Santander

Brazil Macro | February 2021

INFLATION

DANIEL KARP
daniel.karp@santander.com.br
+55 11 3553-9828

INDEX

1. Forecasting accountability and perspectives
2. Between supply/costs' shocks and weak demand
3. Forecasts
4. Risks

Forecasting Accountability & Perspectives

01

Forecasting accountability

- Following forecasting best-practices we start the first scenario revision of 2021* making an accountability of our hits and misses

- Right after the start of the pandemic we lowered our forecast to around 1.5% for IPCA 2020 and it kept hovering around that value until the end of 3Q20. Then, we started to consistently rise our forecast, so we will analyze what pushed this

- We use our Jun-20 forecast to check what happened if compared to Dec-20 → we had a +303bps surprise

- The biggest surprise was in food at home (+182bps), but the most relevant one (because it is more related to inflation underlying measures) was in industrial goods (+80bps)

- Regulated prices were another source of surprise (+44bps) – gasoline was part of the surprise, but the major one was in electrical energy because of the determination of Red 2 flag by Aneel (sector regulator) in Dec-20 (despite the announcement that they would keep Green flag for the whole year).

- Finally, on services prices (also very important to underlying measures, just as industrial goods), our forecast was correct

	YoY %		Dev. Bps
	2020 fcst in Jun-20	2020 realized	
IPCA	1.5	4.5	303
Free prices	1.7	5.2	260
Food-at-home	5.2	18.2	182
Industrial goods	-0.3	3.2	80
Services	1.7	1.8	2
Administered prices	0.9	2.6	44

*Realized at 11-Feb-21

Perspectives summary: between supply/cost-related shocks and weak demand

- We believe we missed the upside surprises because 1) we underestimated the power of the supply/cost-related shocks (commodities, supply chain disruption and BRL depreciation) and 2) the power of the fiscal expansion to boost demand for goods (income emergency aid that made real wage bill higher the pre-pandemic and a change in consumer's basket favoring goods instead of services that were more impacted by the social isolation measures)

- From now on we continue to see supply/cost-related shocks affecting inflation (because of both the continuation of the shock and still a backlog of adjustments to be done from last year), while the demand is at a very low level and should recover at a very slow pace (lower boost from emergency income measures, though the economy's reopening will help to improve demand)

- **We believe the net result of those two forces are inflationary, with supply/cost-related shocks weighing more than the weak demand,** though yet not to the point of jeopardizing medium/long-term BCB's inflation targets

- Our IPCA inflation forecasts were revised to 3.6% for 2021 on the official scenario revision (11-Feb), but it is already outdated as our high-frequency tracking is hovering much above it, at 4.6%. We maintained 3.2% for IPCA 2022, though the balance of risks is clearly tilted to the upside, because of higher inertia from IPCA 2021 and because of higher fiscal risks.

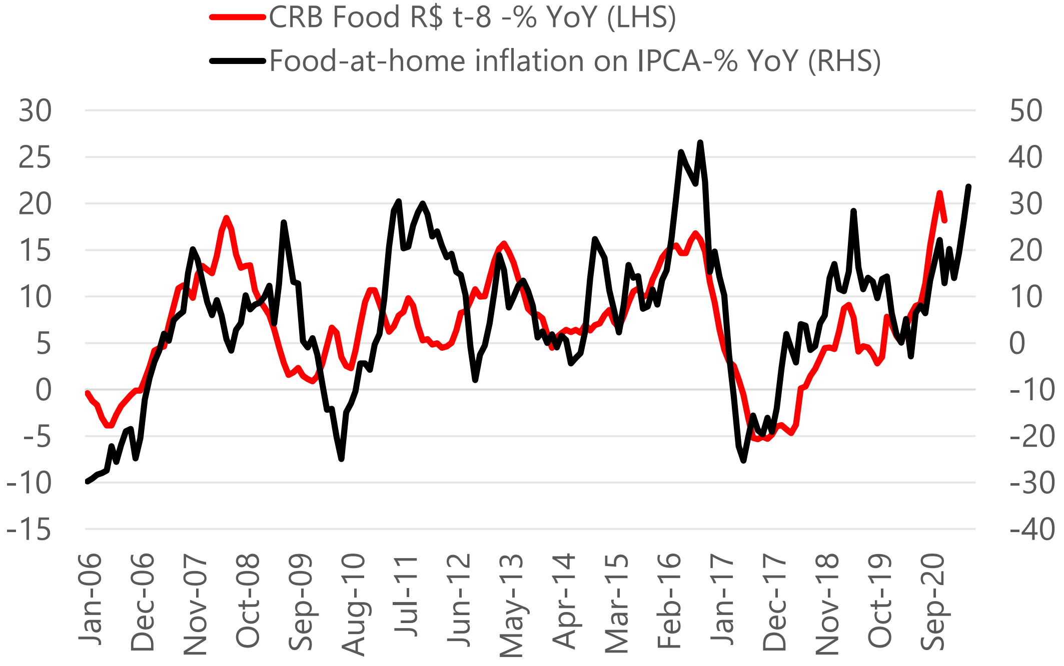
Inflation between supply/costs shocks and weak demand

02

Food-at-home inflation: a cooling down process, but landing at a still high level

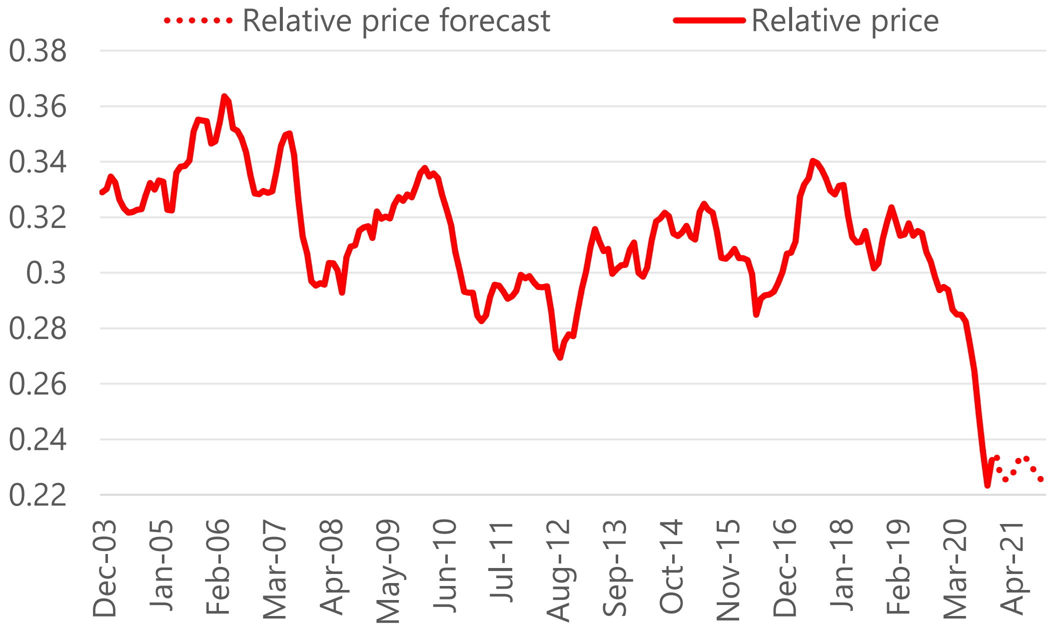
- Food inflation should reduce, as pass-through to consumers is becoming each time more difficult
- However, the main determinants of food inflation continue to support an upwardly pressured scenario: agricultural commodities continue to rise and BRL remains depreciated
- Moreover, there is still a backlog of adjustments to be done from the wholesale to the consumer level

CRB Food and inflation of food-at-home (IPCA)



Source: Bloomberg, IBGE, Santander

Relative price: food-at-home (IPCA)/wholesale agro (IPA-M)

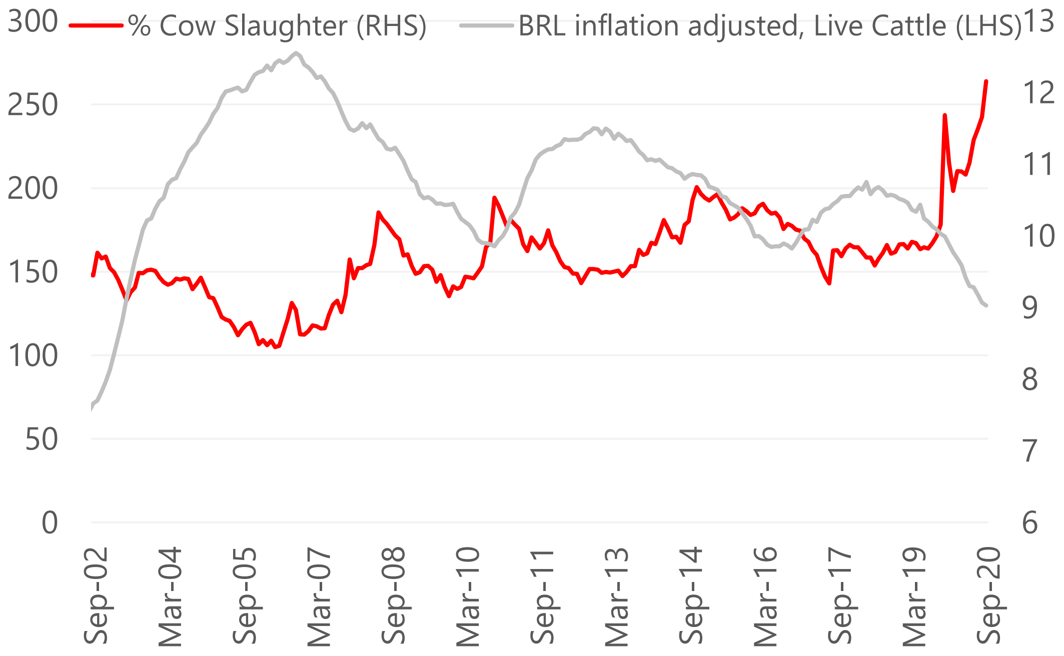


Source: FGV, IBGE, Santander

Food-at-home: low supply of domestic beef, with high external demand

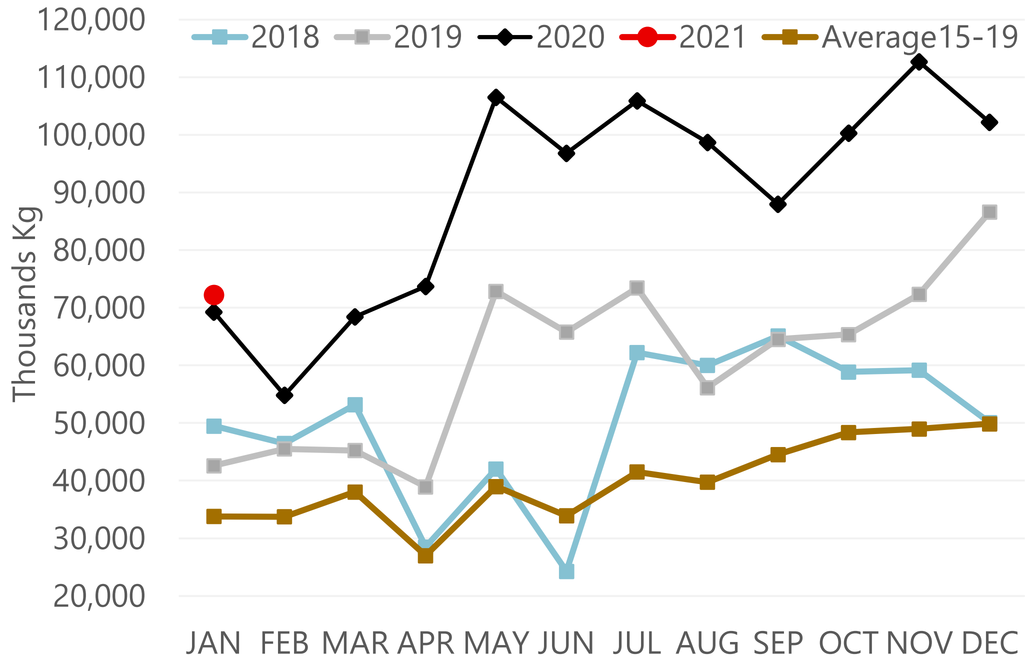
- The cattle cycle is at the low supply phase
- External demand is very strong and should continue that way

Cattle cycle R$/head



Source: MBAgro, Cepea, FGV, IBGE, Santander

Brazilian beef exports to China and Hong Kong



Source: Comexstat, Santander

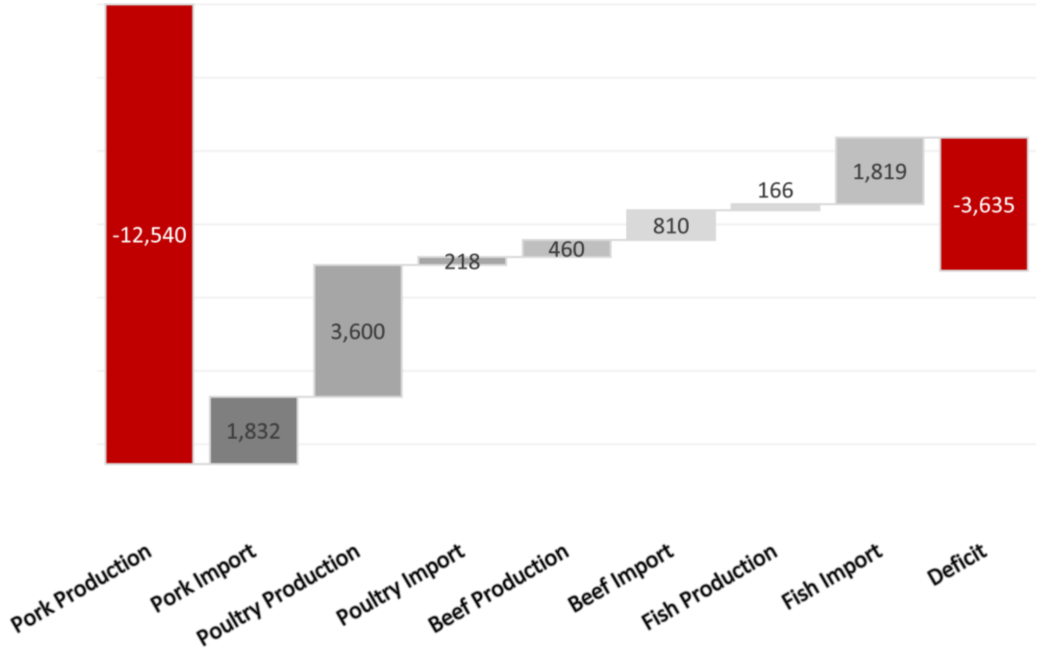
Food-at-home: external demand is strong

- The recovery of pork herd in China (after the african swine fever) is demanding considerable amounts of soybean
- At the same time, the China's proteins deficit continues big, sustaining high levels of imports from other countries, especially Brazil

Soybean R$/bushel

Source: Cepea, Bloomberg

China's deficit of proteins

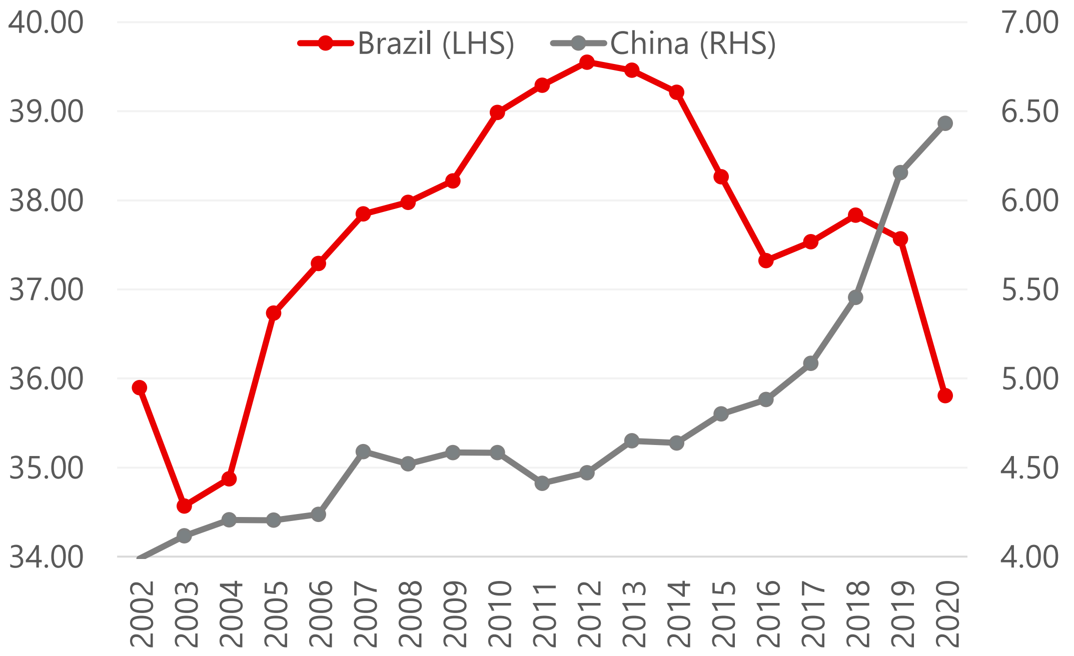


Source: MBAgro, Santander

Food-at-home: low domestic supply and demand for beef, but high external demand

- Even after the recovery of the pork herd in China, there is a structural change towards higher consumption of beef there
- On the other side, the domestic demand has been reducing and the perspective for 2021 is still weak
- The balance between difficulties in passing-through higher costs to consumers (low domestic demand) and an upward pressure from external demand seems to still favour an increase in prices or at least a support of the current high level (cattle prices are trading at historical high levels, so at least some part of the rise should come to consumers)

Beef Consumption Per Capita kg



Source: MBAgro, USDA, ONU.

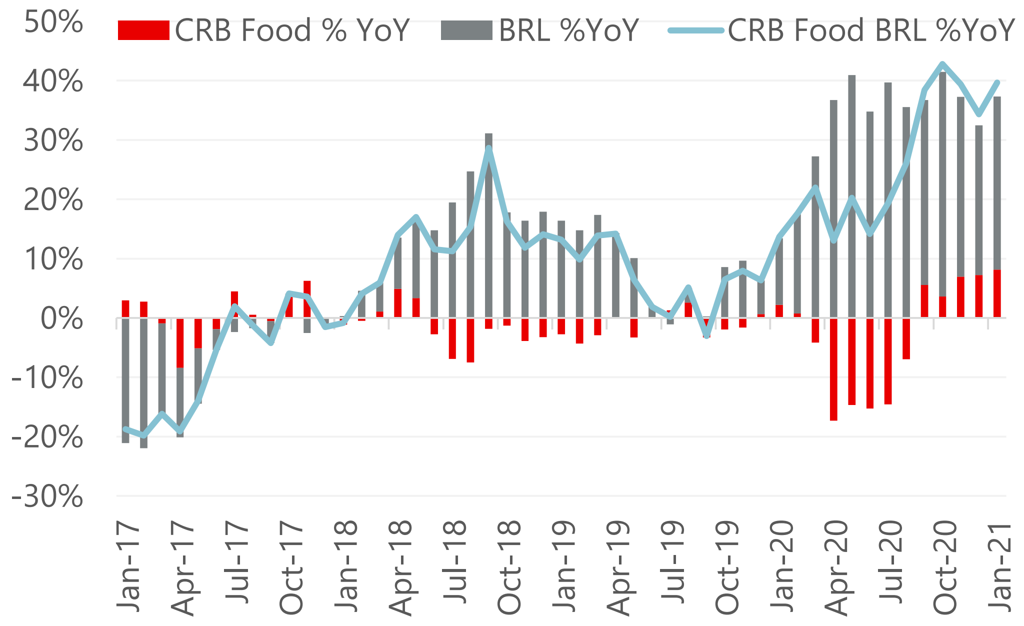
Cattle price R$/@

Source: Cepea, Bloomberg

Food-at-home: commodities doesn’t help, but BRL is also an issue

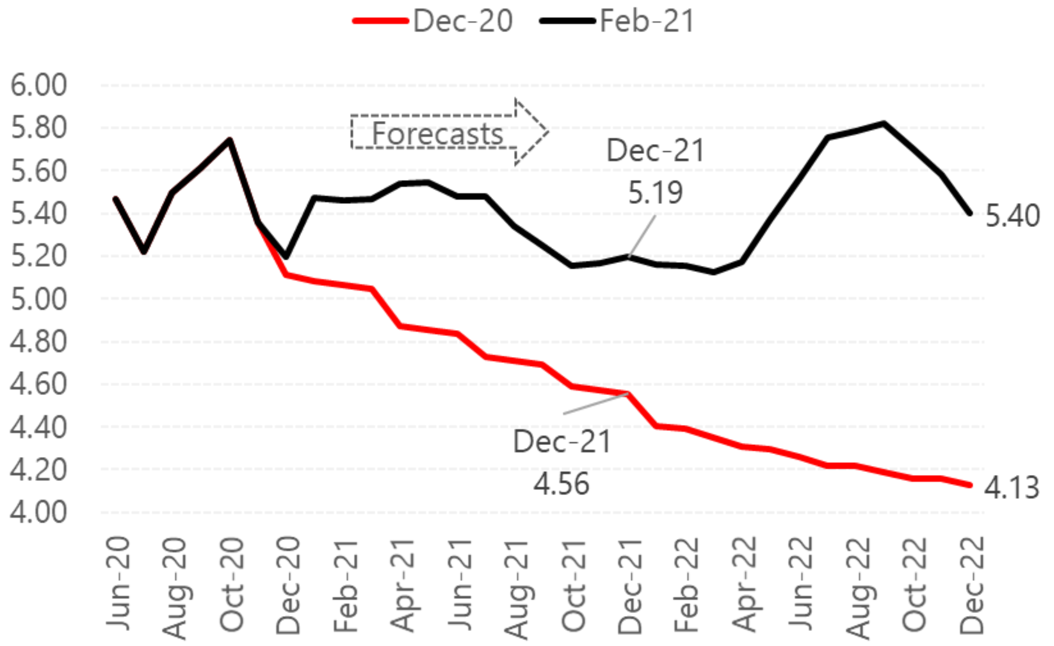
- Last year the main impact came from the BRL
- This year we believe the main pressure will come from commodities, but the BRL should continue depreciated, meaning an average exchange rate (brl 5.38) higher than last year (brl 5.16) also preventing a higher disinflation in food prices

CRB food in BRL is rising 39% YoY in BRL terms



Source: MBAgro, USDA, ONU.

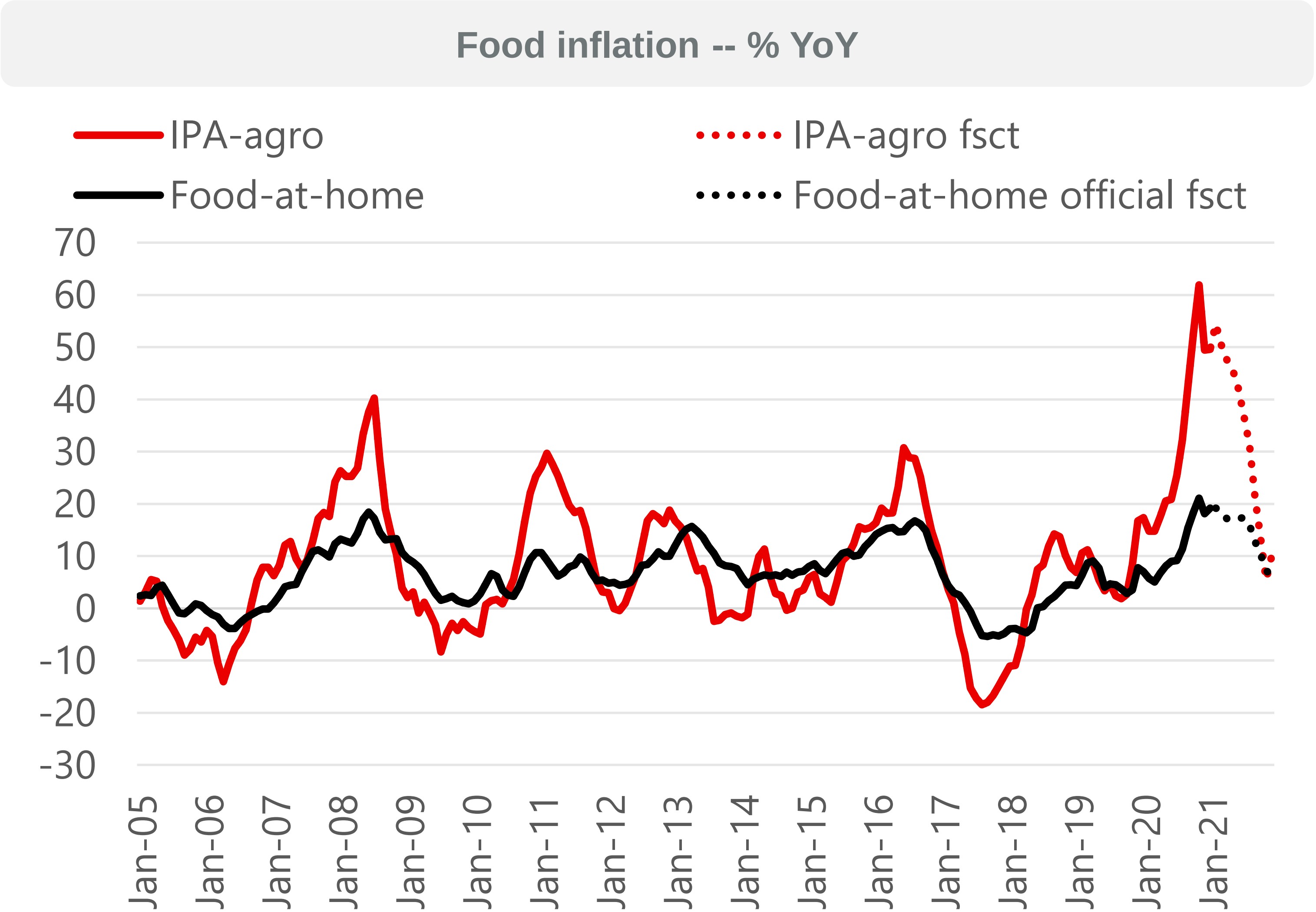
BRL should continue depreciated during 2021



Source: BCB, Santander

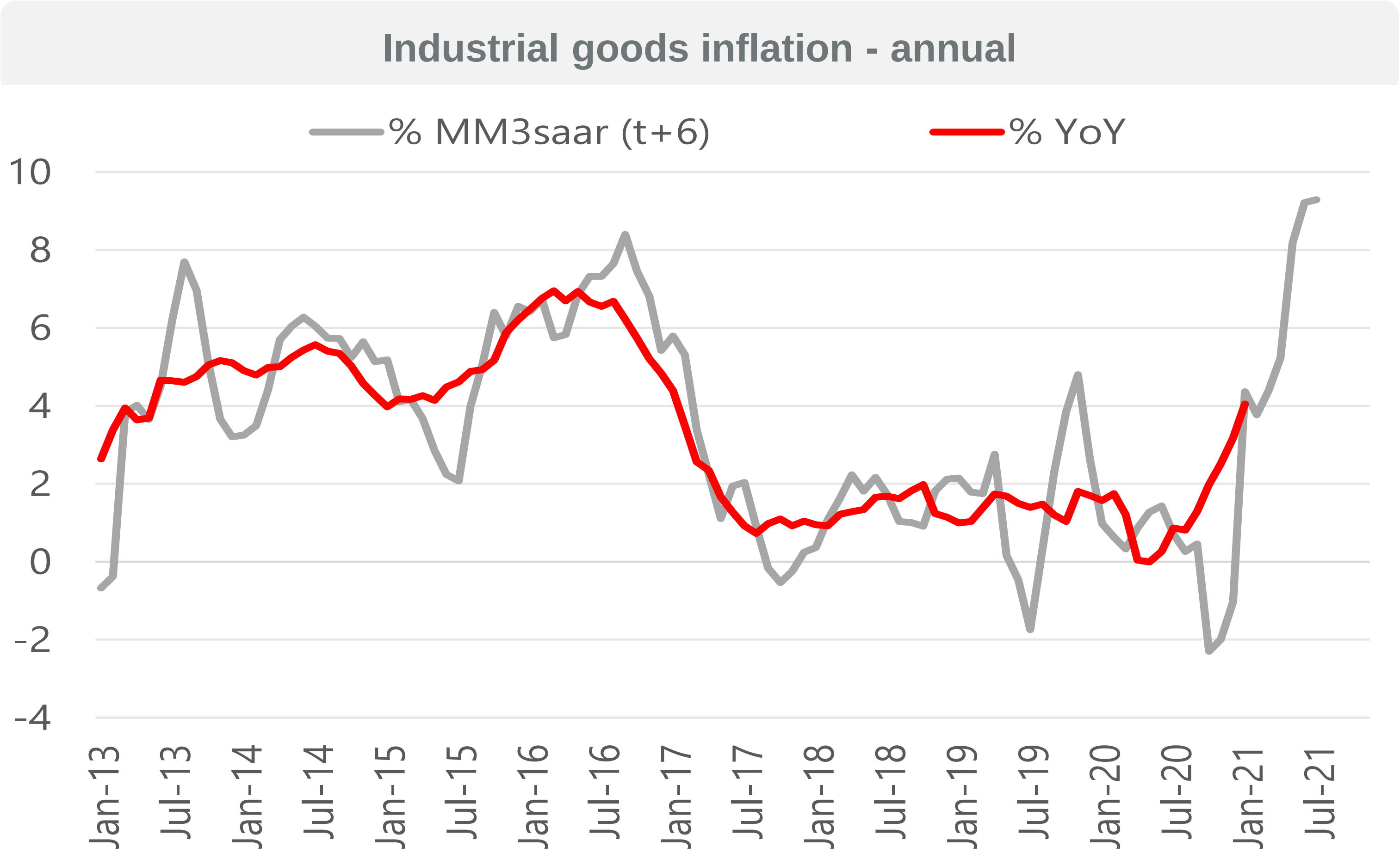
Food-at-home: a deceleration to a still high level

- The net result from all those of those drivers points towards a cooling down for food inflation, but still to a high level (from 19% yoy 2020 to 5-6% in 2021)
- Risks are tilted to the upside



Industrial goods: costs pressuring more than expected

- Commodities rising (metals) and disruption in global supply chain, while demand also helped to pressure (change in consumer basket+income emergency aid)
- The most relevant upside surprise last year and the biggest revision on our IPCA forecast



Source: IBGE, BCB, Santander

Industrial goods: commodities rising and disruption of global supply chain

- The recovery of important economies are pressuring commodities prices
- While the supply chain is still affected by pandemic-related noises

Iron ore in BRL is at its highest

Source: MBAgro, USDA, ONU.

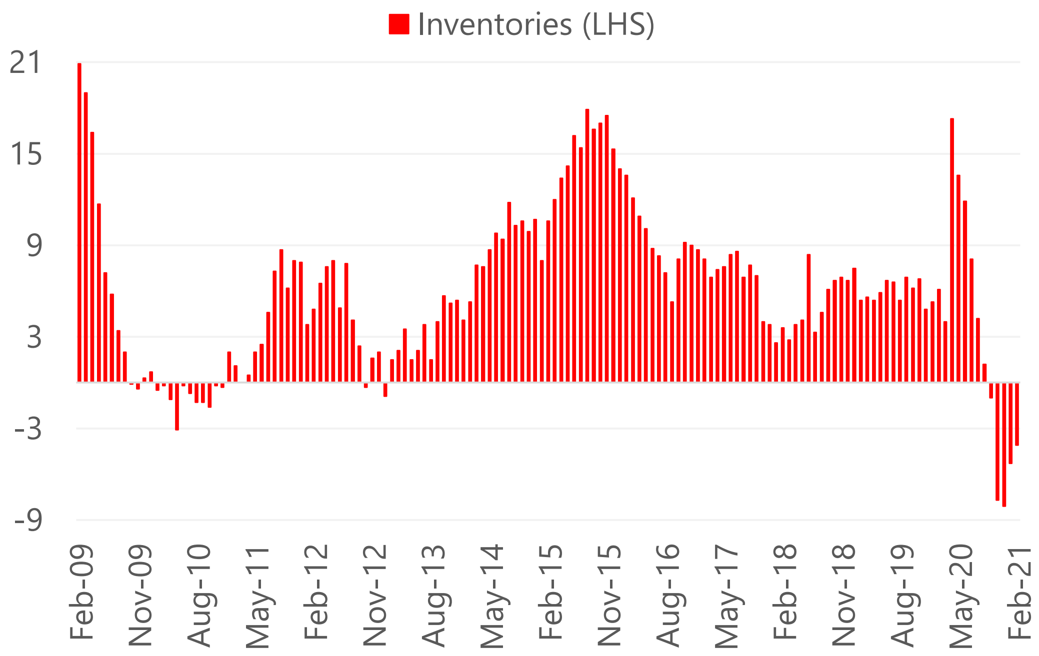
The price of freight cost from China is one of the examples of the supply shocks around the world

Source: BCB, Santander

Industrial goods: inventories fell considerably

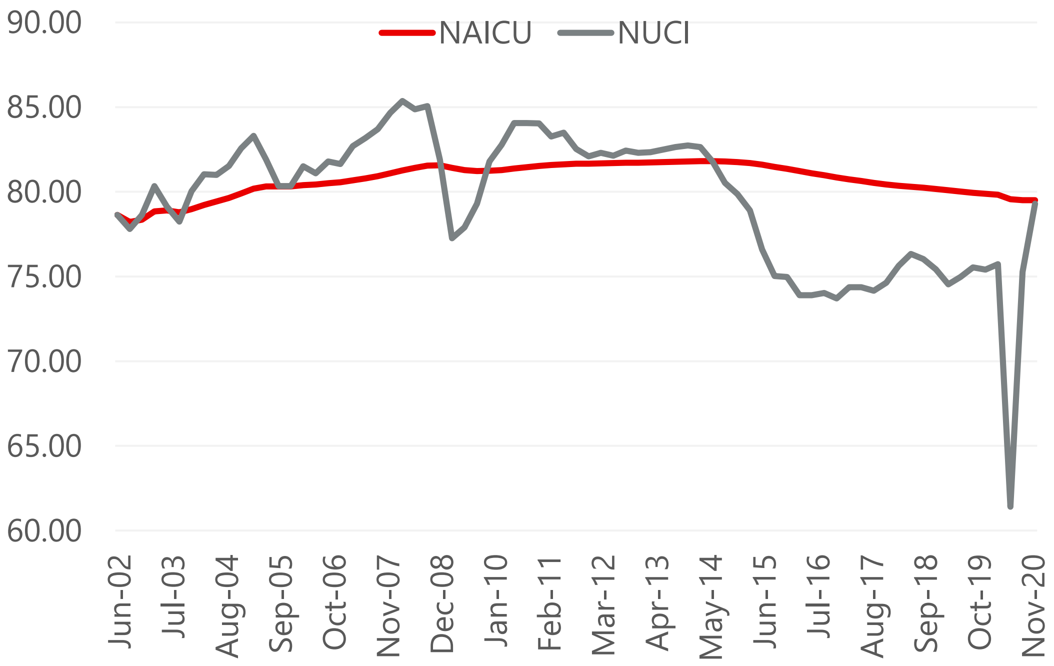
- Capacity utilization is at its recent highs

Inventories perception is at is lowest



Source: FGV, Santander

Idleness at the industry reduced considerably

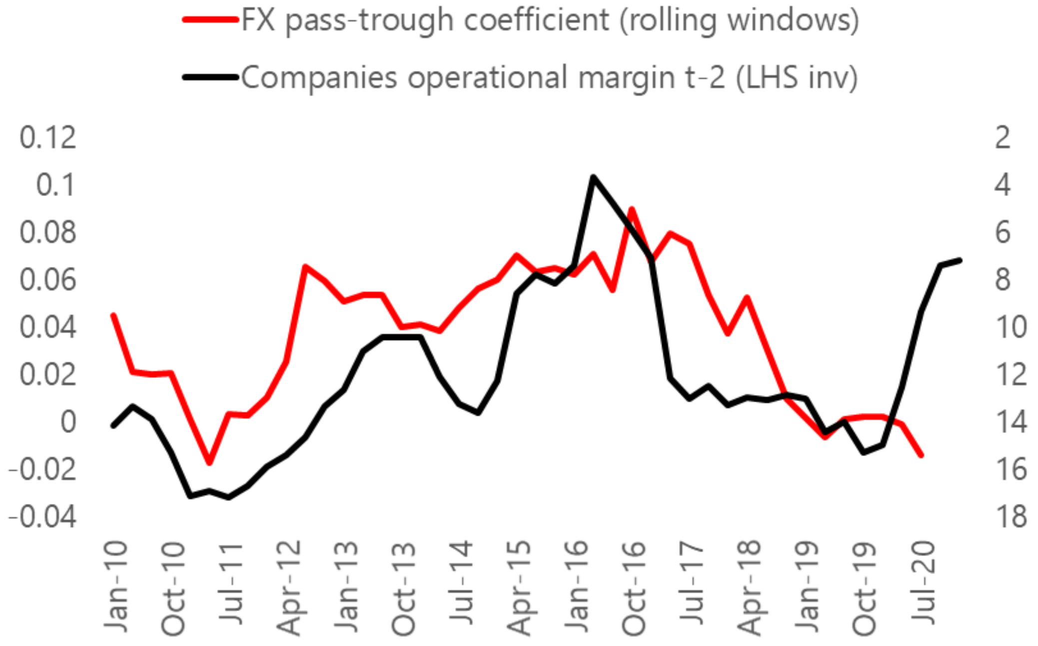


Source: IBGE, Santander

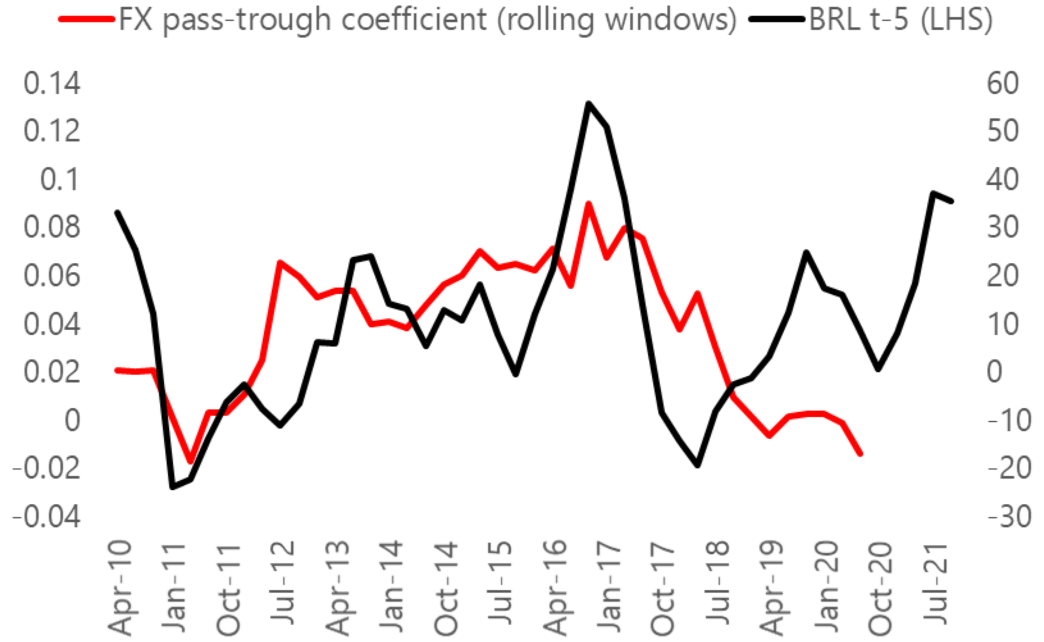
Industrial goods: companies margins are too compressed

- Companies had already suffered a major exchange rate shock in 2017-2019, but at the time they've recently gone by a major margin adjustment and were able to absorb the shock
- The recent BRL depreciation on top of the last one + rising commodities + supply chain disruption eroded companies margins, making it impossible for them to not pass-through to consumers some of the shock: note that the emergency income aid also improved the ability of companies to transmit some of the costs rise to consumers

FX pass-through and Companies' Operational Margin



FX pass-through and BRL YoY change

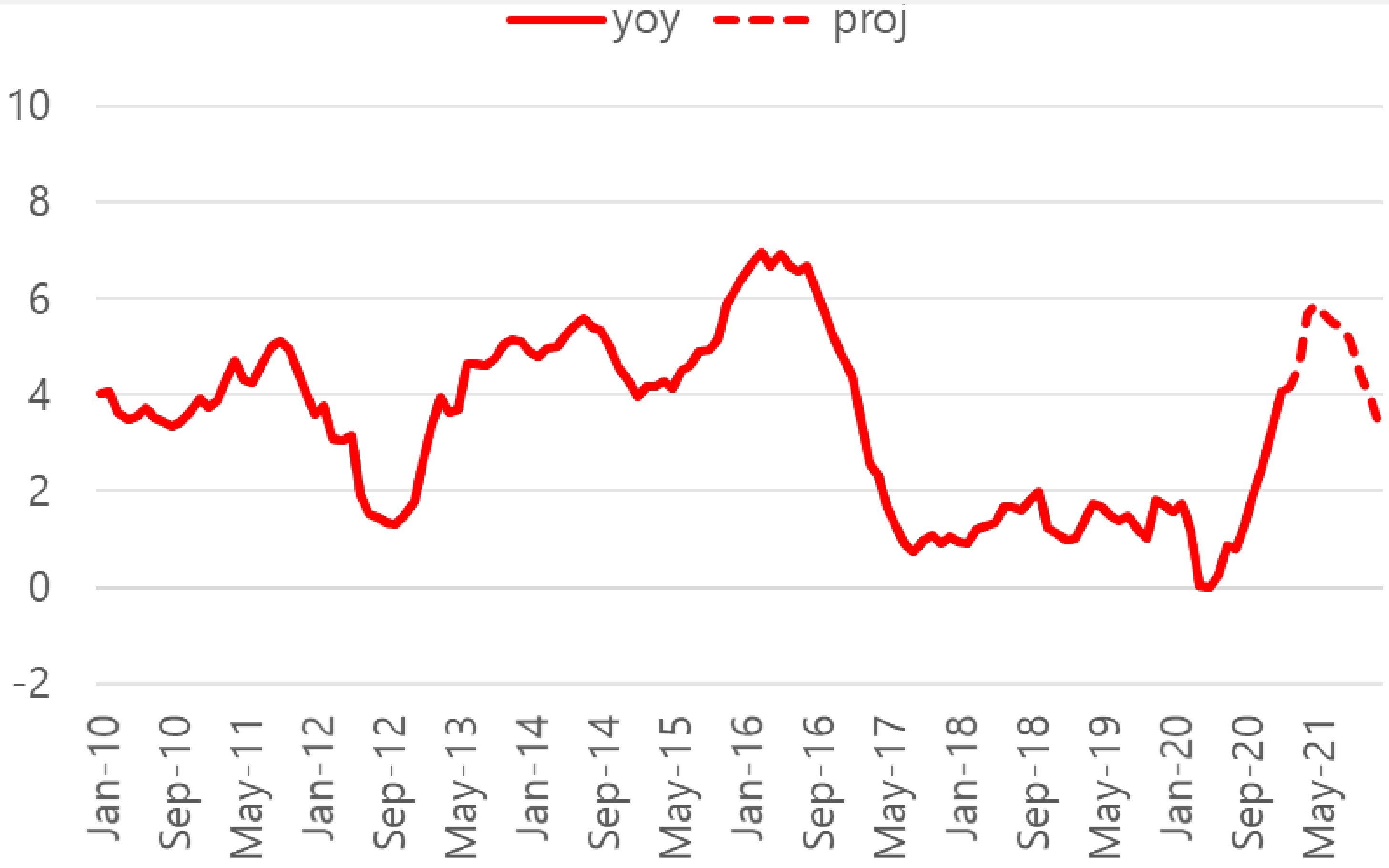


Source: MBAgro, USDA, ONU.

Industrial goods: an upwardly pressured scenario

- Those upward pressures cited previously should in general keep at place and even if some of the pressures cool down, we believe there is a backlog of adjustments to continue to be done throughout the year
- On the bright side, a normalization of the consumer basket and the reduction of income aid should alleviate the pressure a bit
- The net result in our view is a mild acceleration to 3.4% yoy in 2021 (from 3.2% in 2020), but risks are tilted to the upside

Industrial goods inflation and forecast - annual

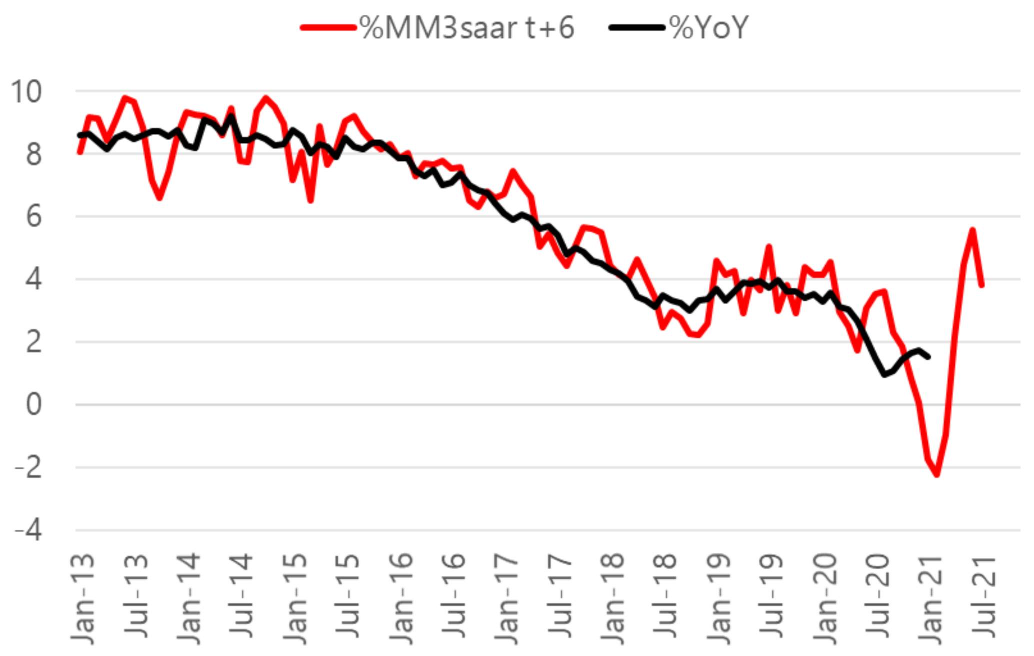


Source: MBAgro, USDA, ONU.

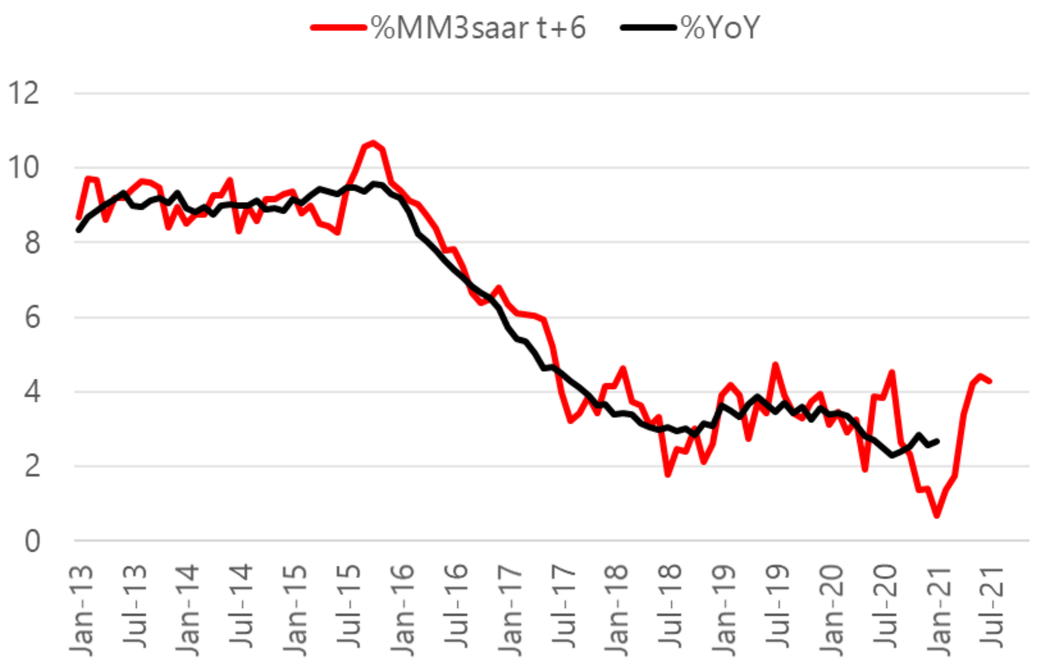
Services: almost no surprise; should continue a gradual recovery

- Services behaved as expected until now: a major deceleration during the worst phase of the pandemic and now a gradual recovery, based on the slow reopening of the economy

Services inflation - annual



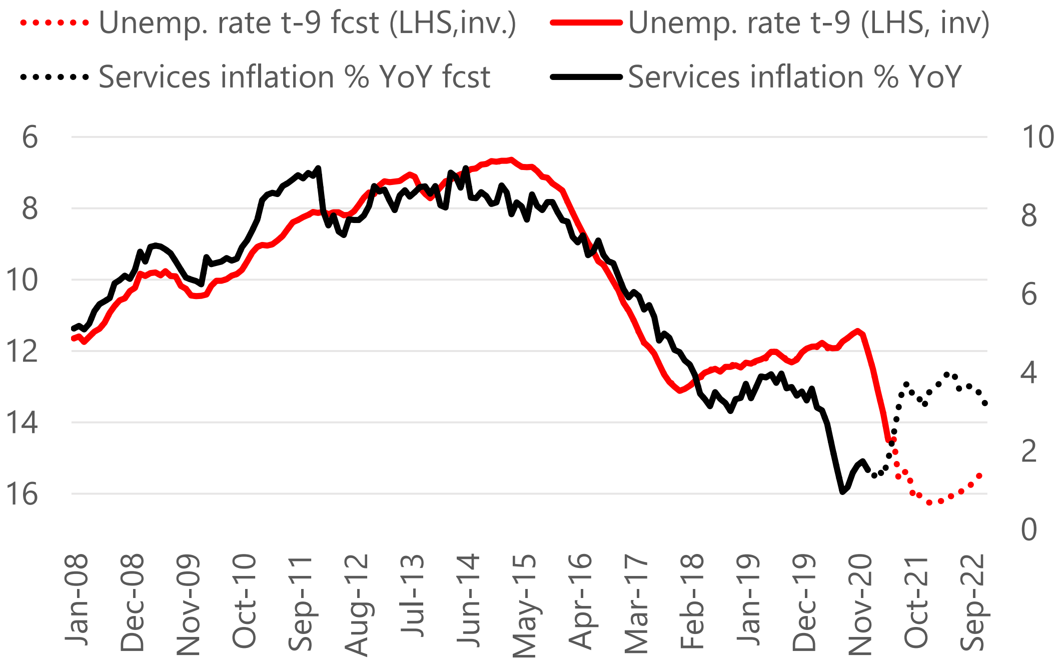
Services core inflation - annual



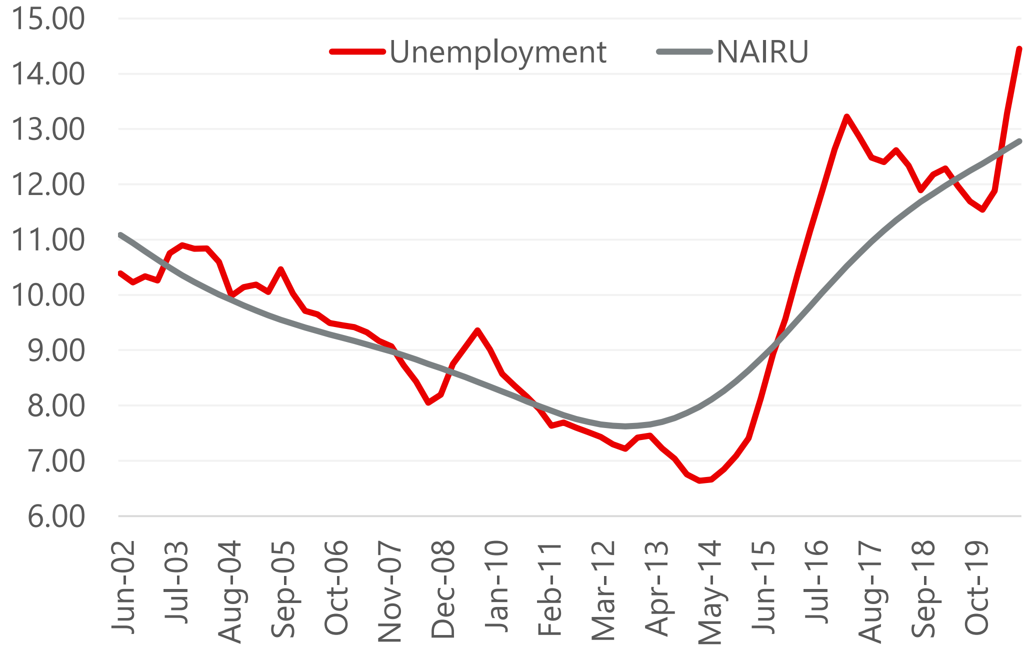
Services: the gradual recover is based on a slowly recovering job market

- Services prices are closely linked to unemployment rate, which we believe will reduce at a slow pace, meaning services inflation should also recover very gradually
- But we made a small upward adjustment due to higher inertia and also some specific cost-related issues (food service)

Services inflation and Unemployment rate



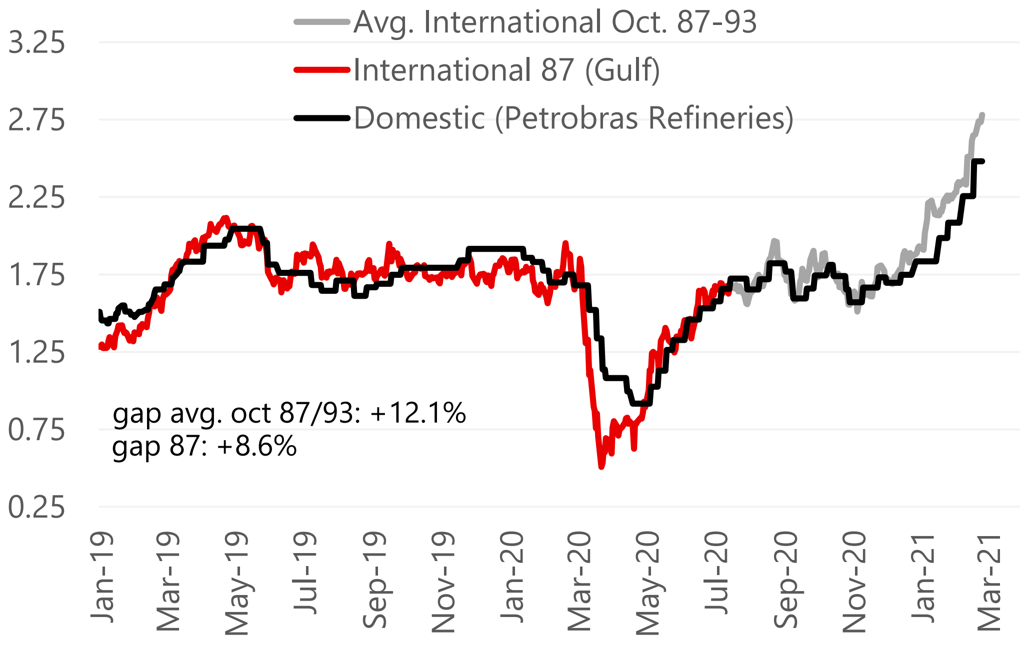
Unemployment rate and NAIRU



Administered prices: upward pressures, but with downside risks

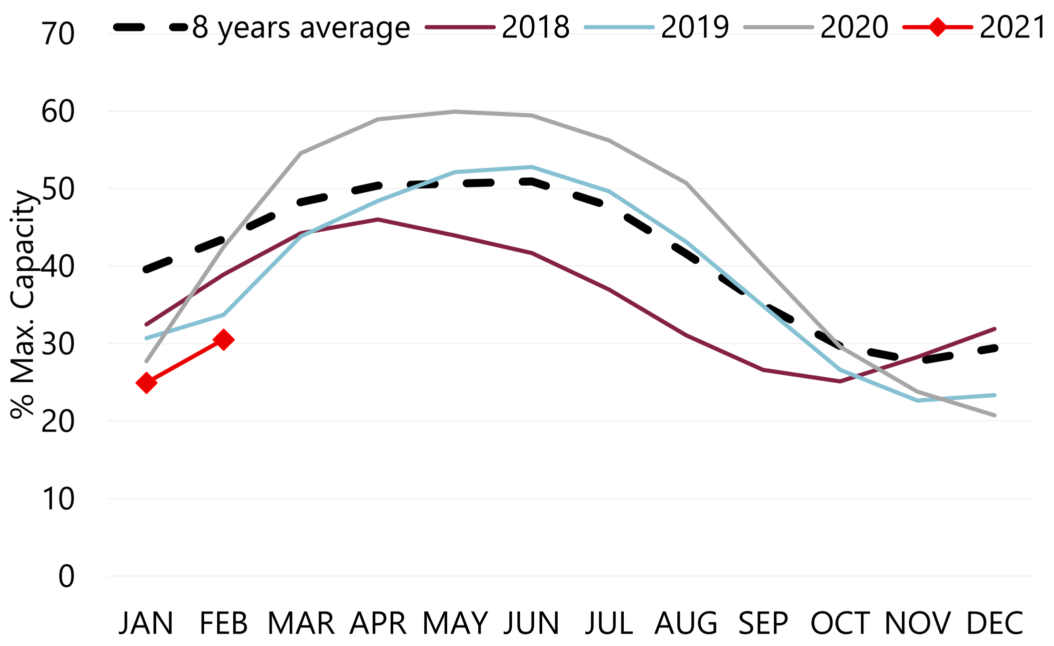
- There are some repressed adjustments being done throughout 2021 (health insurance, for example)
- Gasoline is an upward pressure, given the global reflation scenario and the depreciated BRL
- Electrical energy prices are also pressured by the BRL, last year's IGP-M and a difficult hydrology scenario
- However, policy uncertainties on regulated prices could eventually result in lower price adjustments

Gasoline price is higher than pre-pandemic



Source: Bloomberg, Santander

Energy: reservoir levels are below historical average



Source: ONS, MCM.

Forecasts

03

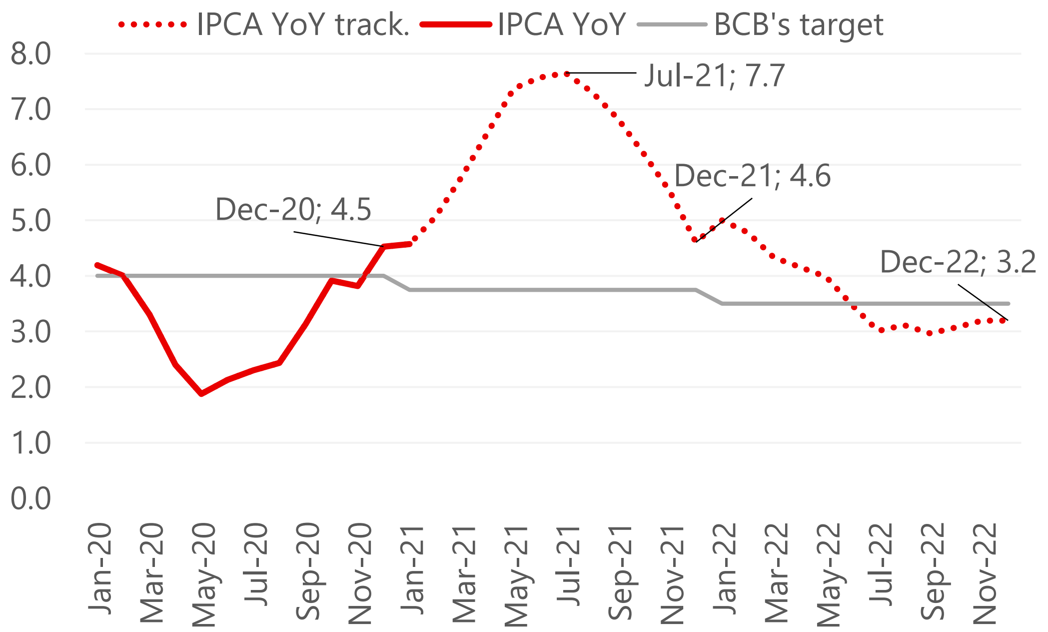
IPCA: a risky and longer path towards the target

- We still believe inflation should converge to the target, but it will probably take longer (only in 2022) and the path is riskier (convergence from top to down, and with many upside risks)
- In 2022 cost-related issues should have ended and the effect of the low demand should be more important to determine inflation; the effect of the interest rate hike before than expected in 2021 should also act to curb inflation in 2022
- However, the bigger inertia coming from 2021 and the persistence of current shocks are upside risks for our 2022 forecast

	2021e old	2021e new	2021e track.	2022e
IPCA	3.0	3.6	4.6	3.2
Free prices	2.9	3.5	4.0	2.8
Food-at-home	5.3	5.1	6.0	2.0
Industrial goods	2.5	3.4	3.7	2.7
Tradables	2.5	3.4	3.7	2.7
Non-Tradables	2.5	3.4	3.7	2.7
Services	2.4	3.1	3.4	3.3
Food-service	3.5	5.5	5.4	4.0
Airline tickets	15.0	15.0	24.1	12.0
Economic activity	0.7	1.3	1.9	2.5
Education	5.0	4.0	3.0	6.0
Inertial	2.0	3.3	3.0	2.0
Salaries	1.8	2.6	2.4	2.5
Administered prices	3.5	4.0	6.0	4.2
Gasoline	5.0	6.0	11.9	4.0
Energy	-5.9	-4.2	-0.9	4.0
Health insurance	13.1	13.1	13.1	4.0
Bus fares	6.0	2.6	2.0	4.0
Cores	3.0	3.4	3.5	3.4

Sources: Santander, IBGE, BCB.

IPCA inflation forecasts



Sources: Santander, IBGE, BCB.

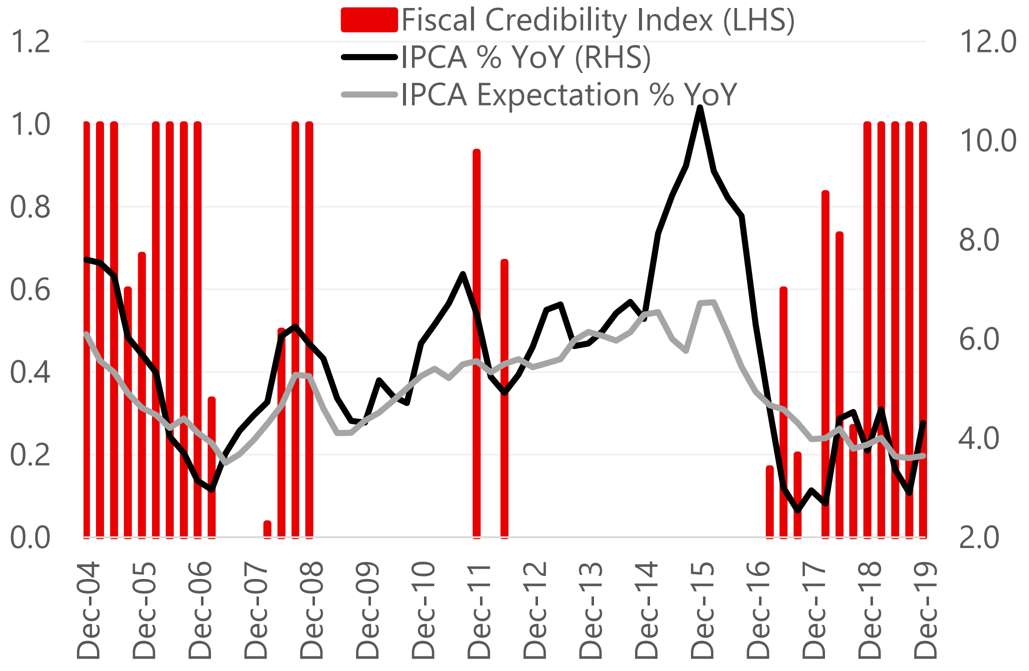
Risks

04

Foundations of inflation: fiscal and monetary credibility

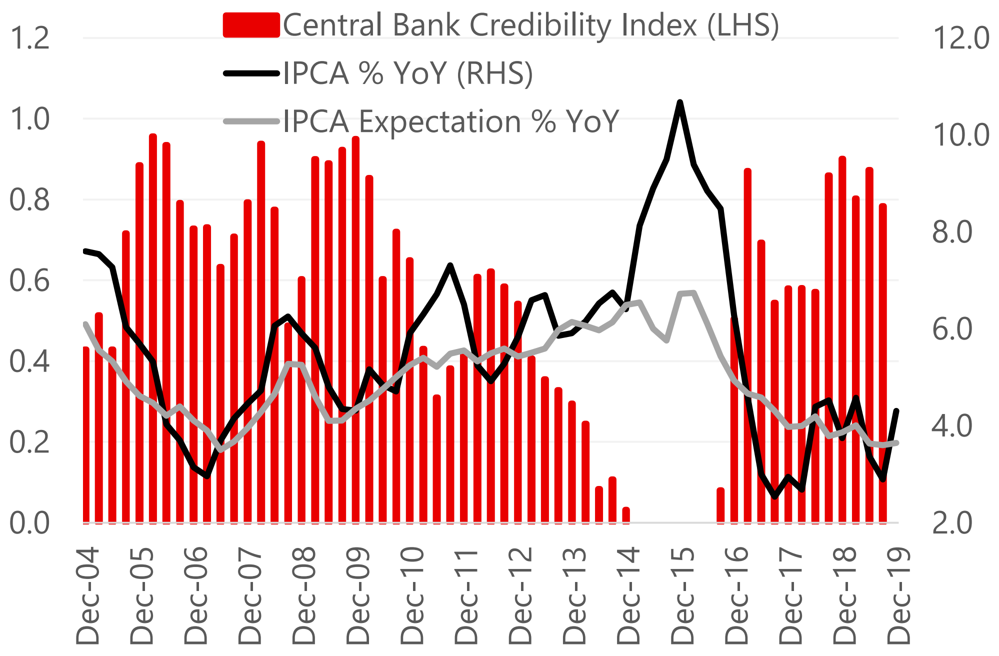
- Fiscal responsibility is essential to allow monetary policy to work effectively. It is a necessary condition for monetary credibility
- The central bank credibility "makes disinflation less costly, helps hold down inflation once it is low, makes it easier to defend the currency when necessary" (Blinder, 1999).
- Credibility also makes the price-formation process more forward-looking, reducing the importance of the backward-looking component (inertia), so shocks are less likely to have long-lasting effects on inflation

Inflation, Inflation Expectations and Fiscal Credibility



Sources: IBGE, BCB and De Mendonça and Silva (2016)

Inflation, Inflation Expectations and Central Bank Credibility

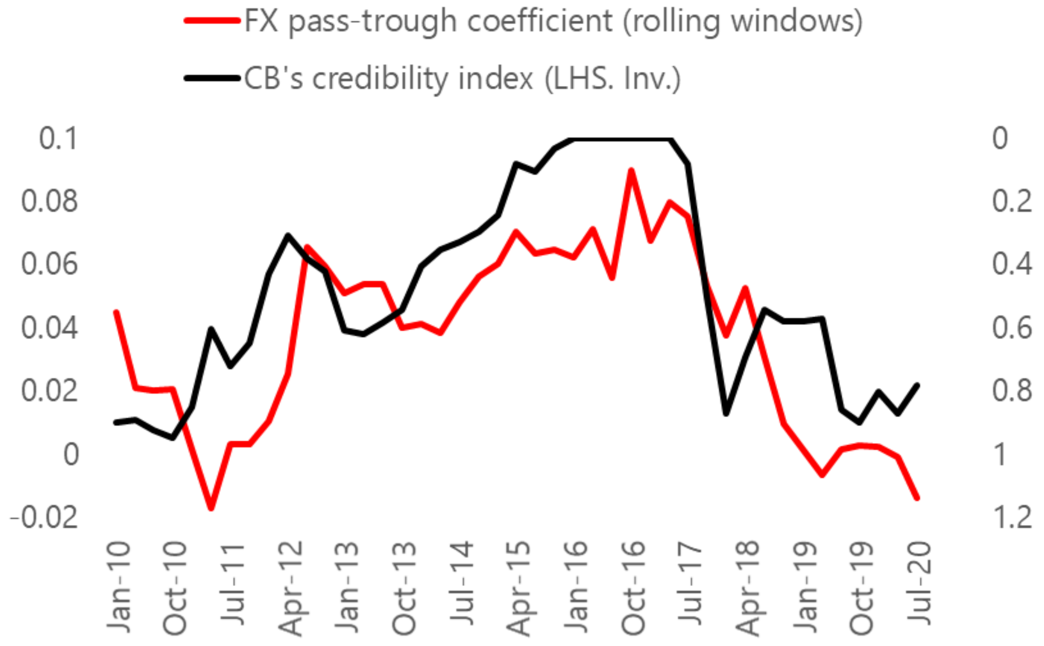


Sources: IBGE, BCB and De Mendonça and Souza (2007)

Foundations of inflation: monetary credibility reduces exchange rate pass-through

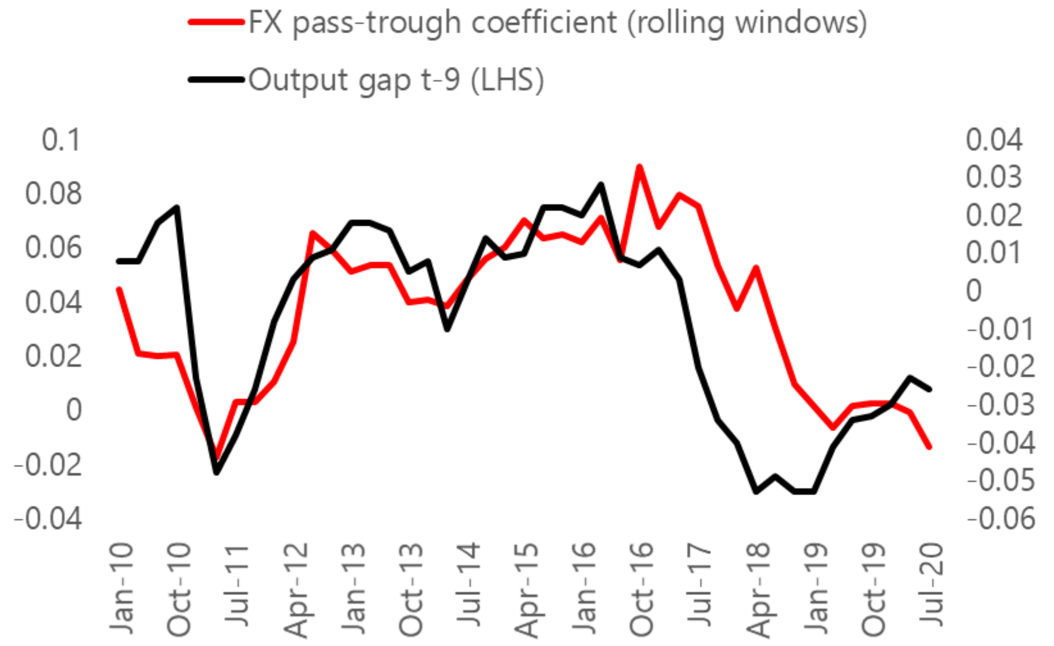
- Moreover, the negative output gap (being pressured by the long-term fiscal adjustment) also acts to reduce the pass-through,

Exchange-Rate-Pass-Through and Central Bank Credibility



Source: Santander models and De Mendonça and Souza (2007)

Exchange-Rate-Pass-Through and Output Gap

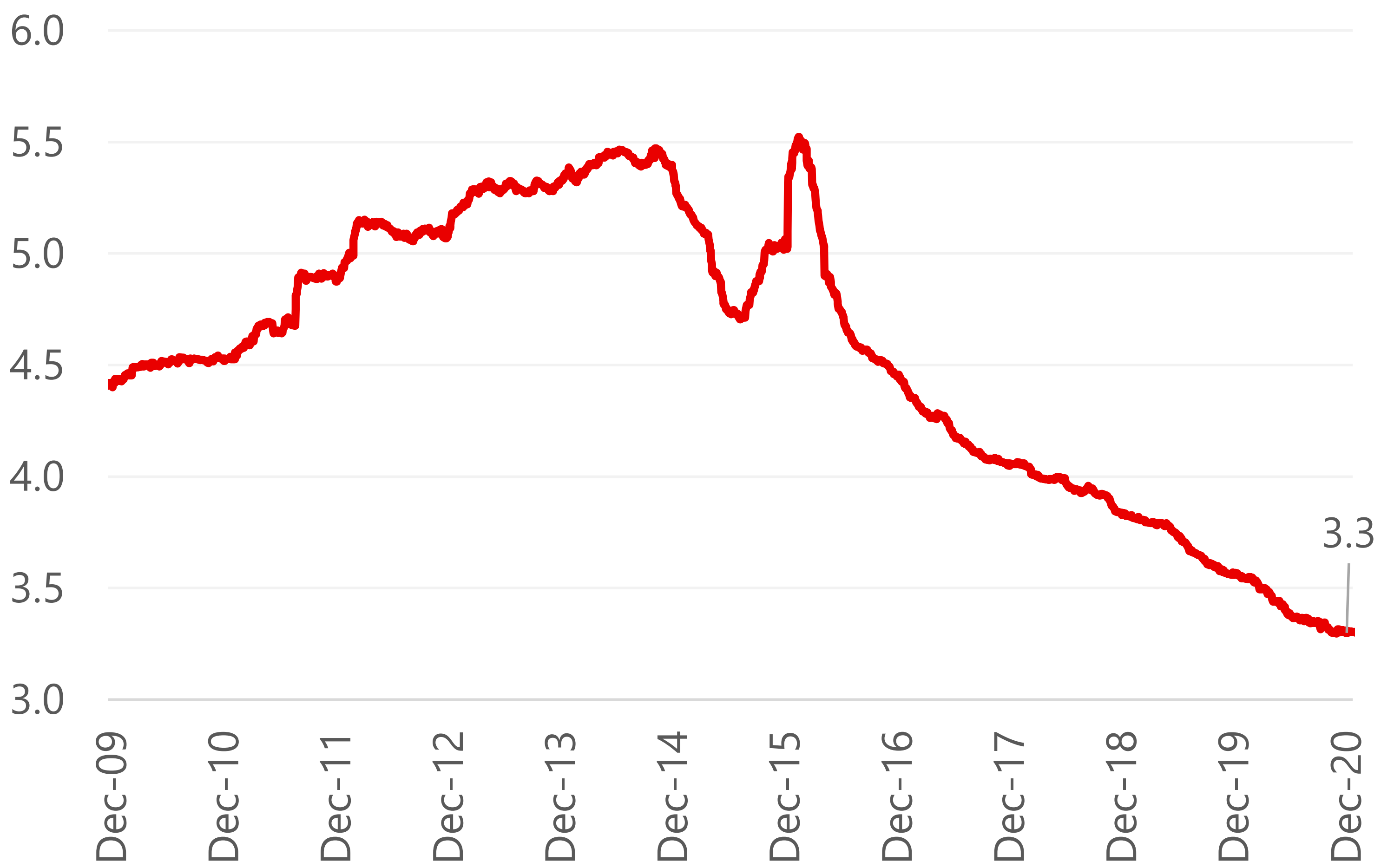


Source: Santander models

Henceforth, the main risk we see is a change in the fiscal framework

- The monetary and fiscal credibility are keeping inflation expectations anchored at the target
- Therefore, if there is a change in the current fiscal framework, than inflation expectations (and consequently inflation itself) could accelerate considerably

Inflation expectations 36-months-ahead are still anchored close to the long-term target

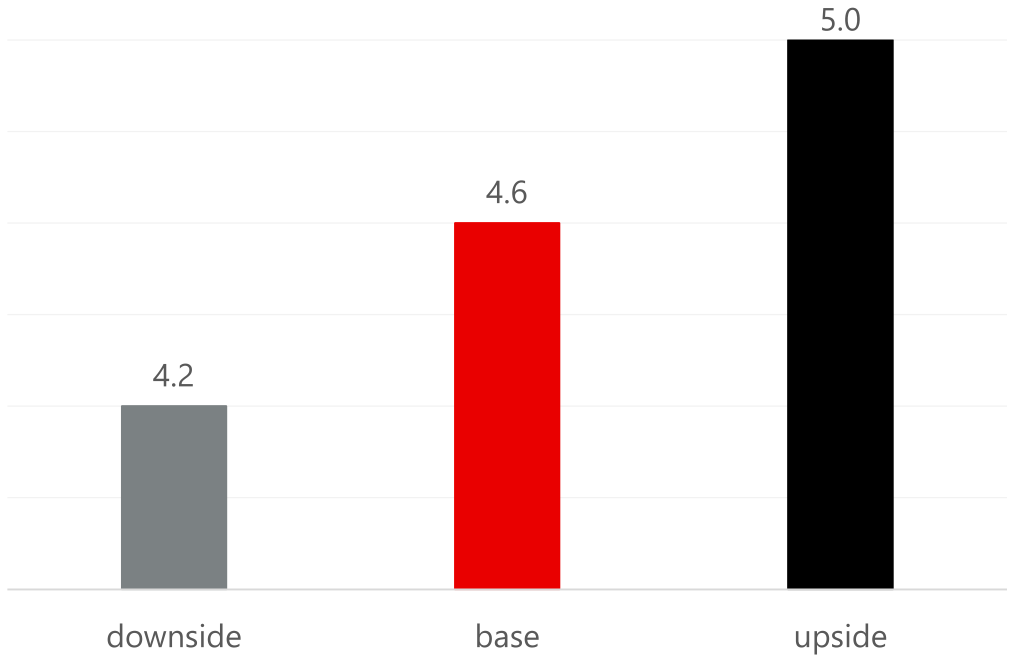


Sources: BCB, Santander

Besides the fiscal risk there is also upside risks coming from the usual drivers

- Supply/cost-related shocks, commodities, the reopening of the economy all point towards upside risks for the inflation scenario
- The possible downside risks (which, in our view, have much lower probability) could come from a BRL appreciation or a even weaker demand scenario or a cooling down in

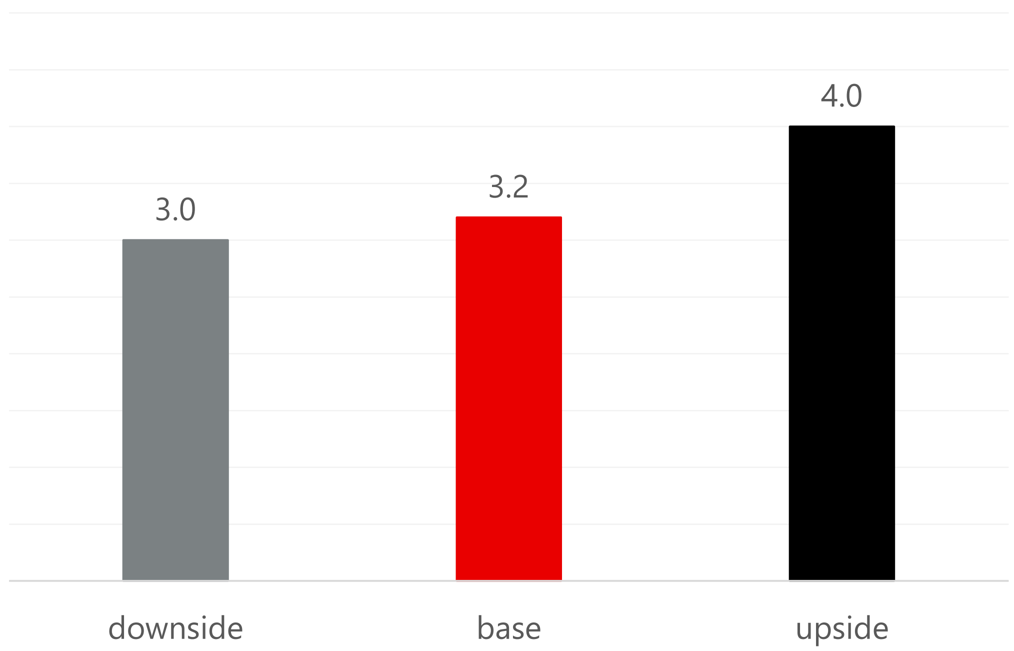
Balance of risks IPCA 2021*



Sources: Santander

*Using the high frequency tracking

Balance of risks IPCA 2022



Sources: Santander

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

Santander

Brazil Macroeconomic Research Team

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

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

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

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

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

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

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

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

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

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

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.