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SPECIAL REPORT – COMMODITIES

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IT'S BARBECUE TIME

- Preliminary estimates for the harvest of several agricultural and soft commodities in Brazil point to record output this year, which will help bring down food inflation in 2023 — we estimate a deceleration from 13.2% in food inflation in IPCA 2022 to 1.7% in 2023, with a risk that food inflation in IPCA 2023 could be 0%.
- In Brazil's cattle cycle, a higher percentage of cows is being slaughtered, meaning that more beef is being supplied to the market, helping bring its prices down. We estimate cattle prices at BRL 240/arroba (inflation-adjusted) by December 2023. In nominal terms, this is equivalent to BRL 245/arroba.
- A few risks emerge to our expectation of a decline in beef prices at the consumer level: (i) the expected relief in wholesale prices might not be passed on to consumer prices as meat-processing companies seize the opportunity to rebuild their margins, especially in a context of no economic slack; (ii) the real wage bill increase could support an increase in beef consumption; and (iii) exports could continue running high, as Brazilian beef is currently cheaper than its global peers.
- While we recognize these risks, our call hinges strongly on the current favorable moment in Brazil's cattle cycle when supplies are ample. We believe that this supply factor will outweigh the other factors, and we forecast that the beef price component of the IPCA (Brazil's official CPI) could see annual deflation of 4% in 2023, signaling an approximately -10-bp risk to our headline IPCA forecast (which considers a -1.5% change in beef prices by YE2023). We note that this does not take into account the possible spillover effects on the whole protein chain (meaning poultry and dairy/milk could also decelerate more than we currently expect).

Introduction

Preliminary estimates for the harvest of several agricultural and soft commodities in Brazil point to record output this year[1], **which will help bring food inflation down in 2023 — we estimate a deceleration from 13.2% in food inflation in IPCA 2022 to 1.7% in 2023, with a risk that food inflation in IPCA 2023 could be 0%.** This positive outlook also means upside for GDP estimates this year. For inflation, a key part of the discussion is the channel through which a larger supply of such commodities leads to a disinflation process. In this report, we focus on the realm of food prices. We delve into the current favorable moment for Brazilian cattle, a soft commodity, and its implication for beef prices at the consumer level.

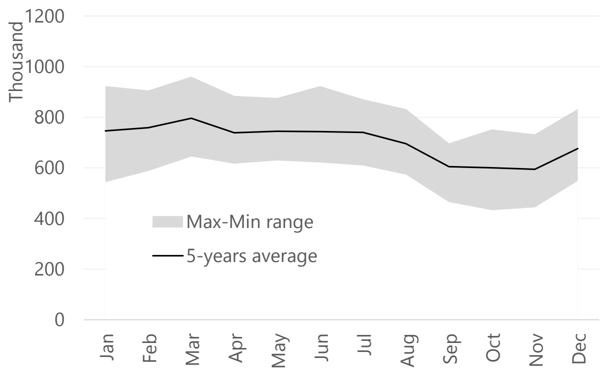
[1] https://www.ipea.gov.br/cartadeconjuntura/wp-content/uploads/2023/05/230503_nota_5_mercados_e_precos_agropecuarios.pdf

Supply — A Favorable Moment in Brazil's Cattle Cycle

The cattle cycle is a process in which the size of the cattle herd increases and decreases over time. It is influenced by several factors: cattle prices, input costs, the gestation period, the time needed for raising calves to market weight, and climate conditions, among others. In Brazil, the cattle cycle averages 5-6 years.

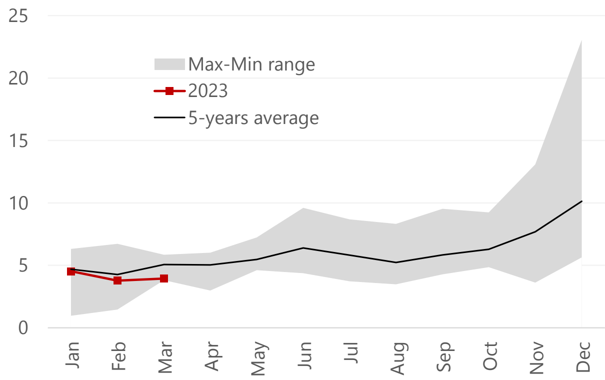
Driving the cycle is the slaughter of cows. Say that at one point, cattle prices are high, owing to scarcity in the market. Calf prices will also rise, as producers will be willing to invest and expand their herds by purchasing calves. Naturally, cows will be retained, as they can give birth to calves — expensive at this point of the cycle given producer demand. Eventually, too many producers will have turned to breeding activity. With calves' inventories rising, their prices will gradually decline. When they do, producers will reduce their herd by increasing the slaughter of cows, increasing the supply of animals and pushing down cattle prices. Subsequently, with few calves available to raise to market weight, cattle prices will gradually rise, and the cycle restarts.

Figure 1 –Seasonal Profile of Cow Slaughter in Brazil (5-years average)



Sources: IBGE, Santander.

Figure 2 – Beef Price Component of IPCA (%MoM)



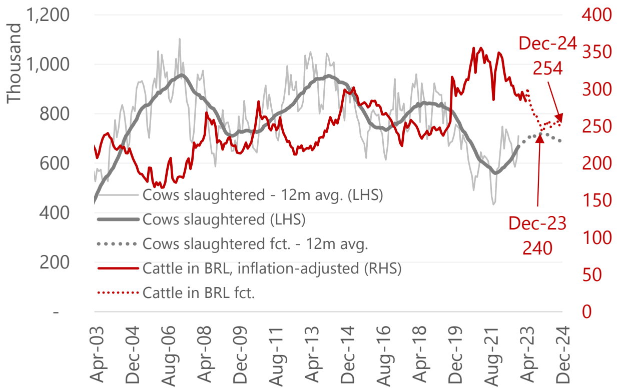
Sources: IBGE, Santander.

Using data from the Quarterly Survey of Animal Slaughter of *Instituto Brasileiro de Geografia e Estatística* (IBGE), we can learn how many cows are being slaughtered over time and hence identify in which stage of the cattle cycle we are. Looking at Figure 3, we can see that the cycle met a turning point in January 2022, when cow slaughter reached a low (565k per month in the 12-month moving average). From that point until now, cow slaughter has been rising consistently, and **this is where we are in Brazil's cattle cycle: a higher percentage of cows is being slaughtered, meaning that more beef is being supplied to the market, helping bring its prices down**. Further evidence that producers' cow inventories are running high is provided in Figure 4, which shows that calf prices (inflation-adjusted) are falling, given that supplies are abundant.

Our estimate for the cattle price by December 2023 is BRL 240/arroba[2] (inflation-adjusted). In nominal terms, this is equivalent to BRL 245/arroba.

[2] 1 arroba is equal to 14.7 kilograms.

Figure 3 – Cattle Cycle in Brazil

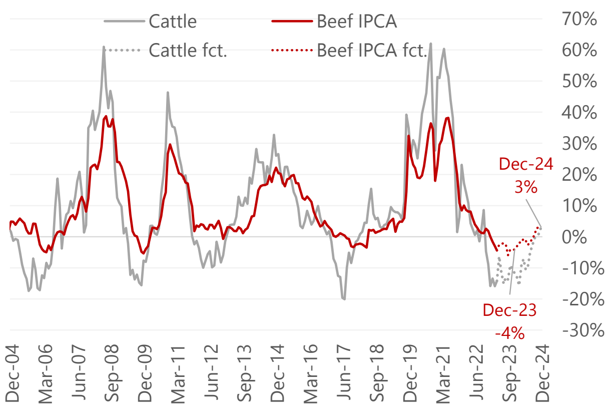


Sources: IBGE, Bloomberg, Santander.

Figure 4 – Calf Prices, Inflation Adjusted (BRL)

Sources: Bloomberg, Santander.

Figure 5 – Cattle (B3) x Beef (IPCA) Prices – YoY (%)



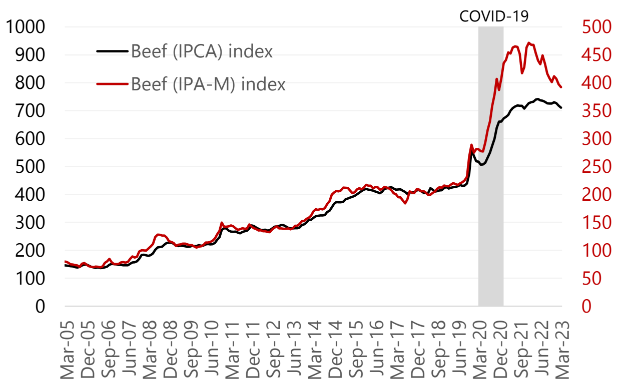
Sources: B3, Bloomberg, Santander.

Naturally, cattle prices in B3 are correlated with beef prices in IPCA. In Figure 5, we can see the positive correlation between cattle inflation and beef inflation, both on a year-over-year basis (YoY), with price movement in B3 somewhat anticipating price movement in IPCA. **Taking our estimate of BRL 245/arroba as an input, we forecast that the beef price component of the IPCA (Brazil's official CPI) could see annual deflation of 4% in 2023, signaling an approximately -10-bp risk to our headline IPCA forecast (which considers a -1.2% change in beef prices by YE2023). This is without taking into account the possible spillover effects on the whole protein chain (meaning poultry and dairy/milk could also decelerate more than we expect).**

Supply — Meat Processing Companies Could Rebuild Margins

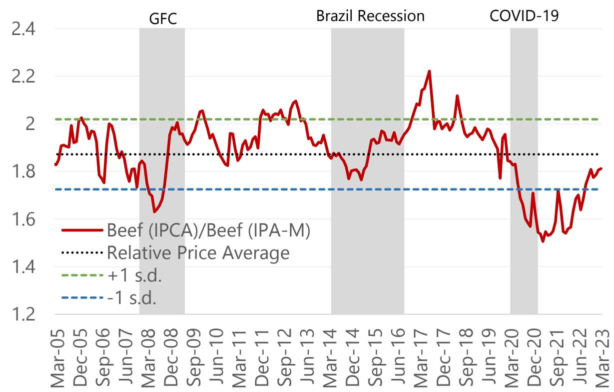
The COVID-19 pandemic triggered a massive distortion in the relative price between retail and wholesale. Beef prices at wholesale rose significantly in mid-2020, but beef prices at retail did not follow suit (Figure 6). In 2020, given high prices and subdued income, Brazilian household beef consumption dropped to the lowest level in 25 years (Figure 8). During the pandemic, meat processing companies struggled to pass through higher production costs to beef domestic prices, which affected their margins, as soybean meal and corn prices rose significantly, raising ration prices, particularly for feedlot producers. Since the low reached in March 2021, margins have partially recovered as grain prices receded from their record highs and as real household income rebounded and gradually increased in the post-reopening period. Still, the index is running below the historical average (Figure 9). **In our view, one risk to our expectation of beef price declines is that the expected relief in wholesale prices — given the current stage of the Brazilian cattle cycle — is not passed on to consumer prices as producers seize the opportunity to rebuild their margins.**

Figure 6 – Beef Prices (Retail and Wholesale)



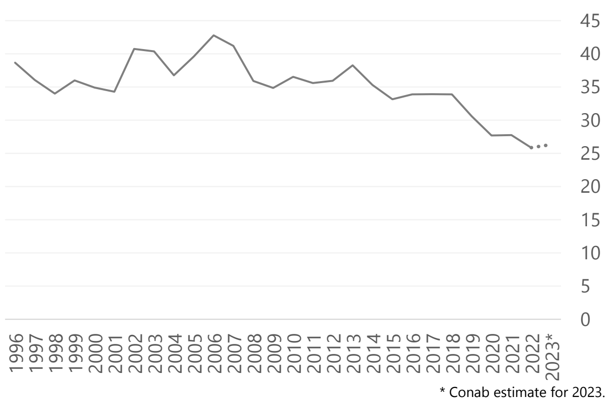
Sources: IBGE, Bloomberg, Santander.

Figure 7 – Beef Relative Price (Retail / Wholesale)



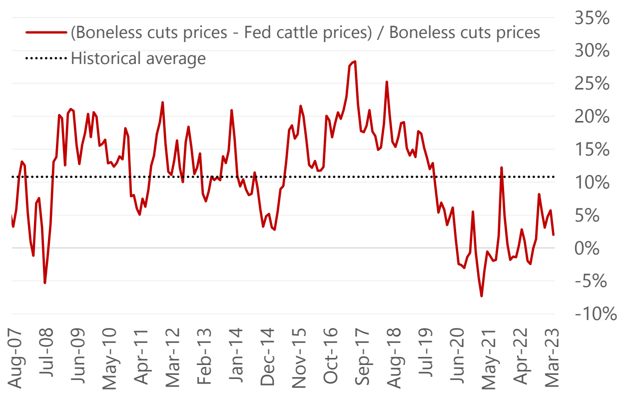
Sources: Bloomberg, Santander.

Figure 8 – Brazil Annual Beef Consumption *Per Capita* (in kg)



Sources: Conab, Santander.

Figure 9 – Meat Processing Companies Margins Index



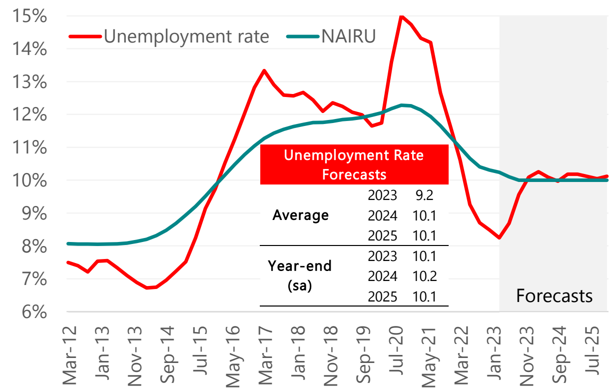
Sources: Athenagro, Cepea, IEA, Santander.

Demand – Real Wage Bill

On the demand side, another risk stems from consumers' ability to absorb the increase in beef prices. Considering that the Brazilian real wage bill is expected to grow 3.1% in 2023 (a slowdown from 8.7% in 2022), **we believe it will not be sufficient to allow a significant increase in beef consumption.**

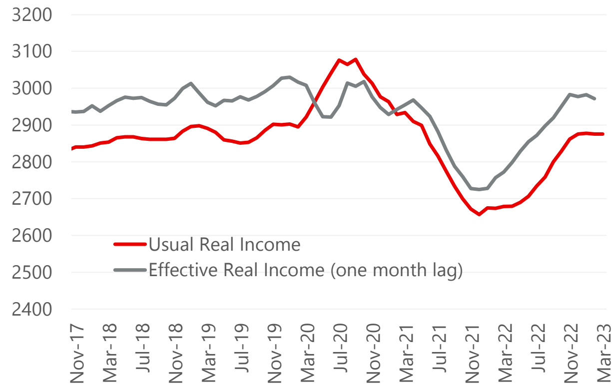
The labor market saw a robust improvement throughout 2022, with the unemployment rate reaching multi-year lows and going into territory below our estimate for the NAIRU (~10%). This also led to a quick recovery for real wages, not only due to a tight labor market, but also influenced by a significant inflation deceleration in 2H22. Although some of these factors remain in 2023, we expect a greater moderation for the labor market and wages throughout the year. Recent labor market data already show a substantial deceleration in real wages in the initial months of 2023. Following tighter financial conditions and a slowdown in domestic economic activity, we expect the unemployment rate to increase and converge to levels closer to the NAIRU in 2H23. A labor market that is closer to equilibrium also implies lower wage pressures. Finally, we do not expect a deceleration in inflation like the one observed in 2022.

Figure 10 – Unemployment Rate and the NAIRU (sa)



Sources: IBGE, Santander.

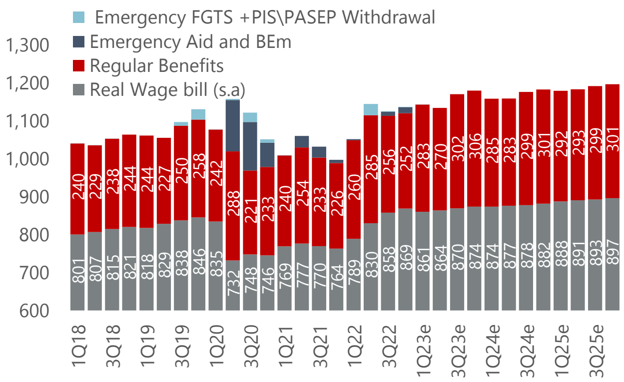
Figure 11 – Average Real Income (BRL, sa)



Sources: IBGE, Santander.

Considering this scenario, we forecast a deceleration for the "expanded" real wage bill in 2023. Although the figure still points to an expansion above our estimate for long-term growth, we expect the real wage bill deceleration to lead to a significant deceleration in household consumption, and, consequently, to a smaller impulse for beef demand as well.

Figure 12 – "Expanded" Real Wage Bill (sa)



Sources: National Treasury, IBGE, Ministry of Economy, Santander.

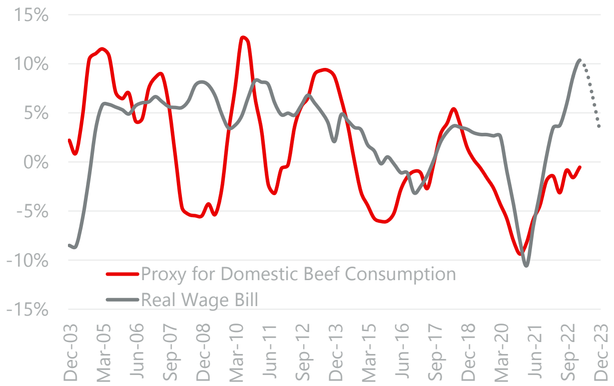
Figure 13 – "Expanded" Real Wage Bill (% full year)

	2022	2023(E)	2024(E)	2025(E)	Long-Term
Real Wage Bill	+8.7%	+3.7%	+1.2%	+1.6%	+1.4%
Real Wage Bill (With Government Transfers)	+8.7%	+3.1%	+1.0%	+1.6%	+1.4%

Sources: National Treasury, IBGE, Ministry of Economy, Santander.

Based on CONAB's (National Supply Company) internal beef availability data, we estimated a proxy for national quarterly beef consumption (Figure 14). We compare this proxy with a long real wage bill series, which interpolates the old PME survey with the current PNAD labor market survey. It is possible to note that, although the correlation is not perfect, periods of strong increases in beef consumption are compatible with high growth rates in household income. Furthermore, looking at the current picture, we evaluate that the hefty increase in the wage bill in 2022 has not translated into a similar move in beef consumption. Finally, looking ahead, we see a deceleration in the real wage bill in 2023, meaning no additional impulses for beef demand.

Figure 14 – Beef Consumption vs Real Wage Bill

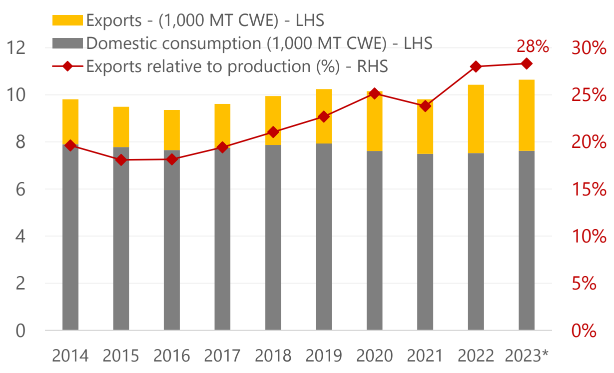


Sources: Conab, IBGE, Santander.

Demand – Exports to China

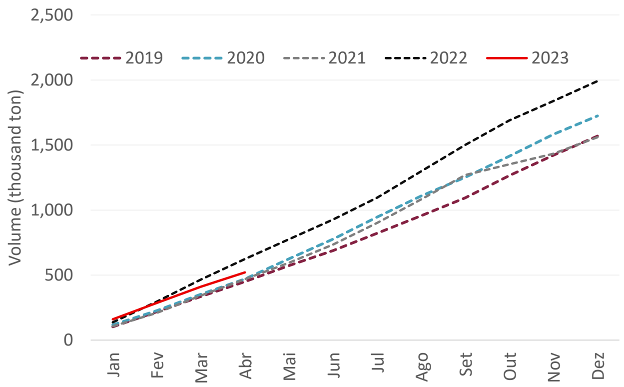
Finally, exports also play a key role in determining domestic prices. In essence, the domestic consumption of beef in Brazil is the difference between total domestic production and total exports. The foreign market has been gaining importance for Brazilian beef production due to elevated global demand. Currently, around 28% (Figure 15) of Brazilian beef production is exported to other countries, and this share is likely to increase further as Brazil obtains access to new markets (Russia, Mexico, Turkey, Indonesia, among others). We highlight that China has several requirements for cattle (e.g., cattle should be less than 30 months old, have a maximum of four permanent incisors); this is called "*Boi China*" and trades at a premium compared to regular cattle. In 2022, exports to China were a record, above 2 million tons. Despite the embargo in 2023, which affected Brazilian beef exports in February and March (Figure 17), we expect exports to continue running high, as Brazilian beef is currently cheaper than its global peers.

Figure 15 – Beef Exports Relative to Production



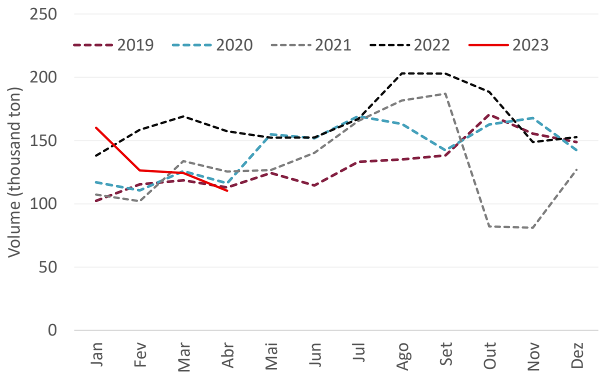
Sources: USDA, Santander.

Figure 16 – Brazil Beef Exports (Accumulated)



Sources: SECEX, Santander.

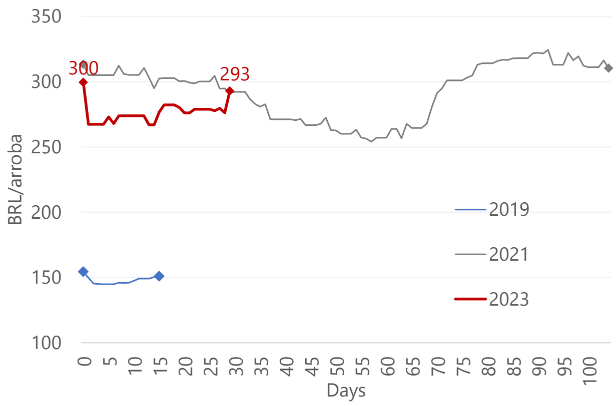
Figure 17 – Brazil Beef Exports (Monthly)



Sources: SECEX, Santander.

Mad cow disease. In March 2023, China lifted the embargo on Brazilian meat resulting from an isolated case of “mad cow” disease first reported in February. It was not the first time that China has suspended beef imports for this reason: in 2019, the embargo lasted 13 days; in 2021, it was 100 days. This time around, when lifting the embargo, the Chinese government also allowed new Brazilian slaughterhouses to export and restored permission to others that were suspended. The effects of the temporary closure are likely to be offset quickly, in our view, especially considering the high Chinese demand for beef currently. As a result of the reopening of the Chinese market, cattle prices in the domestic market quickly rose (Figure 18). The movement was limited, since the domestic market is still weak, which has kept prices at levels below those observed over the last two years. We expect shipments to recover in the near future.

Figure 18 – Cattle Prices (B3) During Chinese Embargoes



Sources: B3, Bloomberg, Santander.

Conclusion

In this report we argue that, in Brazil's cattle cycle, we are currently at a stage where a higher percentage of cows is being slaughtered, meaning that more beef is being supplied to the market, helping bring its prices down.

We see a few risks to our expectation of beef price declines at the consumer level: (i) the expected relief in wholesale prices might not be passed on to consumer prices as meat-processing companies seize the opportunity to rebuild their margins, especially in a context of no economic slack; (ii) the real wage bill increase could support an increase in beef consumption; and (iii) exports could continue running high, as Brazilian beef is currently cheaper than its global peers.

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