



BRAZIL MACRO

September 16, 2022

MONETARY POLICY PREVIEW

Mauricio Oreng*
mauricio.oreng@santander.com.br
+5511 3553 5404

THE END (OF AN INTENSE CYCLE)

- The Copom Monetary Policy Committee of the Brazilian Central Bank (BCB) gathers next week to announce its decision (Wednesday, September 21). We recently revised our forecast of a terminal Selic rate of 14.25% in September, and are now aligned with the consensus, expecting the BCB to hold the policy rate steady, ending the cycle at 13.75%. This is to be the closing act in a tightening cycle that extended for 12 meetings and brought a total interest-rate adjustment of +1,175 bps since March 2021.
- In our view, at its last policy meeting (August), the BCB gave a strong signal of a likely pause at the September Copom. In our view, this contrasts with the continued introduction of various fiscal stimulus programs (a good many of which are expected to be permanent), and now amid a much stronger cyclical position of the Brazilian economy (i.e., a virtually closed output gap). Add to this context underlying inflation that is still very high and CPI expectations persistently above the target. The authority apparently believes that the total dose of tightening (with the Selic at 13.75%) is enough to achieve its objectives (i.e., inflation convergence to somewhere close to the midtarget in the medium term).
- In the statement accompanying the decision, we believe the BCB will explicitly announce a pause in this rather lengthy tightening cycle. We expect the BCB to reiterate the message that the Copom will remain "vigilant" regarding the next steps, reaffirming that the flight plan is to hold the interest rate steady for a sufficiently long period. In our view, the BCB may also try to reinforce the message that rate cuts are unlikely for the time being: one possible way to do it would be flagging an upwardly skewed balance of risks for inflation (as the upside risk factors are potentially much more persistent or inertial).
- Looking ahead, we see the BCB dealing with inflation risks by "passively" making its monetary stance even more contractionary over time, with its policy steps lagging the pace of decline in inflation expectations. Based on this view, our scenario anticipates that 2Q23 will see the tightest monetary policy stance in nearly 20 years.
- Regarding our scenario, we pencil in the YE2022 Selic rate at 13.75%, as we see the room for
 rate cuts in the short term narrowed by cyclical elements that could generate risks of resilient
 inflation in the medium term. We forecast stable interest rate until the end of 1H23 and look for a
 YE2023 Selic at 12.00%.

IMPORTANT DISCLOSURES/CERTIFICATIONS ARE IN THE "IMPORTANT DISCLOSURES" SECTION OF THIS REPORT.

U.S. investors' inquiries should be directed to Santander Investment Securities Inc. at (212) 583-4629 / (212) 350-3918.

^{*} Employed by a non-US affiliate of Santander Investment Securities, Inc. and is not registered/qualified as a research analyst under FINRA rules



SOME BACKGROUND ON THE LATEST POLICY MOVES AND SIGNALS

At its August meeting¹, the Copom hiked the Selic rate by 50 bps to 13.75%, the highest level since December 2016. In the statement, the authority signaled that it "will evaluate the need for a residual adjustment, of lower magnitude, in its next meeting". Thus, **the BCB left open the possibility of either pausing the cycle or implementing another hike of 25 bps (to 14.00%) at the September 20-21 policy meeting.** The BCB mentioned the global and local uncertainties, the "advanced stage of the current monetary policy cycle", and the lagged expected reaction of the economy (to past rate hikes) as reasons to take "additional caution in its actions". In other words, despite the recent deterioration in the inflation outlook, given the introduction of additional fiscal stimulus as the output (and employment) gap appears to be closed, we sense the BCB believes that the dose of total tightening that was planned at the June meeting is likely enough to achieve its objectives (i.e., inflation convergence to somewhere close to the mid-target in the medium term).

A key element allowing the BCB to end the hiking cycle soon was a modest tweak in its policy horizon, with the authority settling for a slightly slower inflation convergence to a level seen as close enough to the mid-target. In June, the BCB referred to its strategy of bringing the IPCA 2023 projection to around the target (or below 4%, as indicated in the press conference for the 2Q22 inflation report). At the August meeting, the BCB "decided at this moment to emphasize the projections for 12-month inflation in the first quarter of 2024, which reflects the relevant horizon, smooths out the primary effects from tax changes, but incorporates their second-round effects on the relevant inflation projections for monetary policy decisions". The BCB's inflation estimate for calendar 2023 — previously seen as the policy horizon — increased to 4.6% from 4.0% (midtarget: 3.25%; upper target: 4.75%). For 1Q24 (i.e., "the six-quarter-ahead horizon"), the YoY IPCA projection stands at 3.5%, a number seen as close enough to the center target for the relevant horizon. So, a terminal Selic of 13.75%, with rates kept at this level for some time, would be enough, in the BCB's view. And that, as far as we can discern, seems to be the plan.

THE CONTEXT FOR THE SEPTEMBER MEETING

Inflation expectations have evolved in a mixed manner in recent weeks, moving lower for the short/medium term (2022-2023) and moving higher for the medium/long term (2024). The BCB's Focus survey of analysts' expectations shows that IPCA inflation estimates for 2022 have fallen by another 0.8 p.p. to 6.4% since the last policy meeting, reflecting the stronger than anticipated effects of the energy tax cuts, as well as a slowing trend in volatile/flexible prices (such as commodity-driven and industrial goods). For next year, previously seen as the main policy horizon for the BCB, the median IPCA estimate has fallen 0.2 p.p. since the eve of the last Copom meeting, reaching 5.2% (mid-target: 3.25%; upper target: 4.75%). That move is of the same magnitude (with an inverted signal, of course) as the increase in the expectation for 2024, which has now risen to 3.5% (mid-target: 3.00%). Importantly, the rise in analysts' median IPCA forecasts for 2024 was mainly led by market-free prices, as projections for administered prices in that year have fallen by 0.2 p.p. to 3.6%. Using the traditional weighting of calendar-year horizons², the 18-month ahead inflation forecast (running at 4.7%) still stands ~1.5 p.p. above the calendar-adjusted mid-point target for inflation (3.2%). Inflation break-evens (BEIRs) have fallen for all horizons (from 1 to 10 years), but still stand at around 4.5-5.7%, significantly above the long-term inflation target, even adjusting for the "term premium"³.

Despite the temporary relief in headline CPI, following the tax breaks (whose deflationary effects are clearly seen in July and August CPI data), the IPCA's composition remains highly unfavorable. Based on the August data, we realize that not only do the trend core gauges keep moving at a rapid sequential pace of 10-12% QoQ-saar, but also that diffusion indexes continue to trend in the neighborhood of 70% in seasonally adjusted terms, meaning a gap of nearly 2 standard deviations from the average seen in periods of low inflation (2017-2020, averaging ~55%). The numbers mean that inflation pressures remain widespread across the CPI

2

¹ Santander Brazil Monetary Policy: "The Last Chapter(s)" – August 04, 2022 – Available on: https://bit.ly/Std-COPOM-aug22

² For the 3Q22, the rule of thumb for the calendar-adjusted target means 75% for calendar-2023 and 25% for calendar-2024.

³ Based in our data series, dating back from 2009, we calculate that the average spread of BEIRs vs. inflation forecasts is usually 50-100bps, depending on the maturity (1 to 10 years).



basket, with cyclical and sluggish components (such as services) playing a key role in the high readings of late. This means a slow disinflation process ahead, especially as economic slack seems to have worn out.

Figure 1. Underlying Inflation Trends (%QoQ-saar)

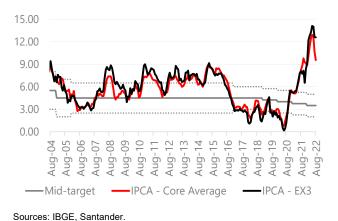
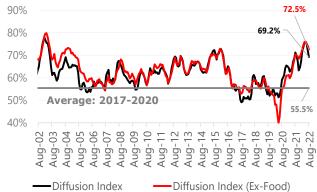


Figure 2. IPCA Diffusion Indexes (% sa)



Sources: IBGE, Santander.

On economic activity, in general the numbers show signs of strength up to 2Q22 and, albeit to a lesser extent, early in 3Q22. We continue to see the positive consequences of the reopening of services, the subsequent job-market spillovers, and the continued introduction of (fiscal and quasi-fiscal) stimulus. Except for retail sales (i.e., personal spending on goods), the recent batch of data has mostly been robust and/or surprised on the upside, as was the case with 2Q22 GDP4, the recent trends in employment5, and the July IBC-Br6. While a deceleration of economic growth is still widely expected for 2H22, as monetary tightening

starts to show its lagged effects, analysts have broadly raised their GDP expectations for both 2022 and 2023. Since the last Copom meeting, median estimates for 2022 GDP rose by 0.4 pp to 2.4%. For 2023 and 2024, increases are more modest: +0.1 pp to +0.5% for the former; +0.1 p.p. to 1.8% for the latter.

Beneath the numbers, we find important facts regarding the composition of economic activity that could bear important consequences for the inflation outlook. First, the current pattern of the economic recovery is accompanied by solid job-market conditions, meaning that we could now be in a phase of the cycle where domestic demand — especially consumer spending — takes the driver's seat. Second, and more importantly, we have found evidence (based on our own calculations) that slack may have vanished in both the broad economy (as indicated by headline GDP) and the job market (as indicated by the unemployment rate). We recognize the tremendous uncertainty regarding the estimates of structural and non-observable economic variables, especially after the colossal past shocks seen at both the global and local levels following the pandemic and after intense government actions to combat the economic impacts). Yet we cannot help concluding that the recent batch of activity data and our own estimates for trend variables bode ill for the speed of the disinflation process that is expected in the coming months (and years).

Financial conditions in Brazil have also been mixed of late, with an improvement in August being partly reversed in the first half of September. Overall, we have continued to see contractionary financial conditions since 2Q22. When we look at the evolution of Brazilian (and other key) asset prices since the last Copom meeting, we observe gains in Brazilian stocks, some retracement in domestic yields, and a decline in the risk premium. These factors explain the relative softening of financial conditions throughout August. Meanwhile, the decline in commodity prices (in general terms) and the widening in global yields have been acting in the opposite direction.

Part of the tightening in financial conditions in Brazil has to do with the deterioration in the global backdrop, in terms of both monetary conditions and expected activity. Indeed, since the last Copom,

⁴ Santander Brazil Economic Activity: "Strong 2Q GDP Data (Again)" - September 1, 2022 - Available on: https://bit.ly/Std-GDP-2Q22

⁵ Santander Brazil Labor Market: "A Bittersweet Month for Labor Market" – August 31, 2022 – Available on: https://bit.ly/Std-labor-083122

⁶ Santander Brazil Economic Activity: "Positive Kickoff for Broad Economy in 3Q22" – September 15, 2022 – Available on: https://bit.ly/Std-econact-091522

⁷ Santander Brazil Economic Activity: "Financial Conditions Worsen In Mid-September" – September 14, 2022 – Available on: https://bit.ly/Std-FCI-sep22



international developments have shown continued signs (and risks) of persistent inflation in large advanced economies, a bolder reaction from major central banks (stepping up the pace and possible extension of the policy tightening), and, consequently, a worsening outlook for global economic activity. These factors have not only contributed to a deterioration in financial conditions in Brazil but also to higher volatility in Brazilian assets. However, while Brazil FX has continued to swing in a wide range (by international standards), the BRL has behaved surprisingly well of late, and has settled at around USD/BRL 5.10-5.20 in recent days. That is not far from the level used in the inflation simulation at the last Copom meeting (USD/BRL 5.30).

Figure 3. Broad-Economy Slack (2010=100, sa)

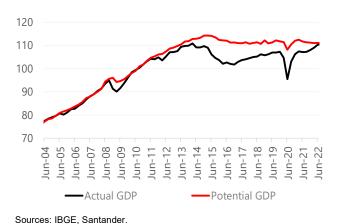
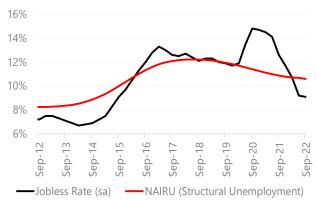


Figure 4. Job-Market Slack (3m, sa)



Sources: IBGE, Santander

WHAT TO EXPECT FOR THE MEETING AND THE FUTURE STEPS?

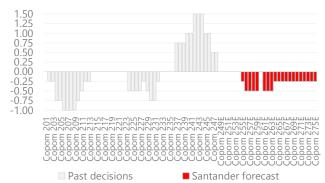
Despite a stronger cyclical position of the Brazilian economy and the recent introduction of further (probably permanent) fiscal stimulus, at its last policy meeting the BCB gave a strong signal of an imminent pause at the September Copom, as the authority believes the lagged effect of the past tightening and global disinflationary forces will prevail in terms of inflation dynamics for the medium term.

We believe the decision to hold interest rates at 13.75% at next week's policy meeting will be accompanied an explicit announcement of a pause in the monetary tightening process. In the statement, we believe the BCB will likely refer to the necessity to observe the lagged effects of past tightening on the evolution of the economy, the inflationary outlook, and the risks.

Figure 5. Santander Selic Forecast (% pa)



Figure 6. Historical, Expected BCB Moves (% pp)



Sources: Brazilian Central Bank, Santander.

At the same time, we think the BCB will probably reiterate the message that the Copom will remain "vigilant" regarding the next steps, reaffirming that the flight plan is to hold interest rates steady for a sufficiently long period. The BCB may also try to reinforce the message that rate cuts are not on the horizon for the time being, and one possible, alternative way to do this would be by flagging an upwardly skewed balance of risks for inflation. In our view, that asymmetry would make sense given the greater magnitude and persistence of the elements of the upside risks (fiscal expansion, erosion of economic slack), compared to the elements of the downside risks (commodity prices, supply-chain normalization).



On the one hand, we believe it is natural for the BCB to use the leeway provided by the inflation-targeting framework for a little policy accommodation of the large inflation shocks of late, given the extreme difficulty of getting 2023 inflation to the center target. On the other hand, in our view, this expected present accommodation will likely be followed by a period of higher rates for longer, as we see this as necessary to bring CPI down to the mid-point inflation target (3%) further out in the future. In our view, the Central Bank will deal with the inflation risks soon by passively making its monetary stance even more contractionary over time, as the BCB's policy steps lag the speed of decline in inflation expectations. Based on this expectation, our scenario anticipates that 2Q23 will see the tightest monetary policy stance in 20 years.

Regarding our scenario, we pencil in a YE2022 Selic rate at 13.75%, as we see the room for rate cuts narrowed by cyclical elements that could generate risks of resurgent inflation in the medium term. We forecast stable interest rates until the end of 1H23 and look for a YE2023 Selic at 12.00%. Our YE2024 estimate is at 9.00%.

Refer to a summary of the Copom dataset and the following graphs.

1

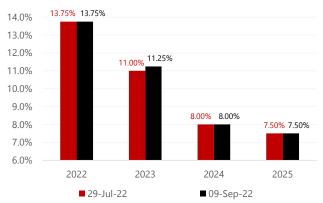
Figure 7. Calendar-Adjusted IPCA Estimates, Target (18 months ahead)



Sources: Brazilian Central Bank, Santander.

Note 1: IPCA expectations and target adjusted for the weight of each calendaryear as a policy horizon. For 3Q22, this means 75% for 2023, 25% for 2024. Note 2: Figures for the end of month. For September, as of the 9th.

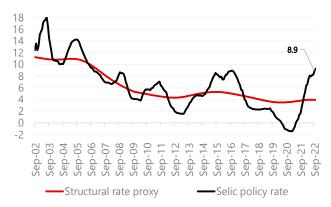
Figure 9. Median Selic Rate Expectations (% annual)



Sources: Brazilian Central Bank, Santander.

Note: As of the most recent BCB Focus report: September 9, 2022.

Figure 11. Real Rates: Short Term vs. Long Term (monthly average, % annual)



Sources: Brazilian Central Bank, Bloomberg, Santander.

Note 1: The neutral rate proxy is based on long-term real yields (5y5y forwards) adjusted by a constant historical term premium of 100bps.

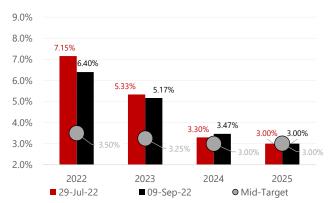
Note 2: Average data for September 2022 up to the 9th.

Figure 8. Median Selic Rate Expectations (% annual, monthly path)



Sources: Brazilian Central Bank, Bloomberg, Santander. Note: As of the most recent BCB Focus report: September 9, 2022.

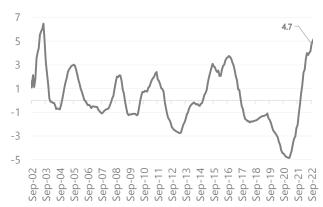
Figure 10. Median IPCA Inflation Expectations (% annual)



Sources: Brazilian Central Bank, Santander.

Note 1: As of the most recent BCB Focus report: September 9, 2022.

Figure 12. Estimated Monetary Policy Stance (gap between long and short-term real rates)



Sources: Brazilian Central Bank, Bloomberg, Santander.

Note 1: To calculate the policy stimulus, we subtract from the real policy rate the real level of neutral rate proxy (see graph on the left side).

Note 2: Average data for September 2022 up to the 9th.



Figure 13. Proxy for the Copom Dataset, Part 1

ECONOMIC TOPIC	LATEST DATA		THIS MEETING	MOST RECENT	PREVIOUS
Key Variables	When?		Sep-22	Aug-22	Jun-22
INFLATION					
Forecasts (% p.a.) - BCB's Focus report					
Calendar-Weighted Forecast (~18 months)	09-Sep-22	Ψ	4.74	4.83	4.70
Calendar-Weighted Target (~18 months)	09-Sep-22	Ð	3.19	3.19	3.25
Forecast for a year ahead (12 months)	09-Sep-22	P	5.52	5.52	5.91
Forecast for 2022 - target: 3.50%	09-Sep-22	Ψ	6.40	7.15	8.50
Forecast for 2023 - target: 3.25%	09-Sep-22	Ψ	5.17	5.33	4.70
Forecast for 2024 - target: 3.00%	09-Sep-22	P	3.47	3.30	3.25
Forecast for 2025 - target: 3.00%	09-Sep-22	=>	3.00	3.00	3.00
Breakeven inflation rates (% p.a.)					
1-year	09-Sep-22	Ψ	5.73	6.08	5.58
2-year	09-Sep-22	Ψ	5.76	6.11	5.62
5-year	09-Sep-22	•	4.45	4.59	5.55
10-year	09-Sep-22	•	5.56	6.38	7.00
Actual CPI data	•				
Headline (% YoY)	Aug-22	•	8.7	10.1	11.9
Headline (% QoQ, saar)	Aug-22	4	-0.2	3.6	11.9
Core IPCA EX3 (% YoY)	Aug-22	P	11.3	10.8	10.7
Core IPCA EX3 (% QoQ, saar)	Aug-22	Ψ	12.6	12.6	14.0
New cores average (% YoY)	Aug-22	Ψ	10.4	10.4	10.5
New cores average (% QoQ, saar)	Aug-22	Ψ	9.6	10.7	12.7
Diffusion index (sa)	Aug-22	Ψ	68.1%	68.8%	70.6%
Diffusion index ex-food (sa)	Aug-22	Ψ	71.0%	73.2%	73.3%
MONETARY POLICY	3				
Selic rate (% p.a.)					
Current level	09-Sep-22	P	13.75	13.25	12.75
Forecast for 2022	09-Sep-22	7	13.75	13.75	13.25
Forecast for 2023	09-Sep-22	P	11.25	11.00	10.00
Forecast for 2024	09-Sep-22	-	8.00	8.00	7.50
Forecast for 2025	09-Sep-22	=>	7.50	7.50	7.50
Yield curve (% p.a.)					
1-year OIS swaps (pré-DI)	09-Sep-22	Ψ	13.4	13.6	13.6
2-year OIS swaps (pré-DI)	09-Sep-22	4	12.0	12.7	13.2
Ex-ante real interest rate (% p.a.)					
1-year (OIS swaps vs. inflation forecast)	09-Sep-22	Ψ	7.4	7.7	7.3
FISCAL POLICY	1				
Primary Fiscal Balance (% GDP)					
Forecast for 2022	09-Sep-22	P	0.5	0.3	0.2
Forecast for 2023	09-Sep-22	•	-0.5	-0.3	-0.3
Forecast for 2027	09-Sep-22	=	0.5	0.5	0.6
Forecast for 2030	09-Sep-22	4	0.9	0.9	1.1
Gross General Government Debt (% GDP)		_			
Forecast for 2022	09-Sep-22	•	78.6	79.0	78.9
Forecast for 2023	09-Sep-22	=	82.0	82.0	81.5
Forecast for 2027	09-Sep-22	P	86.5	86.0	84.0
Forecast for 2030	09-Sep-22	n	87.5	00.0	J

Sources: IBGE, FGV, Brazilian Central Bank, Anbima, Bloomberg, Santander. Last update: September 15, 2022. Asset price and expectations data up to September 09, 2022.



Figure 14. Proxy for the Copom Dataset, Part 2

ECONOMIC TOPIC	LATEST DATA		THIS MEETING	MOST RECENT	PREVIOUS
Key Variables	When?		Sep-22	Aug-22	Jun-22
REAL ACTIVITY					
GDP forecasts (% p.a.) - BCB's Focus report					
Forecast for 2022	09-Sep-22	P	2.39	1.97	1.42
Forecast for 2023	09-Sep-22	P	0.50	0.40	0.55
Forecast for 2024	09-Sep-22	P	1.80	1.70	2.00
Forecast for 2025	09-Sep-22	Ð	2.00	2.00	2.00
Actual activity data					
IBC-Br (% QoQ, saar)	Jul-22	P	3.6	3.7	5.6
Industrial production (% QoQ, saar)	Jul-22	P	2.8	4.0	2.8
Retail sales (% QoQ, saar)	Jul-22	Ψ	-9.1	-5.2	0.3
Services volume (% QoQ, saar)	Jul-22	P	7.8	8.0	7.5
Unemployment rate (% 3m, SA)	Jul-22	Ψ	9.1	9.2	9.6
Real average wage (% YoY, 3m)	Jul-22	P	-2.9	-5.1	-7.2
Real wage bill (% YoY, 3m)	Jul-22	P	6.1	4.8	3.0
Caged payrolls (thousands, SA, 3m)	Jul-22	P	276	308	275
Economic confidence (2011=100)	Aug-22	P	87.7	85.6	85.1
EXTERNAL SECTOR					
-X rate (USD/BRL)					
Current level	09-Sep-22	Ψ	5.15	5.28	5.06
Actual: 5-day average (previous week)	09-Sep-22	Ψ	5.16	5.26	4.89
USD/BRL (to be) used in simulations	09-Sep-22	Ψ	5.15	5.30	4.90
Forecast for 2022	09-Sep-22	=	5.20	5.20	5.01
Forecast for 2023	09-Sep-22	4	5.20	5.20	5.05
Forecast for 2024	09-Sep-22	\Rightarrow	5.10	5.10	5.03
Forecast for 2025	09-Sep-22	P	5.20	5.15	5.13
Current account balance (USD Billions, 12m)					
Forecast for 2022	09-Sep-22	Ψ	-25.0	-18.0	-16.5
Forecast for 2023	09-Sep-22	Ψ	-30.6	-29.0	-32.0
Forecast for 2024	09-Sep-22	P	-39.2	-39.7	-40.1
Forecast for 2025	09-Sep-22	Ψ	-40.0	-39.7	-39.3
ASSET PRICES					
Brent Oil Price (USD bbl) / 1st Active Future	09-Sep-22	Ψ	93	95	111
IC-Br (% YoY)	Aug-22	P	17.7	22.6	32.1
CRB Commodity Index (Futures, USD terms)	09-Sep-22	P	284	282	315
CRB Commodity Index (Futures, BRL terms)	09-Sep-22	Ψ	1,465	1,482	1,609
CRB Commodities in BRL: 50-day average	09-Sep-22	Ψ	1,500	1,548	1,545
Brazil 5-year CDS (basis-points)	09-Sep-22	Ψ	236	279	267
lbovespa stock index (points)	09-Sep-22	P	112,300	103,775	102,807
DI Jan-23 (% p.a.) / Futures	09-Sep-22	Ψ	13.73	13.79	13.60
DI Jan-24 (% p.a.) / Futures	09-Sep-22	Ψ	12.92	13.28	13.44
DI Jan-25 (% p.a.) / Futures	09-Sep-22	Ψ	11.65	12.51	12.75
NTN-F 2027 (% p.a.) / Pre-Fixed Rate	09-Sep-22	Ψ	11.50	12.63	12.87
NTN-F 2029 (% p.a.) / Pre-Fixed Rate	09-Sep-22	Ψ	11.64	12.85	12.90
NTN-B 2040 (% p.a.) / Inflation-Linked	09-Sep-22	Φ	5.78	6.22	5.78
NTN-B 2055 (% p.a.) / Inflation-Linked	09-Sep-22	Ψ	5.86	6.26	5.90

Sources: IBGE, FGV, Brazilian Central Bank, Anbima, Bloomberg, Santander. Last update: September 15, 2022. Asset price and expectations data up to September 09, 2022.



CONTACTS / IMPORTANT DISCLOSURES

Brazil Macro Resea	rch					
Ana Paula Vescovi*	Chief Economist	anavescovi@santander.com.br	5511-3553-8567			
Mauricio Oreng*	Head of Macro Research	mauricio.oreng@santander.com.br	5511-3553-5404			
Jankiel Santos*	Economist – External Sector	jankiel.santos@santander.com.br	5511-3012-5726			
Ítalo Franca*	Economist – Fiscal Policy	italo.franca@santander.com.br	5511-3553-5235			
Daniel Karp Vasquez*	Economist – Inflation	daniel.karp@santander.com.br	5511-3553-9828			
Tomas Urani*	Economist – Global Economics	tomas.urani@santander.com.br	5511-3553-9520			
Lucas Maynard*	Economist – Economic Activity	lucas.maynard.da.silva@santander.com.br	5511-3553-7495			
Felipe Kotinda*	Economist – Commodities	felipe.kotinda@santander.com.br	5511-3553-8071			
Gabriel Couto*	Economist – Special Projects	gabriel.couto@santander.com.br	5511-3553-8487			
Fabiana Moreira*	Economist – Credit	fabiana.de.oliveira@santander.com.br	5511-3553-6120			
Gilmar Lima*	Economist – Modeling	gilmar.lima@santander.com.br	5511-3553-6327			
Global Macro Research						
Maciej Reluga*	Head Macro, Rates & FX Strategy – CEE	maciej.reluga@santander.pl	48-22-534-1888			
Rodrigo Park *	Economist – Argentina	rpark@santander.com.ar	54-11-4341-1272			
Ana Paula Vescovi*	Economist – Brazil	anavescovi@santander.com.br	5511-3553-8567			
Juan Pablo Cabrera*	Economist – Chile	jcabrera@santander.cl	562-2320-3778			
Guillermo Aboumrad*	Economist – Mexico	gjaboumrad@santander.com.mx	5255-5257-8170			
Piotr Bielski*	Economist – Poland	piotr.bielski@santander.pl	48-22-534-1888			
Mike Moran	Head of Macro Research, US	mike.moran@santander.us	212-350-3500			
Fixed Income Research						
Juan Arranz*	Chief Rates & FX Strategist – Argentina	jarranz@santanderrio.com.ar	5411-4341-1065			
Mauricio Oreng*	Senior Economist/Strategist – Brazil	mauricio.oreng@santander.com.br	5511-3553-5404			
Juan Pablo Cabrera*	Chief Rates & FX Strategist – Chile	jcabrera@santander.cl	562-2320-3778			
Equity Research						
Miguel Machado*	Head Equity Research Americas	mmachado@santander.com.mx	5255 5269 2228			
Alan Alanis*	Head, Mexico	aalanis@santander.com.mx	5552-5269-2103			
Andres Soto	Head, Andean	asoto@santander.us	212-407-0976			
Walter Chiarvesio*	Head, Argentina	wchiarvesio@santanderrio.com.ar	5411-4341-1564			
Mariana Cahen Margulies*	Head, Brazil	mmargulies@santander.com.br	5511-3553-1684			
Electronic						

Bloomberg Reuters SIEQ <GO> Pages SISEMA through SISEMZ

This report has been prepared by Santander Investment Securities Inc. ("SIS"; SIS is a subsidiary of Santander Holdings USA, Inc. which is wholly owned by Banco Santander, S.A. "Santander"), on behalf of itself and its affiliates (collectively, Grupo Santander) and is provided for information purposes only. This document must not be considered as an offer to sell or a solicitation of an offer to buy any relevant securities (i.e., securities mentioned herein or of the same issuer and/or options, warrants, or rights with respect to or interests in any such securities). Any decision by the recipient to buy or to sell should be based on publicly available information on the related security and, where appropriate, should take into account the content of the related prospectus filed with and available from the entity governing the related market and the company issuing the security. This report is issued in Spain by Santander Investment Bolsa, Sociedad de Valores, S.A. ("Santander Investment Bolsa"), and in the United Kingdom by Banco Santander, S.A., London Branch. Santander London is authorized by the Bank of Spain. This report is not being issued to private customers. SIS, Santander London and Santander Investment Bolsa are members of Grupo Santander.

ANALYST CERTIFICATION: The following analysts hereby certify that their views about the companies and their securities discussed in this report are accurately expressed, that their recommendations reflect solely and exclusively their personal opinions, and that such opinions were prepared in an independent and autonomous manner, including as regards the institution to which they are linked, and that they have not received and will not receive direct or indirect compensation in exchange for expressing specific recommendations or views in this report, since their compensation and the compensation system applying to Grupo Santander and any of its affiliates is not pegged to the pricing of any of the securities issued by the companies evaluated in the report, or to the income arising from the businesses and financial transactions carried out by Grupo Santander and any of its affiliates: Mauricio Oreng*.

*Employed by a non-US affiliate of Santander Investment Securities Inc. and not registered/qualified as a research analyst under FINRA rules, and is not an associated person of the member firm, and, therefore, may not be subject to the FINRA Rule 2242 and Incorporated NYSE Rule 472 restrictions on communications with a subject company, public appearances, and trading securities held by a research analyst account.

The information contained herein has been compiled from sources believed to be reliable, but, although all reasonable care has been taken to ensure that the information contained herein is not untrue or misleading, we make no representation that it is accurate or complete and it should not be relied upon as such. All opinions and estimates included herein constitute our judgment as at the date of this report and are subject to change without notice.

Any U.S. recipient of this report (other than a registered broker-dealer or a bank acting in a broker-dealer capacity) that would like to effect any transaction in any security discussed herein should contact and place orders in the United States with SIS, which, without in any way limiting the foregoing, accepts responsibility (solely for purposes of and within the meaning of Rule 15a-6 under the U.S. Securities Exchange Act of 1934) for this report and its dissemination in the United States.

© 2022 by Santander Investment Securities Inc. All Rights Reserved.

