



Brazil Macro | August 2021

INFLATION

DANIEL KARP

daniel.karp@santander.com.br

+55 11 3553-9828

INDEX

- 1. Forecasting accountability**
- 2. Pressures in core gauges remain strong at the margin**
- 3. The shape of inflation to come: close to the peak, but with unfavorable composition and uncertainties around the deceleration pace**
- 4. The risk of a backlog of price rises at the wholesale level**

Forecasting accountability

01

Forecast accountability: old shocks persist, new ones arrive and the spreading continues

- For IPCA 2021 the disruption of the supply chain continues to impact industrial goods, while another weather shock pushed food and energy inflation up. Meanwhile, the shocks continue to spread to services
- For IPCA 2022, we see the services inflation gaining steam through inertia

	old	2021 new	Δ bps
IPCA	6.7	7.3	62
Free prices	5.1	5.9	53
Food-at-home	6.5	8.2	26
Industrial goods	6.7	7.4	16
Tradables	6.7	7.4	14
Non-Tradables	6.7	7.4	2
Services	3.5	3.9	11
Food-service	8.7	8.7	0
Airline tickets	10.3	35.0	7
Economic activity	1.9	1.9	0
Education	3.0	3.0	0
Inertial	2.9	3.3	3
Salaries	2.3	2.4	1
Administered prices	11.1	11.4	8
Gasoline	29.7	29.7	0
Energy	10.7	14.5	17
Health insurance	3.9	2.6	-5
Bus fares	1.5	1.5	0
Cores	4.9	5.4	50

Sources: Santander

	old	2022 new	Δ bps
IPCA	4.0	4.1	9
Free prices	4.1	4.2	10
Food-at-home	3.5	3.5	0
Industrial goods	4.7	4.7	0
Tradables	4.7	4.7	0
Non-Tradables	4.7	4.7	0
Services	3.9	4.2	10
Food-service	6.0	6.0	0
Airline tickets	16.0	16.0	0
Economic activity	2.7	2.8	1
Education	5.5	5.5	0
Inertial	3.3	4.1	6
Salaries	2.7	3.1	2
Administered prices	3.8	3.8	0
Gasoline	4.5	4.5	0
Energy	-3.0	-3.0	0
Health insurance	9.0	9.0	0
Bus fares	6.0	6.0	0
Cores	3.9	4.1	20

Sources: Santander

High-frequency tracking: even higher inflation for 2021 and 2022

- Since the publishing of our scenario-review in August 11th, new data was released and we updated our high frequency tracking further up for 2021 and 2022, mainly based on short-term adjustments focused on core-related groups

	old	2021 new	Δ bps
IPCA	7.3	7.8	50
Free prices	5.9	6.4	39
Food-at-home	8.2	8.1	-2
Industrial goods	7.4	8.8	32
Tradables	7.4	8.8	28
Non-Tradables	7.4	8.8	4
Services	3.9	4.1	8
Food-service	8.7	7.7	-6
Airline tickets	35.0	50.2	4
Economic activity	1.9	2.3	4
Education	3.0	3.0	0
Inertial	3.3	3.8	4
Salaries	2.4	2.7	1
Administered prices	11.4	11.8	11
Gasoline	29.7	31.5	11
Energy	14.5	14.5	0
Health insurance	2.6	2.6	0
Bus fares	1.5	1.5	0
Cores	5.4	6.0	60

Sources: Santander

	old	2022 new	Δ bps
IPCA	4.1	4.2	9
Free prices	4.2	4.3	9
Food-at-home	3.5	3.5	0
Industrial goods	4.7	4.7	0
Tradables	4.7	4.7	0
Non-Tradables	4.7	4.7	0
Services	4.2	4.4	9
Food-service	6.0	6.5	3
Airline tickets	16.0	16.0	0
Economic activity	2.8	3.1	3
Education	5.5	5.5	0
Inertial	4.1	4.2	1
Salaries	3.1	3.4	2
Administered prices	3.8	3.8	0
Gasoline	4.5	4.5	0
Energy	-3.0	-3.0	0
Health insurance	9.0	9.0	0
Bus fares	6.0	6.0	0
Cores	4.1	4.3	20

Sources: Santander

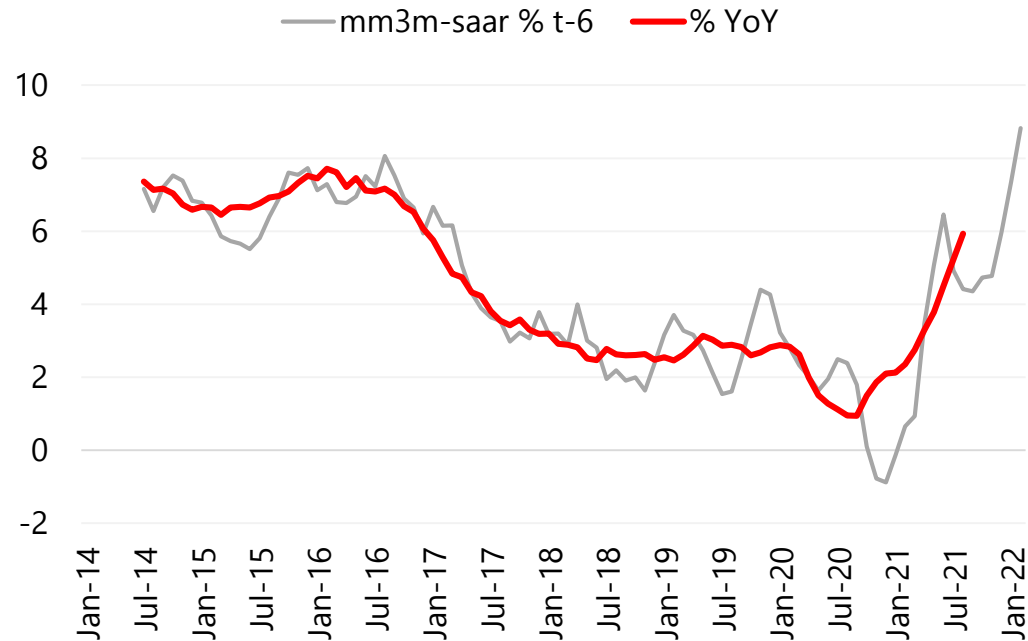
Pressures in core gauges remain strong at the margin

02

Core gauges are at high levels

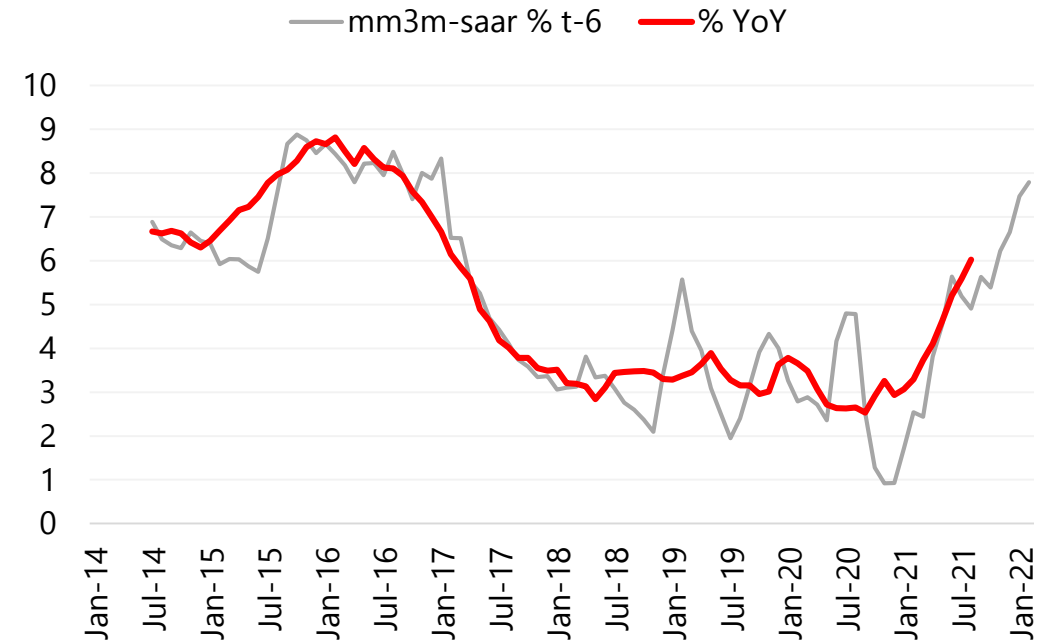
- All of the main five core measures closely followed by the BCB are hovering above the upper bound of the BCB's target tolerance band in 3mma-saar terms, and still on a rising trend

EX0 IPCA-15 Core - annual



Sources: IBGE, BCB, Santander

Double Weighted IPCA Core - annual

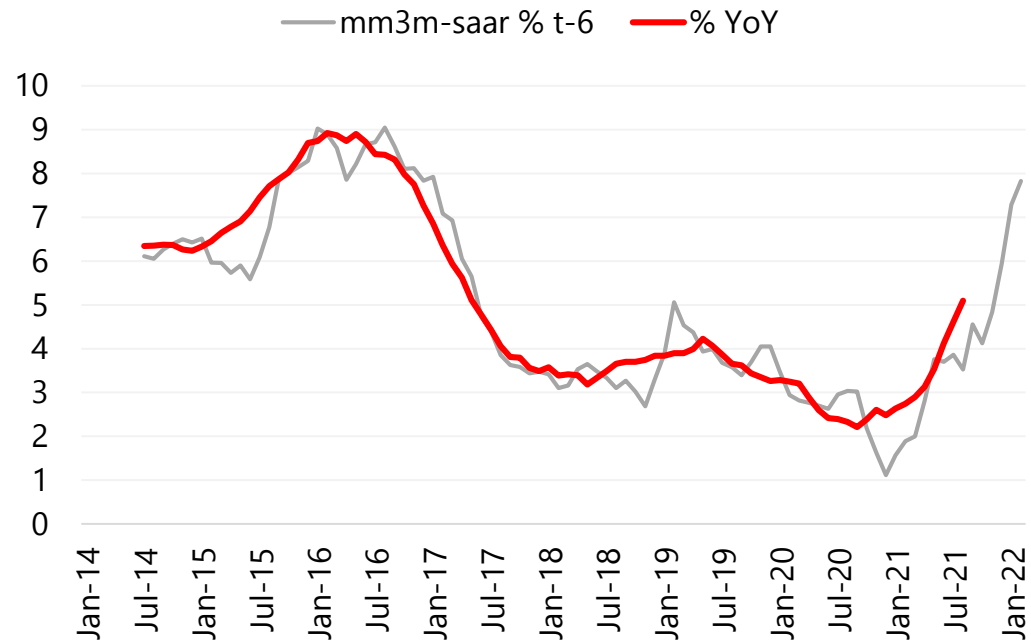


Sources: IBGE, BCB, Santander

Cores gauges are a way to measure the spreading of primary shocks to general prices

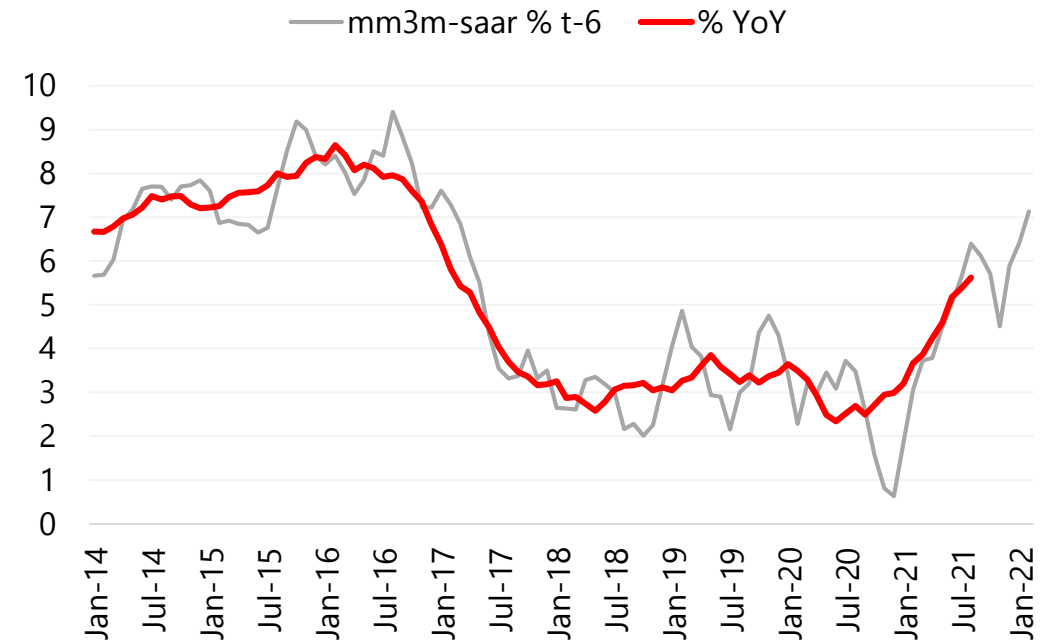
- They sign that shocks on specific items/groups are spreading to prices non-directly related to those items

Smoothed trimmed mean IPCA-15 Core - annual



Sources: IBGE, BCB, Santander

P55 IPCA-15 Core - annual

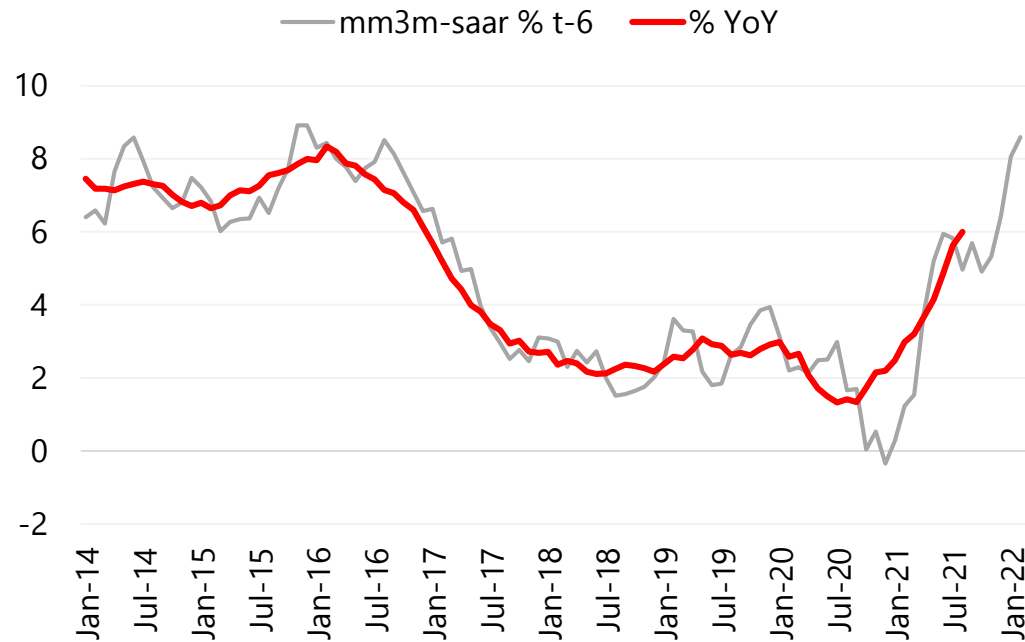


Sources: IBGE, BCB, Santander

The average of the main core gauges is at 8.2% 3mma-saar and rising

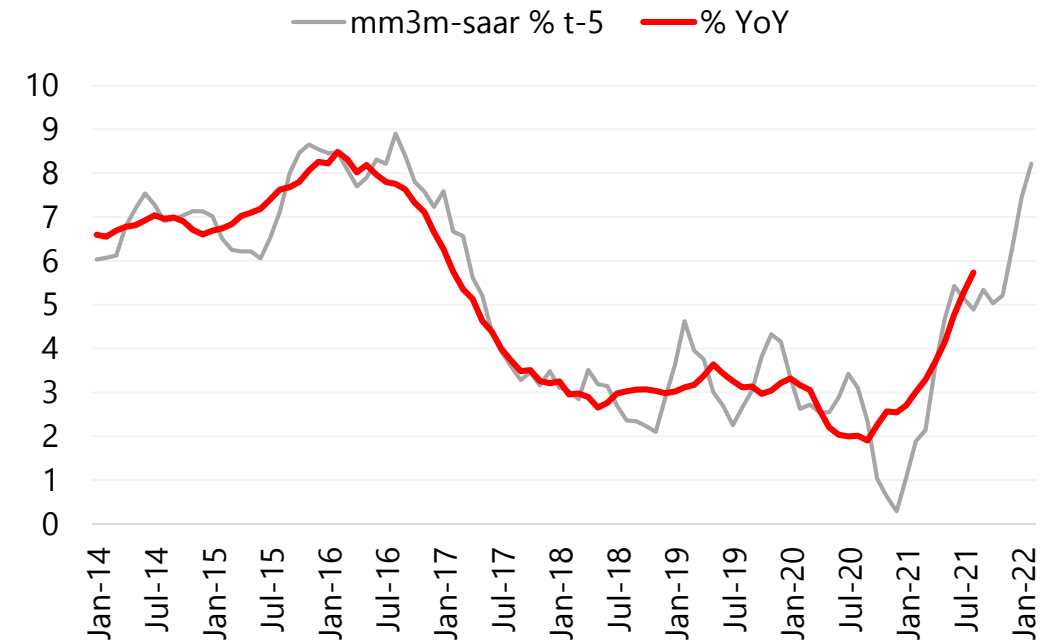
- Core gauges are a measure of trend inflation (as they, in theory, remove the effect of shocks) so the rising trend shows a difficult outlook for inflation

EX3 IPCA-15 Core - annual



Sources: IBGE, BCB, Santander

Average of Core IPCA-15 measures - annual

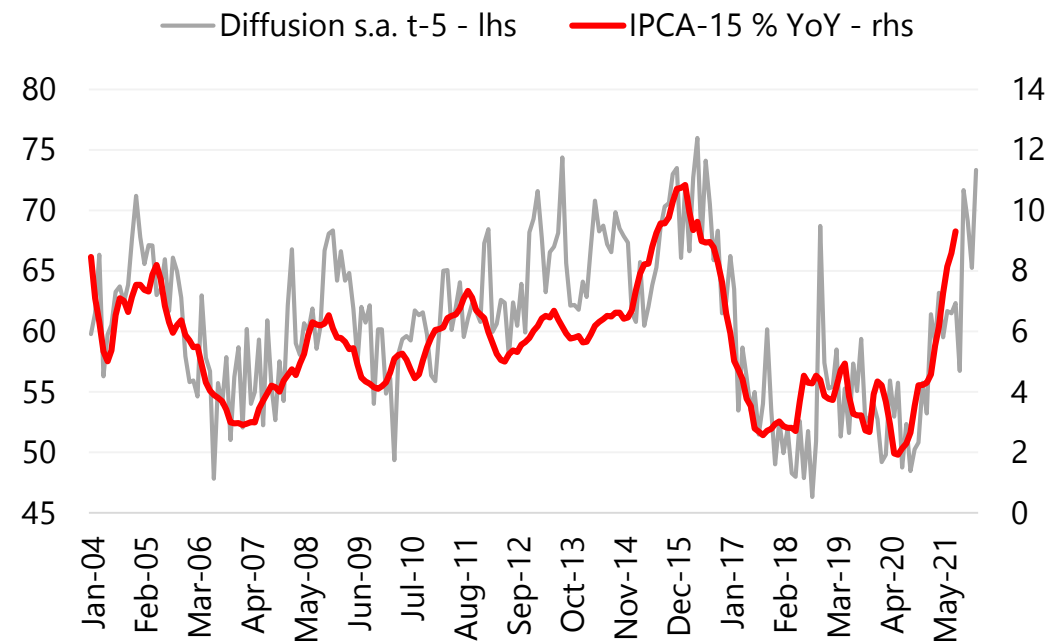


Sources: IBGE, BCB, Santander

The diffusion index is another way to measure the spreading of shocks to general prices

- Also the diffusion tends to anticipate annual inflation by around five months and current levels suggest that IPCA should continue to rise further in the coming months
- Diffusion is currently around 73%, close to the historical high of 76%

Diffusion index and IPCA YoY



Sources: IBGE, Santander

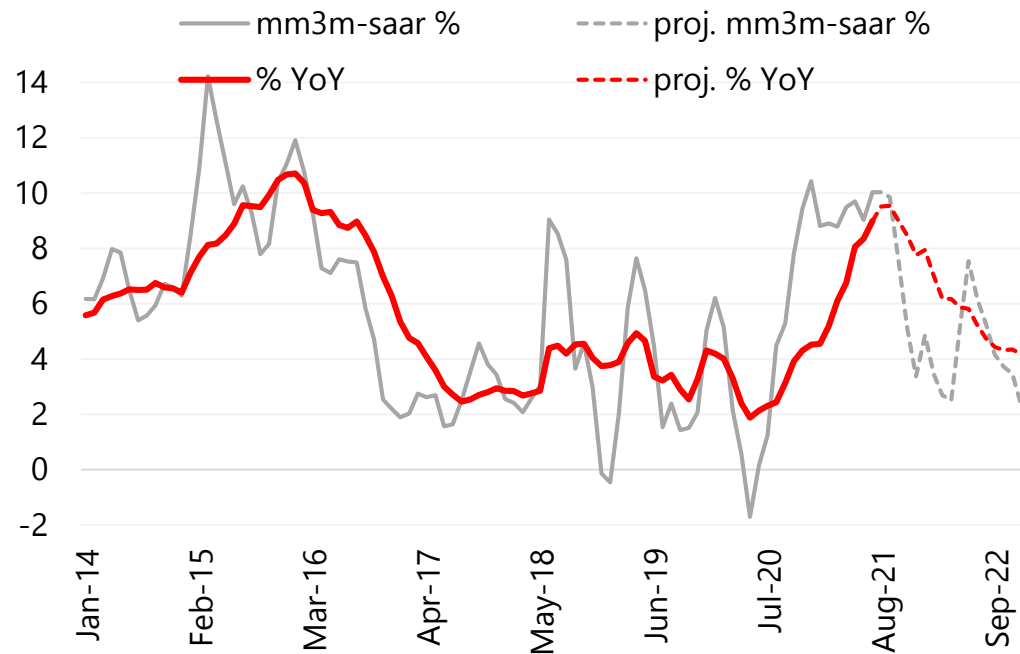
The shape of inflation to come

03

IPCA annual inflation is probably close to its peak

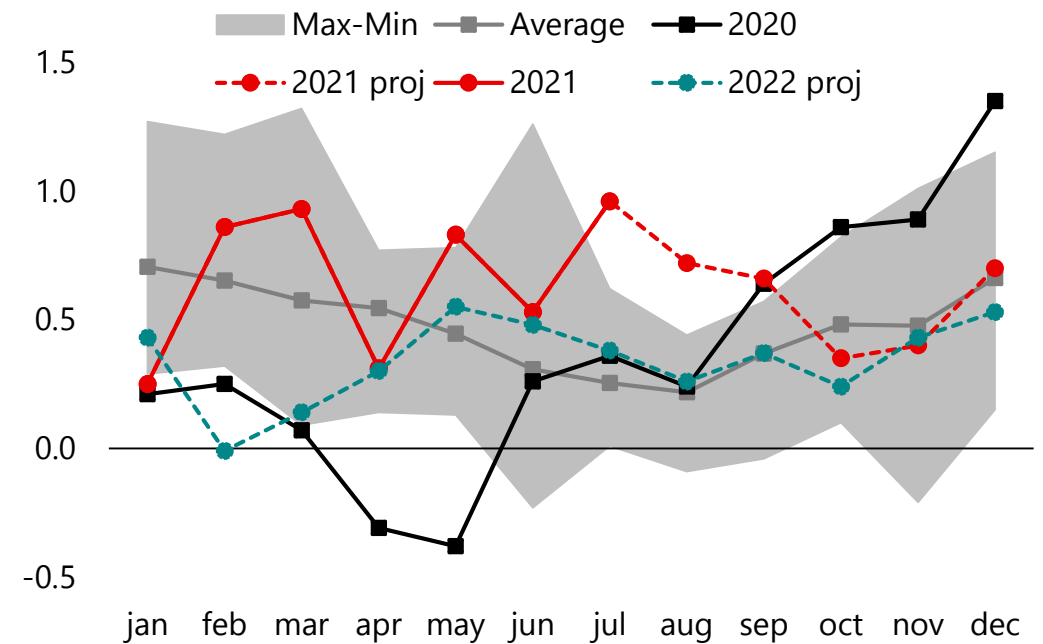
- Even though some upward pressures are still present, from now on the base-effect makes it harder and harder for the year-over-year inflation to keep accelerating

IPCA and forecast - annual



Sources: IBGE, Santander

IPCA monthly seasonality

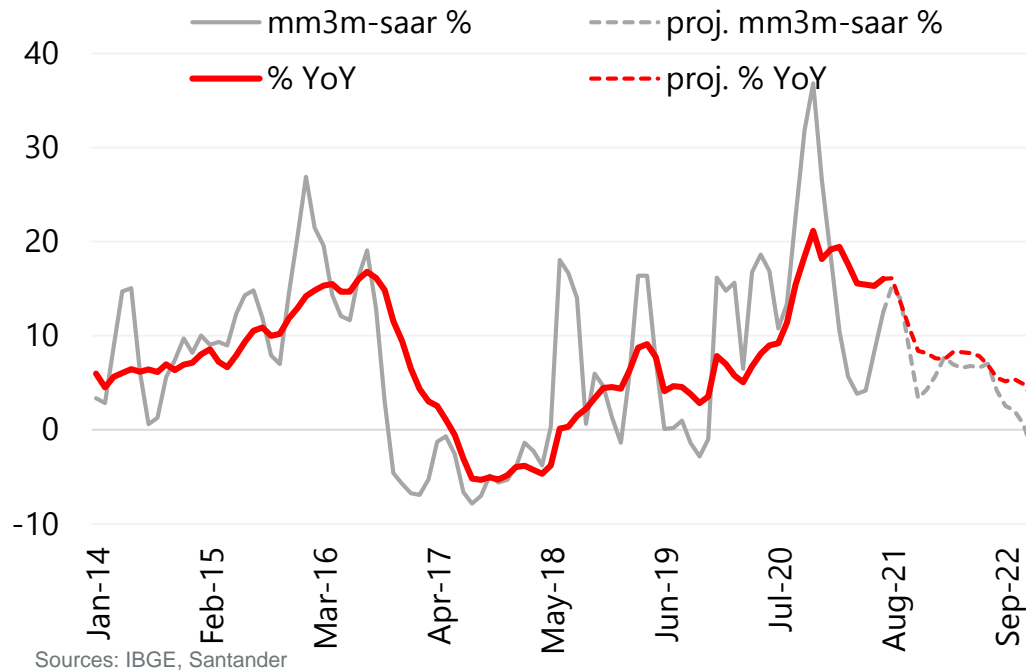


Sources: IBGE, Santander

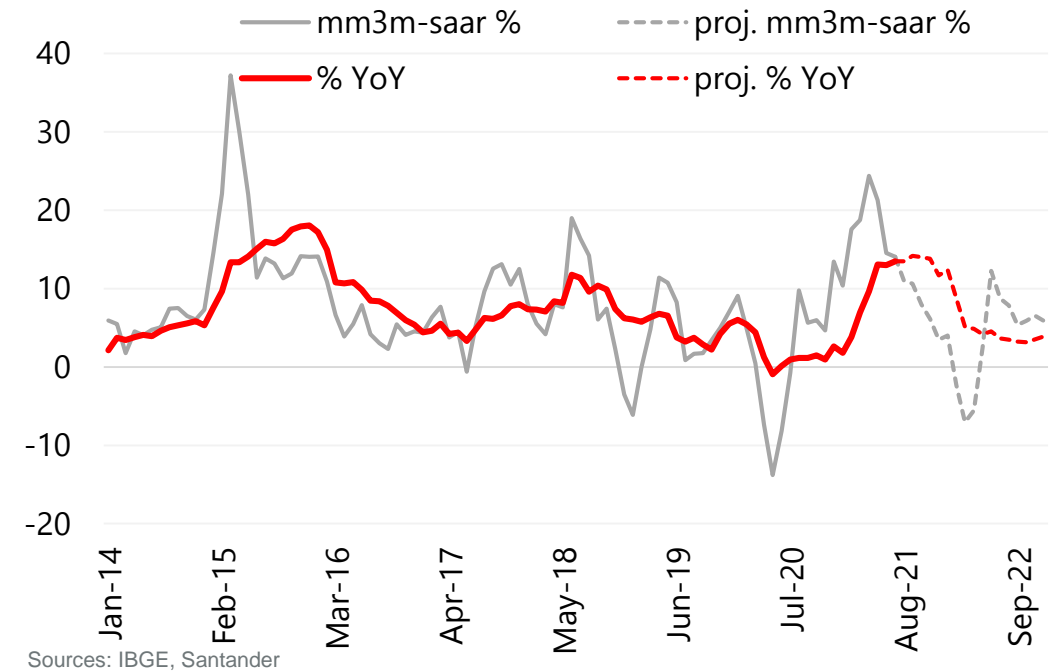
Food and regulated prices are probably peaking

- But those two groups are highly volatile and usually not related to core measures
- Moreover, regulated prices are more plateauing than making a clear one-off peak (and there is a particular upside risk on electricity costs, that can postpone the peak)

Food-at-home inflation and forecast - annual



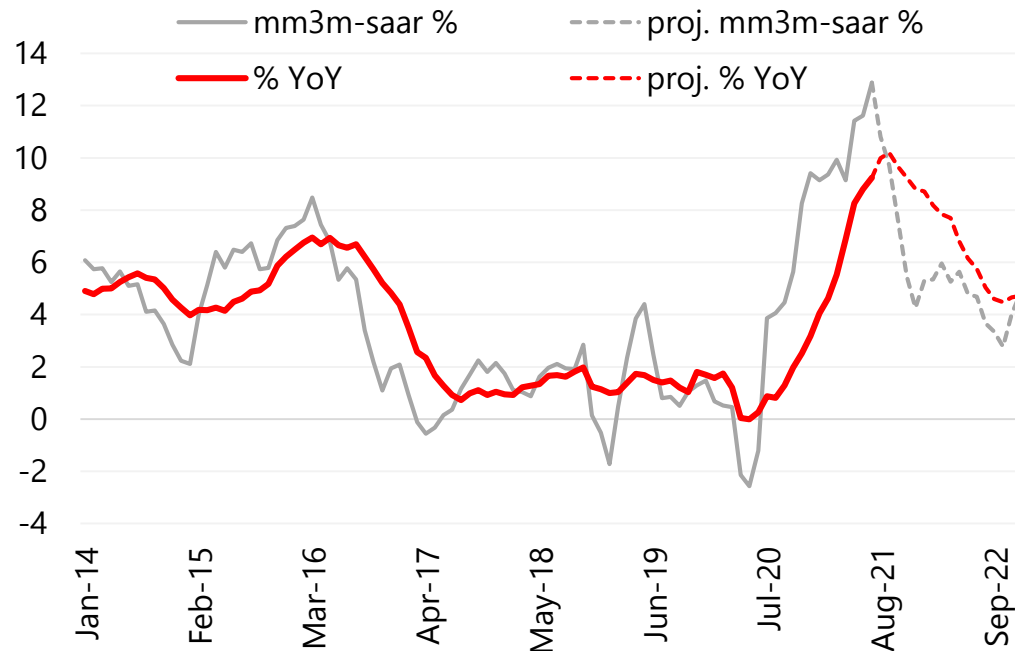
Regulated prices inflation and forecast- annual



Industrial goods: headline peaking, but core's deceleration should be slower

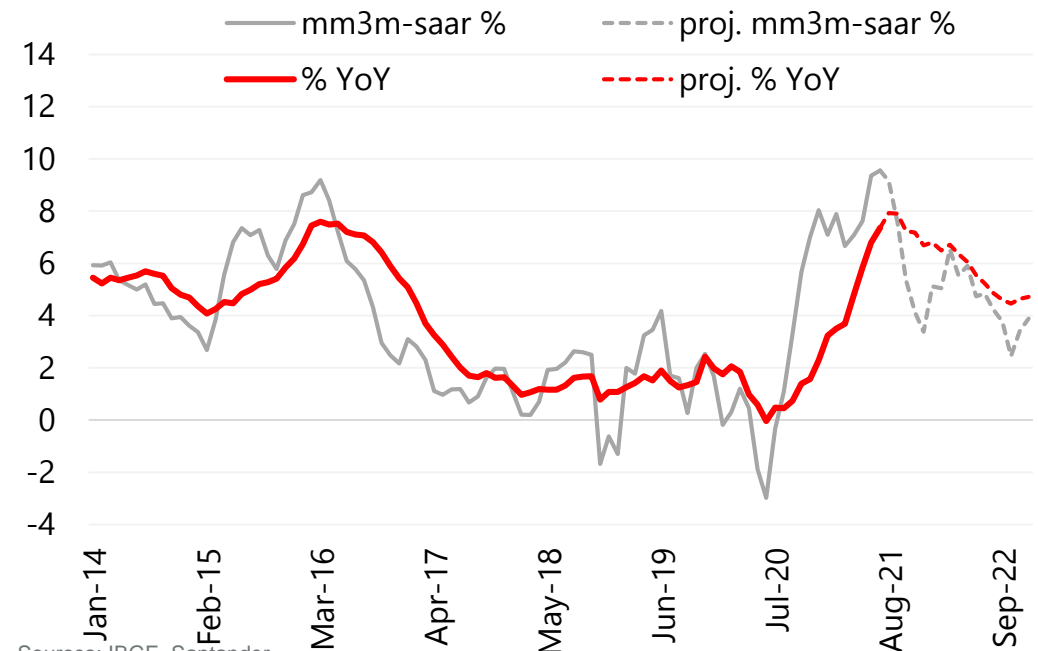
- First, as supply chain problems persist at the margin, the peak on the headline is uncertain, so risks remain on the upside
- Moreover, even if it really peaks (as we expect) the core measure should decelerate on a slower pace, ending 2022 at the same level as the headline, which is not favorable in terms of composition for the inflation scenario

Industrial goods inflation and forecast - annual



Sources: IBGE, Santander

Core industrial goods and forecast- annual

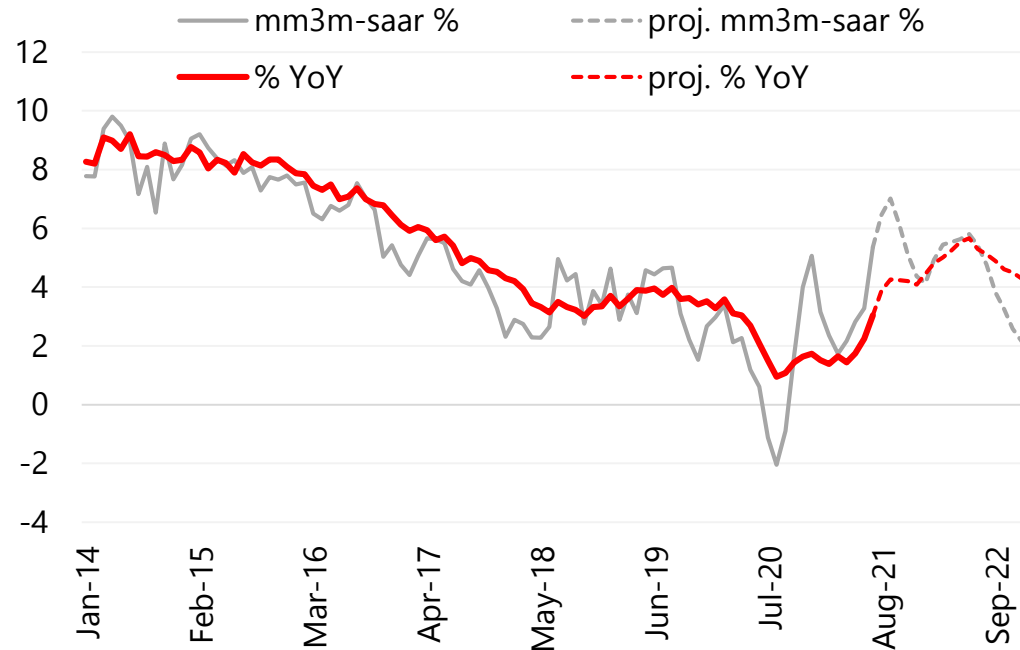


Sources: IBGE, Santander

Services should continue to accelerate for some months, peaking only in Jul-22

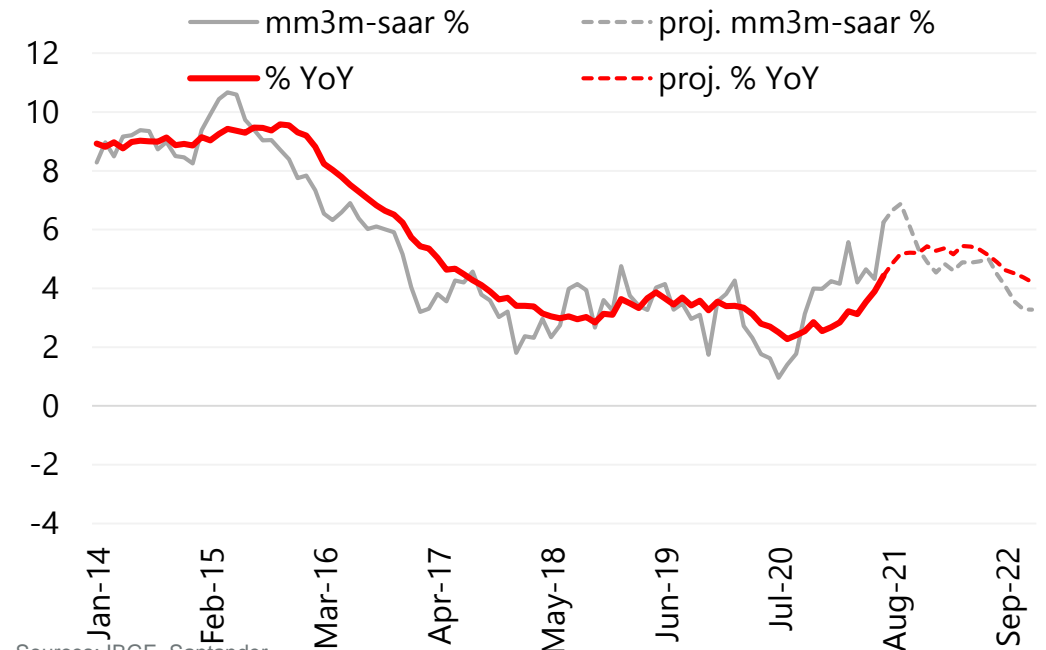
- Although pressures at the margin (3mma-saar) should cool down a bit, we see headline services still accelerating in YoY terms until Jul-22
- For the core gauge, we see a milder acceleration, but with a plateau a bit above 5.0% until mid-2022 too, a quite unfavorable level
- With the spreading of primary shocks, risks are also tilted to the upside, with a possibility that the peak is postponed

Services inflation and forecast - annual



Sources: IBGE, Santander

Core services and forecast- annual

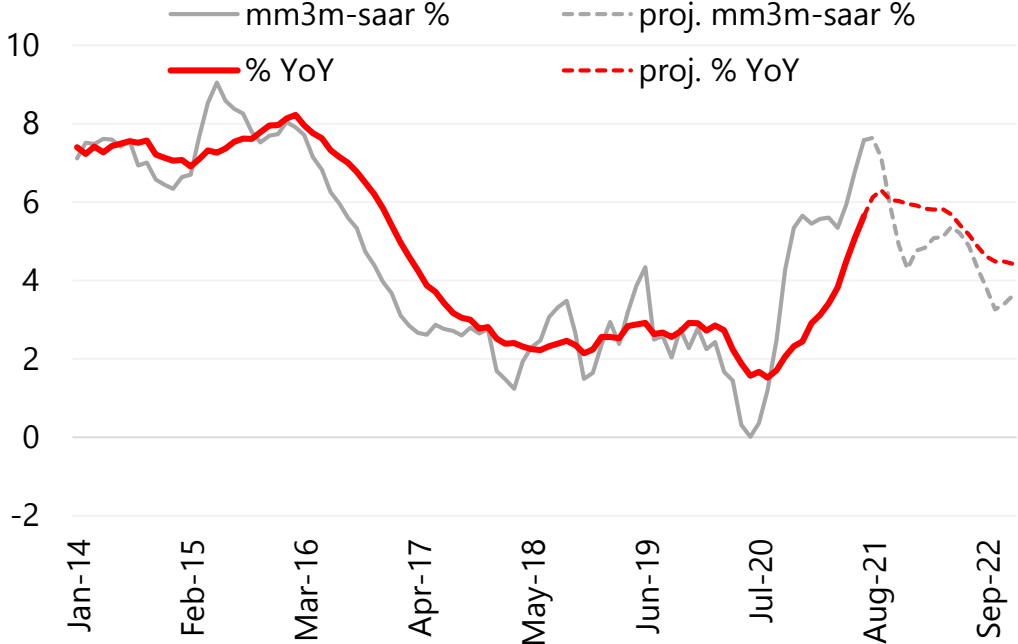


Sources: IBGE, Santander

This composition should make the deceleration of core measures very slow

- At the margin (3mma-saar) the pressures should show some relief, but the deceleration should be slow in anual terms
- As a result, despite the fact that we envision IPCA annual inflation peaking, it should be with a risky composition
- And the pace of deceleration is quite uncertain and, as a consequence, the bottom is also uncertain

EX3 Core inflation and forecast - annual



Sources: IBGE, BCB, Santander

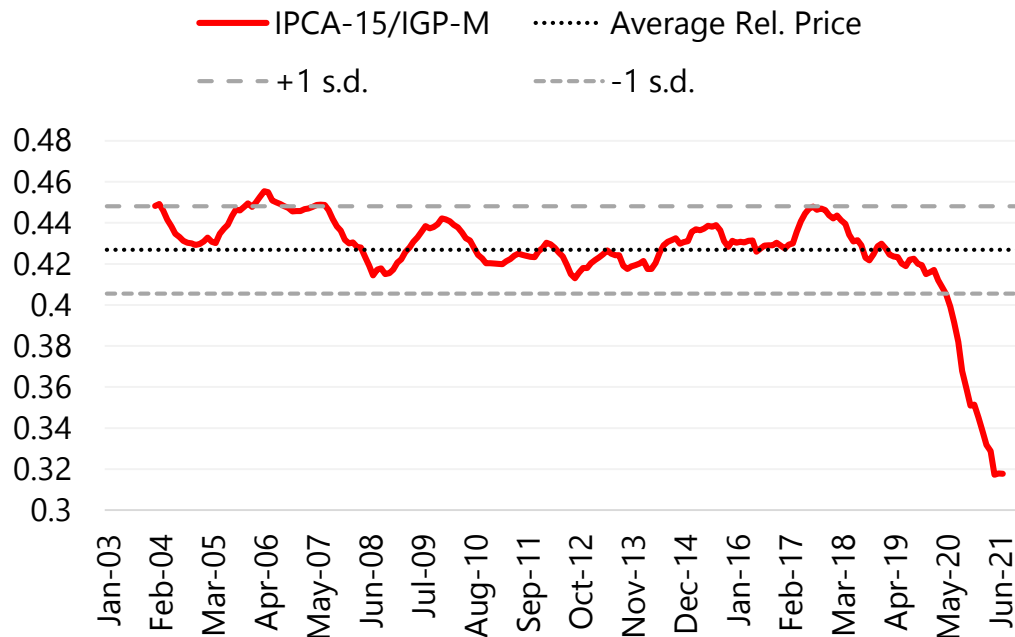
The risk of a backlog of price rises at the wholesale level

05

Large distortion of relative price between the wholesale and consumer levels

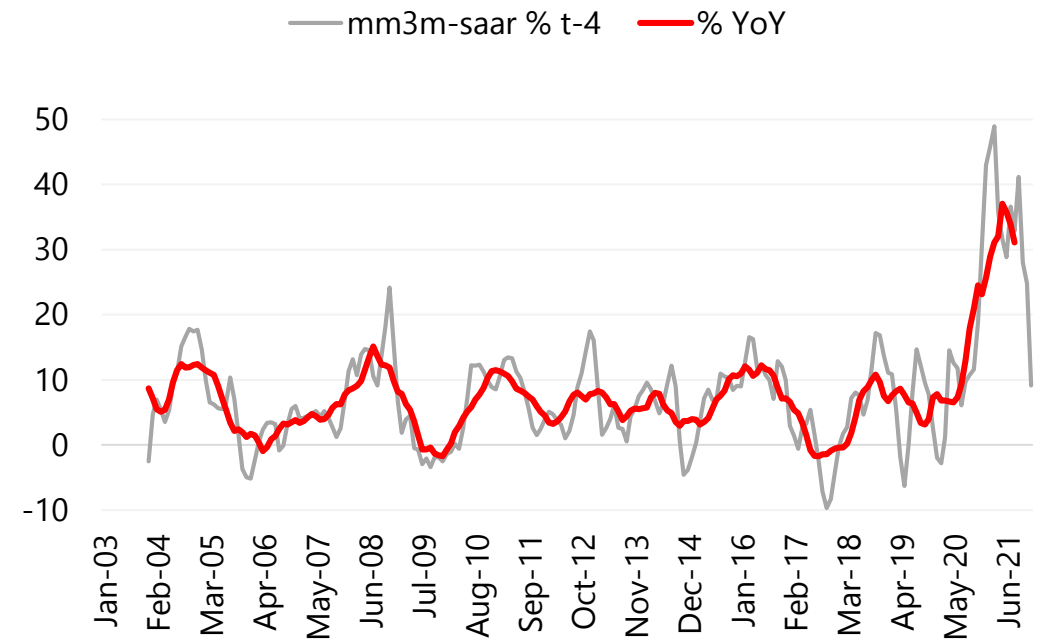
- Although IGP-M (PPI) probably have already peaked, there is still the backlog of raises at the producer level to reach the consumers
- As a result, even with a cool down of IGP-M, IPCA should take long to follow the same path (specially because services will also accelerate)

Relative price level: IPCA-15 (CPI) / IGP-M (PPI)



Sources: IBGE, FGV, Santander

IGP-M inflation: 3mma-saar starts to cool down

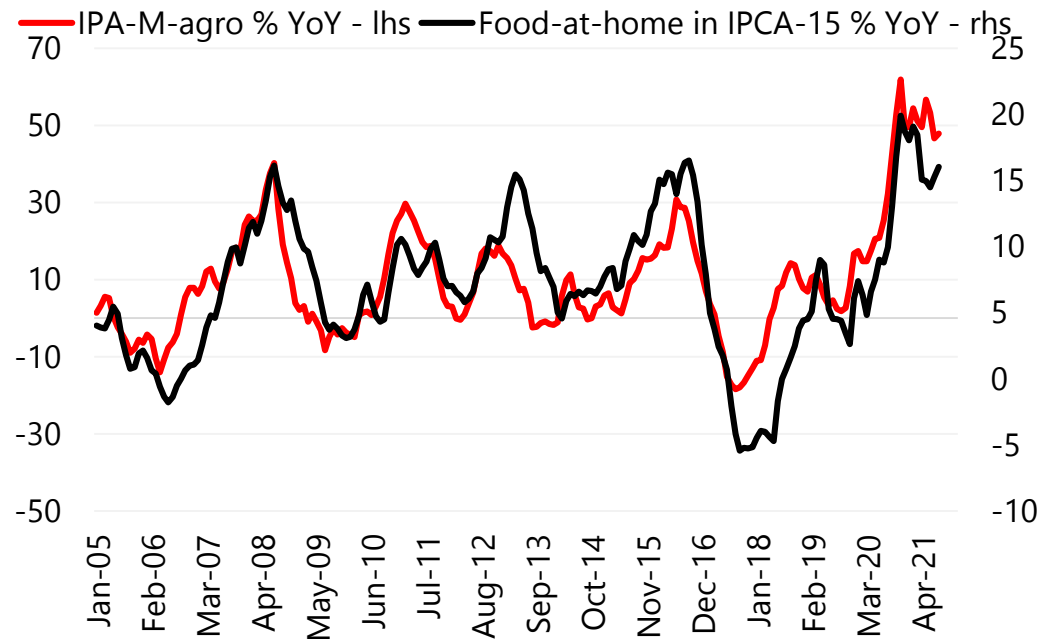


Sources: FGV, Santander

Part of the distortion comes from food prices

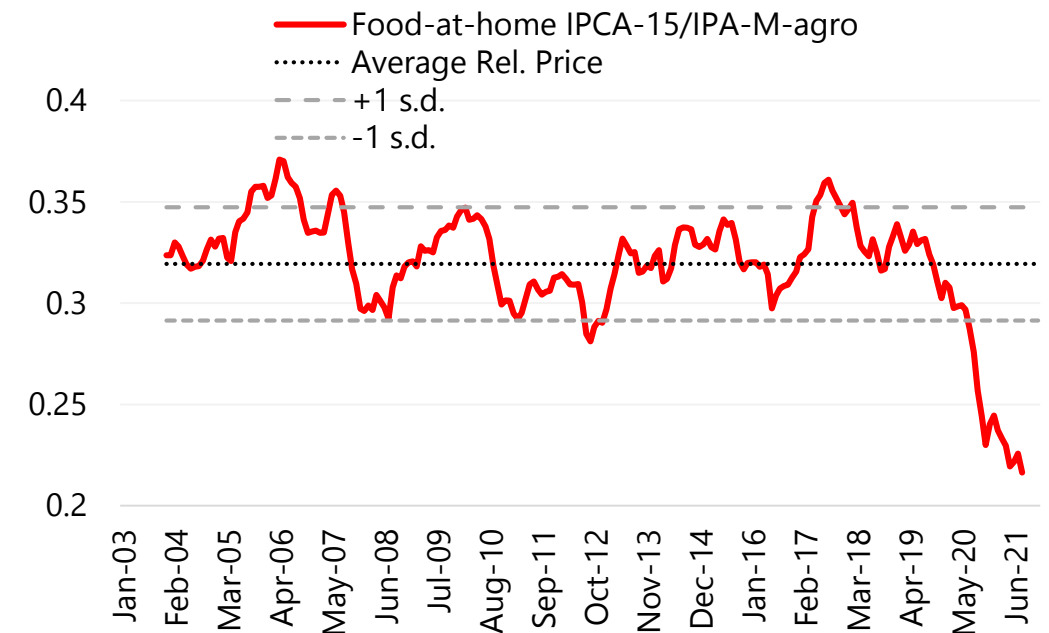
- Agricultural prices at the wholesale level (IPA-agro) tend to cointegrate with food-at-home prices, that is, the relative price tend to hover around a mean, but the recent sharp rise of IPA-agro distorted that relation considerably
- Even with food-at-home already rising in IPCA, it is still too far from normalizing the relation

Wholesale agricultural inflation (IPA-M Agro) and Food-at-home inflation in IPCA-15



Sources: FGV, IBGE, Santander

Relative price level: food-at-home IPCA-15/Wholesale agricultural IPA-M-agro

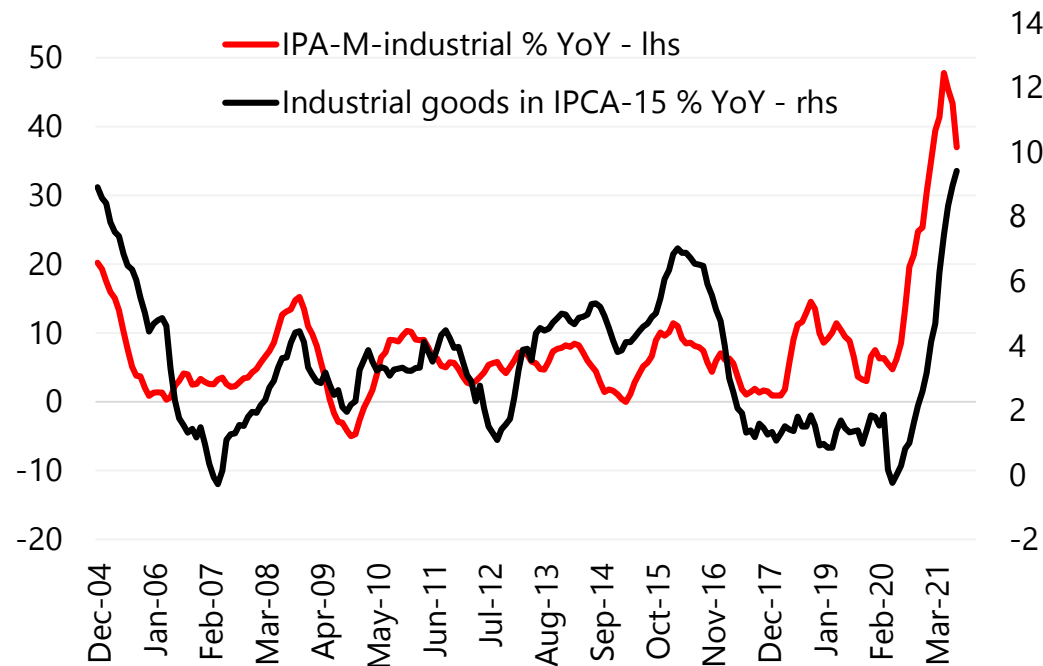


Sources: FGV, IBGE, Santander

Other part of the distortion comes from industrial goods

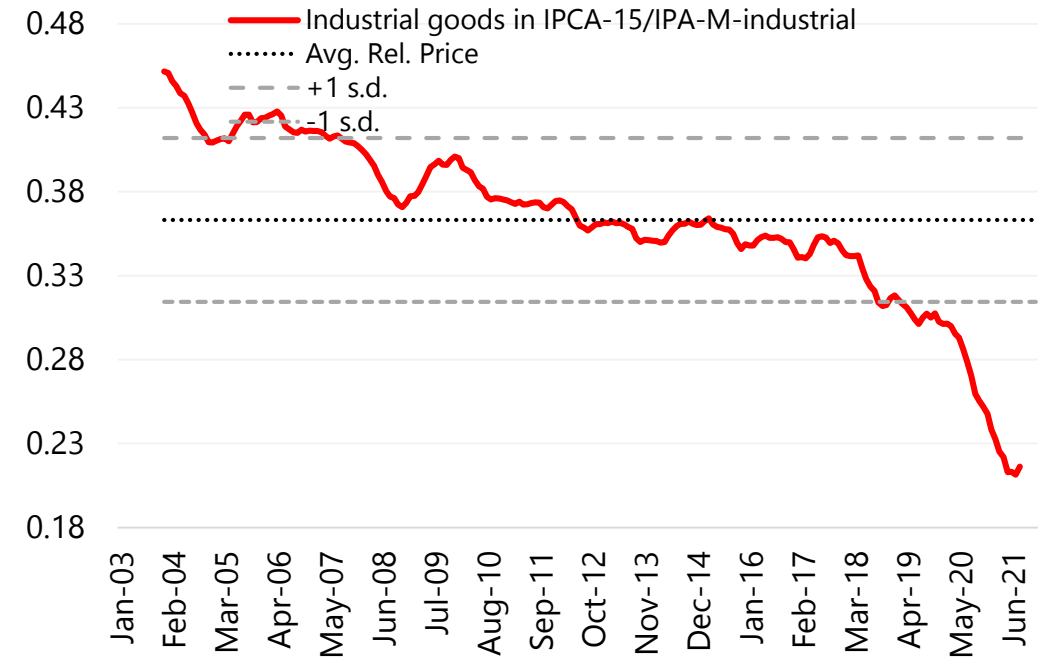
- Although not directly comparable (some items in IPA-industrial do not appear in IPCA), there is a long term relationship between industrial goods on IPCA and on IGP-M (IPA-industrial) and it also got majorly distorted recently
- IPA-industrial had a sharp acceleration and, although industrial goods on IPCA also rose, it is still lagging considerably

Industrial goods in IPCA-15 and wholesale industrial goods (IPA-M-industrial)



Sources: FGV, IBGE

Relative price level: industrial goods IPCA-15/wholesale industrial IPA-M-industrial

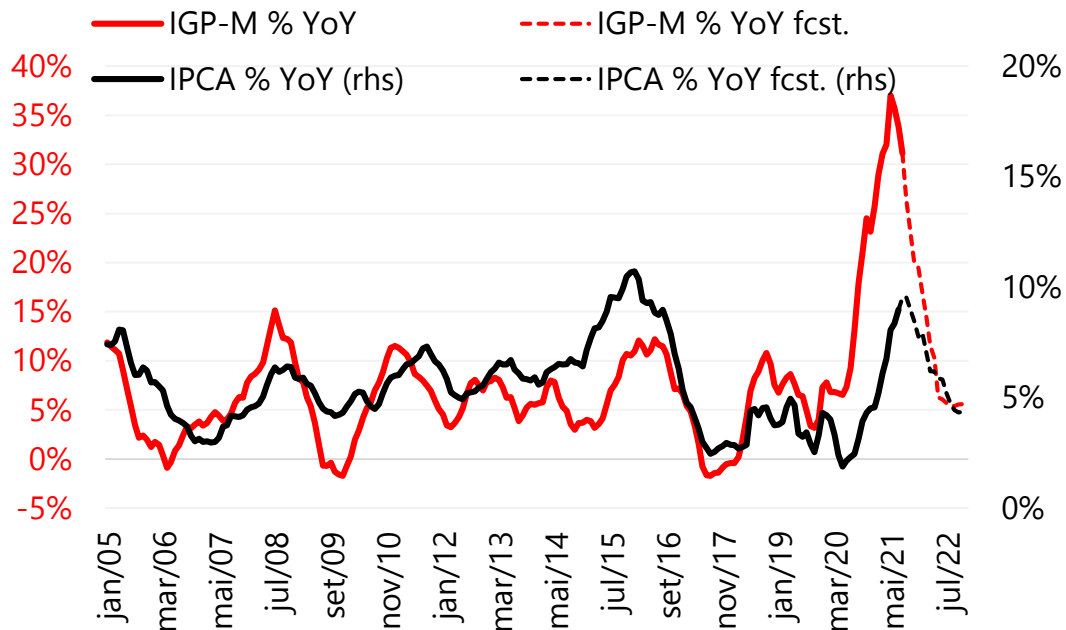


Sources: FGV, IBGE

Assuming our IGP-M and IPCA forecasts the relative price would continue distorted

- And this is why even projecting a decelerating IGP-M, we continue to believe that risks for IPCA are tilted to the upside
- For the convergence to be reached via IGP-M we would have to see it not only decelerating, but also deflating; hence, we see a risk of the convergence coming from IPCA accelerating more than we expect

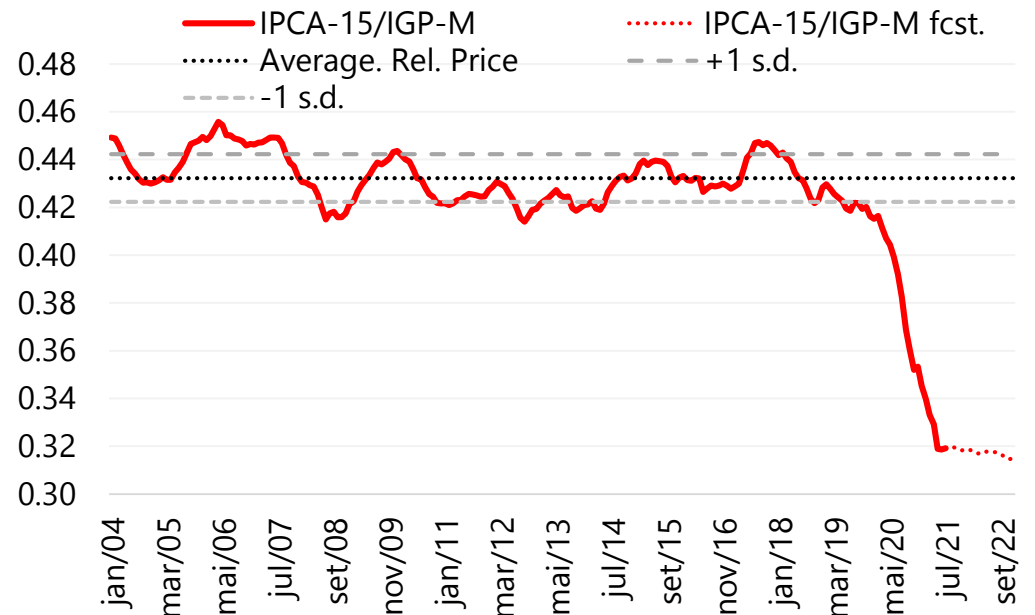
IGP-M inflation: 3mma-saar shows first signs of cooling down



Sources: FGV, Santander



Relative price level: IPCA-15 (CPI) / IGP-M (PPI)



Sources: IBGE, FGV, Santander

Brazil Macroeconomic Research Team

Thank you.

Our purpose is to help people and businesses prosper.

Our culture is based on believing that everything we do should be:

Simple Personal Fair



Raissa Freitas
Business Manager
raifreitas@santander.com.br
+55 (11) 3553-7424

Ana Paula Vescovi

Chief Economist
anavescovi@santander.com.br
+55 (11) 3553-8567

Jankiel Santos

Economist – External Sector
jankiel.santos@santander.com.br
+55 (11) 3012-5726

Tomas Urani

Economist – Global Economics
tomas.urani@santander.com.br
+55 (11) 3553-9520

Lucas Maynard

Economist – Economic Activity
lucas.maynard.da.silva@santander.com.br
+55 (11) 3553-7495

Gilmar Lima

Economist – Modeling
gilmar.lima@santander.com.br
+55 (11) 3553-6327

Mauricio Oreg

Head of Research & Strategy
mauricio.oreg@santander.com.br
+55 (11) 3553-5404

Ítalo Franca

Economist – Fiscal Policy
italo.franca@santander.com.br
+55 (11) 3553-5235

Daniel Karp

Economist - Inflation
daniel.karp@santander.com.br
+55 (11) 3553-9828

Felipe Kotinda

Economist - Credit
felipe.kotinda@santander.com.br
+55 (11) 3553-8071

Gabriel Couto

Economist – Special Projects
gabriel.couto@santander.com.br
+55 (11) 3553-8487

IMPORTANT DISCLOSURES

This report has been prepared by Santander Investment Securities Inc. ("SIS"; SIS is a subsidiary of Santander Holdings USA, Inc. which is wholly owned by Banco Santander, S.A. "Santander"), on behalf of itself and its affiliates (collectively, Grupo Santander) and is provided for information purposes only. This document must not be considered as an offer to sell or a solicitation of an offer to buy any relevant securities (i.e., securities mentioned herein or of the same issuer and/or options, warrants, or rights with respect to or interests in any such securities). Any decision by the recipient to buy or to sell should be based on publicly available information on the related security and, where appropriate, should take into account the content of the related prospectus filed with and available from the entity governing the related market and the company issuing the security. This report is issued in Spain by Santander Investment Bolsa, Sociedad de Valores, S.A. ("Santander Investment Bolsa"), and in the United Kingdom by Banco Santander, S.A., London Branch. Santander London is authorized by the Bank of Spain. This report is not being issued to private customers. SIS, Santander London and Santander Investment Bolsa are members of Grupo Santander.

ANALYST CERTIFICATION: The following analysts hereby certify that their views about the companies and their securities discussed in this report are accurately expressed, that their recommendations reflect solely and exclusively their personal opinions, and that such opinions were prepared in an independent and autonomous manner, including as regards the institution to which they are linked, and that they have not received and will not receive direct or indirect compensation in exchange for expressing specific recommendations or views in this report, since their compensation and the compensation system applying to Grupo Santander and any of its affiliates is not pegged to the pricing of any of the securities issued by the companies evaluated in the report, or to the income arising from the businesses and financial transactions carried out by Grupo Santander and any of its affiliates: **Daniel Karp***.

*Employed by a non-US affiliate of Santander Investment Securities Inc. and not registered/qualified as a research analyst under FINRA rules, and is not an associated person of the member firm, and, therefore, may not be subject to the FINRA Rule 2242 and Incorporated NYSE Rule 472 restrictions on communications with a subject company, public appearances, and trading securities held by a research analyst account.

The information contained herein has been compiled from sources believed to be reliable, but, although all reasonable care has been taken to ensure that the information contained herein is not untrue or misleading, we make no representation that it is accurate or complete and it should not be relied upon as such. All opinions and estimates included herein constitute our judgment as at the date of this report and are subject to change without notice.

Any U.S. recipient of this report (other than a registered broker-dealer or a bank acting in a broker-dealer capacity) that would like to effect any transaction in any security discussed herein should contact and place orders in the United States with SIS, which, without in any way limiting the foregoing, accepts responsibility (solely for purposes of and within the meaning of Rule 15a-6 under the U.S. Securities Exchange Act of 1934) for this report and its dissemination in the United States.

© 2021 by Santander Investment Securities Inc. All Rights Reserved.

COMUNICADO IMPORTANTE

O presente material foi preparado pelo Banco Santander (Brasil) S.A. e não se configura um relatório de análise para os fins da Resolução CVM nº 20, de 25 de fevereiro de 2021. Ele tem como objetivo único de fornecer informações macroeconômicas e não constitui e não deve ser interpretado como uma oferta ou solicitação de oferta para aquisição de valores mobiliários. Ele pode conter informações sobre eventos futuros e estas projeções/estimativas estão sujeitas a riscos e incertezas relacionados a fatores fora de nossa capacidade de controlar ou estimar precisamente, tais como condições de mercado, ambiente competitivo, flutuações de moeda e da inflação, mudanças em órgãos reguladores e governamentais e outros fatores que poderão diferir materialmente daqueles projetados. As informações contidas neste relatório foram obtidas de fontes públicas consideradas seguras, muito embora tenham sido tomadas todas as medidas razoáveis para assegurar que as informações aqui contidas não são incertas ou equívocas no momento de sua publicação, não é garantida a sua integridade, confiabilidade, completude ou exatidão dessas informações.

Todas as opiniões, estimativas e projeções que constam no presente relatório material refletem única e exclusivamente nossa opinião na data de sua emissão e podem ser modificadas sem prévio aviso, considerando nossas premissas relevantes e metodologias adotadas à época de sua emissão, conforme estabelecidas no presente documento. O Santander não será responsável por perdas diretas ou lucros cessantes que sejam decorrentes do uso do presente relatório.

Este material não leva em consideração os objetivos, situação financeira ou necessidades específicas de qualquer investidor em particular. Os potenciais investidores devem buscar aconselhamento financeiro profissional sobre a adequação do investimento em valores mobiliários, outros investimentos ou estratégias de investimentos aqui discutidos, e devem entender que declarações sobre perspectivas futuras podem não se concretizar. Ao acessar este material, você declara e confirma que compreende os riscos relativos aos mercados abordados neste documento e às leis em sua jurisdição referentes a provisão e venda de produtos de serviço financeiro. Você reconhece que este material contém informações proprietárias e concorda em manter esta informação somente para seu uso exclusivo.

Reservamo-nos o direito de, a qualquer momento, comprar ou vender valores mobiliários mencionados. Estas projeções e estimativas não devem ser interpretadas como garantia de performance futura. O Banco Santander (Brasil) S.A. não se obriga em publicar qualquer revisão ou atualizar essas projeções e estimativas frente a eventos ou circunstâncias que venham a ocorrer após a data deste documento. Este material é para uso exclusivo de seus receptores e seu conteúdo não pode ser reproduzido, redistribuído, publicado ou copiado de qualquer forma, integral ou parcialmente, qualquer que seja o propósito, sem o prévio consentimento e expressa autorização do Banco Santander (Brasil) S.A..

©2021 Banco Santander (Brasil) S.A.. Direitos reservados.