mar asset management

Interest rate in Brazil – first to go up, first to come down?

Will there be room for monetary loosening in 2023?

Consensus view

- There is high confidence among market participants that the *IPCA* (Broad Consumer Price Index) inflation will converge toward the target. The reduction of commodities' prices, slowdown of goods inflation, and effects of a likely recession in Brazil would lead to a considerable inflation decrease in 2023. Current monetary policy would suffice to reduce aggregate demand, ensuring good flow for the convergence process.
- Inflation normalization would make room for the BCB (Brazilian Central Bank) to lower the *Selic* (Special System for Settlement and Custody) rate as early as mid-2023. The market expects a 375bps interest rate slash in the next two years. The terminal rate of the cycle priced in the yield curve is close to 10% by mid-2024. The BCB was the first country to implement a hiking cycle and would be the first to implement cuts.

Mar Asset view

- In the second half of 2021, we shared a close vision with the market. IPCA inflation was high due to transitory effects from commodities' rising, the real income was shrinking, and activity showed signs of slowing momentum. Once external inflation was controlled, there would be a rapid convergence to the target. The BCB's work was already well on track.
- However, the starting point now is much more unpleasant. Services inflation is close to the post-*Plano Real* (1994-currency stabilization regime) all-time high; the unemployment rate is at its lowest since 2014, workers' real income went from contraction to expansion, and activity remains hot.
- We agree that external inflation will contribute towards IPCA reduction. However, we believe a heated economy will hinder the process of inflation target convergence, specifically about services - the most sensitive inflation component.
- Household consumption will keep driving GDP growth. Households' Disposable Income will increase due to (i) an employed population more than 6% above the pre-pandemic level, (ii) real wages' recomposition, and (iii) an increase in government cash transfers to families. Combined with circumstantial savings that are still high, this higher income will maintain a consumption growth rate higher than 2% in 2023.
- As in the US, a reduction of headline inflation is widely expected in Brazil. Taking the IPCA inflation from the 12% mark observed in June to, say, 6.0% is the most straightforward task and is much less tied to the BCB's actions. The hard part will be taking it from 6.0% to 3.0%, the official target for 2024.
- The current inflation composition highlights this hardship. The services inflation component (35% of the index) is currently at 8.5% yoy. The underlying services inflation, which is the component most sensitive to the economic cycle, is running around 11% mom, considering the seasonal adjustment on these official records. In addition, the administered prices inflation should not show so high a deflation in 2023 versus the last months.

- Historically, nominal wages are more closely related to year-on-year services inflation, while the current IPCA deflates real wages. The current IPCA has been showing deflation and should depict low inflation in the coming months due to the reversal of industrial goods and commodities prices. On the other hand, services' year-on-year inflation will remain much higher.
- This income-inflation feedback slows down the IPCA convergence process. The high services inflation supports household consumption. High consumption, for that matter, supports high services inflation. Lower inflation from the other components of the IPCA index could help reduce services inflation through the inertia channel. Nonetheless, it will not single-handedly suffice to bring the latter to a level compatible with the target.
- In this regard, the Central Bank will be forced to keep a tight monetary policy for a longer period than what has been priced by the market. Alternatively, at least to us, the asymmetry looks like it favors higher and not lower interest rates with respect to what is embedded in the yield curve.

This real income impulse will maintain household consumption at a high rate in 2023

From our perspective, GDP growth will once more figure higher than expected in 2023. The market consensus is for a 0.5% growth, with several research institutes projecting GDP stability or even contraction. Our expectation is for growth close to 2.0%.

The rationale for the strong GDP slowdown projection by part of the market is the same one underpinning most pessimistic forecasts for this year's growth carried out in late 2021. Because of a tight monetary policy, credit would show strong contraction, thus reducing the pace of activity ramp-up.

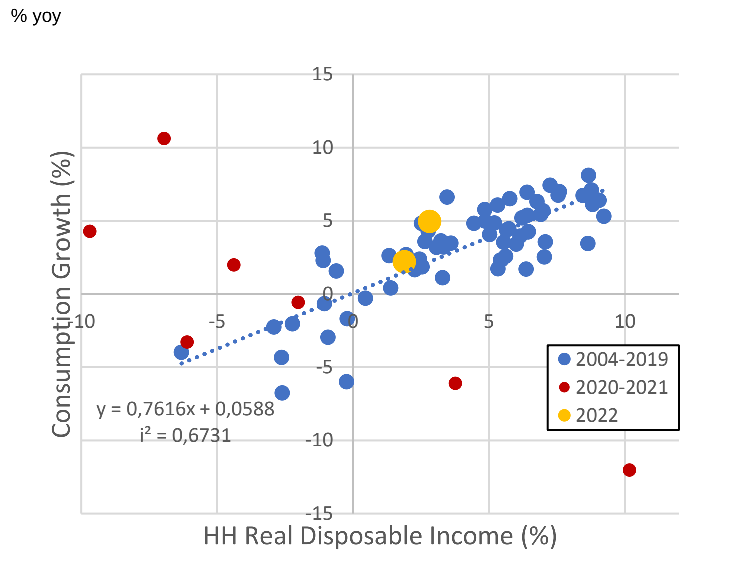
As discussed in our previous newsletters, we believed that peculiar factors connected with the post-crisis moment would overlap, and the activity would go on stronger in 2022. For example, a stimulus to the service sector due to economic reopening would more than make up for a tighter monetary policy.

Our vision tells us the same for 2023, despite some differences about the factors that will account for a positive shock. The effects of economic reopening and its inertial impacts will still make themselves present for the coming quarters, but with less relevance. In our view, the driving force will be household income growing at a solid pace.

The Disposable Income dynamics is the main driver of household consumption. If income continues growing, we will hardly see consumption fall (Figure 1). As for 2023, the forecast is for income to be even greater, on average, than in 2022.

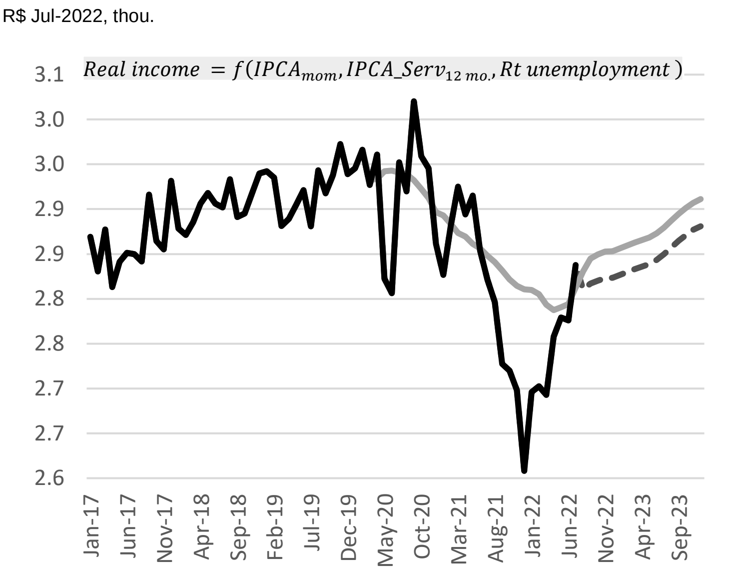
There are two reasons for this. Firstly, the number of people effectively working and receiving wages will be much greater. In July 2022, the *PNAD* (National Household Sampling Survey) showed a working population greater than 100 million, compared to 94 million in the pre-pandemic period. Secondly, there is an arranged real wage increase already in place. Nominal increases trail behind, by and large, the inflation accumulated over 12 months, particularly services inflation. Because the 12-month services inflation will be greater than the current inflation, real income increases will be positive for the next quarters (Figure 2).

Figure 1: Growth of Household Disposable Income (*RNDB*, in Portuguese) x household consumption



Source: BCB, *IBGE* (Brazilian Institute of Geography and Statistics), Mar Asset Management

Figure 2: Projected x observed average real income



Source: BCB, *IBGE* (Brazilian Institute of Geography and Statistics), Mar Asset Management

Consumption growth tends to tag along with disposable income growth, except when there are substantial changes to the savings rate. In the first semester of this year, our proxy for savings rate was 6.0%, a little under the 2013 and 2019 (7.1%) average. Except for the post-Covid shock, the savings rate's figure movement was not very high.

Even if there is a considerable increase in the savings rate, we stand firmly on the fact that the asymmetry is heading towards an unexpectedly high growth (See Box 1). Economists agree on a 0.7% increase in household consumption in 2023. Our models, as seen in the Box, show that a low growth like such would demand an increase in savings rate hand in hand with a job market deterioration.

A prevailing circumstantial saving plus the driving forces from the economy reopening implies a relatively high probability of the savings rate remaining low as of 2023. Even if there is less credit to families, there still seems to be room for relevant consumption growth.

In our view, the negative impact on economic activity from a tighter monetary policy will not predominate in 2023. Even if they do, they should not hold enough strength to provoke the necessary demand slowdown compatible with inflation control. Since the inflation starting point, predominantly that of services, is very high, the BCB will still have to keep a tight monetary policy in place for longer.

Box 1 – Household consumption growth simulations for 2023

We have considered three scenarios for the evolution of the employed population (EP) and savings rate figures. In a base scenario, in which the savings rate bounces back to a similar pre-crisis level and the occupied population follows the demographic pattern, household consumption would present a 2.2% growth in 2023. In a scenario with a savings rate equivalent to 2014, still higher than this year's first half, growth would be close to 3.0%. Only in scenarios of EP contraction or higher-than-average savings rate would household consumption grow in the same fashion as expected by the market consensus.

Several factors can explain movements in the savings rate. Ultimately, confidence indexes, credit granting, the richness effect, etc., reflect on families' savings level. For instance, the greater the credit to families, confidence, and savings, the greater the family's consumption proportionally to its income[1]. Hypothesizing savings behavior is an alternative way to consolidate the effects of all these variables over household consumption.

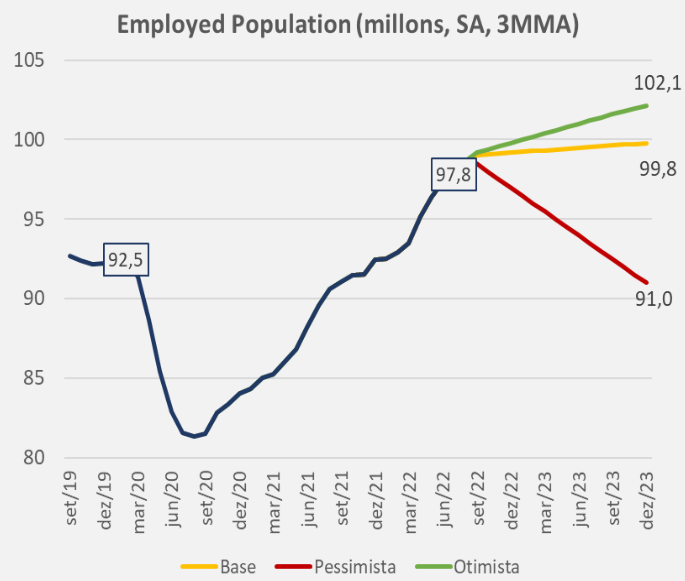
Figure 3: 2022 and 2023 simulations for household consumption growth, based on different hypotheses of savings rate and EP growth

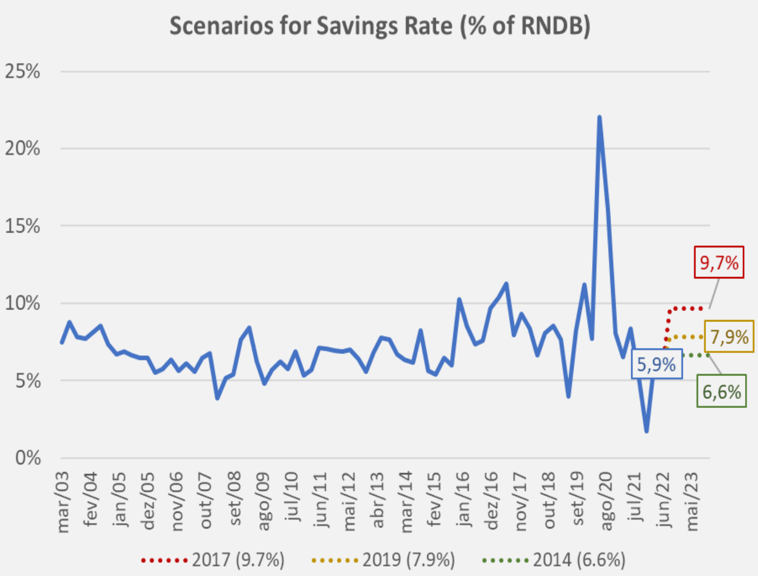
Household Consumption Growth in 2022

RNDB/savings	2017 (9.7%)	2019 (7.9%)	2014 (6.6%)
Pessimistic	1,5	2,6	3,2
Base	2,0	3,0	3,7
Optimistic	2,07	3,09	3,79

Household Consumption Growth in 2023

RNDB/savings	2017 (9.7%)	2019 (7.9%)	2014 (6.6%)
Pessimistic	-0,5	0,5	1,2
Base	1,2	2,2	2,9
Optimistic	2,11	3,10	3,77





Source: IBGE (Brazilian Institute of Geography and Statistics, Mar Asset Management

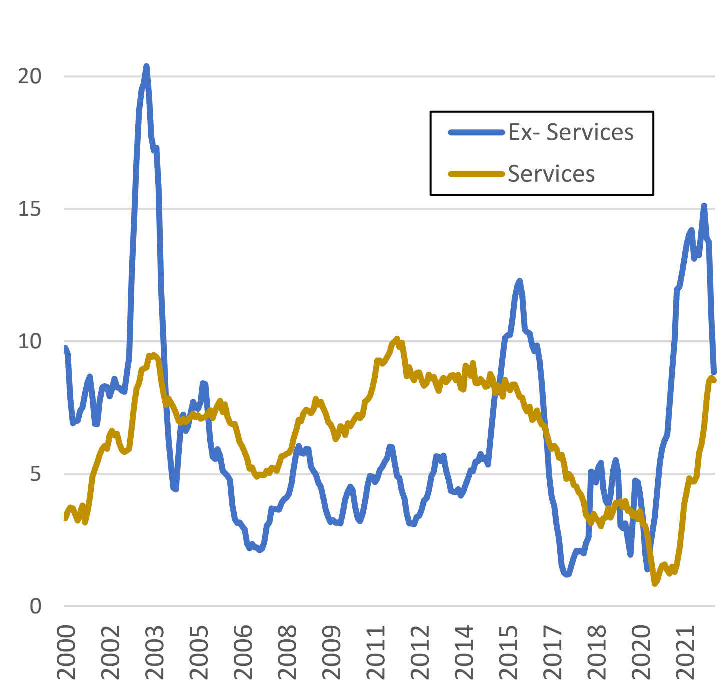
[1] Obviously, in the long term, there is a consumption level to income feedback. For example, more credit (consumption) can implicate greater job creation in the following period, and as a consequence, greater income. In the short term; however, secondary effects are limited.

Current inflation composition hinders convergence

The IPCA inflation is now worse off than in 2021's end. Despite headline inflation having subsided, services inflation has been systematically rising, reaching 8.5% yoy. The last time services inflation reached such a level was in the 2009-2015 span. Despite oscillations in other components, this prolonged stability shows the high inertial level of services inflation and how difficult bringing it down is (see Box 2). Moreover, this movement is mainly explained by the underlying services inflation[2]. Considering the seasonal adjustment, this subgroup's monthly inflation has been running close to 11% annually. This component, which is sensitive to the economic cycle, should remain high for as long as the activity remains resilient.

Figure 4: IPCA inflation composition – services and ex-services

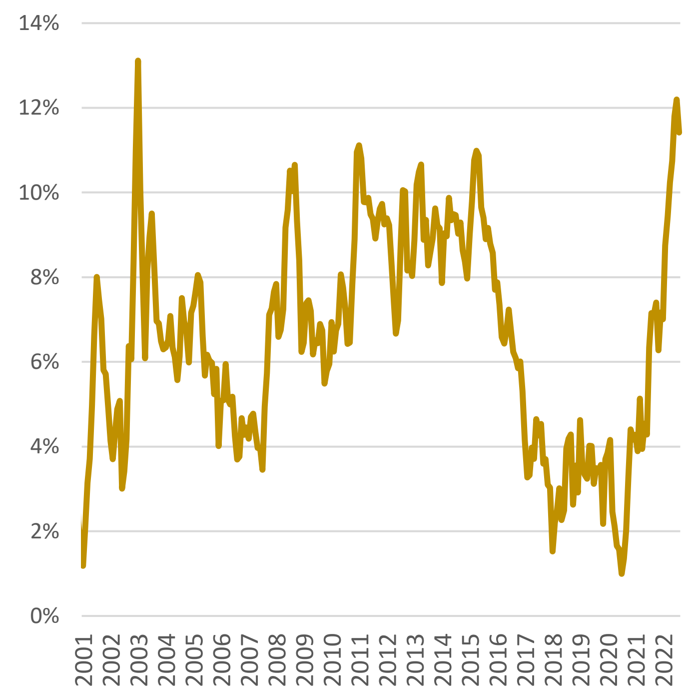
%, yoy.



Source: *IBGE* (Brazilian Institute of Geography and Statistics), Mar Asset Management

Figure 5: Underlying services inflation

%, 3MMA, SAAR



Source: *IBGE* (Brazilian Institute of Geography and Statistics), Mar Asset Management

[2] The underlying services inflation excludes price variations from some groups, such as tourism; domestic services; courses and communication. These groups, for various reasons (i.e.: excess of volatility, calculation methodology), make it difficult to identify the inflationary trend in the services sector. Learn more in "Inflation in the services sector", from the Sep.-2016 Inflation Report (link).

Box 2 – Services x Ex-services Inertia

Services constitute the group with more stable inflation throughout time. Unlike food items and industrial goods, the costs related to the provision of services usually do not depend on climatic factors, currency exchange rate, or commodities' prices in the international market – very volatile by nature. Thus, adjustments of services prices are much less frequent and much more dependent on recomposing the real value (inertia) and on the expectation for future inflation.

This assumption is empirically observable. When we recede each group's quarterly inflation in their own lagging process (four quarters), we can observe how much more inertial services inflation is compared to the other groups. First off, the coefficients for services add up to 0.85, which implies that an extra 1p.p. inflation accumulated over the course of four quarters represents, on average, an added 0.85% to the current services inflation. Comparatively, the coefficient for ex-services is 0.64. In addition, the four lags can explain the 71% quarterly inflation in the services group. Past inflation correlates to and explains most of the services inflation. On the other hand, lagging explains just 43% of ex-services inflation.

A simple exercise displays how much the current IPCA inflation composition, which is more concentrated in services, disfavors the convergence process. When we calculate a weighted average the "inertia" numbers based on services and ex-services contribution to headline IPCA inflation, we see that it increased a lot throughout the last quarters. This has occurred due to the more significant contribution of services inflation, all the more inertial, to the headline.

Figure 6: Inertial degree of each group

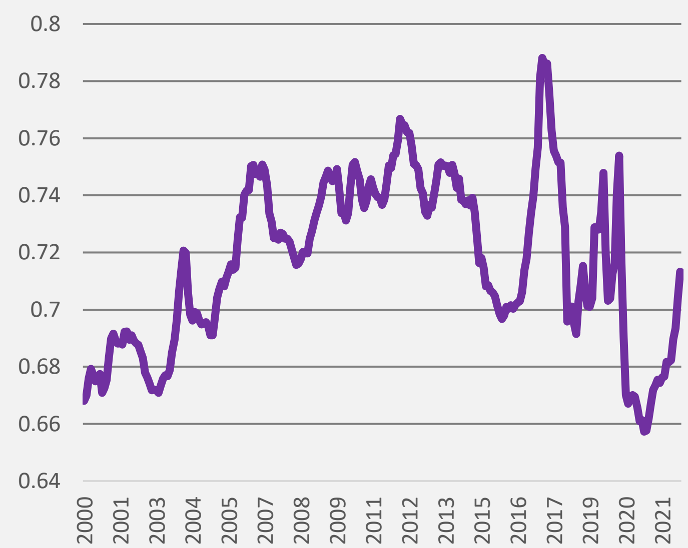
$$\pi_t^j = cte + \sum_{i=1}^{4} \varphi_i^j \pi_{t-i}^j + \varepsilon_t$$

j = services, administrative, food at home, industrials and ex-services inflation

	Sum of Coefficients ($\Sigma\varphi_i$)	R^2
Services	0.85	0.71
Administrative	0.54	0.20
Food at home	0.46	0.27
Industrials	0.56	0.27
Ex-Services	0.64	0.43

Source: IBGE (Brazilian Institute of Geography and Statistics), Mar Asset Management

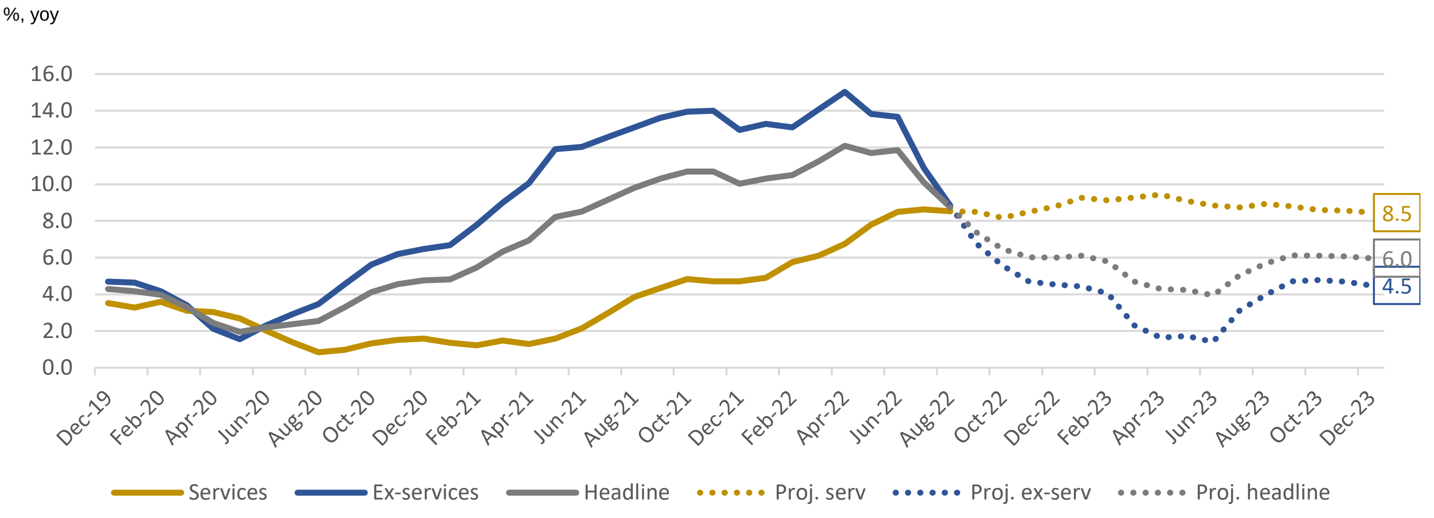
Figure 7: Estimate for the IPCA inertial coefficient



Source: IBGE (Brazilian Institute of Geography and Statistics), Mar Asset Management

The other groups' expected inflation reduction should not be enough to bring the IPCA inflation to "around" the target. There will likely be a significant decline in headline inflation for the next quarters, mainly in industrial goods and food items. This will initially bring headline inflation to very low levels due to the base effect. However, by 2023's end, we will hardly see the IPCA inflation significantly below 6.0%. That is because services account for 35% of the index. An 8.0% yoy services inflation would be compatible with the IPCA mark below 4% (*Copom*'s definition of "around the target"[3]) (*Copom*, Monetary Policy Committee) only if ex-services inflation were to be lower than 2.0%. There are no reasons, as of now, to believe in such low ex-services inflation. At least not a permanent one. Therefore, the services inflation must come down a notch for the IPCA to hit the target.

Figure 8: Projection for services and ex-services IPCA inflation



Source: IBGE (Brazilian Institute of Geography and Statistics), Mar Asset Management

What was the cost of controlling inflation in 2015-2017?

The last time there was a massive inflation reduction was in 2015 and 2017. The IPCA inflation jumped to 10.7% in December 2015 and fell to 2.5% in 2017. The services inflation, which spent five years oscillating between 8% and 10% yoy, receded to 4.5% in December 2017 and to 3.9% in mid-2018. The BCB and market expect a similar process to occur in the coming quarters.

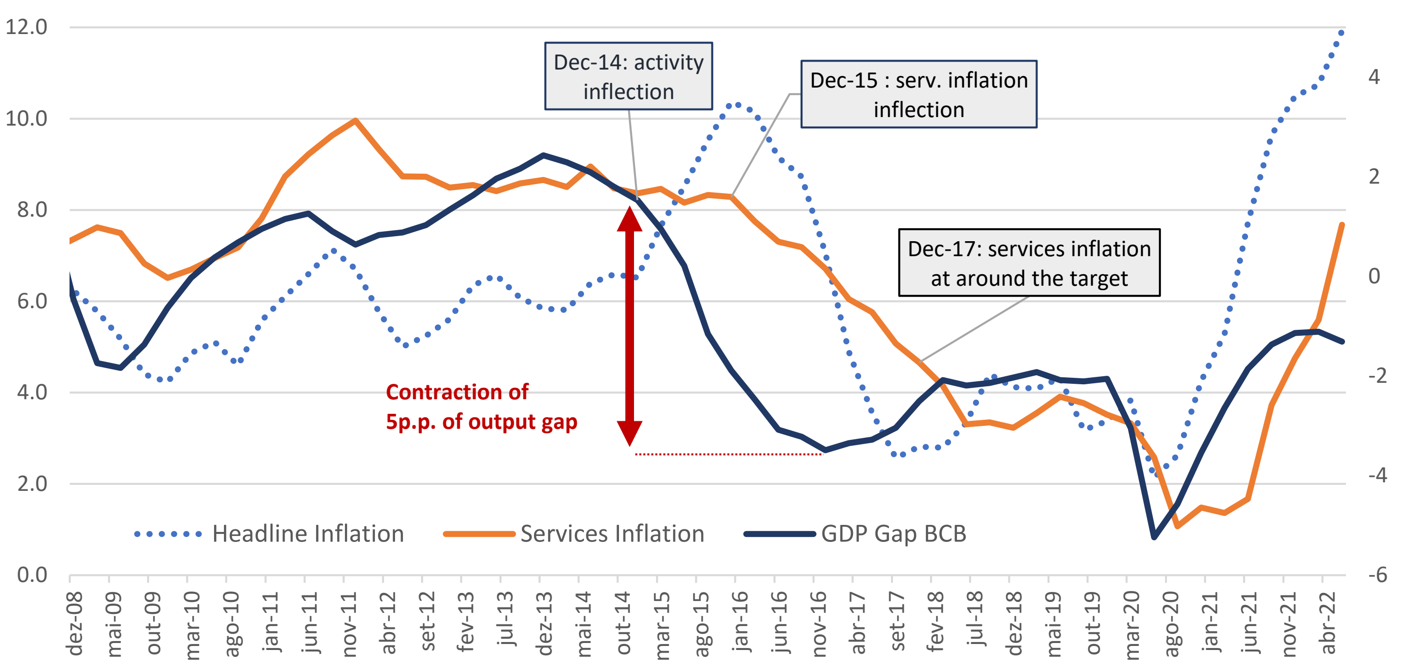
However, we have doubts about the time aspects, the necessary effort for inflation control (sacrifice rate), and, ultimately, the scope of monetary policy adjustment compatible with such control. Back in 2015-2017, the output gap declined from +2.0% of GDP at 2014's end to -3.5% in December 2016. In other words, a greater-than-5pps difference in GDP. Besides that, the services inflation started slowing down in a relevant fashion only in early 2016, much longer after the onset of the economic activity's collapse (late 2014). The services inflation

[3] See, for example, the BCB's Q&A section from June 23, minute 58' (link).

was only able to become once more compatible with the target (then 4.5% yoy) in December 2017.

Figure 9: Output gap, IPCA services, and headline inflation

% of GDP, % yoy



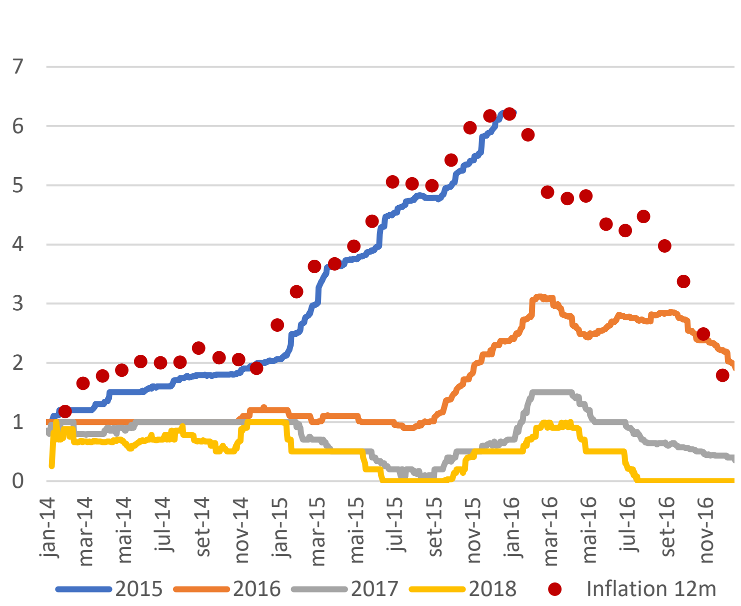
Source: IBGE (Brazilian Institute of Geography and Statistics, BCB (Brazilian Central Bank), Mar Asset Management

Currently, we are looking at a rising GDP and the output gap moving away from the inflation control compatibility. Our more optimistic view on activity implies continuity of such movement through 2023.

On a positive note, the difference is that today we depart from an already negative output gap (or not so positive), as was the case in 2014, and the expectations' unanchoring is at a lesser degree (Figures 8 and 9). Furthermore, in 2015, Brazil went through a process of administered price adjustment, which was artificially dammed (such as electric power), and strong the depreciation of the exchange rate, which kept the IPCA ex-services inflation very high throughout that year. The sacrifice rate for inflation control will be lower than it was back then. Nonetheless, the activity inflection has not even begun in the current cycle, which suggests the inflationary problem is far from a solution.

Figure 10: Deviation of inflation expectations for each year's end between 2015 and 2016

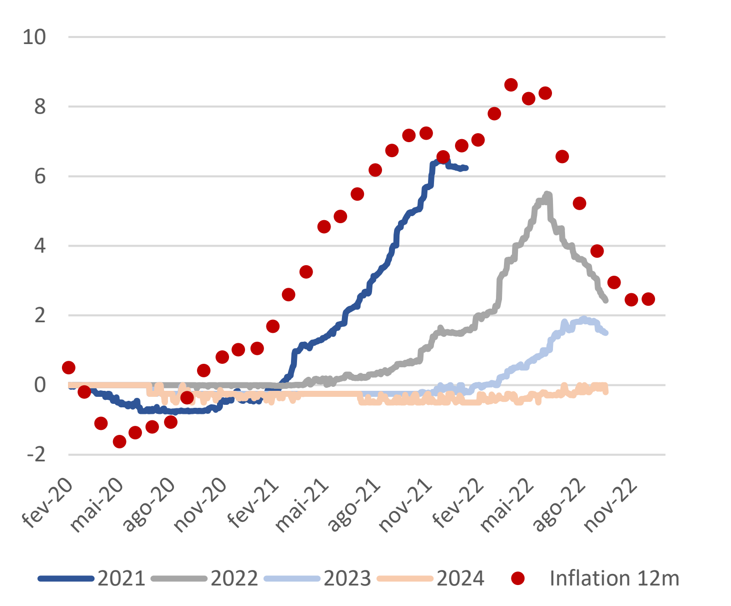
%, yoy



Source: BCB (Brazilian Central Bank), IBGE (Brazilian Institute of Geography and Statistics), Mar Asset Management

Figure 11: Deviation of inflation expectations for each year's end between 2021 and 2022

%, yoy



Source: BCB (Brazilian Central Bank), IBGE (Brazilian Institute of Geography and Statistics), Mar Asset Management

Inflation should be the biggest problem in 2023, not fiscal

A hot job market, substantially increasing household income, lowers pressures for a new government to resort to populist measures. An improvement in households buying power will bring a sensation of well-being to the population, which can be enhanced should there be a reversal of the strong food items inflation seen these last years. Furthermore, all candidates with some chance of winning have already vowed to increase the *Auxilio Brasil* (aid program) cash transfers in 2023, which already deliver on the short-term demand for income distribution.

In our view, the cost of maintaining the expenditures ceiling will not be high at first, with some flexibility to expand some programs already implemented this year. However, the lack of pressure from society for more public spending reduces encouragement from the ruling person to take the risk and worsen the fiscal framework in a way relevant enough to cause economic agents' distrust in Brazil's fiscal sustainability.

In our view, the fiscal issue should not be the main driving force (domestic) for assets prices volatility. Inflation is potentially a tremendous macroeconomic problem for the new government next year.

Implications for market prices and the Mar Absoluto strategy

An inflation that is possibly more resilient and which demands tighter monetary policy for a more extended period will reduce the interest rate cuts projected for 2023. In addition, it will cast doubt over the true level of the economy's equilibrium real rate, which would have implications for the longer interest rates[4].

The BCB has implemented, between 2021 and 2022, the largest hike cycle in history, lifting the *Selic* from 2.0% to 13.75%. The annual *ex-ante* real rate has been between 6%-7% APR since October 2021, and still, the economic activity keeps surprising upwards above the potential. For now, the consensus outlook is that the monetary policy impact is a matter of time. This would be solely because monetary policy operates with uncertain lagging that varies over time.

The abovementioned scenario, in which the activity, job market, and services inflation remain resilient throughout 2023, would lead to a fundamental mistrust about the monetary policy. It would be two years with high real interest without a reaction from the activity. The argument of a longer lagging process would be put in check: is it just a matter of a longer lag or monetary policy inefficacy?

Such a scenario would demand greater caution relative to monetary policy management. The traditional models for neutral interest rate measuring would point to levels closer to the pre-2016 ones, as well as there being reassessments of the actual level of the economy's idleness. The 2023 and 2024 inflation expectations would be reviewed upwards. At the very least, this scenario would not be compatible with the number of cuts to the *Selic* rate priced today in the interest curve.

We agree that the current *Selic* rate level is restrictive under normal standards. However, cyclical expansionary factors like economic reopening, circumstantial savings usage, and real income comeback, all overlap and will continue overshadowing the contractionary monetary policy. In due time, these cyclical factors will dissipate, and the monetary policy will have its contractionary effect. From our point of view, the difference is that this process will be much longer than the usual three to four-month lag estimated by the traditional models.

[4] We have discussed this topic in the US context in our "Prices and Curves" newsletter ([link]).

Figure 12: Real 1-yr. *ex-ante* interest rate in Brazil

% APR

Source: Bloomberg, BCB (Brazilian Central Bank), Mar Asset Management

In light of the base scenario with balanced fiscal growth resilience, but with inflation persisting in high baselines, we would like to position our portfolio long in stocks that benefit the strong local demand and that present discounted valuations from DI (interbank deposit) investments. This portfolio's asymmetry looks very advantageous to us.

The interest curve has priced a 375bps cutting cycle starting in the second semester of 2023, taking the terminal *Selic* rate to about 10% at the cycle's end. It seems unlikely for an interest rate reduction to a such extent next year, bearing in mind a scenario with a still very high services inflation by 2023's end.

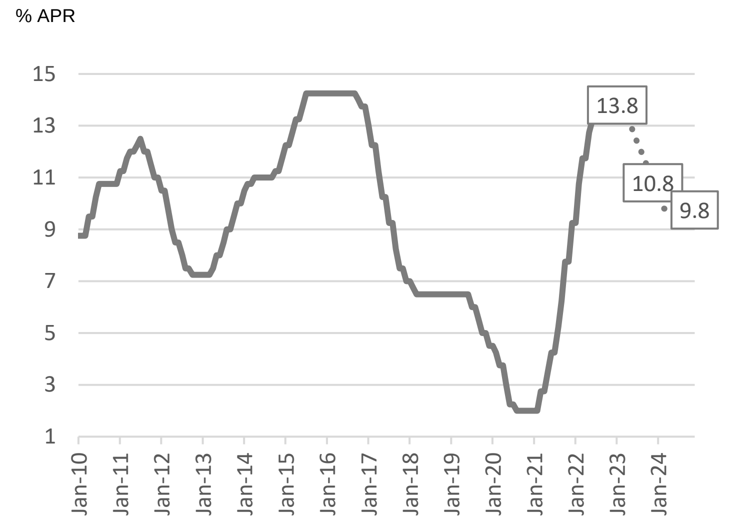
In this case, we would see a widening of the yield curve, in tune with a stable Selic rate at current levels for a while and a high long-term inflation risk premium. We are confident in a good performance of the equity portfolio due to (i) the fact that the high-interest rate baseline is already well priced in companies' current valuation multiples (ii) the continuity of economic activity growth at a high pace, and (ii) positive operational results from the companies we invest in.

If we are wrong in our base case, and inflation does cool down more swiftly than anticipated, we believe the current negative slope of the yield curve will shield us from our stance on interest. Considering the output gap starting point and services inflation at high levels, it seems unlikely that the BCB will not maintain the monetary policy at tight levels, even if such tightening is made smaller.

On the other hand, the perspective of an interest rate cutting cycle being carried out more promptly would be a powerful strengthener for repricing equities' multiples. This scenario would be optimal for our stocks, significantly surpassing occasional losses regarding interest rate investments.

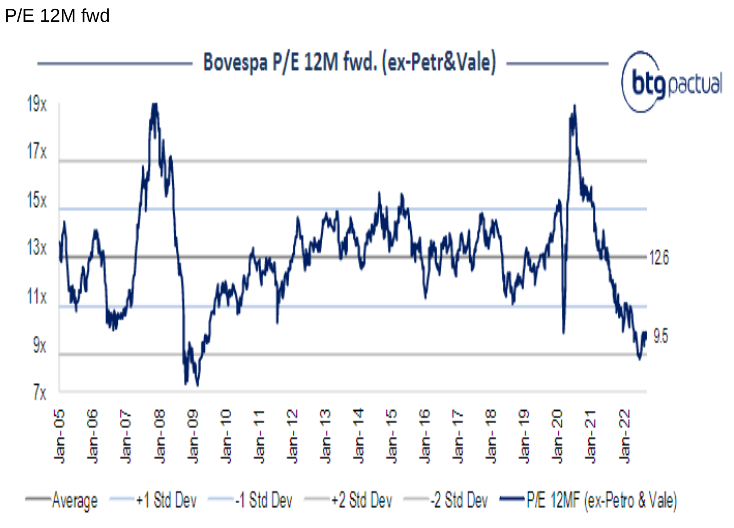
Lastly, we cannot disregard more aggressive risk-averse scenarios, be them derived from external factors (e.g., a broader repricing of long US interest rates with an occasional discussion on the US neutral interest rate) or internal (uncontrolled fiscal regime with unsustainable measures of spending or a new tax framework with structural flaws). In this case, our equities portfolio would suffer, even if we consider the current well-defended valuations, but our stance on interest rates would serve as protection.

Figure 13: *Selic* rate observed and projected by the market



Source: Bloomberg, Mar Asset Management

Figure 14: Valuation of Ibovespa, ex-Petrobras and Vale



Source: BTG, Mar Asset Management

About modeling and the post-Covid world cycle

We believe economic modeling is at the core of our disagreement with the consensus. The Covid crisis and the war in Ukraine sent shock waves across the economy and prompted never-seen-before responses from fiscal and monetary authorities. The harmful effects of these shocks and decisions are still very much present and constitute the leading forces in the backdrop of the global economic dynamics. It applies to both inflation and activity.

In the US, for instance, the framework to analyze inflation proposed a flat Phillips Curve. This model lasted throughout the last decades, and there were no clear indications of why it should not be valid post-crisis. With this framework in mind, the Fed and the market (as well as us) understood the great 2021 inflationary shock as something transitory and deriving from a particular time-specific unbalance in terms of goods supply and demand the world over. After supply normalization and the increase in services inflation and wages, we noticed that the hypothesis on the Phillips Curve's inclination was no longer compatible with reality. The tight job market was contributing to keeping inflation above the target.

Similarly, traditional models for GDP growth projection have been pointing to an activity slowdown since early 2021 in Brazil for two main reasons:

- At first, it was because of fiscal consolidation in 2021. The outlook was that a considerable *Auxilio Brasil* reduction in cash amount and outreach would be an immense negative fiscal impulse and, thus, a relevant drag on GDP growth. However, fiscal expansion was different come the current cycle. Transfers to families were made in 2020, but because the economy was closed, they did not translate into a spending increase for the most part (circumstantial savings formation). The fiscal expansion effects in 2020 are being felt to this day as these savings are used. Ultimately, GDP growth in 2021 was 4.6%, contrasting with a 3.3% expectation in November 2020[5].
- Secondly, because of tight monetary conditions. The consensus read that the *Selic*'s hike, implemented in 2021, would lead Brazil to economic activity contraction in early 2022. The impulse coming from the economy's reopening, above all from the services sector, more than made up for the tight financial conditions in place. The expected GDP growth for this year is closer to 3.0%, contrasting with expectations close to zero from late last year.

Our view is that the same will occur next year. The consensus is for a 0.5% GDP growth in 2023. The reason for such low growth is the same that was used for 2022 – the lagged effects from the monetary policy will weigh down on the economy's development. However, we believe other ones related to the economy exiting the crisis will once more compensate for these negative effects. In 2022, the primary positive impulse was the economic reopening. In 2023, it will come from the growth of families' real disposable income.

In short, our view is that economic models that perform well under normal conditions presented a lesser efficacy in projecting numbers in post-Covid times. Our focus was to understand the panoramic aspects, deriving from the specific patterns of the post-Covid shocks. More than projecting a specific number for GDP growth, we focus on identifying the risk the canonical models do not consider; therefore, where the asymmetry about the market consensus might be.

[5] Focus research from Nov. 13 (link).

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