



August IDAT Report

Marina Garrido

Contents

IDAT - Activity

- IDAT - Services
- IDAT - Goods
- IDAT - Regional
- IDAT - Selected Sectors
- Revision of the seasonal adjustment method

The background features a large, stylized graphic composed of several rounded, overlapping shapes in shades of orange and yellow. The central element is a large orange rounded rectangle. To its left and right are smaller, curved yellow and orange shapes that appear to be part of a larger, abstract design.

IDAT-Activity*

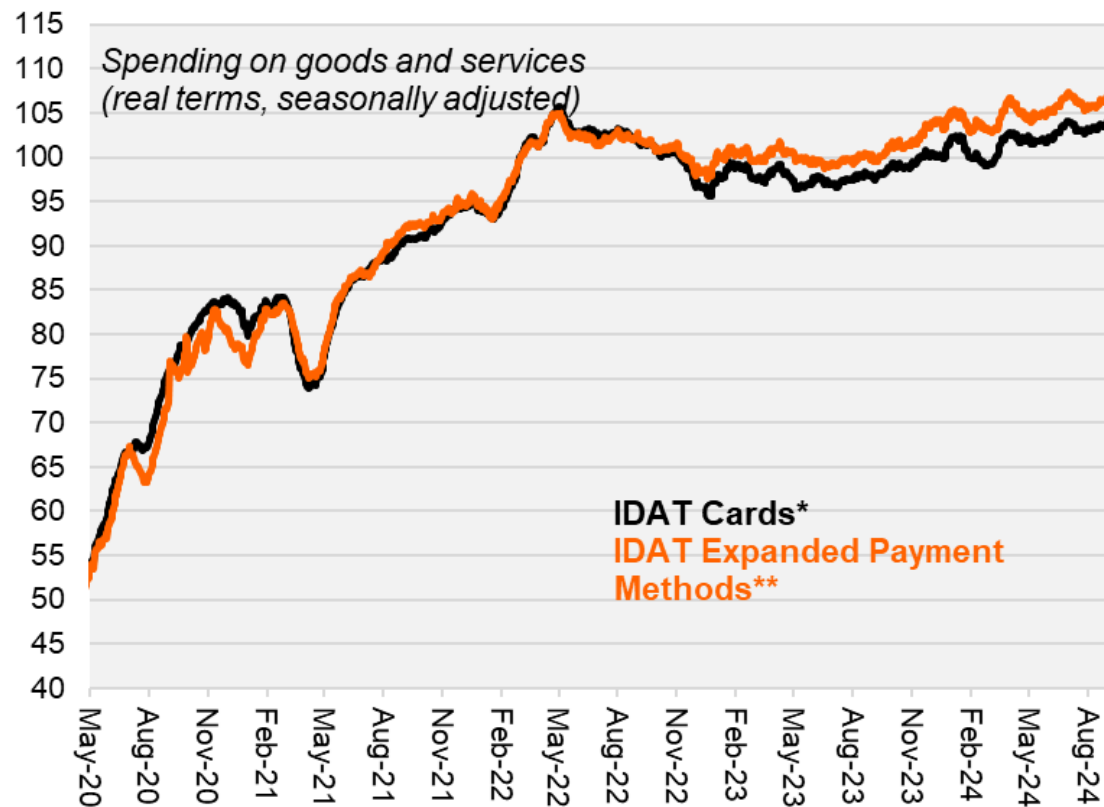
The Itaú logo, consisting of the word "itaú" in white lowercase letters inside a rounded orange square.

itaú

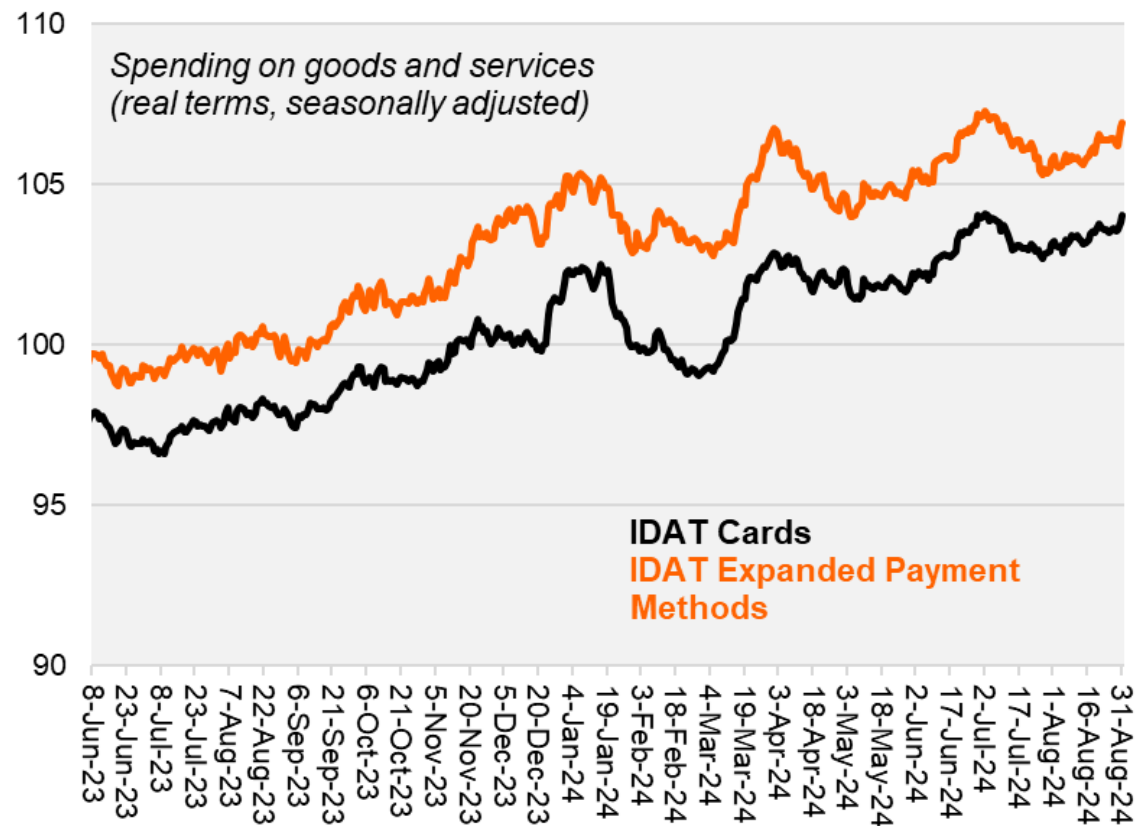
*IDAT-Activity is the average between IDAT-Services and IDAT-Goods

IDAT-Activity grew 1.0% in August (seasonally adjusted monthly variation)

IDAT - Activity (SA, 28d moving avg)



IDAT - Activity (zoom: SA, 28d moving avg)



*IDAT-Cards: Include spending on goods and services only with cards

**IDAT- Expanded Payment Methods: Also include flows of instant payments (PIX), other types of bank transfers (TED/DOC) and bank slip payment flows (“boletos”) from individuals to corporates who are Itaú account holders

Growth in services but decline in goods

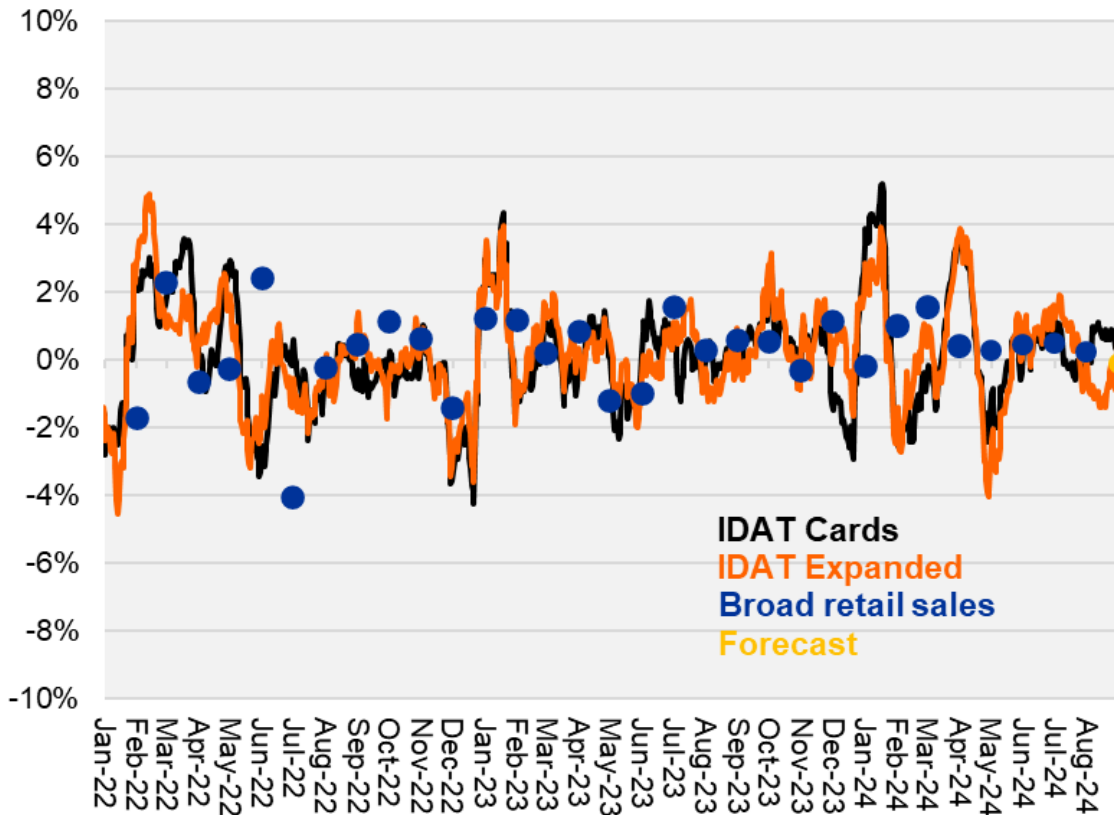
Heat map IDAT Expanded (mom/sa)								
Breakdown	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24
IDAT-Activity	-1.6%	0.2%	2.7%	-1.7%	0.7%	1.6%	-1.1%	1.0%
IDAT-Services	-1.4%	-0.9%	2.7%	-0.2%	0.2%	2.1%	-2.0%	2.1%
Food services	-3.1%	-0.8%	2.9%	0.4%	-0.9%	2.4%	-1.1%	1.2%
Lodging	-4.4%	-1.4%	5.7%	-1.1%	-0.6%	2.1%	-4.4%	4.2%
Recreation	4.5%	-0.5%	-0.6%	-1.7%	1.9%	4.3%	-0.9%	3.6%
Beauty services	1.7%	0.4%	4.0%	-0.3%	1.0%	0.1%	1.2%	2.3%
Other personal services	0.7%	0.3%	3.4%	-0.8%	4.6%	-0.7%	-4.1%	5.9%
IDAT-Goods	-1.7%	1.4%	2.8%	-3.1%	1.1%	1.0%	-0.1%	-0.2%
IDAT-Goods sensitive to income	-2.2%	-0.4%	3.3%	-2.1%	0.6%	0.7%	-0.4%	1.7%
Fuel, Lubricants	-2.1%	-1.3%	3.9%	-1.5%	-0.1%	1.1%	-2.1%	-0.3%
Hyper, Supermarkets	-3.2%	0.7%	3.1%	-3.0%	2.5%	-2.2%	0.3%	0.5%
Pharmaceutical, medical	-3.2%	3.4%	1.2%	-1.2%	0.5%	0.8%	-0.2%	4.3%
Fabric, apparel, footwear	-1.3%	-3.2%	6.2%	-2.5%	-1.8%	2.3%	1.7%	0.4%
Books, periodicals, magazines	-2.1%	-6.6%	3.2%	-1.6%	0.4%	2.0%	0.2%	-2.0%
Other goods of personal use	-1.9%	-0.9%	2.6%	-3.5%	3.3%	-0.8%	0.4%	2.6%
IDAT-Goods sensitive to credit	-1.6%	1.6%	2.0%	-2.3%	1.6%	3.4%	-0.6%	-1.5%
Office, IT and Communication goods	2.7%	0.8%	1.3%	-3.1%	4.1%	2.8%	-2.5%	-0.8%
Construction material	-1.9%	-1.5%	0.5%	-0.9%	1.7%	1.6%	-1.3%	0.9%
Furniture and appliances	-2.3%	-0.1%	1.0%	-5.3%	2.1%	0.8%	1.6%	-2.8%
Vehicles and parts	-1.5%	3.1%	2.7%	-2.2%	1.3%	4.5%	-0.6%	-2.2%

Source: Itaú

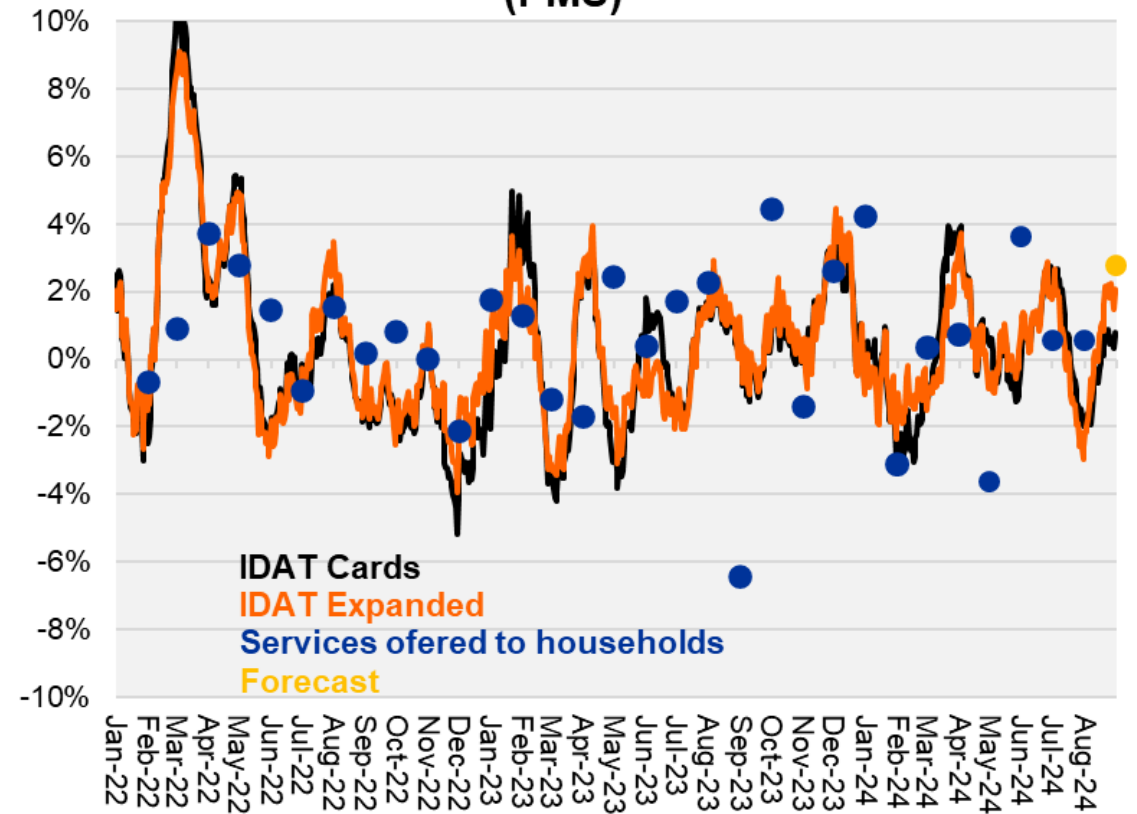
August forecasts: Broad retail sales* (-0.1% MoM/sa); Core retail sales (-0.5% MoM/sa); Services offered to households (+2.8% MoM/sa)

! It is important to note that these forecasts are preliminary and can change

IDAT vs Broad retail sales (PMC)



IDAT vs Services offered to households (PMS)



*Excluding wholesale

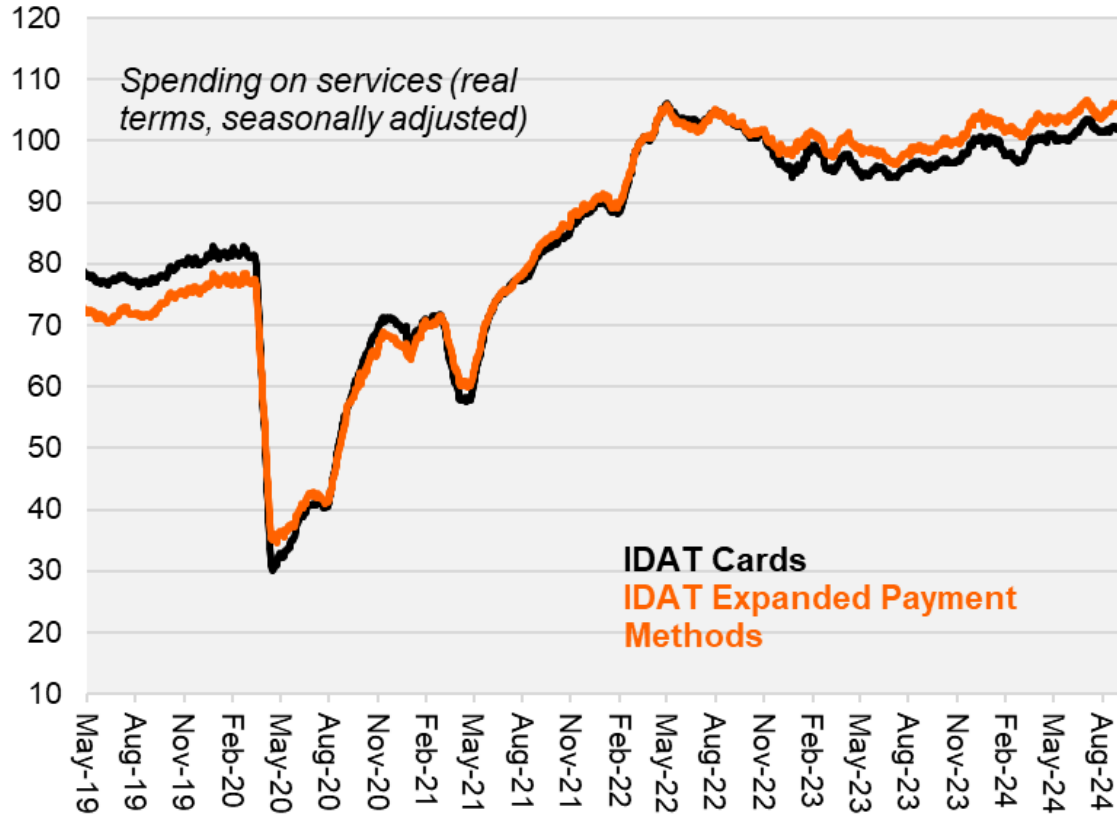
IDAT-Services*

*IDAT-Services comprises the sectors corresponding to the “Services offered to households” component of the IBGE's monthly service sector survey (PMS), which includes restaurants, hotels, bars, beauty salons, entertainment services, etc. We deflated the amounts spent by the corresponding IPCA sub-items and similar weights to the IBGE's monthly service sector survey (PMS). As the IDAT-Activity for the current month is released before the IPCA is published, we use our inflation forecasts until the official publication, revising the indicator after the IPCA is released.

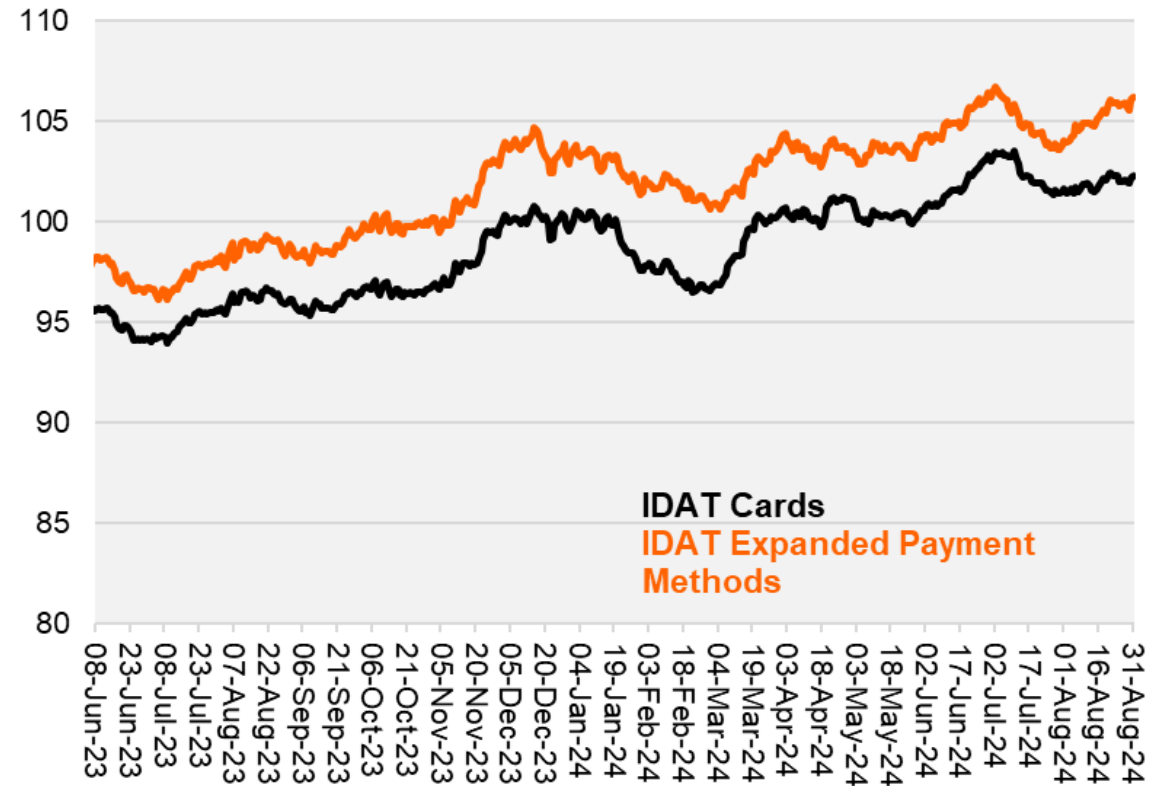


IDAT-Services increased 2.1% MoM/sa

IDAT - Services (SA, 28d moving avg)



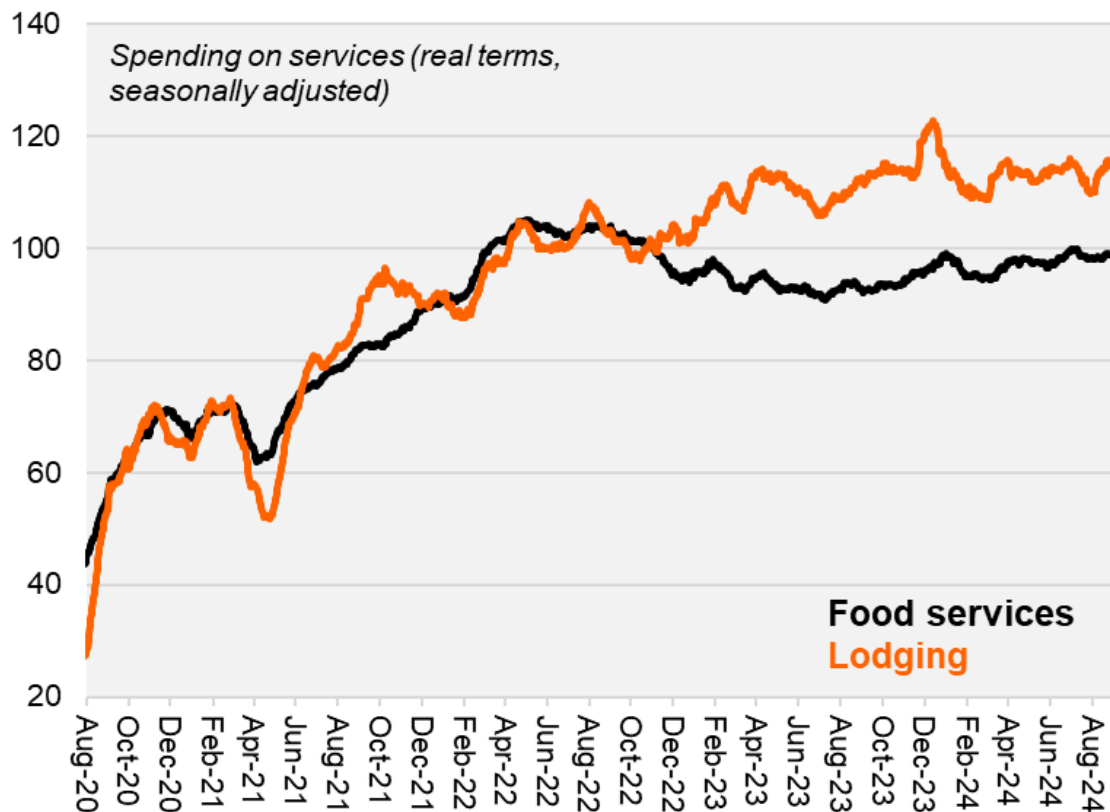
IDAT Services (zoom: SA, 28d moving avg)



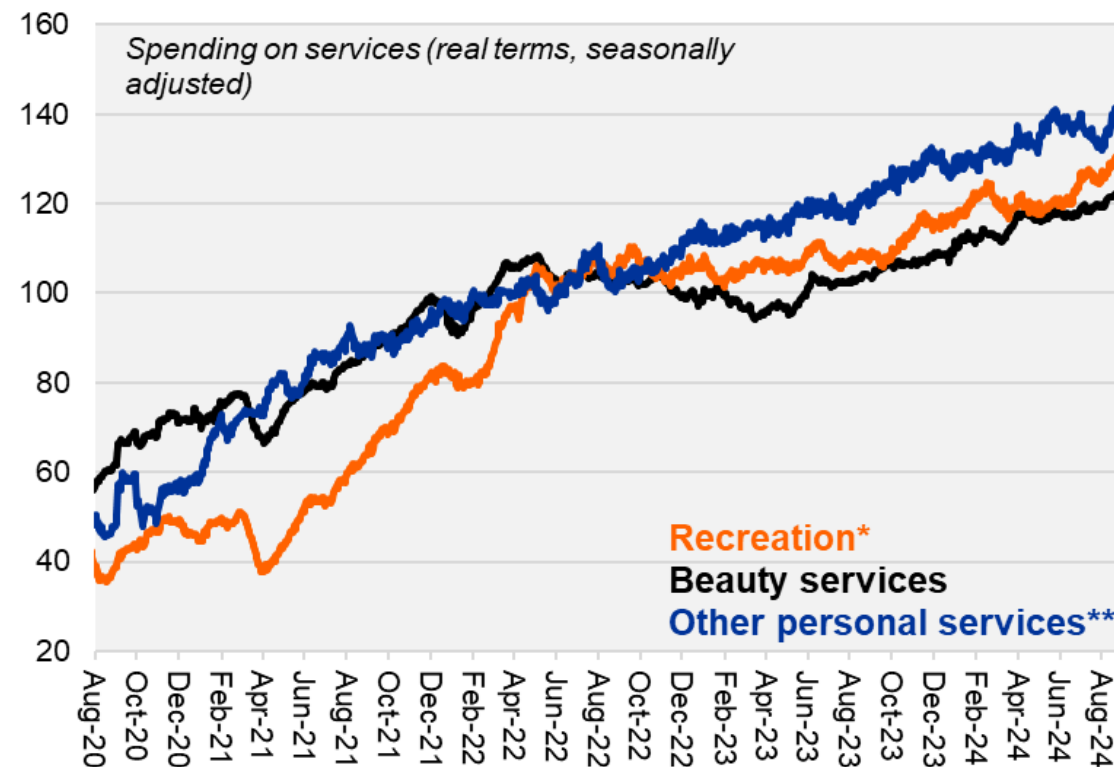
Growth in all segments in August

Positive highlight for accommodation and recreation activity

IDAT Services: main components



IDAT Services: other services



*Includes: tourist attractions; sports fields; amusement parks, etc.

**Includes: laundry, cleaners, funeral services.

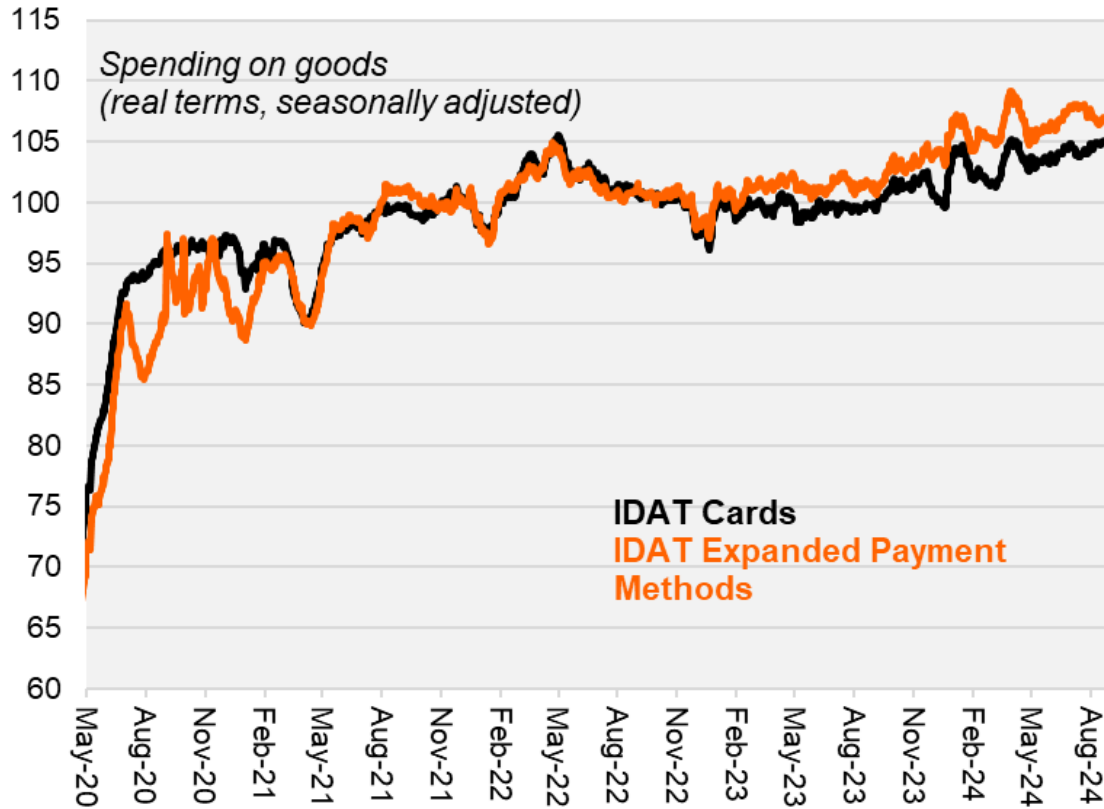
IDAT-Goods*

*IDAT-Goods comprises the sectors corresponding to the openings of the IBGE's monthly retail sales survey (PMC), including sales in the supermarket sectors; pharmaceuticals and cosmetics; fuels and lubricants; fabric, apparel and footwear; books, periodicals, magazines; other goods of personal use; office, IT and communication goods; furniture and appliances; construction materials; vehicles and parts. We deflated the amounts spent by the corresponding IPCA sub-items and similar weights to the IBGE's monthly retail sales survey (PMC). As the IDAT-Activity for the current month is released before the IPCA is published, we use our inflation forecasts until the official publication, revising the indicator after the IPCA is released.

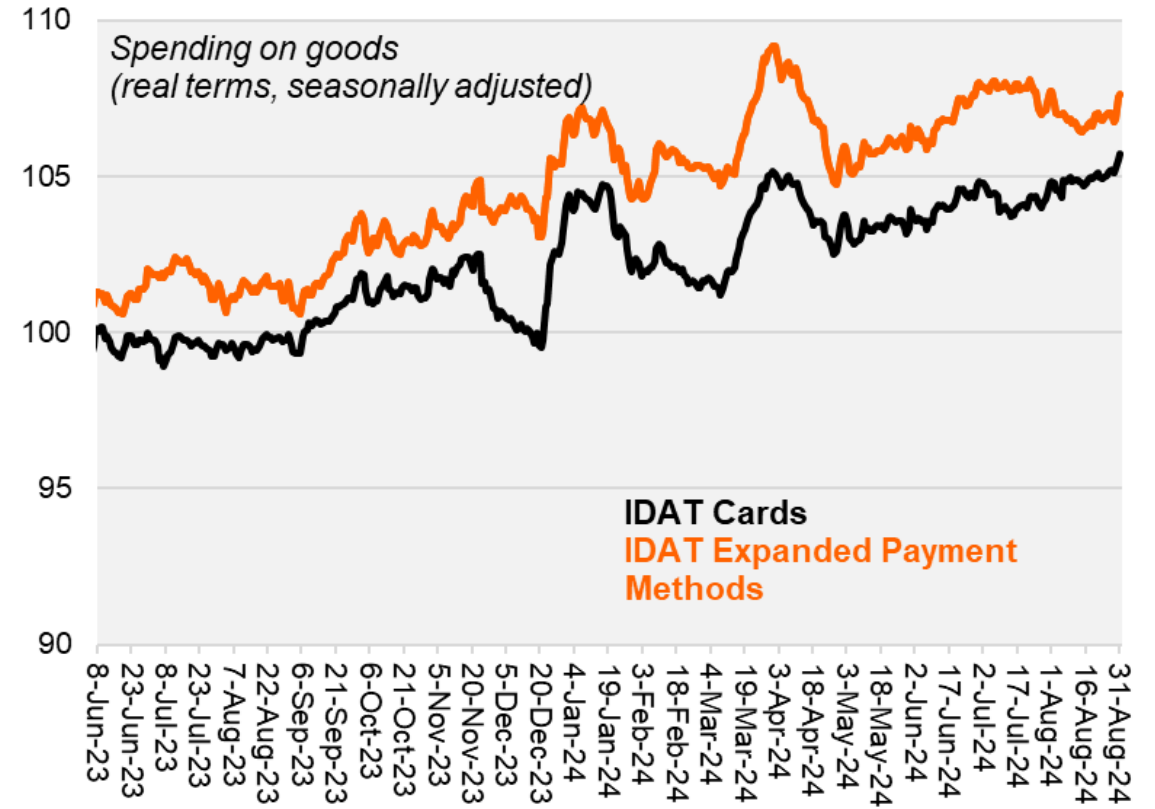


IDAT-Goods dropped 0.2% MoM/sa

IDAT - Goods (SA, 28d moving avg)

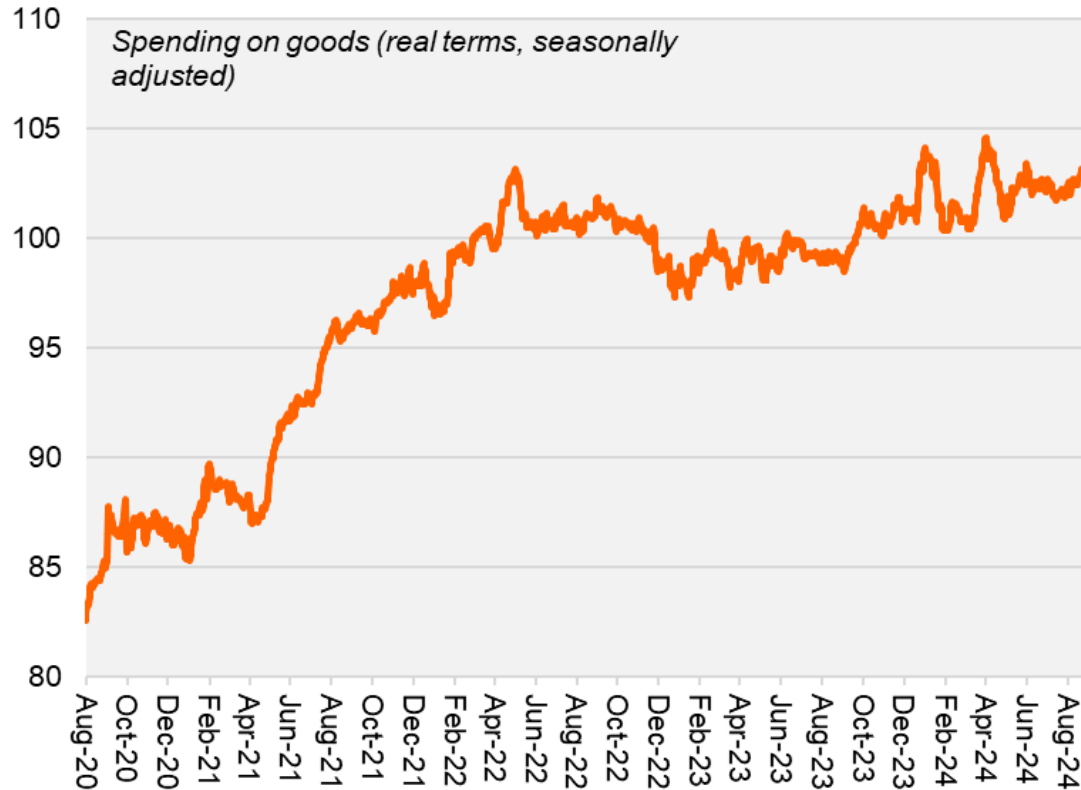


IDAT - Goods (zoom: SA, 28d moving avg)



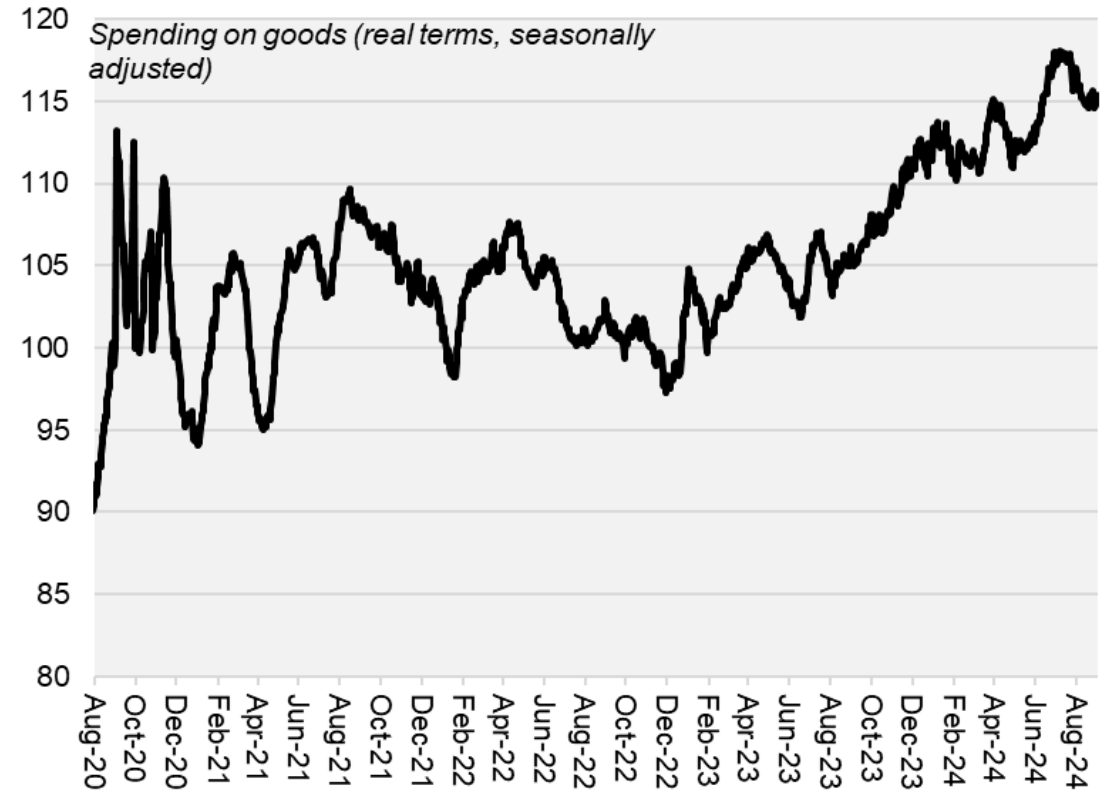
Sales sensitive to income expanded 1.7%, while sales sensitive to credit contracted 1.5% at the margin

IDAT-Goods: sensitive to income*



*Spending on fuel; supermarkets; apparel, footwear; pharmaceutical; books/magazines; other goods of personal use.

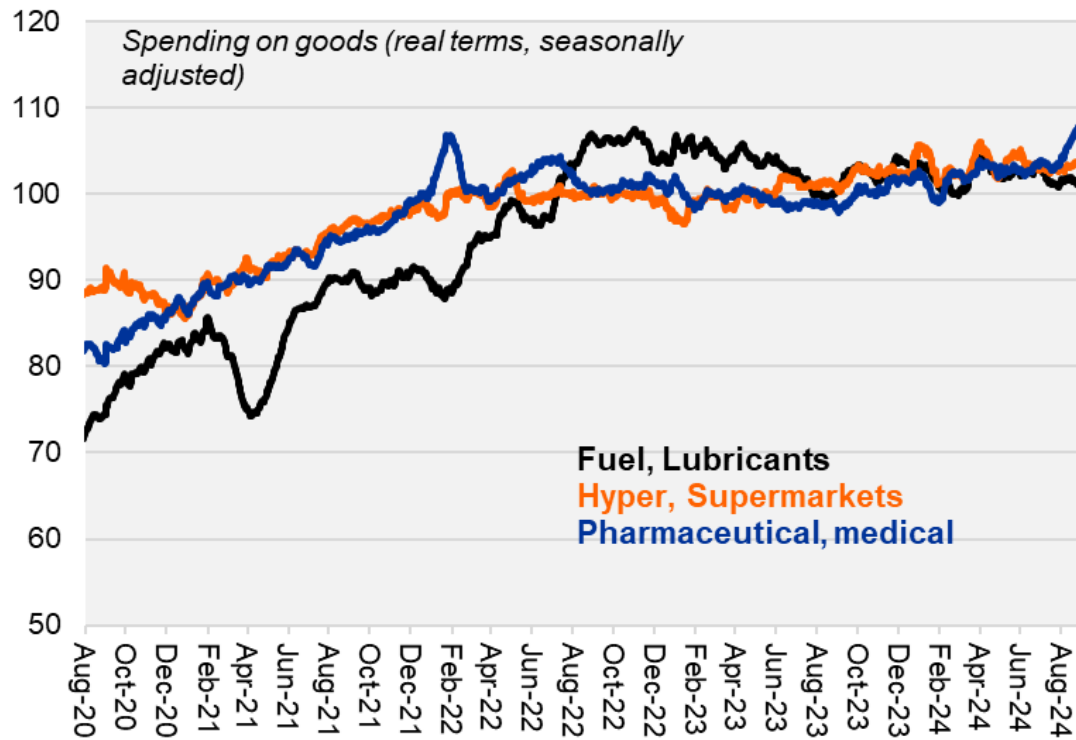
IDAT-Goods: sensitive to credit**



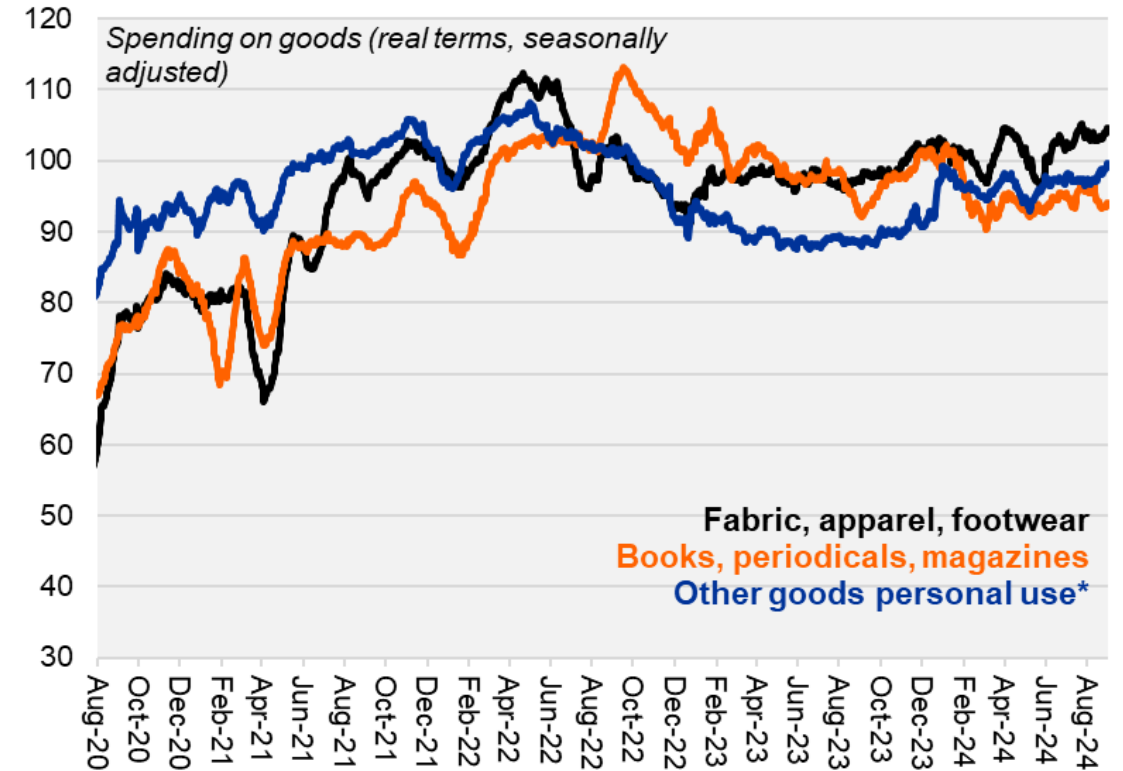
**Spending on furniture and appliances; auto and parts; construction material; equipment and material for office.

Only two of the sensitive-to-income segments fell, books and fuels

IDAT- Goods (sensitive to income): essentials



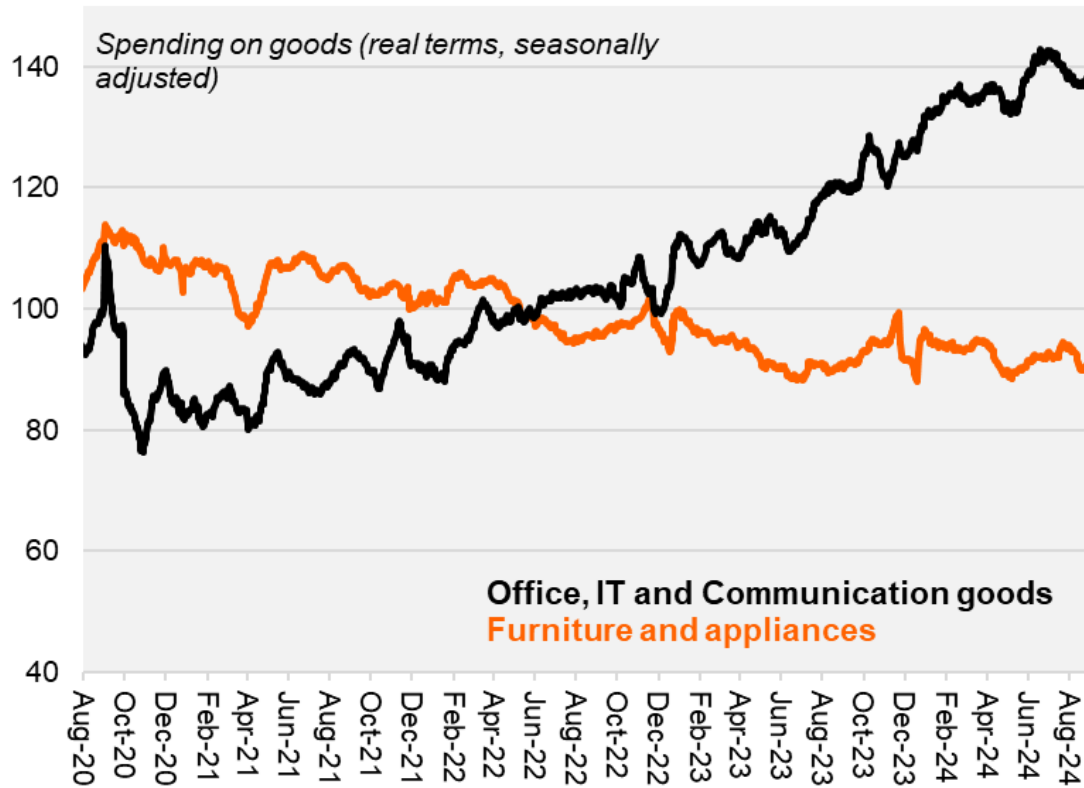
IDAT-Goods (sensitive to income): non-essentials



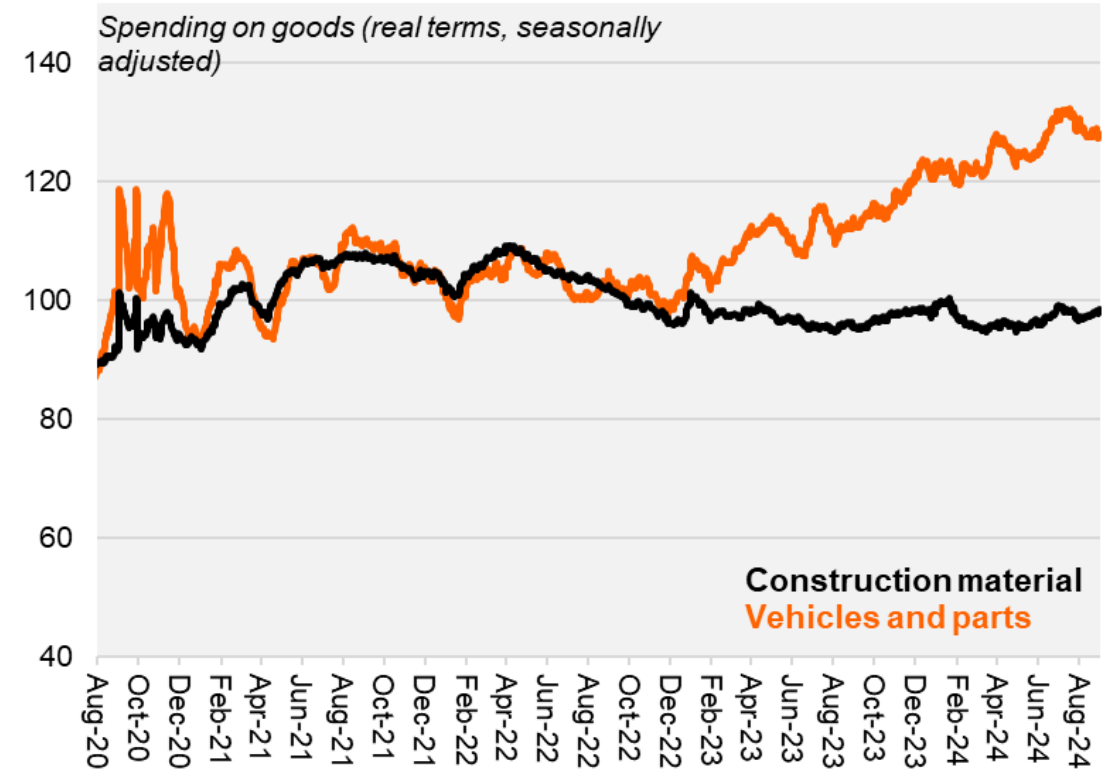
*Includes sales of sporting goods, toys, gardening items, crafts, art supplies, etc.

In the segments sensitive to credit, the negative highlight were furniture and vehicles

IDAT-Goods (sensitive to credit)



IDAT-Goods (sensitive to credit)



A large, stylized graphic consisting of several rounded, overlapping shapes in shades of orange and yellow, creating a sense of depth and movement. The text 'IDAT-Regional' is centered within this graphic.

IDAT-Regional

IDAT-Regional only considers in-person payments. Unlike IDAT-Activity, the frequency is monthly and base 100 is the average amount spent in 2019.



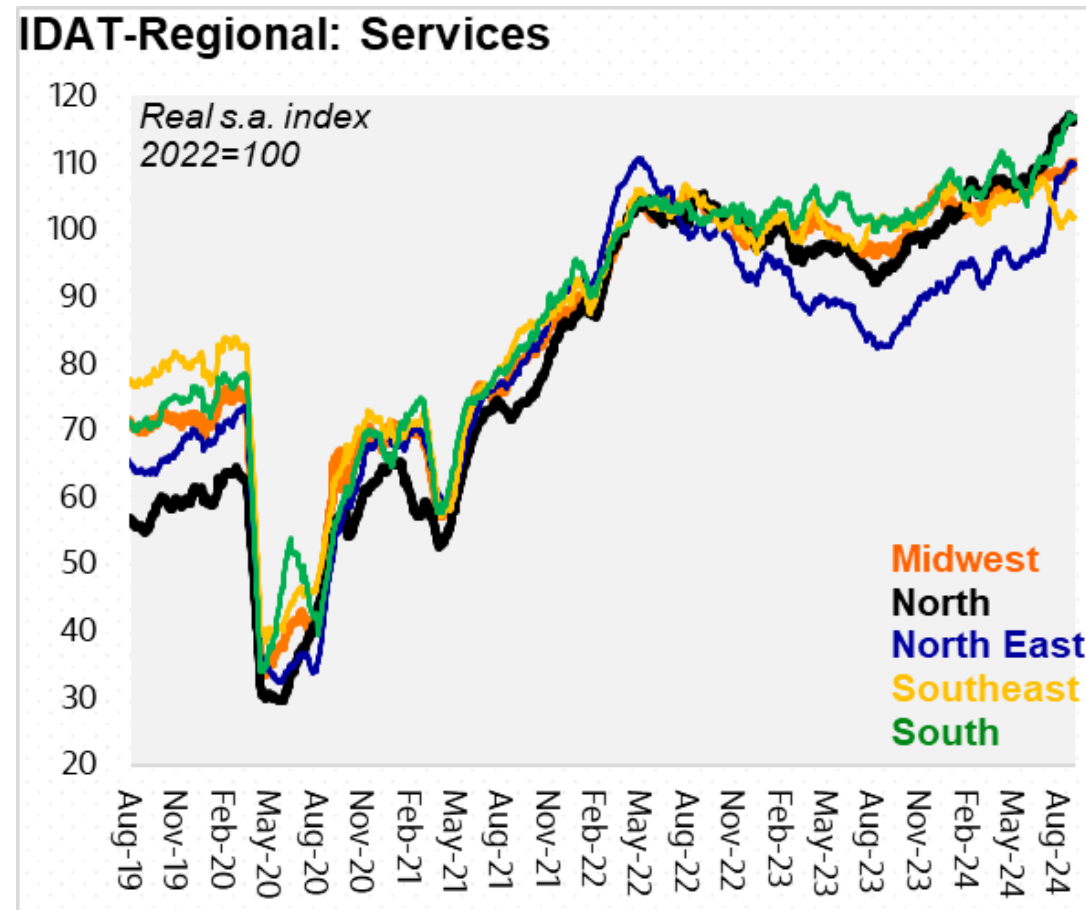
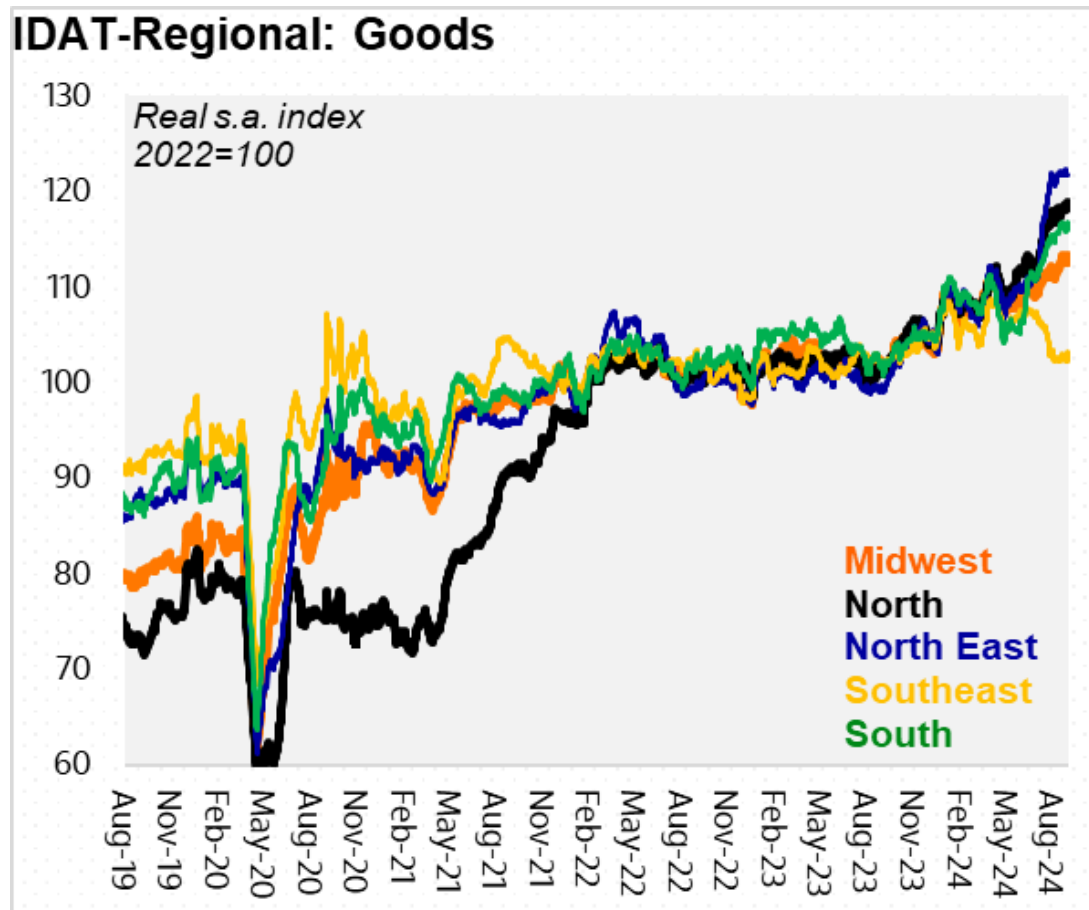
IDAT-Regional increasing in all regions

Heat Map IDAT-Regional*															
	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24
IDAT-Activity															
Southeast	0.0%	1.9%	-0.3%	0.9%	-0.1%	2.5%	2.4%	-3.4%	0.1%	2.5%	-1.2%	1.2%	0.8%	-4.7%	0.1%
Northeast	-1.2%	-2.1%	-0.8%	3.5%	2.8%	1.2%	2.2%	1.2%	-2.0%	4.5%	-2.4%	1.7%	0.5%	10.5%	1.4%
South	-2.1%	-1.1%	-0.3%	1.0%	0.7%	1.7%	3.2%	-1.5%	-0.1%	3.5%	-2.8%	-1.9%	4.9%	3.3%	2.3%
Midwest	-1.1%	0.3%	-0.2%	2.1%	2.4%	0.7%	1.3%	-1.3%	0.6%	3.1%	-1.8%	1.0%	0.7%	1.7%	1.1%
North	-0.6%	-2.2%	0.5%	2.6%	2.3%	0.0%	2.9%	0.4%	1.2%	2.1%	-1.4%	1.9%	1.0%	4.7%	1.6%
IDAT-Services															
Southeast	-1.4%	3.0%	0.7%	0.1%	-0.1%	3.7%	1.8%	-2.7%	-2.1%	3.1%	0.4%	0.1%	2.2%	-5.7%	0.5%
Northeast	-2.5%	-3.3%	-1.7%	4.2%	3.8%	1.9%	1.7%	2.7%	-3.4%	4.7%	-0.9%	0.6%	0.9%	11.2%	2.6%
South	-3.3%	-0.3%	-0.2%	0.4%	0.7%	2.5%	3.5%	-2.7%	-0.5%	4.9%	-0.2%	-4.9%	5.7%	2.4%	3.7%
Midwest	-2.8%	1.3%	-0.3%	1.7%	3.6%	2.7%	-1.1%	-1.1%	-0.1%	3.6%	-0.9%	0.3%	1.7%	4.8%	-2.4%
North	-1.5%	-2.2%	0.2%	3.2%	2.0%	0.8%	3.0%	1.5%	1.5%	2.1%	-1.1%	0.9%	2.0%	4.9%	1.8%
IDAT-Goods															
Southeast	1.4%	0.8%	-1.2%	1.8%	0.0%	1.3%	3.0%	-4.1%	2.4%	1.9%	-2.8%	2.4%	-0.5%	-3.7%	-0.4%
Northeast	-0.1%	-1.1%	-0.1%	2.9%	2.0%	0.7%	2.5%	-0.1%	-0.7%	4.3%	-3.7%	2.6%	0.2%	9.8%	0.3%
South	-1.0%	-1.9%	-0.4%	1.6%	0.8%	0.9%	2.9%	-0.3%	0.3%	2.1%	-5.3%	1.4%	4.1%	4.2%	0.9%
Midwest	0.6%	-0.7%	-0.1%	2.4%	1.3%	-1.2%	3.8%	-1.5%	1.3%	2.6%	-2.8%	1.6%	-0.2%	2.8%	0.7%
North	0.2%	-2.2%	0.7%	2.0%	2.5%	-0.8%	2.8%	-0.6%	0.9%	2.1%	-1.6%	2.9%	0.0%	4.6%	1.3%

Source: Itaú

*Monthly variation seasonally adjusted

Services and goods grew in all regions except Midwest and Southeast, respectively





IDAT-Selected Sectors

Include Malls, Department Stores, and Petshop.

Different from IDAT-Activity, base 100 is the average of spending values in 2019, monthly, nominal and not seasonally adjusted.

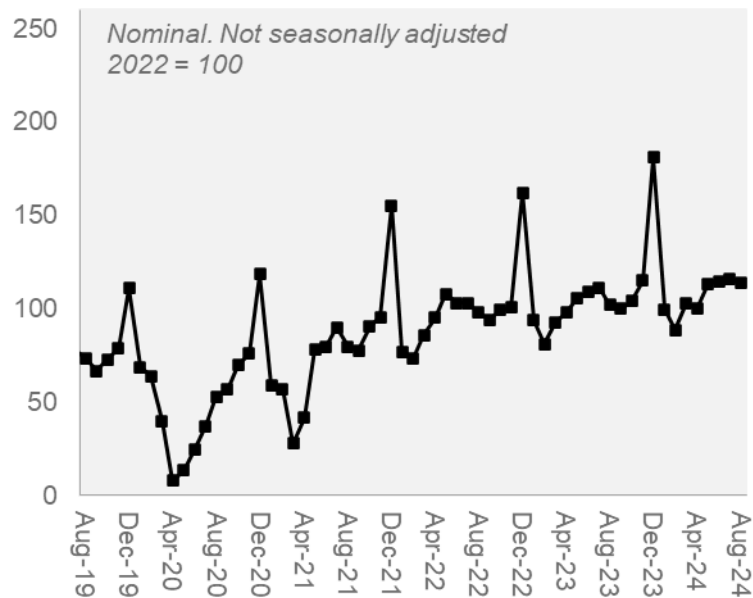


Petshops and Malls segment were the positive highlight

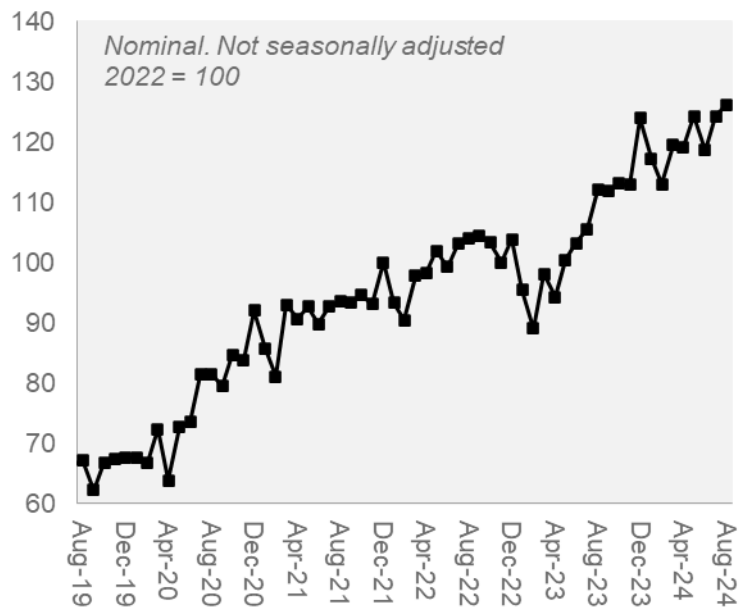
Heatmap IDAT*

IDAT-Selected Sectors	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24
Malls	4.3%	6.1%	4.7%	14.3%	11.7%	6.5%	9.4%	11.1%	2.2%	7.3%	5.4%	4.3%	11.4%
Department Stores	-5.3%	-7.8%	-7.4%	-16.4%	-13.0%	-9.8%	-5.9%	-7.9%	-8.7%	-6.7%	-4.4%	-3.2%	-9.2%
Petshop	7.7%	7.0%	9.4%	12.9%	19.4%	22.9%	26.9%	21.9%	26.3%	23.8%	15.0%	17.7%	12.6%

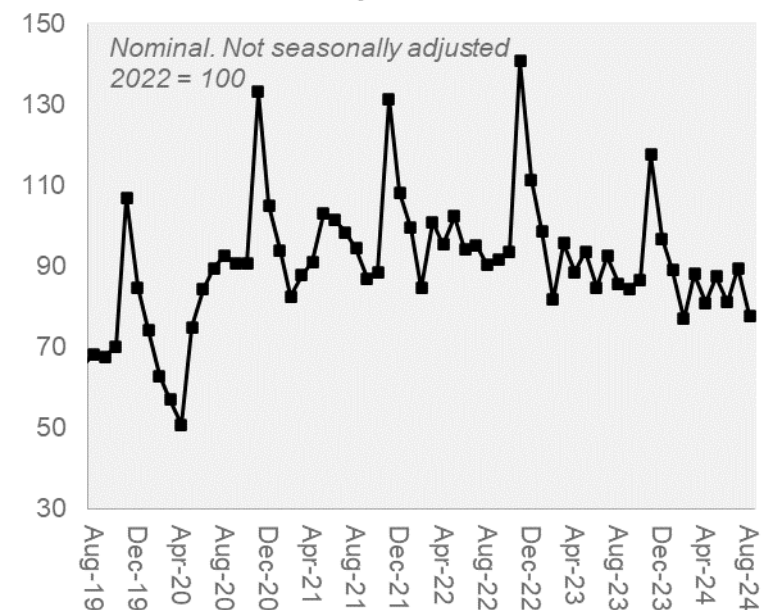
IDAT-Malls**



IDAT-Petshop



IDAT-Department Store



Source: Itaú

*YoY. Nominal not seasonally adjusted

** Purchases made in the vicinity of malls on clothing, food and cinema

Revision of the seasonal adjustment method



New method for seasonally adjusting daily data from the Idat Activity indicator family

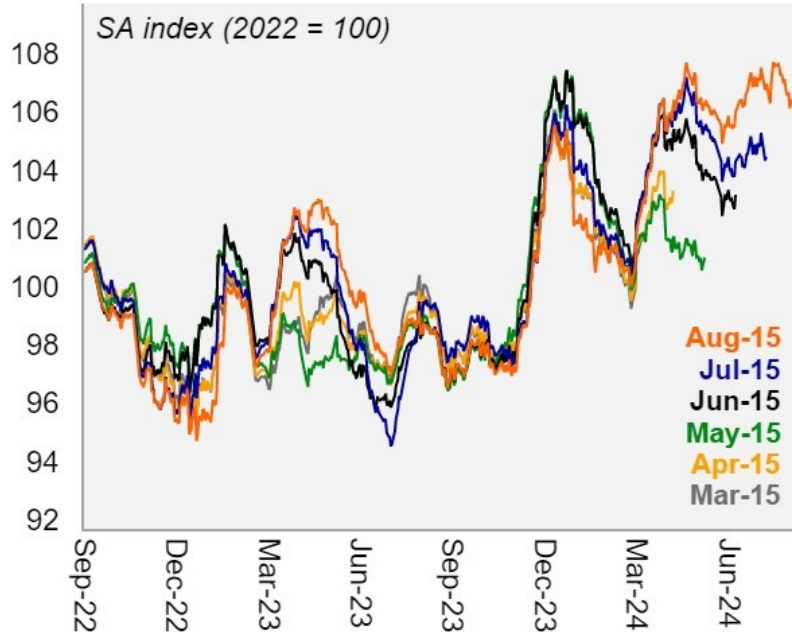
- Starting this month, a new method will be implemented to seasonally adjust the daily data in the Idat Activity suite of indicators.
- Removing the seasonality from daily series poses a significant challenge, especially with series that are relatively short (such as Idat, which began in 2018) and whose timeline includes relevant shocks (such as the Covid pandemic).
- Currently, the indicators in the Idat National Activity suite are seasonally adjusted using the DSA method ([Ollech 2018](#)). The DSA approach involves decomposing the series into trend (g), seasonality (s), moving holidays/outliers (h) and irregularity (ϵ) through the iteration of local regressions (Lowess) to identify trend and seasonality, with RegARIMA used for estimating calendar effects and identifying outliers.

New method for seasonally adjusting daily data from the Idat Activity indicator family

- One notable challenge with the DSA method is that the amplitude of the revisions of seasonal factors is usually large for sectors heavily affected by the pandemic — as if the filter “learned” over time to treat pandemic impacts as exceptional, adjusting data points accordingly. Approximately four years since the pandemic, this learning effect persists. For instance, in the last semester, this led to revisions of more than 4% in the seasonally adjusted series level for the services sector in 2Q23 (graph below).

Idat Services (28-day moving average)

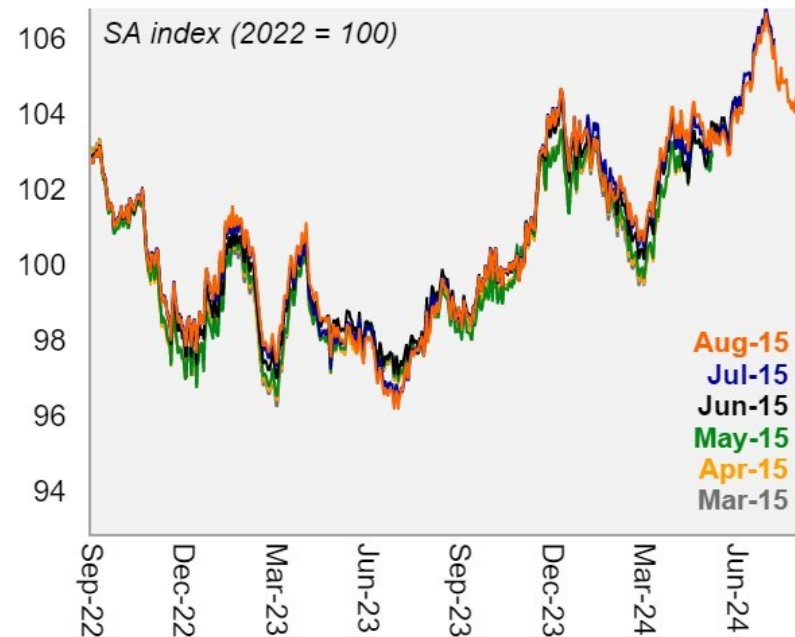
Seasonal adjustment using DSA, different dates



Source: IBGE, Itaú

Idat Services (28-day moving average)

Seasonal adjustment using Prophet + Itaú, different dates



Source: IBGE, Itaú

New method for seasonally adjusting daily data from the Idat Activity indicator family

- Starting today, we will adopt the method proposed by [Taylor and Letham \(2017\)](#) of the Meta team (and implemented via the Prophet module) with adaptations to estimate outliers, which we will call Prophet+Itaú.
- Like DSA, the Prophet+Itaú method starts from the decomposition of the series into trend (g), seasonality (s), moving holidays/outliers (h) and irregularity (ϵ), but with a different approach. The trend is estimated by linear trend with change points (piecewise linear), where the number or location of the change points is an estimation parameter. Seasonality is estimated by incorporating Fourier series into the linear regression, along with dummies associated with moving holidays. Outliers, which emerge as residues from earlier steps, are tested as exogenous in subsequent iterations and treated as moving holidays if they surpass a pre-established significance threshold.

New method for seasonally adjusting daily data from the Idat Activity indicator family

- Since it is an additive (linear) curve-fitting strategy, the Prophet+Itaú model offers the advantage of more easily distinguishing between seasonal and trend effects during pre-determined periods (which is particularly helpful in the context of the pandemic). Like DSA, it is trained on the entire period, making full use of the available data, but Prophet+Itaú also enables us to estimate the curves specific to the pandemic period, as shown in the equation below.

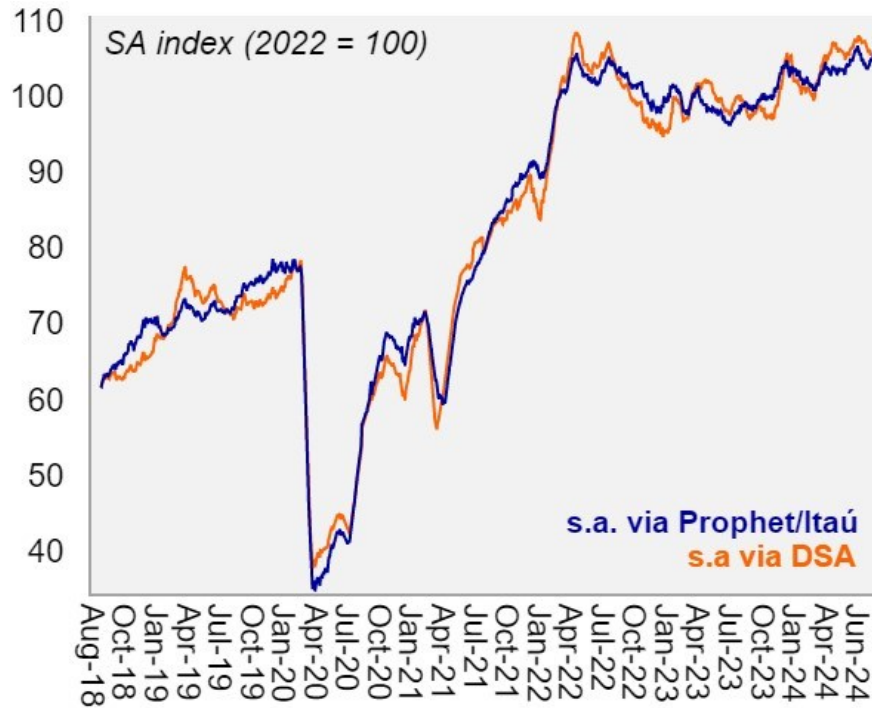
$$y(t) = g(t) + s(t) + h(t) + [g_p(t) + s_p(t) + h_p(t)] * pandemic + \epsilon(t)$$

- Where y is the original log series, g is trend, s is seasonality, h represents moving holidays/outliers, and ϵ is irregularity.

New method for seasonally adjusting daily data from the Idat Activity indicator family

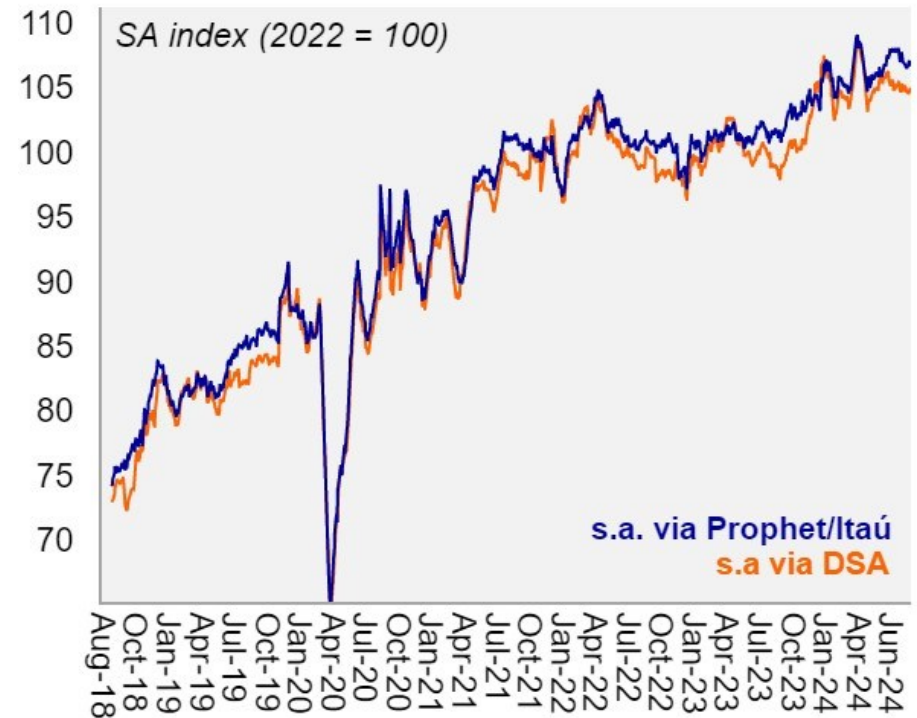
- The essence does not change from one method to another, as shown in the graphs below, but the series with the new method provides more stability to economic activity estimates through Idat.

Idat Services – Seasonal adjustment using Prophet + Itaú vs. DSA



Source: IBGE, Itaú

Idat Expanded-Goods – Seasonal adjustment using Prophet + Itaú vs. DSA



Source: IBGE, Itaú

For more details

For the entire IDAT-Activity methodology, please check [here](#)

Our Bloomberg *tickers*:

- IDAT-Goods: PIBIDATG Index
- IDAT Expanded-Goods: PIBIDTXG Index
- IDAT-Services: PIBIDATS Index
- IDAT Expanded-Services: PIBIDTXS Index
- IDAT-Activity: PIBIDAT Index
- IDAT Family: ALLX PIBI



Thanks!

Relevant Information

1. This report has been prepared and released by the Macro Research Department of Itaú Unibanco S.A. (“Itaú Unibanco”). This report is not a product of the Equity Research Department of Itaú Unibanco or Itaú Corretora de Valores S.A. and shall not be construed as a research report (“relatório de análise”) for the purposes of Article 1 of the CVM Instruction NR. 20, dated 2021.
2. The exclusive purpose of this report is to provide macroeconomics information and it does not constitute and shall not be construed as an offer to buy or sell or a solicitation of an offer to buy or sell any financial product, or to participate in any particular trading strategy in any jurisdiction. The information herein is believed to be reliable as of the date on which this report was released and it has been obtained from public sources believed to be reliable. However, Itaú Unibanco does not make any explicit or implied representation or warranty as to the completeness, reliability or accuracy of such information, nor does this report intend to be a complete statement or summary of the markets or developments referred to herein. Itaú Unibanco has no obligation whatsoever to update, modify or amend this report and inform the reader accordingly.
3. The opinions contained herein reflect exclusively the personal views of the analyst responsible for this report and were prepared independently and autonomously, including in relation to Itaú Unibanco, Itaú Corretora de Valores S.A. and any other companies within their economic group.
4. This report may not be reproduced or redistributed to any other person, in whole or in part, for any purpose, without the prior written consent of Itaú Unibanco. Additional information on the financial products mentioned in this report may be available upon request. Itaú Unibanco and/or any other company within its economic group is not and shall not be liable for any investment decisions (or otherwise) based on the information provided herein.

Additional Note: This material does not take into consideration the objectives, financial situation or specific needs of any particular client. Clients must obtain financial, tax, legal, accounting, economic, credit and market advice on an individual basis, based on their personal characteristics and objectives, prior to making any decision based on the information contained herein. By accessing the material, you represent and confirm that you understand the risks related to the financial instruments described in this material and the laws in your jurisdiction relating to the provision and sale of financial service products. You acknowledge that this material contains proprietary information and you agree to keep this information confidential for your exclusive use.

For inquiries, suggestions, complaints, criticisms and compliments, talk to Itaú’s CSCC: 0800 728 0728. Or contact us through our portal <https://www.itaú.com.br/atendaitau/para-voce/>. If you are not satisfied with the proposed solution, please contact the Itaú Corporate Ombudsman: 0800 570 0011 (on weekdays from 9 AM to 6 PM) or our PO Box 67.600, São Paulo-SP, Zip Code 03162-971. Hearing impaired, every day, 24h, 0800 722 1722.

