

IDAT-Regional Activity: Methodology update

- ▶ We reviewed the regional breakdown of our proprietary IDAT-Activity, an indicator of aggregate spending by Itaú customers. Until now, IDAT-Regional Activity has been published on a monthly basis, covered major regions and only included in-person transactions with credit and debit cards.
- ▶ Following this review, the regional version of IDAT becomes a daily indicator, broken down by state and covering online transactions; PIX, TED and DOC wire transfers; and bank payment slips. Hence, IDAT-Regional Activity turned into the regional breakdown of the national IDAT-Activity.
- ▶ In the first eight days of May, spending on services increased in all major regions except the South, which has been negatively impacted by the environmental disaster in Rio Grande do Sul state. Spending on goods advanced in all regions, although the South and Midwest underperformed.

Official economic statistics are usually low frequency and published with significant lags. To track economic activity in a timely manner, we developed IDAT-Activity in 2020. Originally, our aim was to track economic evolution during a period marked by challenges in compiling statistics. This paper reviews the methodology of the regional indicator as well as publication frequency.

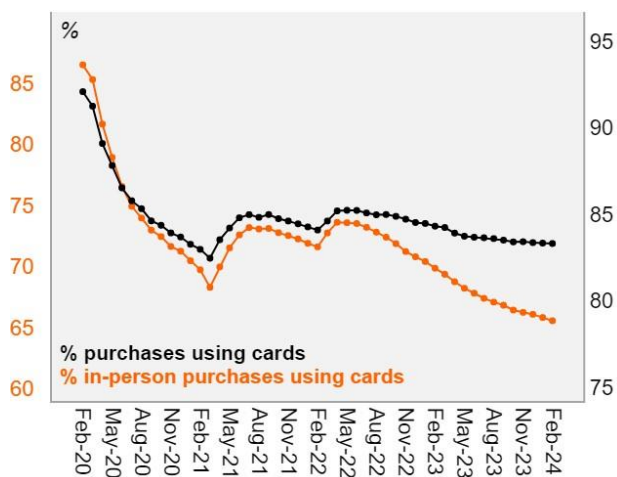
Methodology

IDAT-Activity Brazil is a daily indicator of aggregate spending by Itaú customers using credit and debit cards (online and in person), wire transfers (including PIX), and bank slips. The indicator focuses on spending on goods and services and cash flows from individual customers to businesses with accounts in all financial institutions. Regarding spending on goods, the sectors chosen to form IDAT-Goods match those covered by IBGE's monthly retail sales survey (PMC). Regarding spending on services, we considered the sectors covered by 'services provided to households' in IBGE's monthly services survey (PMS).

IDAT-Regional Activity follows the same rationale as the national indicator, but until now had covered only in-person card transactions (leaving out online transactions and other payment methods). The choice to confine the regional indicator to in-person transactions primarily stemmed from uncertainty over whether online transactions should be attributed to the seller's or buyer's location.

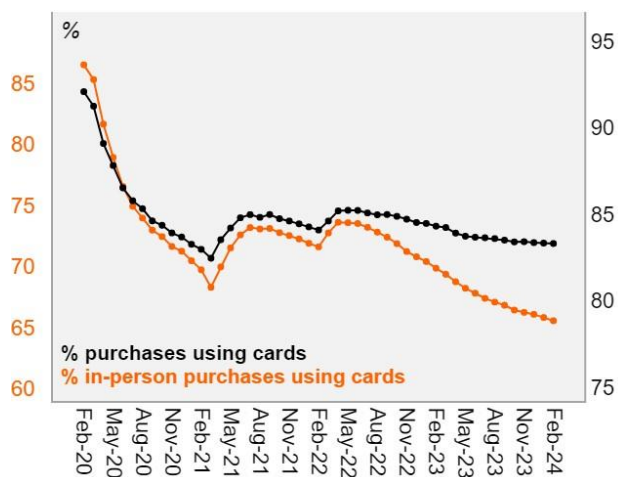
The growing shares of online shopping and PIX transactions led us to reconsider the scope of IDAT-Regional Activity, as we had already done for the national IDAT (see [here](#)). For example, from early 2020 to today, the share of in-person transactions with credit and debit cards –the original scope of IDAT-Regional Activity– in total sales fell to 38% from ~67% for furniture and household appliances, and to ~65% from ~87% for fabrics and apparel. In-person transactions are becoming less frequent due to advances in online shopping as well as the growing use of immediate PIX transfers. Hence, the exclusion of these transactions could lead to a misguided interpretation of retail performance in recent months. Furthermore, we reached an internal conclusion that online transactions should be attributed to the buyer's location because they more faithfully represent the spending momentum in the buyer's region. We then ran an initiative to geolocate buyers in online transactions and maintained the geographic attribution of the seller for other transactions.

IDAT Fabric and Apparel



Source: Itaú

IDAT Furniture and Household Appliances



Source: Itaú

Another methodology change involved the increased regional granularity of the indicator, which is now also available by state, in addition to major regions.¹ Other minor adjustments were made, such as establishing 2022 as the base year and updating the sectors' weights according to the most recent PMC and PMS weights released by IBGE. Previously, the indicator was the result of the sum of transactions captured by our system, which could generate distortions when the distribution of our transactions by sector was not exactly what IBGE captured. The seasonal adjustment of the series is performed by Prophet—a time series model developed by the Facebook Data Science team which breaks down data into trend, seasonality and holiday. It uses linear regression for trend analysis, Fourier series for seasonal fluctuations, and generalized additive models (GAM) for holiday-related effects.²

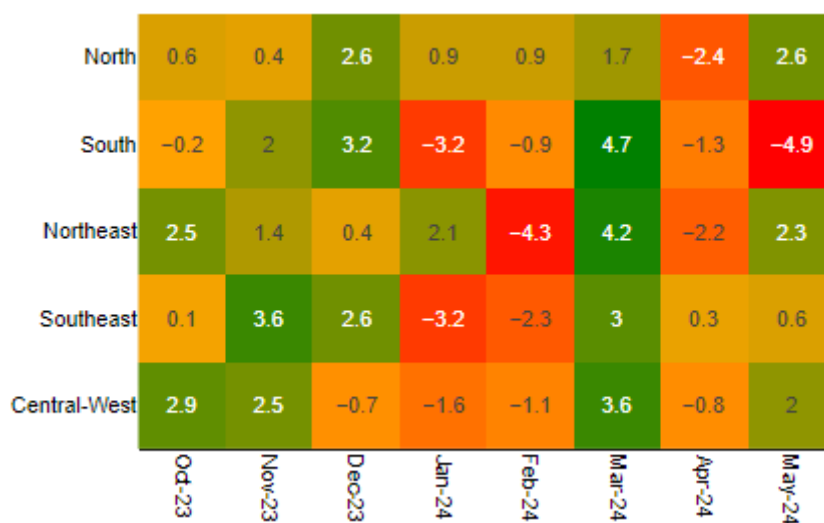
As the indicator aims to track spending on goods and services in real terms, we deflated the amounts by the corresponding sub-items of the national IPCA consumer price index and weights similar to those set by IBGE surveys. We decided to use the national IPCA—rather than the regional indicator—to deflate the indices because, in the absence of the official IPCA for the month, we use our own forecasts, which are only available at the national level.

A noteworthy development in recent weeks has been the negative behavior of indicators in the South, due to the environmental disaster in Rio Grande do Sul that started in late April. In fact, the daily seasonally adjusted average of spending on services in the first eight days of May in the state is 12% lower than the daily average in April. Spending on goods retreated just slightly by approximately 1% month-on-month until May 8 after a 6% drop in April. Meanwhile, the Northeast region has been catching up on spending on goods and services in recent months, after a weaker performance in 4Q22 and 1Q23. In the Southeast, spending on services shows no clear trend in 2024, while spending on goods is trending upward.

¹ For convenience, this report presents results solely by major regions.

² Learn more at <https://facebook.github.io/prophet/>

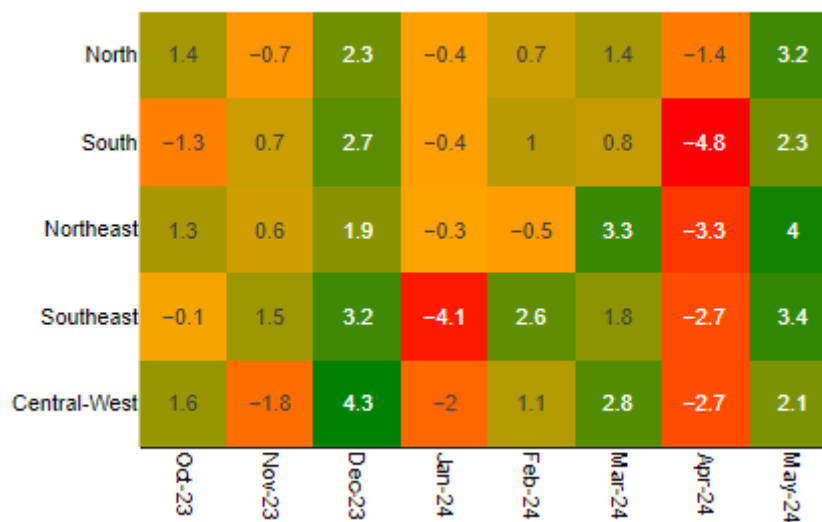
IDAT-Services Regional, mom/sa – Heatmap



Note: Red weaker, green stronger

Source: Itaú

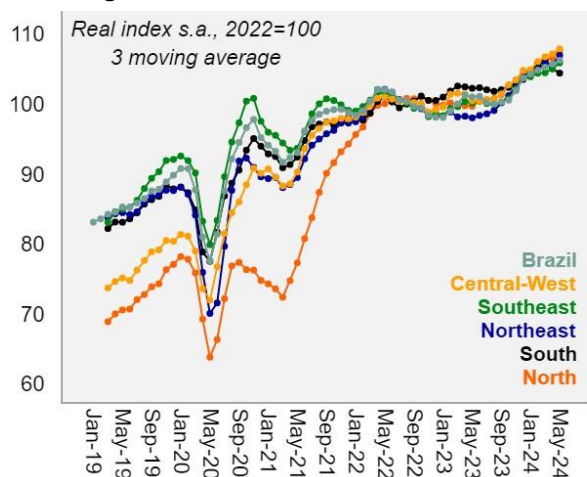
IDAT-Goods Regional, mom/sa – Heatmap



Note: Red weaker, green stronger

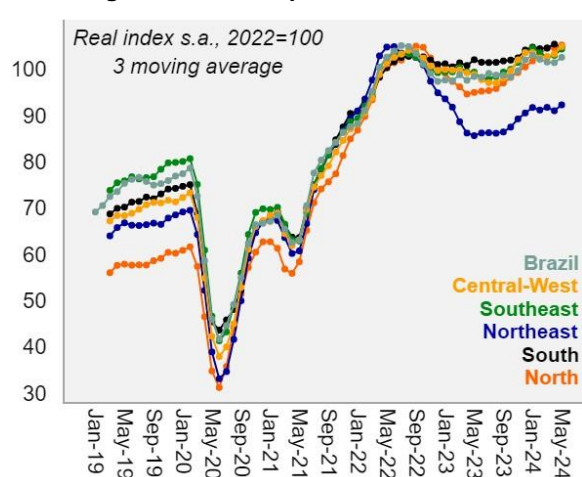
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IDAT Regional- Goods



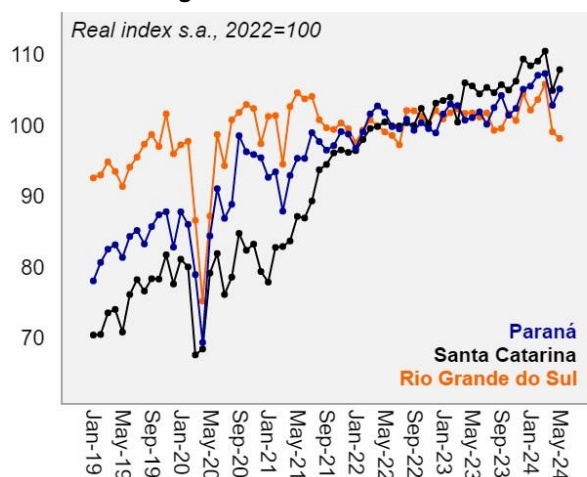
Source: Itaú

IDAT Regional-Services provided to households



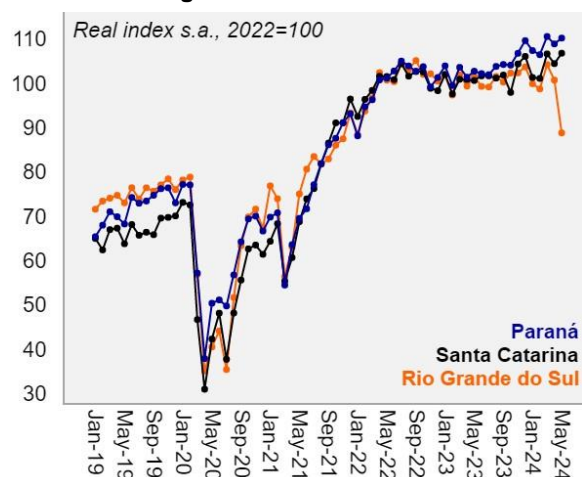
Source: Itaú

IDAT South Region - Goods



Source: Itaú

IDAT South Region - Services



Source: Itaú

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