A Breakdown of Brazilian Financial Conditions

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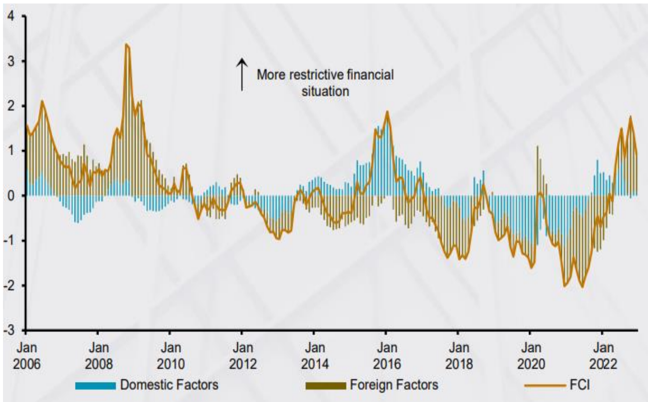
- As explored in previous reports, financial conditions are a broad concept. This concept contemplates several domestic and external financial assets data, reflecting both the current situation and expectations regarding future economic activity. Indeed, tighter financial conditions today typically correlate with lower domestic growth ahead.
- Santander's Financial Conditions Indicator (FCI) was launched (based on the Brazil Central Bank's (BCB) methodology) to timely track market conditions. It is built from the bottom up, allowing us to better understand the asset prices which are most relevant in driving each tightening (and easing) financial conditions cycle. However, in the original methodology, the segmentation between the domestic and external elements that influence financial conditions is not clear.
- This report aims to present an explicit breakdown of Brazilian financial conditions (following the BCB's methodology released in the 4Q22 Inflation Report) between domestic and external elements. Our breakdown provides a reasonable explanation of the main drivers in the last three cycles, in line with the results of the BCB's report.
- Considering the most recent period, after financial conditions had reached historically eased levels, our breakdown highlights a clear heterogenic pattern between domestic and external drivers, likely reflecting the substantial difference in monetary policy decisions timing between Brazil and developed economies. At the margin, domestic elements are contributing relatively less to the tightening of the FCI than in recent periods, but the unfavorable outlook for external variables (e.g., rates and global growth) should sustain financial conditions at levels considerably restrictive throughout 2023.
- For Brazil, our recession tracker (based on a 3-month lagged FCI) surpassed our false positive threshold in October and virtually reached in January-April the same levels seen during the worst moments of the 2014-16 Brazilian recession. In our view, these figures pose continued challenges to cyclical domestic activity this year.

In its 1Q20 inflation report, the BCB presented a new financial conditions indicator for Brazil[1], aimed at improving the assessment of the domestic financial environment in a timely manner. As explored in previous reports, financial conditions are a broad concept which contemplates several domestic and external financial assets data, reflecting both the current situation and expectations regarding future economic activity and considering agents valuations obtained through forward-looking analysis. Indeed, tighter financial conditions typically correlate with lower domestic growth ahead. Based on the BCB's methodology, on August 11, 2022, we launched Santander's Financial Conditions Indicator (FCI)[2] to timely assess market conditions and providing a bottom-up framework that allow us to better understand the most relevant drivers (among the available asset prices) in each tightening (and easing) financial conditions cycle. Since then, we have provided several updates as new data becomes available, providing, in our opinion, a fair replication of the BCB's official indicator.

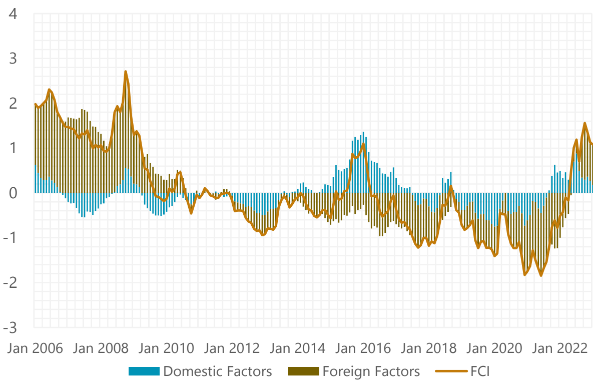
However, while the original methodology provides an assessment of the main asset prices driving financial conditions movements, the segmentation between domestic and external elements that influence financial conditions is not clear. For example, capital markets, risk and currencies groups that compound our FCI contain both domestic and external asset prices data, and it can be relevant to have a notion of how much movement in the FCI comes from domestic and external factors (or its timing). This report aims to present an explicit breakdown of Brazilian financial conditions between domestic and external factors, following the BCB's methodology released in the 4Q22 Inflation Report[3]. Briefly, the domestic variables are excluded from the groups of variables and a preliminary external proxy is built with the remaining series according to the FCI method. After that, we estimate a regression of FCI headline on the preliminary external proxy, and the external FCI is defined as the part explained by the regression, while the domestic FCI is defined as the residual from this regression.

Figure 1 – BCB's Decomposition (2006 to 2022)



Sources: BCB, Santander.

Figure 2 – Santander's Decomposition (2006 to 2022)



Sources: BCB, Bloomberg, Santander.

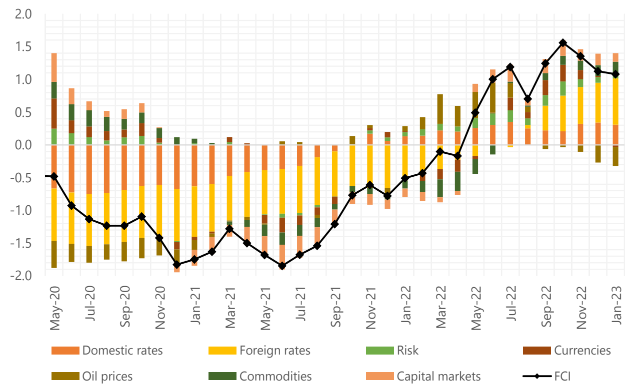
In Figures 1 and 2, we present BCB's FCI decomposition chart and Santander's, respectively (both displayed until December 2022). In a visual analysis, our decomposition shows some differences in levels relative to the official FCI, mainly in 2006-2008 and in 2014-2016; however, we understand our proxy captures the main movements from FCI, both in restrictive and easing financial conditions periods.

Considering the previous charts, we focus on three periods in our historical sample. The first one comprises of the 2008-2009 financial crisis, when our indicator reached its all-time high level (2.71 p.p.), owing to widespread restrictive stance among its asset prices components. Furthermore, our decomposition highlights that most of the tightening of financial conditions in the period was imported, with foreign factors explaining circa 80% of the domestic financial conditions level in October 2008. The second period comprises the 2014-2016 window, when Brazil faced the worst recession in about a century. In January 2016, mixed signals among asset prices

[1] Please, see *"Financial Conditions Indicator – 1Q20 BCB's Quarterly Inflation Report"* https://www.bcb.gov.br/content/ri/inflationreport/202003/ri202003b8i.pdf.
[2] **Santander Brazil Special Report: "*Tightest Financial Conditions since 2009*"** – August 11, 2022 – Available on: https://bit.ly/Std-special-081122.
[3] Please, see *"Decomposition of the Financial Conditions Index into domestic and external factors – 4Q20 BCB's Quarterly Inflation Report"* https://www.bcb.gov.br/content/ri/inflationreport/202212/ri202212b5i.pdf.

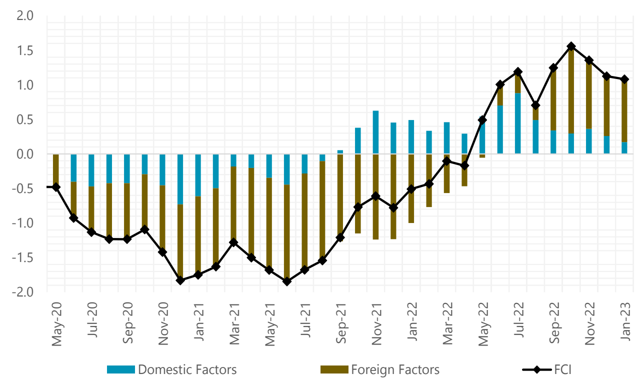
led our FCI to reach 1.10 p.p., with domestic factors strongly contributing with 1.36 p.p. (in the midst of the political turmoil in the period) at the same time foreign factors contributed negatively with -0.26 p.p. The third period comprises the most recent window, from mid-2021 to now, when our breakdown highlights a clear heterogenic pattern between domestic and foreign drivers. After financial conditions had reached historically eased levels (due to the extraordinary stimuli implemented domestically and globally), widespread and lingering inflationary pressures prompted central banks to start monetary tightening. However, it is worth noting the substantial difference in the monetary cycle timing, with Brazil starting much earlier in comparison with developed economies. The BCB started the upward cycle of interest rate in March 2021 and domestic factors contribution reached 0.62 p.p. in November 2011 (as expected, owing mainly to rising rates), as presented by Figure 3 and Figure 4 below (both considering data available until January 16, 2023).

Figure 3 – Santander's FCI (2020 to 2022)



Sources: BCB, Bloomberg, Santander.

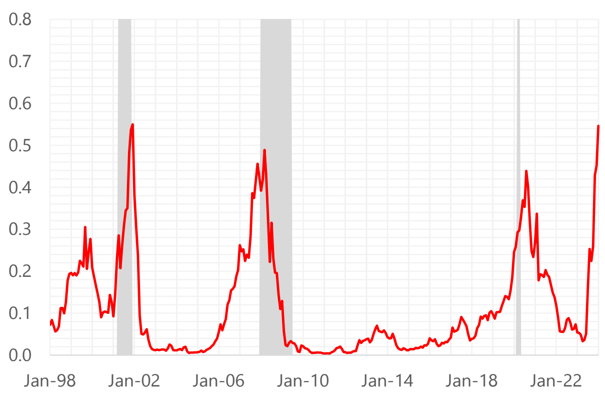
Figure 4 – Santander's Decomposition (2020 to 2022)



Sources: BCB, Bloomberg, Santander.

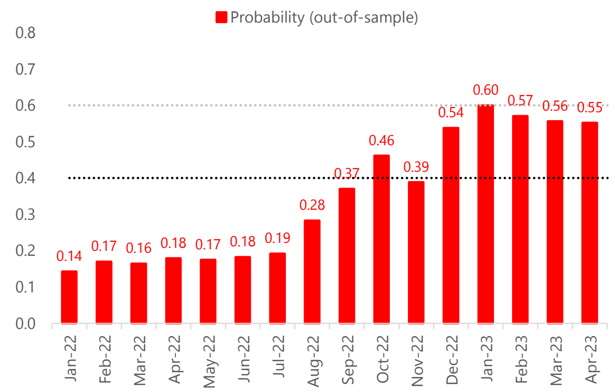
At that time, we saw widespread downward 2022 GDP growth revisions among professional forecasters, with Focus (the BCB forecast survey) market consensus sharply declining from +1.5% (on October 1, 2021) to +0.36% (December 30, 2021). A more careful analysis would indicate that, despite the rising interest rates, financial conditions were still considerably stimulating, owing mainly to external tailwinds, which would be solid evidence contrary to the recessive expectations for 2022. Additionally, the sharp rise in commodity prices amid the Ukraine-Russia conflict contributed to the FCI remaining in expansionist territory until mid-2Q22, corroborating the healthy steams of domestic activity in 1H22. The start of the contractionary policy in developed economies took our FCI into restrictive territory and reached the tightest level since the 2008-2009 financial crisis, now owing both to domestic and external headwinds.

Figure 5 – Recession Probability in US*



Sources: FED, Bloomberg, Santander. * Out-of-sample figures from January 2020 to January 2024.

Figure 6 – Recession Probability in Brazil



Sources: FGV, Bloomberg, BCB, Santander.

At the margin, domestic elements are contributing relatively less to the tightening of the FCI than in recent periods, but the unfavorable outlook for external variables (e.g., rates and global growth) should sustain financial conditions at levels considerably restrictive throughout 2023. Indeed, Figure 5 presents recession trackers for the U.S. (based on 12-month lagged yield curve spreads) climbing to historically high readings. For Brazil, our recession tracker[4] based on 3-month lagged FCI (data available until January 9, 2023) surpassed our false positive threshold in October (in line with Santander's monthly activity indicator entering restrictive territory in the month[5]) and virtually reached in January-April the same levels seen during the worst moments of Brazilian 2014-16 recession. In our view, these figures pose continued challenges to cyclical domestic activity this year. We forecast GDP growth in 2023 at +0.8%, with a significant slowdown in domestic demand and in cyclical supply components, stemming mainly from the expected global recession and the tight BCB policy, but we also expect strong growth for non-cyclical farm output, reflecting an all-time high forecast for the grain harvest.

[4] **Santander Brazil Special Report: "*Forecasting Probability of Recession in Brazil with Financial Conditions*"** – January 04, 2023 – Available on: https://bit.ly/Std-special-010423

[5] For US, recession probability in 2023 (based on yield curve spreads) climbed to historically high readings, as presented in Figure 5.
Santander Brazil Special Report: "*Santander's Monthly Activity Indicator Entered Restrictive Territory in October*" – January 03, 2023 – Available on: https://bit.ly/Std-special-010323
Santander Brazil Economic Activity: "*Financial Conditions Remain Restrictive, Despite Relief at the Margin*" – January 17, 2023 – Available on: https://bit.ly/Std-FCI-jan23

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