br), contributed with 0.68 p.p. and 0.16 p.p., respectively, while the exchange rate change contributed with -0.73 p.p.<sup>8</sup> On the other hand, the following factors contributed negatively to inflation: i. tax measures on fuel, electricity, and telecommunications (contribution of -2.33 p.p.)<sup>9</sup>; ii. the change in the electricity tariff flag from water scarcity in December 2021 to green flag as of April 2022 (contribution of -1.02 p.p.); iii. exchange rate appreciation (contribution of -0.73 p.p.); and iv. negative output gap (contribution of -0.45 p.p.).

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<sup>3</sup> The Phillips curve shock component tries to capture supply factors that, although affecting market prices inflation, are not included in the model, such as the presence of bottlenecks in global supply chains and agricultural crop failures.

<sup>4</sup> See the box “New small-scale disaggregate model”, of the March 2021 IR, for the disaggregated model.

<sup>5</sup> Despite the use of different models, the sum of the three estimated components (2.03 p.p.) in the disaggregated model ended up corresponding exactly to the estimated shock in the Phillips curve of market prices in the aggregated model.

<sup>6</sup> The shocks represent the entire unexplained part of the Phillips curve for industrial goods prices. Therefore, they do not capture the impact of production bottlenecks only. However, considering broad evidence about the impact of these bottlenecks, they could be assumed as the main factor.

<sup>7</sup> Although the magnitude is considerable, the food shock has higher variance. In the past, shocks of this magnitude were more common.

<sup>8</sup> The contributions of external prices were calculated assuming deviations in relation to 2.0% p.a. for the change in commodity prices in USD, consistent with long-term external inflation at the same level, and 1.5% p.a. for the nominal exchange rate, consistent with long-term modeling conditions of the Phillips curve for market prices.

<sup>9</sup> This estimate considers only the direct impact of the measures on the affected goods and services and incorporates only that portion of the impact of the measures that would have materialized in terms of reduced consumer prices in 2022. The estimate does not come from the model, but from experts’ analysis, and considers changes in tax rates and the calculation base, and, in the case of electricity, the largest amount reimbursed to consumers for taxes overpaid in the past. The BCB’s estimate is similar to market analysts’ estimates: in the October 2022 Pre-Copom Questionnaire, analysts reported a potential impact of -2.5 p.p., with -2.2 p.p. incorporated into their projections (these figures refer to the median responses).

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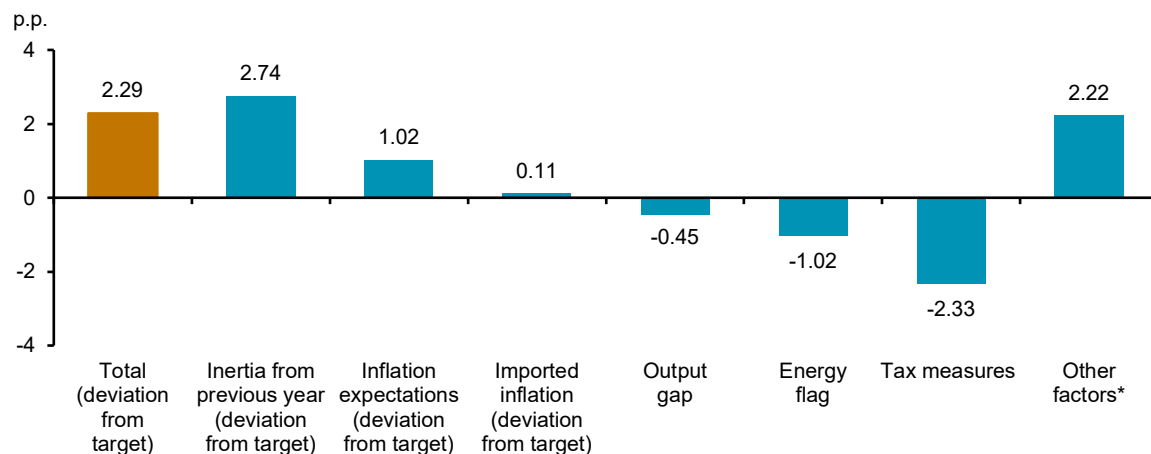
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**Figure 2 – Contributions to the deviation of inflation from target in 2022**

Factors' contributions



\* Contribution to the inflation as deviation from the target after excluding the following factors: inertia associated with the portion of the previous year's inflation that deviated from target; expectations as a deviation from target; imported inflation as a deviation from target; output gap; change in the electricity tariff flag, and tax measures.

Source: BCB

8. Inertia played an important role in inflation in 2022 due to high 2021 inflation (10.06%), which affected both market prices (contribution of 2.30 p.p. for market prices inflation and 1.72 p.p. for IPCA inflation via market prices) and administered prices inflation (contribution of 4.12 p.p. for administered prices inflation and 1.02 p.p. for IPCA inflation via administered prices). In the case of market prices, past inflation means current costs pressure, arising both from other prices of goods and services used as inputs and from informal inertial mechanisms of wage indexation. For example, adjustments in wage negotiations tended to follow past inflation trend, although with lower changes than inflation for much of the year. The model captures this effect through terms related to both the twelve-month inflation and the market prices inflation in the previous quarter. In the case of administered prices, institutional arrangements link the adjustment of prices to past inflation, especially in the cases of health insurance and medicines.<sup>10</sup> It is also worth mentioning that inflation rose throughout most of 2021, which increased the inertial effect over 2022.

9. Inflation pressures and the prospects of continuity of their related factors or of their propagation affected inflation expectations. According to the Focus survey, the median expectations for the twelve-month ahead (smoothed) inflation, measure used by the model, started 2022 around 5.1%, following an upward trend until early June, when it reached the peak of 6.12%, and dropped onwards, influenced by the tax exemption measures, closing 2022 around 5.30% (Figure 3). The median inflation expectations for 2022 also followed an upward trend, exceeding the upper limit of the tolerance band in early December 2021 and reaching the peak of 8.9% in early June 2022, when it followed a mostly downward trend.

<sup>10</sup> See the box “Reformulation of models for administered prices – medium term projection” of the September 2017 IR.

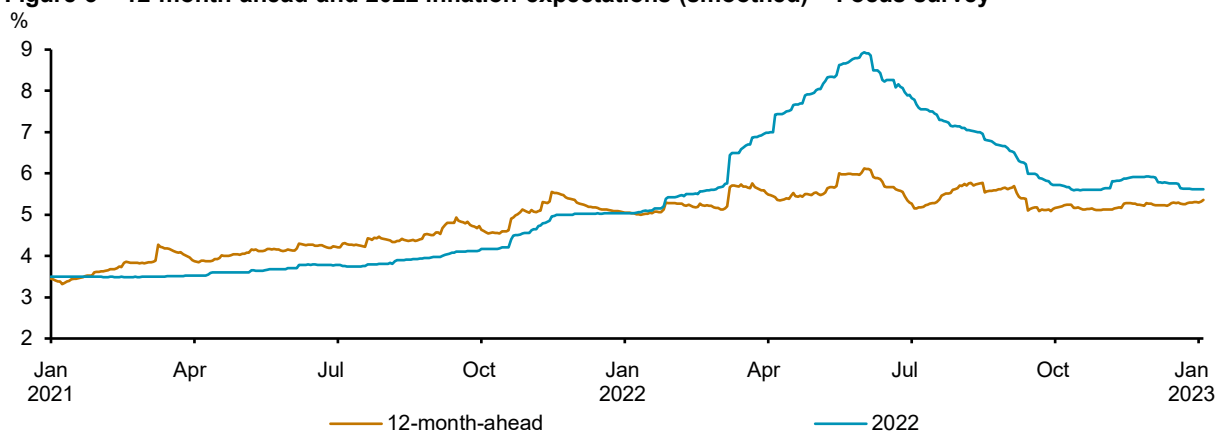
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Figure 3 – 12-month-ahead and 2022 inflation expectations (smoothed) – Focus survey



Note: Figure data range: 1/4/2021 - 1/6/2023

Source: BCB

10. Pressures from commodity prices and global production chains, although to a lesser extent than in 2021, also impacted inflation in 2022, especially in the first half of the year, in addition to have affected 2022 indirectly through its large impact on the 2021 inflation. These pressures reflected changes in consumption patterns caused by the pandemic, with an increasingly share of demand channeled to goods and fueled by expansionary policies. In 2022, they were worsened by the outbreak of the war in Ukraine. These developments, which occurred at a global level, generated excess demand over short-term supply for several goods, causing an imbalance that, in several countries and sectors, was exacerbated by labor shortages, logistical issues, and production bottlenecks. In fact, the significant rise of inflation in 2021 and 2022 to levels above the targets was a global phenomenon, affecting most emerging economies (Figure 4)<sup>11</sup>. According to the International Monetary Fund (IMF), inflation in advanced countries should reach 7.2% in 2022, after standing on average at 1.51% from 2010 to 2019<sup>12</sup>. Commodity prices fell in the second half of 2022, influenced by the prospects of world economic deceleration and normalization of grains supply. However, in general, price levels in late 2022 were still above those of late 2021, except for metal commodities. The average IC-Br measured in USD in 2022Q4 was 5.1% above 2021Q4 (Figure 5). The change in oil prices was larger (Figure 6). Considering monthly averages, the price of the Brent-type oil rose from USD 74.80 in December 2021 to a peak of USD 117.50 in June 2022 (+57.1%) and dropped to USD 81.34 in December (8.7% over December 2021), with average values in 2022Q4 11.0% higher than in 2021Q4.<sup>13</sup> The increase in oil prices was higher than in the agriculture and livestock and metal groups in the IC-Br, and it is the commodity with the highest pass-through to the IPCA, given the weight of oil derived products in that index.

<sup>11</sup> Expectations were used as a proxy for inflation because several countries have not yet released their inflation rates for 2022.

<sup>12</sup> October 2022 World Economic Outlook (WEO).

<sup>13</sup> It is worth noticing that, even if the oil price had reached in late 2021 the same levels as those of late 2022, given the price increase throughout the year, the net effect would tend still to be inflationary, due to the delayed pass-through and the inertial mechanisms of inflation pass-through captured by the model.

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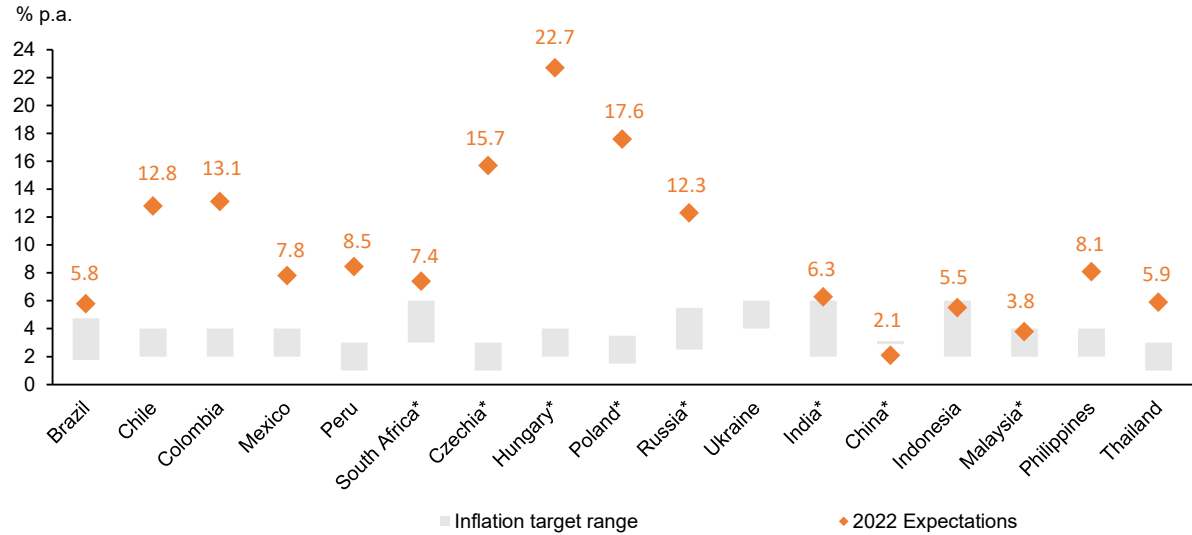
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**Figure 4 – Inflation in emerging countries in 2022**

Selected countries



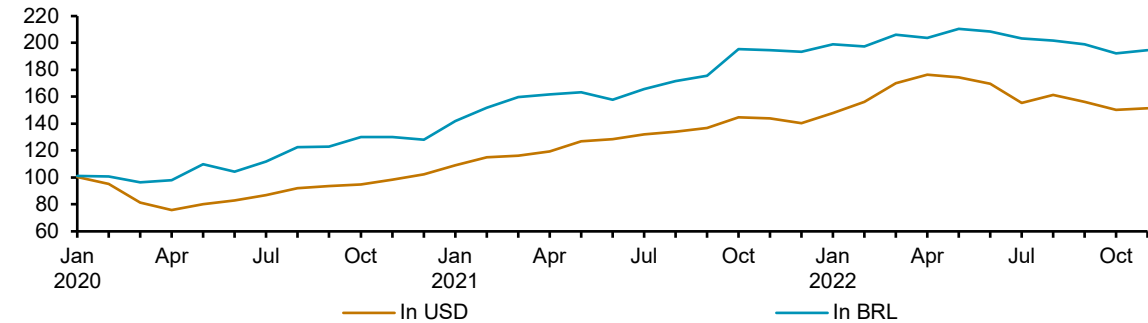
\*Analysts' expectation values from central banks' surveys or Bloomberg (final figures not yet released).

Source: IBGE, central banks and Bloomberg.

**Figure 5 – IC-Br**

Monthly average

Dec/2019 = 100



Source: BCB

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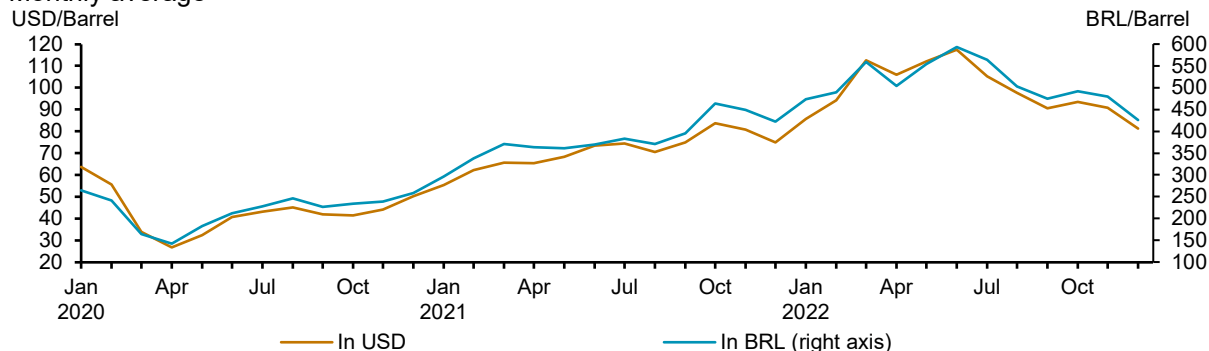
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**Figure 6 – Brent oil price**

Monthly average

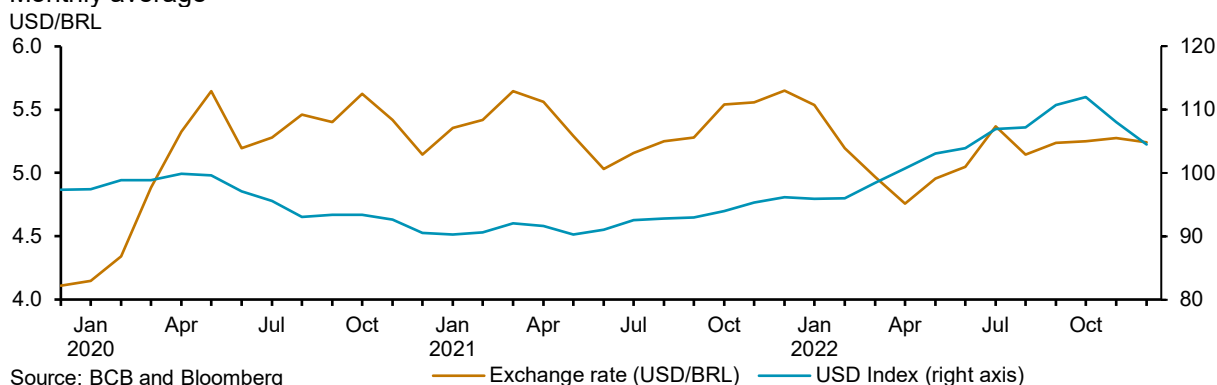


Source: Bloomberg and BCB

11. Conversely, the exchange rate partially counterbalanced the increase in commodity prices. The exchange rate followed an appreciation trend in the first months of 2022 and, although had then depreciated, it was on average 5.9% lower in 2022Q4 than in 2021Q4 (Figure 7). The historical pattern of positively correlated movements between the domestic currency value and commodity prices had been broken from mid-2020 to 2021. In 2022, in turn, this correlation was re-established. Whereas the domestic monetary tightening cycle contributed to exchange rate appreciation, the tightening of financial conditions in advanced economies worked in the other direction. At year-end, the exchange rate depreciated against peers (Figure 7 shows the USD Index<sup>14</sup> curve to indicate global USD movements), reflecting, in part, uncertainties involving fiscal and parafiscal policies and their respective institutional arrangements.

**Figure 7 – Exchange rate**

Monthly average



Source: BCB and Bloomberg

12. Regarding economic activity, 2022 was characterized by the continuity of the economic recovery started in 2021. In 2022Q3, the seasonally adjusted Gross Domestic Product (GDP) was 4.5% higher than before the outbreak of the pandemic (Figure 8). Year-to-date, the GDP rose by 3.2% over the same period in 2021. The BCB projects a GDP growth of 2.9% in 2022. It is

<sup>14</sup> The ICE (Intercontinental Exchange) USD Index (DXY) measures the value of the USD against a basket of selected country currencies (EUR, JPY, GBP, among others).

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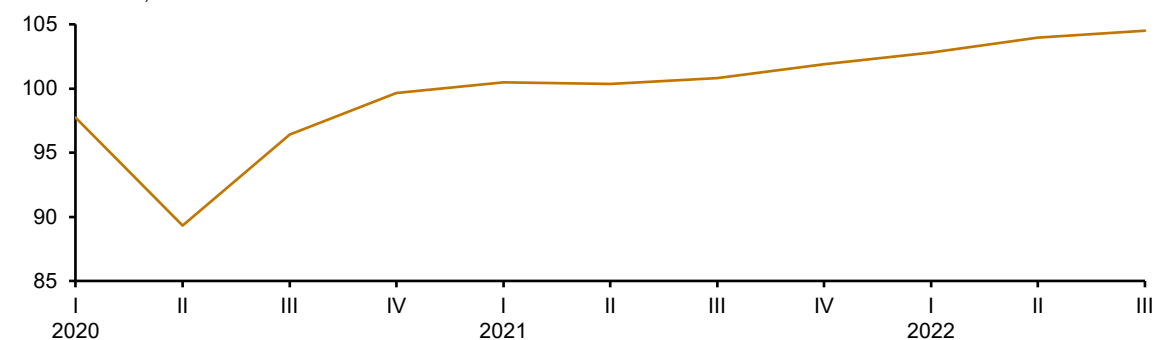


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worth highlighting as positive GDP growth factors the role of anti-cyclical government policies adopted against the Covid-19 and the end of social distancing leading to the recovery of the services sector, with positive impacts also on the labor market. On the other hand, the upward interest rate cycle has increasingly acted in the opposite direction, entering a significantly contractionary territory, which should act to moderate the pace of the economic activity. The set of domestic indicators released over the last months corroborates the scenario of slowdown in the growth expected by the BCB. In particular, the release of the 2022Q3 GDP figures suggested a more moderate growth rate than in previous quarters.

**Figure 8 – Gross Domestic Product**

2019.IV = 100, s.a.

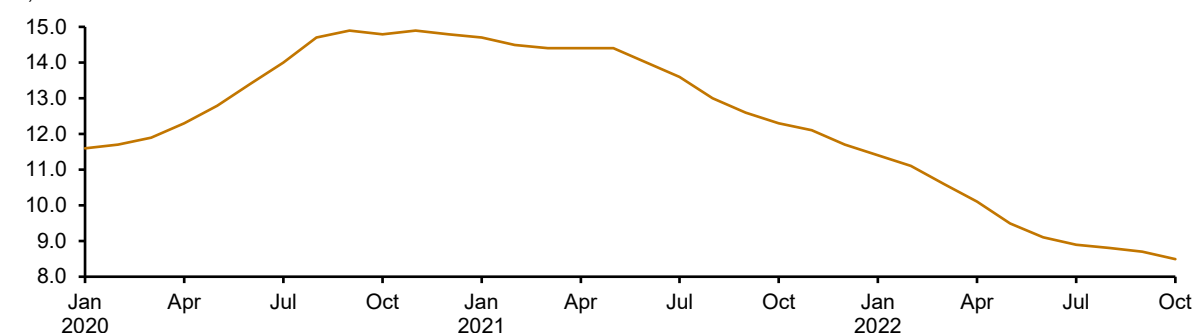


Source: IBGE

13. The labor market registered robust results in 2022. The seasonally adjusted unemployment rate continued the downward trend and neared 8%, lower than the 11.7% observed before the pandemic (Figure 9). Net hirings measured by the New General Registry of Employed and Unemployed Persons (Novo Caged) indicated 2.2 million net job openings in twelve months up to November<sup>15</sup> (Figure 10). However, more recent data signal stabilization. In more recent readings, the unemployment rate decline was lower and reflected reduction in the participation rate rather than in the employed population. Moreover, a slower pace of net formal job openings was observed.

**Figure 9 – Unemployment rate**

%, s.a.



Source: IBGE and BCB

<sup>15</sup> Data do not consider information from late statements.

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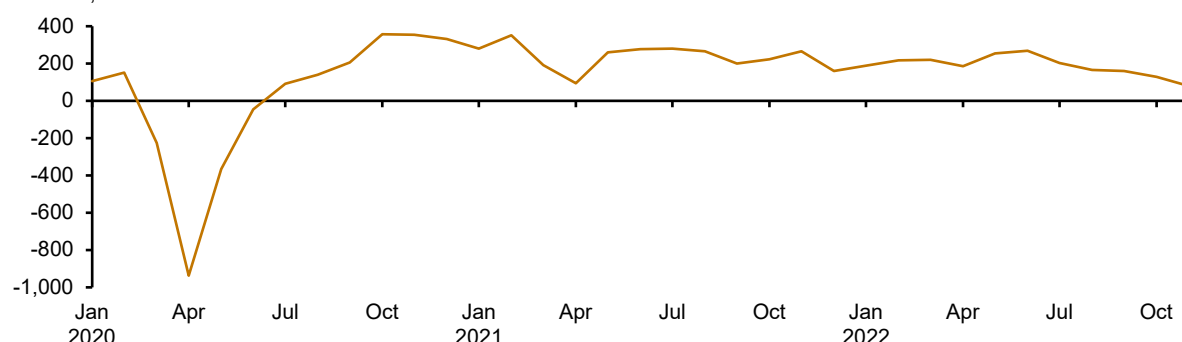
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**Figure 10 – Formal Employment (Caged): Net hiring**

thousand, s.a.



Source: MTP and BCB

14. An important factor that contributed to lower inflation in 2022 compared with 2021 were the tax measures involving fuels, electricity, and telecommunications. As a result, gasoline, ethanol, electricity, and telecommunications registered deflations of 25.78%, 25.42%, 19.01%, and 1.01%, respectively, in 2022 (Table 1). Complementary Laws 192 and 194, as well as Law 14,385 are particularly noteworthy. Federal taxes on fuels and the State Value-Added Tax on Sales and Services (ICMS) rates on fuels, electricity, and telecommunications were reduced, and the ICMS calculation basis on fuels and electricity were changed. In addition, electricity tariffs were reduced due to the advance of the devolution to consumers of taxes overpaid in the past. Concerning electricity, the normalization of the tariff flags also contributed to the reduction in prices. In 2021, poor rainfall had led to the activation of thermoelectric power plants and other energy sources at higher costs, resulting in a significant rise in electricity tariffs. In April 2022, due to a substantial rainfall improvement, the water scarcity flag effective since September 2021 was replaced by the green flag, contributing to the reduction in inflation.

**Table 2 – Energy flag**

Month	Energy flag	Value (BRL/100kWh)
Dec-21	Water Scarcity	14.20
Jan-22	Water Scarcity	14.20
Feb-22	Water Scarcity	14.20
Mar-22	Water Scarcity	14.20
Apr-22	Green	0.00
Mai-22	Green	0.00
Jun-22	Green	0.00
Jul-22	Green	0.00
Aug-22	Green	0.00
Sep-22	Green	0.00
Oct-22	Green	0.00
Nov-22	Green	0.00
Dec-22	Green	0.00

Source: Aneel and BCB

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15. Across sectors, industrial goods prices continued to increase strongly (9.54%) – the third largest rise in a calendar-year since the adoption of the inflation-targeting regime (12.00% in 2021 and 10.10% in 2002). It is worth emphasizing the increase of clothing prices (18.02%), reflecting higher inputs costs since 2020, which had not been passed through during the acutest phase of the pandemic, when demand was reduced by social distancing measures. Industrial goods inflation, especially in the first half of 2022, still reflected bottlenecks in global production chains, which involved the lack of stocks of inputs, the shortage of semiconductors, longer delivery times, and higher international freights prices. The war in Ukraine and the restrictions to mobility in China also exacerbated these limitations and imbalances. For example, in the case of prices of new cars and electric-electronic devices, the accumulated high in the first half of 2022 was 6.99% and 5.81%, respectively, and, in the second half, 1.11% and -3.23%. This slowdown is in line with what is suggested by the evolution of several measures of supply chains pressure, which show a substantial improvement in the second half of the year. Inspection of the residuals of the disaggregated model equation for industrial goods corroborates that, during the pandemic, the factors mentioned above have implied shocks of greater magnitude in this period, but that, at the margin, the model has returned to a pattern of lower magnitude residuals and better adherence to the data.

16. Still analyzing across sectors, services inflation rose to 7.58% in 2022 from 4.75% in 2021, reflecting the continuity of prices realignment resulting from the sector's recovery after the end of social distancing, the narrower output gap, and the inertia coming from the high 2021 inflation. It should be highlighted that the services prices have the greatest sensitiveness to past inflation. In the disaggregated model, the contribution of inertia of the previous year comes mostly from services inflation. The increase in services inflation involved both the underlying indicator (from 5.91% in 2021 to 8.90% in 2022) and the other components, especially domestic employee (from 1.34% to 4.65%), regular courses (from 2.64% to 7.21%), and airfare ticket (from 17.59% to 23.53%). Over the last months, services inflation has shown some moderation, although remaining at high levels.

17. Finally, complementing the assessment of inflation groups, food-at-home annual inflation also increased in 2022 compared with 2021 (13.23% versus 8.24%). Among price increases, there were relevant contributions from milk and dairy goods; fresh food; and flours, bakery, and baked goods. The prices of milk and dairy goods rose strongly, reflecting the reduced supply due to climate issues and more expensive inputs. The strong fresh food price increase was also impacted by weather conditions, such as heavy rainfalls both in early and late 2022. Finally, the increase of international prices of grains in mid-2022, influenced by the war in Ukraine and weather conditions in leading global producers, was a relevant factor for the evolution of prices of flours, bakery, and baked goods.

18. The analysis of the BCB's conditional projections for inflation in 2022 corroborates the factors listed above. The BCB's conditional projections for inflation in 2022 were around the target until the Monetary Policy Committee (Copom) meeting of September 2021, when they started an upward movement that persisted until the June 2022 meeting, reaching the peak of 8.8% (Figure 11). Afterwards, projections declined in the following two meetings and somewhat stabilized in the last meetings of the year. The increase of conditional projections was associated with short-term inflationary surprises, new increases in commodity prices, the longer-than-expected persistence of

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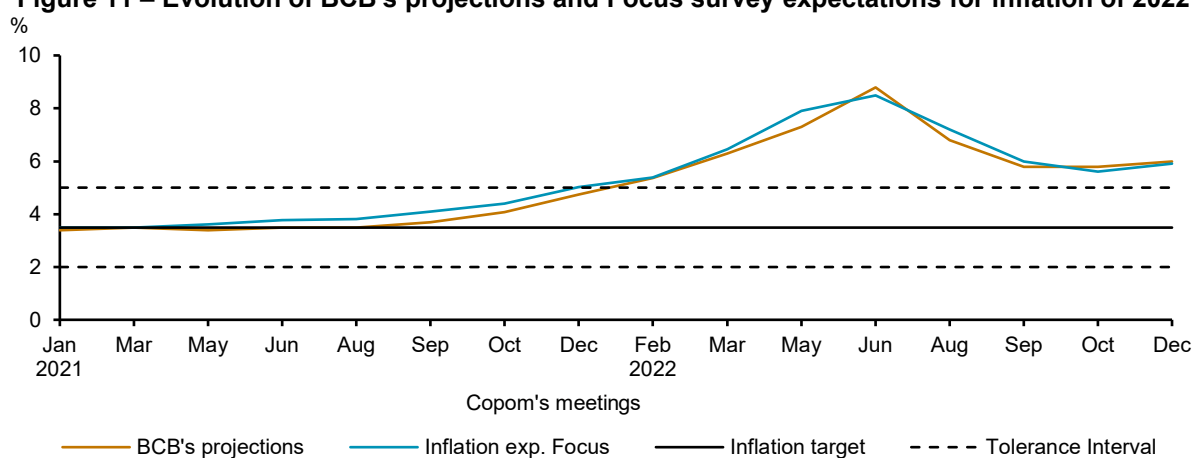
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the effects of bottlenecks in global production chains, the domestic shocks that affected food prices, the increase of inflation expectations, the stronger-than-anticipated economic activity expansion (impacting the output gap), and the inertial effects of the larger-than-projected 2021 inflation. Although the decline of projections in 2022Q3 was mainly due to the approval of tax exemption measures, it also derived from the reduction of commodity prices. In addition, the upward Selic rate trend in the Focus survey over time has contributed to generate lower inflation projections, reflecting the monetary tightening process. It should also be mentioned the change in the electricity tariff flag considered for the end of 2022, initially from red level 2 to yellow and then to green. The Focus survey expectations for inflation in 2022 followed a similar path to Copom's projections.

**Figure 11 – Evolution of BCB's projections and Focus survey expectations for inflation of 2022**



Note: Focus' expectations are collected on the Friday prior to the Copom meeting. 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.

Source: BCB

## II Measures to ensure the return of inflation to the established limits

19. The BCB has been setting the policy interest rate (Selic) target, and will continue doing so, to fulfill the inflation targets established by the CMN.

20. In 2020, in response to the outbreak of the Covid-19 pandemic and its strong disinflationary effects, the BCB reduced the Selic rate target from 4.25% p.a. to a minimum of 2.00% between its March and August 2020 meetings (Figure 12). Concurrently, a series of measures involving liquidity, capital, and credit were taken to counterbalance the economic effects from the pandemic. In the last months of 2020, however, there was a sequence of upward surprises in the inflation data, leading inflation at the end of the year to 4.52%, against a target of 4.00%. These surprises prompted a change in Copom's communication, which culminated with the beginning of a monetary tightening cycle still in 2021Q1. Throughout 2021, the current inflation data, the conditional projections for the relevant horizon, and the balance of risks deteriorated, as a result of the following shocks: i. strong rise in the prices of tradable goods in local currency, especially commodity prices; ii. water scarcity electricity flag; and iii. imbalances between demand and supply of inputs and bottlenecks in global production chains. In response to the scenario change since the

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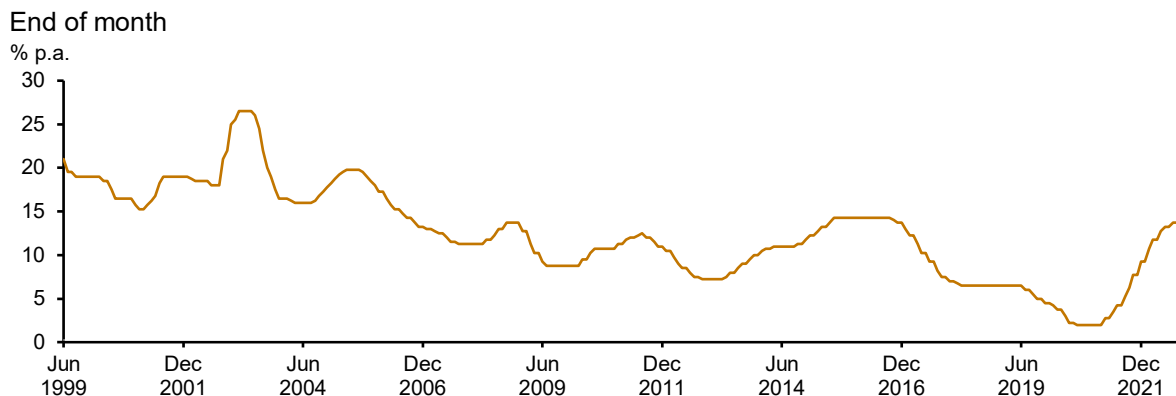
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end of 2020, Copom started to adjust monetary policy in 2021Q1, with the removal of the forward guidance in its January meeting and the beginning of the adjustment process of the Selic rate target in the March meeting, which ended the year at 9.25%.

**Figure 12 – Selic rate target**



Source: BCB

21. In view of the increased inflation projections and expectations for the relevant monetary policy horizon and the balance of risks, the Selic rate target adjustment process extended throughout 2022, although at a decreasing pace, until reaching 13.75% in the August meeting (Table 3). During this adjustment, Copom emphasized the need for the monetary tightening cycle to advance significantly in contractionary territory. In the February 2022 meeting, the increase pace was maintained at 1.50 p.p. and, in the March meeting, it dropped to 1.0 p.p., with the Committee signaling that the interest rate cycle in the scenarios evaluated would be sufficient for the convergence of inflation to a level around the target over the relevant horizon. In the May meeting, the Committee pointed out that a likely extension of the cycle with an adjustment of lesser magnitude was foreseen. That was the case, with a further drop in the pace of increases to 0.50 p.p. in the June and August meetings. In the latter, the Committee signaled that it would assess the need for a smaller residual adjustment in its following meeting. Copom did not change the Selic rate target in the September meeting, thus ending the upward cycle. In that and the two subsequent meetings, the Committee emphasized that it would remain vigilant, assessing whether the strategy of maintaining the Selic rate for a sufficiently long period would be enough to ensure the convergence of inflation. In addition, it reinforced that future monetary policy steps could be adjusted, and it would not hesitate to resume the tightening cycle if the disinflationary process did not proceed as expected. In this respect, it is worth emphasizing the role played by the communication of monetary policy throughout the year which, seeking a better understanding and greater transparency of the current and future decision-making process, sought to coordinate expectations and lead to the required tightening of financial conditions.

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**Table 3 – Copom's decisions**

Meeting	Decision's date	Selic rate (% p.a.)	Change (p.p.)
236th	01/20/2021	2.00	0.00
237th	03/17/2021	2.75	0.75
238th	05/05/2021	3.50	0.75
239th	06/16/2021	4.25	0.75
240th	08/04/2021	5.25	1.00
241st	09/22/2021	6.25	1.00
242nd	10/27/2021	7.75	1.50
243rd	12/08/2021	9.25	1.50
244th	02/02/2022	10.75	1.50
245th	03/16/2022	11.75	1.00
246th	05/04/2022	12.75	1.00
247th	06/15/2022	13.25	0.50
248th	08/03/2022	13.75	0.50
249th	09/21/2022	13.75	0.00
250th	10/26/2022	13.75	0.00
251st	12/07/2022	13.75	0.00

Source: BCB

22. The rise in the Selic rate target and in agents' expectations about its future movements, coordinated by the monetary policy communication, led to a significant increase in the *ex-ante* real interest rate. Considering the median expectations for the four-quarter-ahead Selic rate discounting inflation expectations, both taken from the Focus survey and measured in terms of quarterly averages, a substantial increase was observed throughout 2021, rising from -1.3% in the average of 2020Q4 to 4.9% in 2021Q4, as well as an increase throughout 2022, ending the last quarter at 7.8% (Figure 13). Therefore, the increase in the path of the nominal Selic rate was sharper than the rise in inflation expectations, according to the measure considered. This movement meant the shift of the monetary policy stance from accommodative to restrictive (assuming a neutral real interest rate of 4%<sup>16</sup>), as intended. Considering the estimate implicit in the Focus survey of 1/6/2023, the real interest rate remains at 7.8% in 2023Q1 and then starts a downward trajectory, reaching 6.9% at the end of 2023, 5.2% at the end of 2024 and 4.7% at the end of 2025, still above the neutral real rate considered in the BCB's models. In this metric, the increase in the *ex-ante* real interest rate in this cycle is the largest that has occurred throughout the inflation-targeting regime.

<sup>16</sup> Value considered as of the June 2022 IR.

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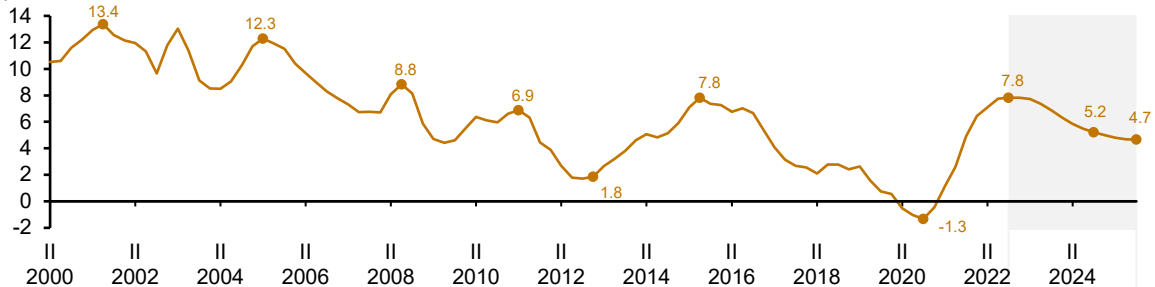


# BANCO CENTRAL DO BRASIL

**Figure 13 – Four-quarter-ahead real Selic rate**

Quarterly averages

% p.a.



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. The values for 2022-2025 were calculated using data collected on 1/6/2023.

Source: BCB

### III - The time span within which the measures are expected to yield results

23. The BCB's conditional projections indicate that the four-quarter inflation shall remain in a downward trajectory throughout 2023, ending the year at a level below that of 2022. In the December 2022 IR, the conditional projections<sup>17</sup> pointed to inflation of 5.0% in 2023 (a drop of nearly 0.8 p.p. in relation to the observed 2022 inflation), 3.0% in 2024 and 2.8% in 2025, against respective inflation targets of 3.25%, 3.00%, and 3.00% (Figure 14). Therefore, the outlook suggests inflation converging to its targets. In this scenario, inflation should still be above the target in 2023, mainly due to the assumption of end of the federal tax reduction on fuels in that year and the inertial effects that propagate from the 2022 inflation. These effects are counterbalanced by the monetary policy, although not entirely, due to the long lags relative to the shocks' impacts, which happen in the short term, and the monetary policy effects, which are preponderantly concentrated in the medium term. Copom has emphasized the six-quarter-ahead horizon, which reflects the relevant horizon, mitigates the primary effects from the tax changes but incorporates their second-round effects. On this horizon, which refers to 2024Q2, the twelve-month inflation projection stands at 3.3%. The Committee judges that the uncertainty in its assumptions and projections is higher than usual. Inflation expectations from the Focus survey (1/6/2023) also indicate a significant reduction of inflation in 2022, although to a lesser extent, reaching values around 5.4% in 2023, 3.7% in 2024, and 3.3% in 2025 (Figure 15).

<sup>17</sup> Elaborated with information available until December 7, 2022, using a trajectory for the interest rate extracted from the Focus survey (of December 2, 2022) and an exchange rate starting from USD/BRL 5.25 (rounded average of the average rate in the week prior to the Copom meeting) and evolving according to the purchasing power parity (PPP).

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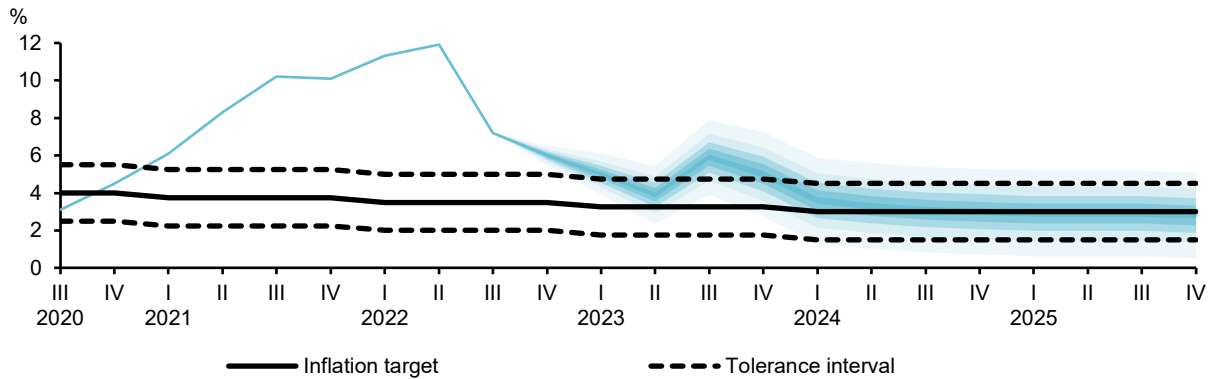
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**Figure 14 – Inflation projection and fan chart – Scenario with Selic from the Focus survey and PPP exchange rate**

Year-on-year IPCA inflation

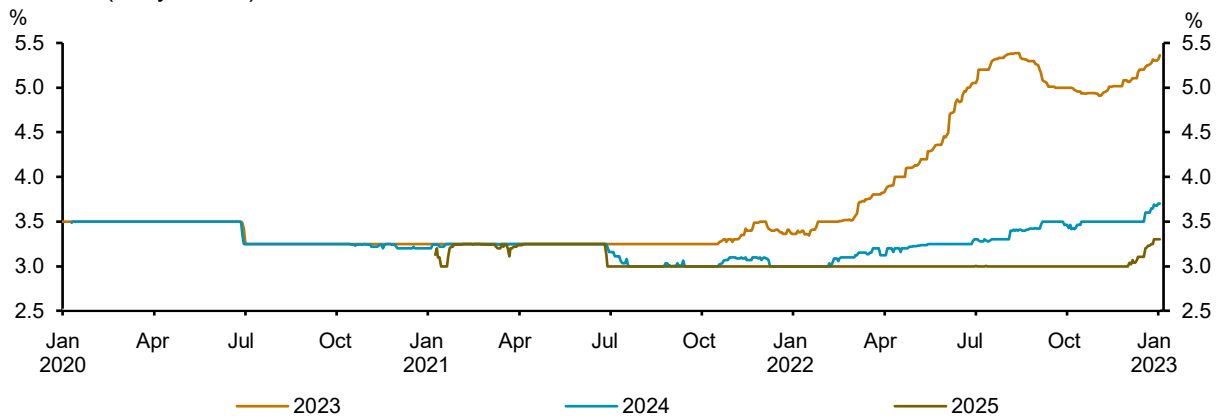


Note: The lines of the inflation target and the tolerance interval refer only to the calendar year, but, for better visualization, they are presented for all quarters.

Source: BCB

**Figure 15 – Inflation expectations from the Focus Survey for 2023-2025**

Median (daily series)



Note: Figure data range: 1/2/2020 - 1/6/2023

Source: BCB

24. In its more recent meeting (251<sup>st</sup>), the Committee emphasized that risks to its scenarios remain in both directions. Among the upside risks for the inflationary scenario and inflation expectations, it was emphasized (i) a greater persistence of global inflationary pressures; (ii) the heightened uncertainty about the country's future fiscal framework and additional fiscal stimuli that support aggregate demand, partially incorporated in inflation expectations and asset prices; and (iii) an output gap tighter than the one currently adopted by the Committee in its reference scenario, especially in the labor market. Among the downside risks, it should be noted (i) an additional reduction in the prices of international commodities measured in local currency; (ii) a greater-than-projected deceleration of global economic activity; and (iii) the continuity of tax cuts assumed to be reversed in 2023. The current scenario, particularly uncertain on the fiscal side, requires serenity when evaluating risks. The Committee will closely monitor future developments

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in fiscal policy and, in particular, its effects on asset prices and inflation expectations, with potential impacts on the dynamics of future inflation.

25. In particular, the Committee reiterated the different channels through which fiscal policy can affect inflation not only via the primary effects of aggregated demand but also via asset prices, the degree of economic uncertainty, inflation expectations, and neutral interest rate. The Committee evaluated that changes in parafiscal policies or the reversal of structural reforms that lead to a less efficient allocation of resources might reduce the power of monetary policy. Furthermore, it was highlighted that the existence of economic slack and the confidence in the debt sustainability are determining factors for an expansionary fiscal policy to achieve the aimed impacts on the economic activity. In an environment of a narrow output gap, the impact of significant fiscal stimulus on the path of inflation tends to outweigh the aimed impacts on economic activity.

26. Therefore, the BCB has adopted appropriate measures that will allow inflation to fulfill the targets established by the CMN, of 3.25% in 2023, and 3.00% in 2024 and 2025. Considering the assessed scenarios, the balance of risks, and the broad array of available information, the Copom decided to maintain the Selic rate at 13.75%. The Committee judged that this decision reflects the uncertainty around its scenarios for prospective inflation, an even higher-than-usual variance in the balance of risks and is consistent with the strategy for inflation convergence to a level around its target throughout the relevant horizon for monetary policy, which includes 2023 and 2024. Without compromising its fundamental objective of ensuring price stability, this decision also implies smoothing of economic fluctuations and fostering full employment, in line, therefore, with the objectives set forth in law for the BCB.

27. According to the Statement and Minutes of its latest meeting, the Committee will remain vigilant, assessing if the strategy of maintaining the Selic rate for a sufficiently long period will be enough to ensure the convergence of inflation. The Committee emphasizes that it will persist until the disinflationary process consolidates and inflation expectations anchor around its targets. The Committee reinforces that future monetary policy steps can be adjusted and will not hesitate to resume the tightening cycle if the disinflationary process does not proceed as expected.

Sincerely,

Roberto de Oliveira Campos Neto  
Governor

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