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INFLATION

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Forecasting accountability

01

Forecast accountability: short-term upward surprises boosting inertial effects

- Now we assume that regulated prices will be decompressed next year
- Although we still assume a disinflation for food, we are now adding some inertial effects there too (and relative price adjustment)
- Forecasts do not comprise any of the tax cut measures being discussed at the Congress

	2022		
	old	new	Δ bps
IPCA	7.9	9.5	158
Free prices	7.7	9.5	132
Food-at-home	10.7	13.1	36
Industrial goods	7.3	9.6	53
Tradables	7.6	9.9	47
Non-Tradables	5.5	7.3	5
Services	6.6	7.8	43
Food-service	8.2	8.2	0
Airline tickets	27.0	27.0	0
Economic activity	6.2	9.2	30
Education	6.8	6.9	0
Inertial	6.8	6.8	0
Salaries	3.6	6.0	13
Administered prices	8.6	9.6	26
Gasoline	13.6	9.6	-27
Energy	-5.4	1.3	33
Health insurance	7.9	7.9	0
Bus fares	4.3	4.3	0
Cores	7.6	9.2	156

Sources: Santander

	2023		
	old	new	Δ bps
IPCA	4.0	5.3	126
Free prices	4.0	5.0	72
Food-at-home	1.5	3.5	31
Industrial goods	3.5	4.1	13
Tradables	3.5	4.5	20
Non-Tradables	3.5	1.0	-7
Services	5.5	6.3	27
Food-service	5.5	6.5	6
Airline tickets	5.5	5.0	0
Economic activity	5.5	6.0	5
Education	5.5	8.0	13
Inertial	5.5	6.0	4
Salaries	5.5	5.5	0
Administered prices	4.0	6.0	54
Gasoline	6.0	-5.0	-74
Energy	6.0	12.0	30
Health insurance	3.5	12.0	30
Bus fares	3.5	12.0	14
Cores	4.5	5.0	50

Sources: Santander

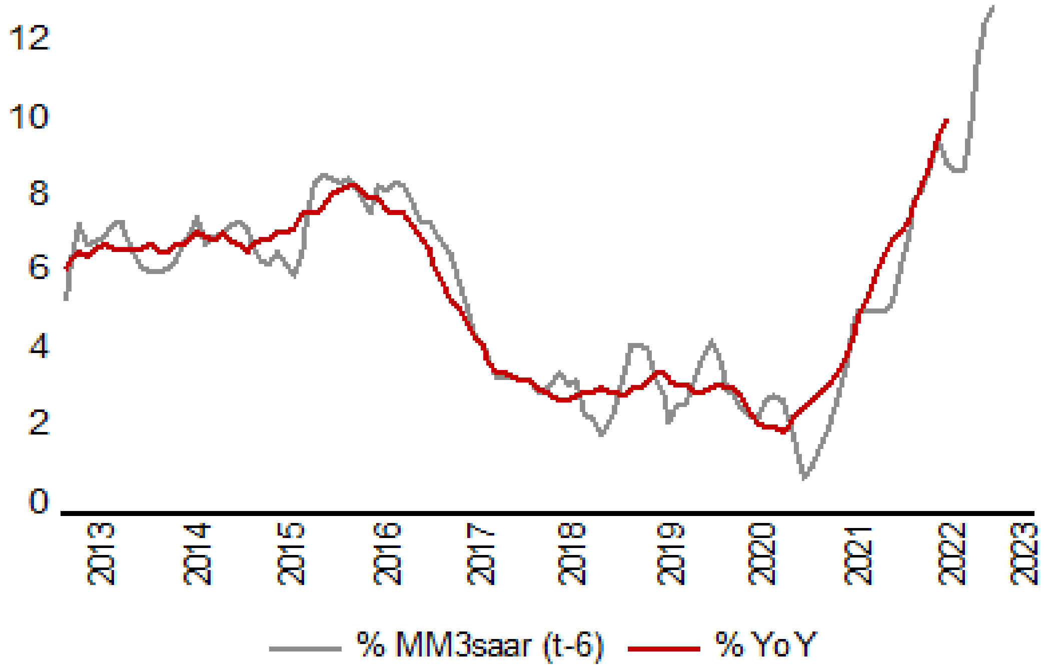
Picture: inflation still in bad shape

02

Inflation: still in bad shape

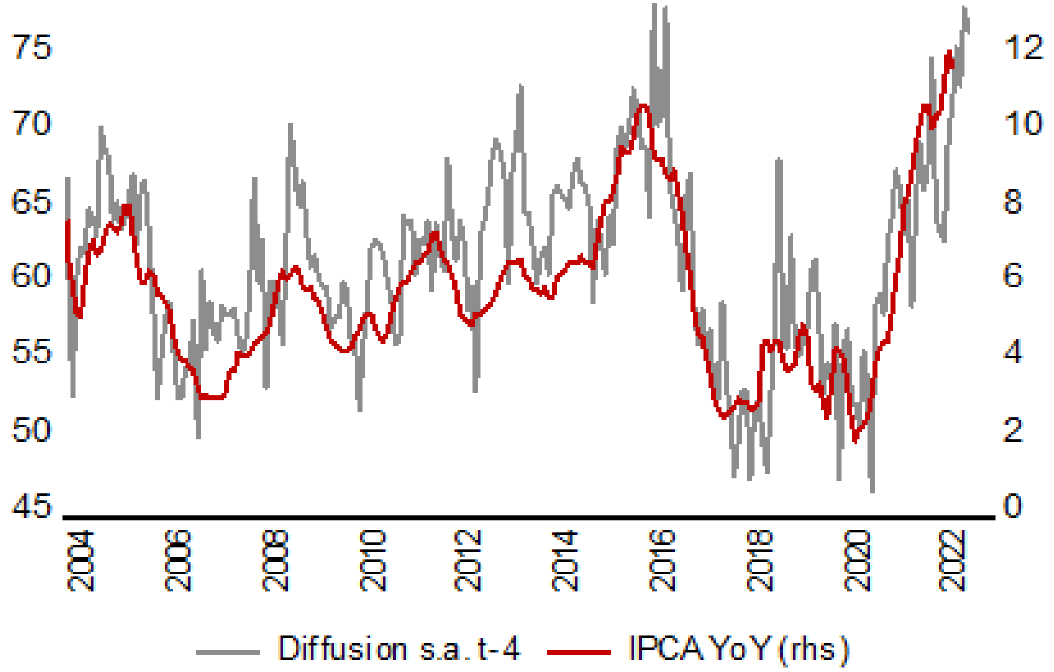
- The average of the main core measures is at 13% 3MMA-saar, reaching a new high and still on an accelerating trend
- The diffusion index continues to hover around 77% (seasonally adjusted), close to the highest levels; showing that inflation is widespread through sector

Core inflation reaching new highs



Sources: IBGE, BCB, Santander

Diffusion index close to the highs

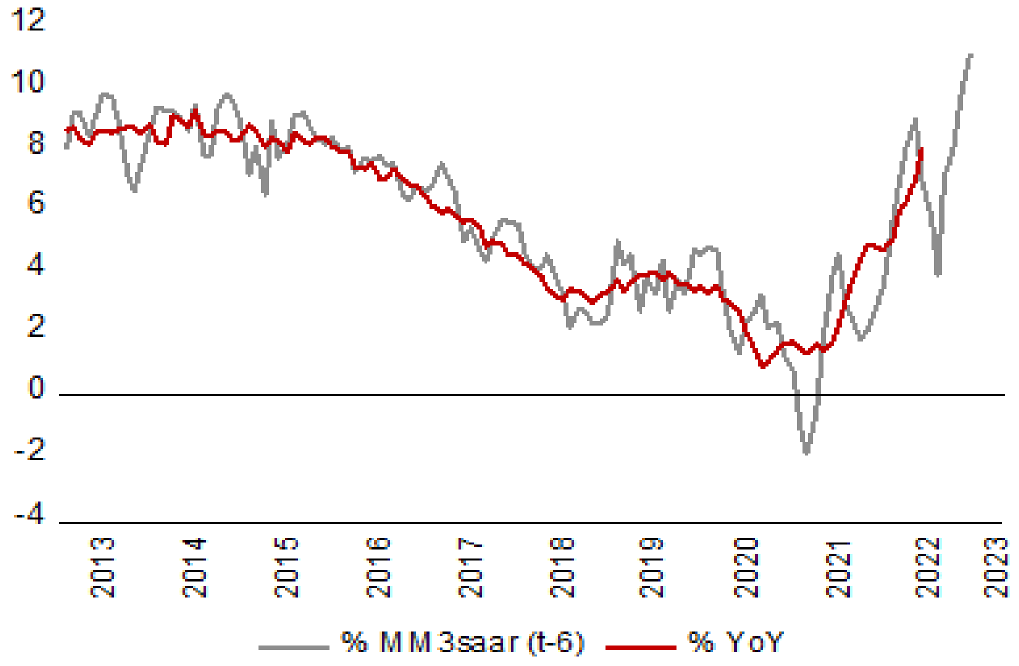


Sources: IBGE, BCB, Santander

Services inflation is picking up sharply

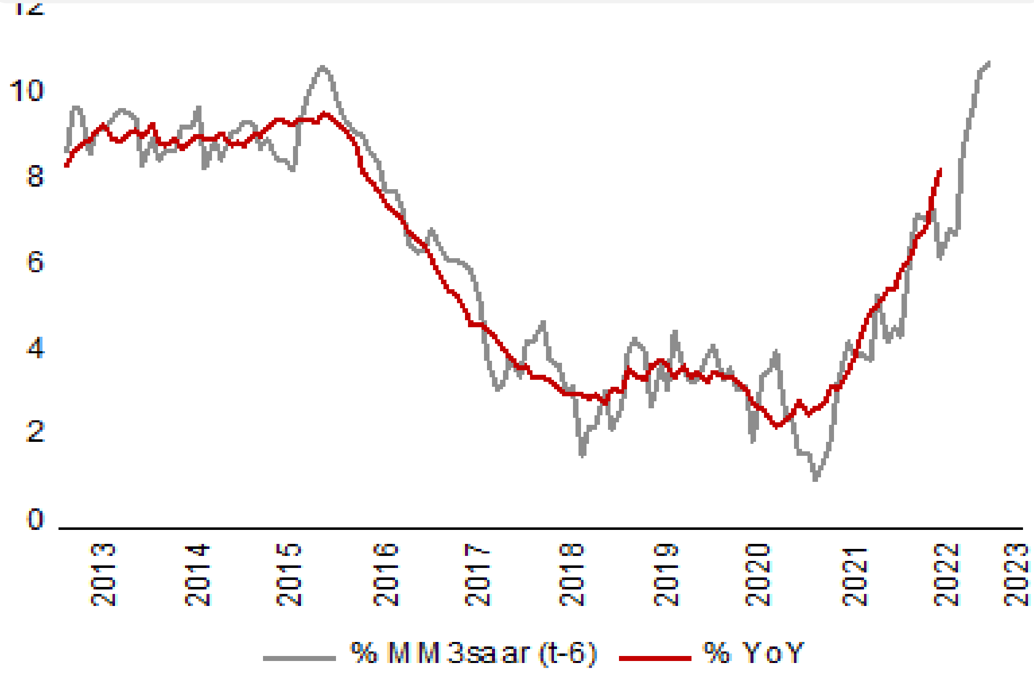
- Headline services is at recent highs (above 2015-2016 levels), close to 11% 3mma-saar, and accelerating at the margin
- Core services is basically at the same level of 2015-2016, around 11% 3mma-saar, and also accelerating

Headline services inflation



Sources: IBGE, BCB, Santander

Core services inflation



Sources: IBGE, BCB, Santander

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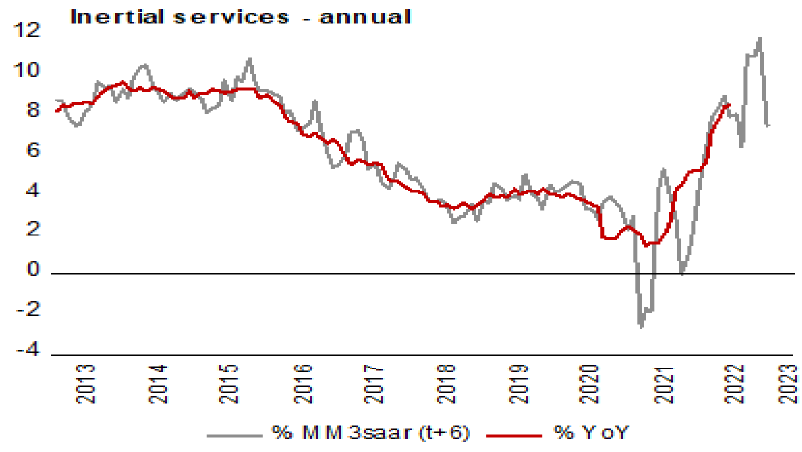
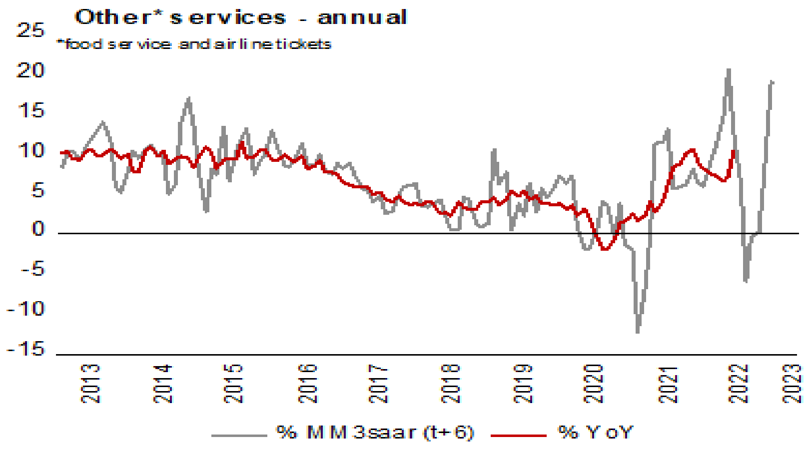
Inflation is broadly spread in the services sector

- We are seeing both services linked to economic activity, to the job market (wages), the more inertial ones (indexed to past inflation) and even the volatile services accelerating at the margin

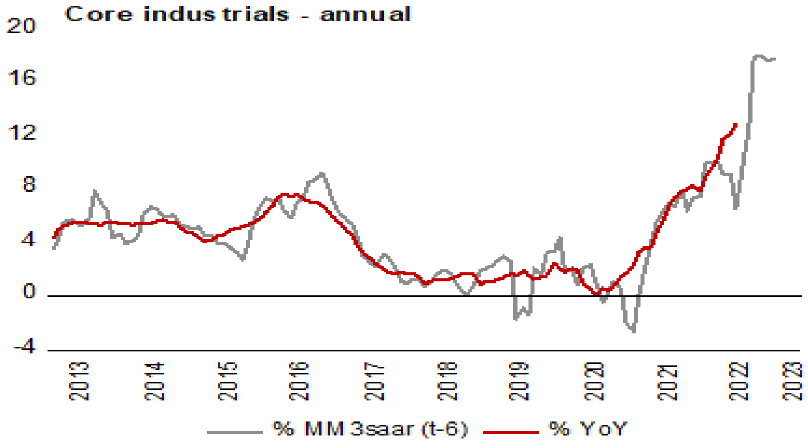


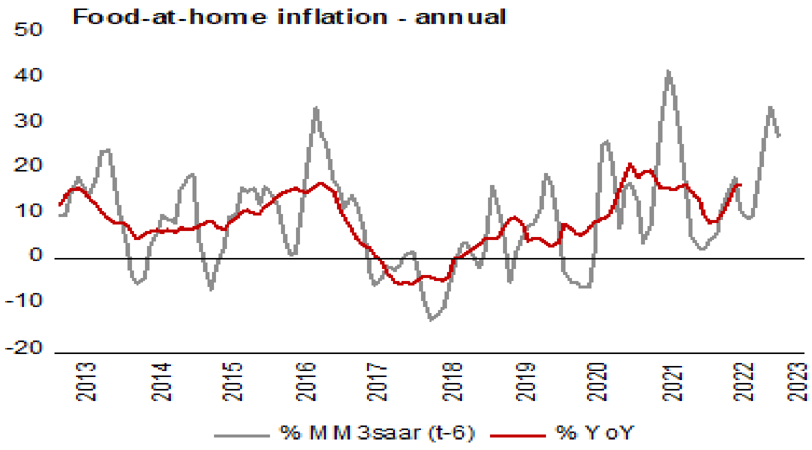


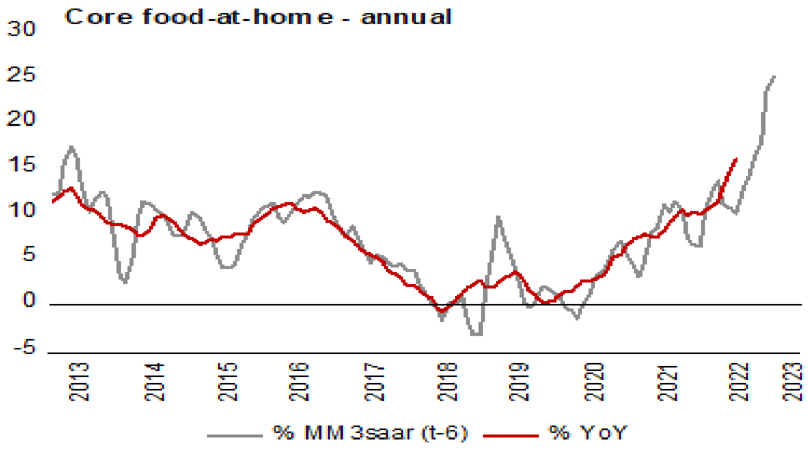
Sources: IBGE, BCB, Santander

At the same time, industrials and food inflation are proving to be highly persistent

- Core industrials and core food-at-home continue to hover at high levels





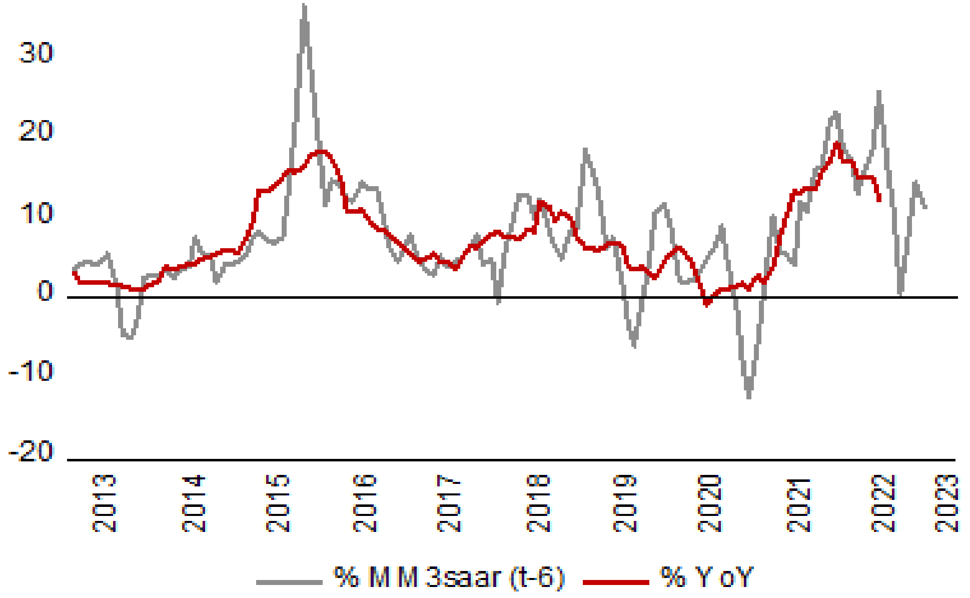


Sources: IBGE, BCB, Santander

The positive highlight is regulated prices

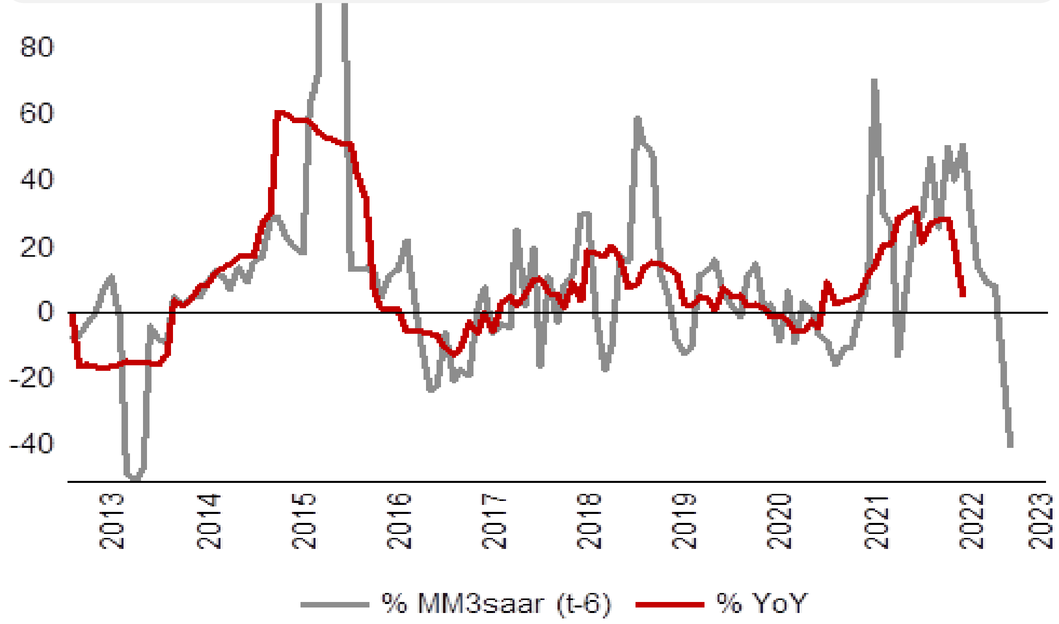
- Regulated prices are seeing some relief because of the end of the electricity price shock (the drought ended and the tariff flag came down from the highest one—Red 2 Hydro Scarcity—to the lowest one--Green)

Regulated prices inflation



Sources: IBGE, BCB, Santander

Electrical energy inflation



Sources: IBGE, Santander

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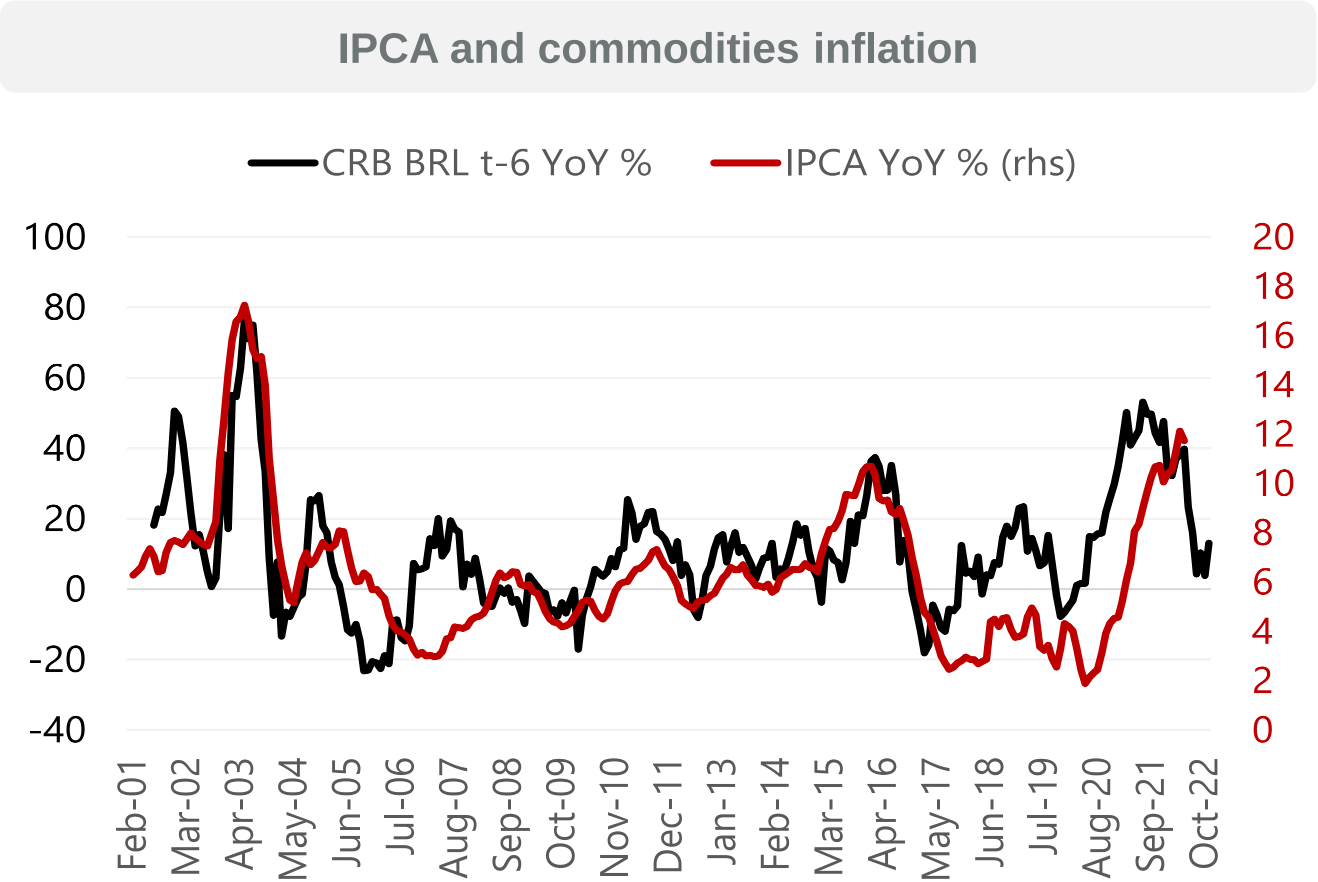
Looking ahead: the peak is behind, but deceleration should be slow

03

What to expect from now on? A relief from “imported inflation”, even after the new shock

- Even with oil griding higher and USDBRL coming back to above 5, commodities’ prices in BRL terms still point to a disinflation ahead

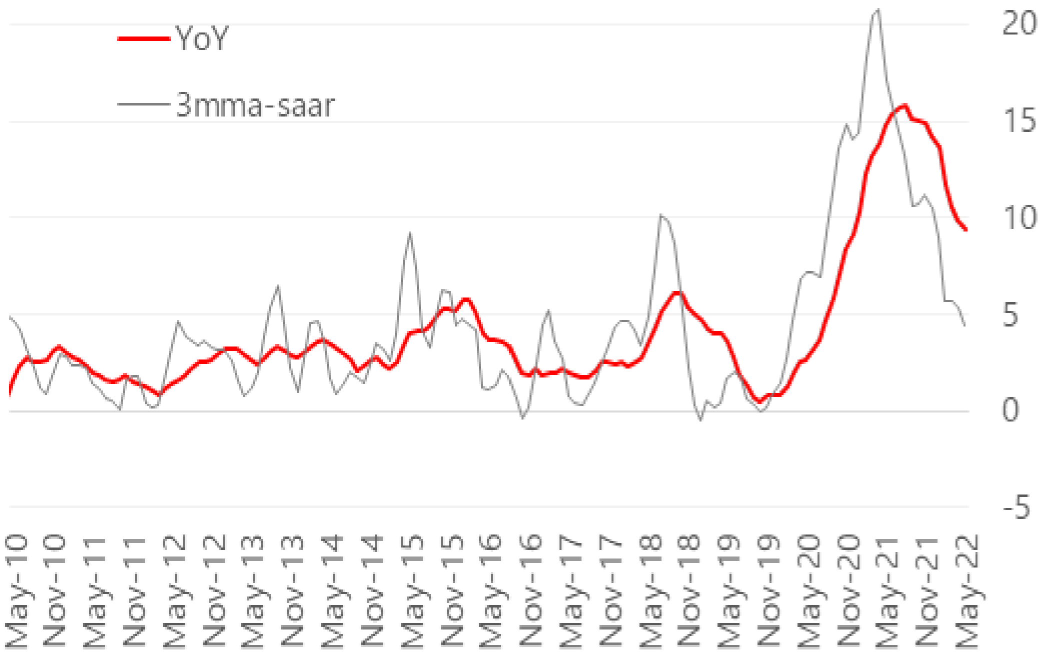


Sources: IBGE, Bloomberg, Santander

Some preliminary signs of lower pressure on the industrial side

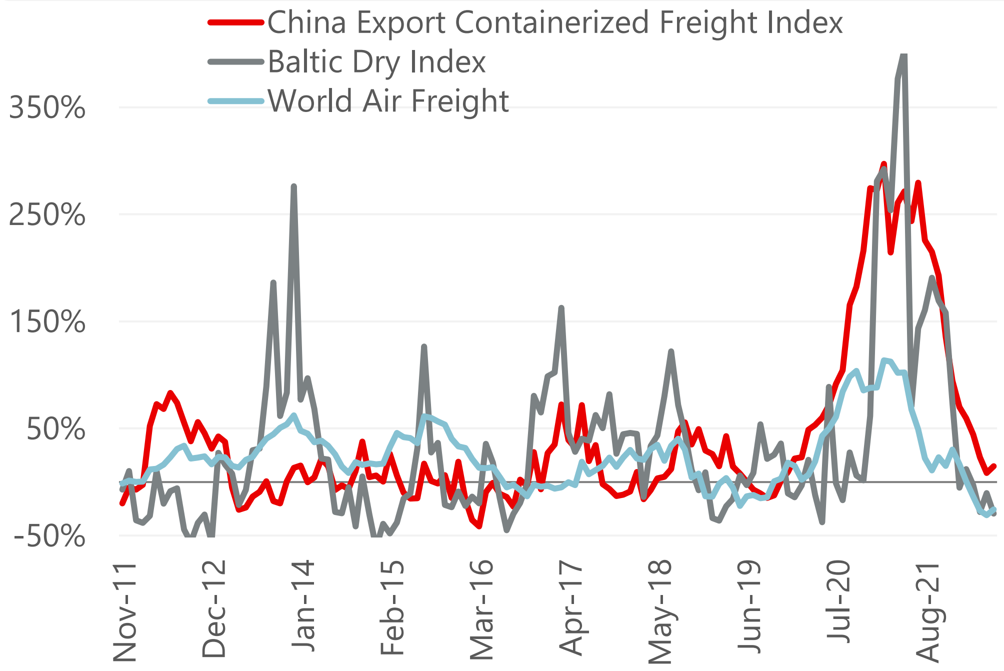
- Industrial goods at the wholesale/producer level are already decelerating, which should reach the consumer level soon
- Anecdotal evidences that at least part of the supply shocks are fading: freight costs, for example

Core-PPI-Industrial



Sources: FGV, Santander

Freight Costs % YoY

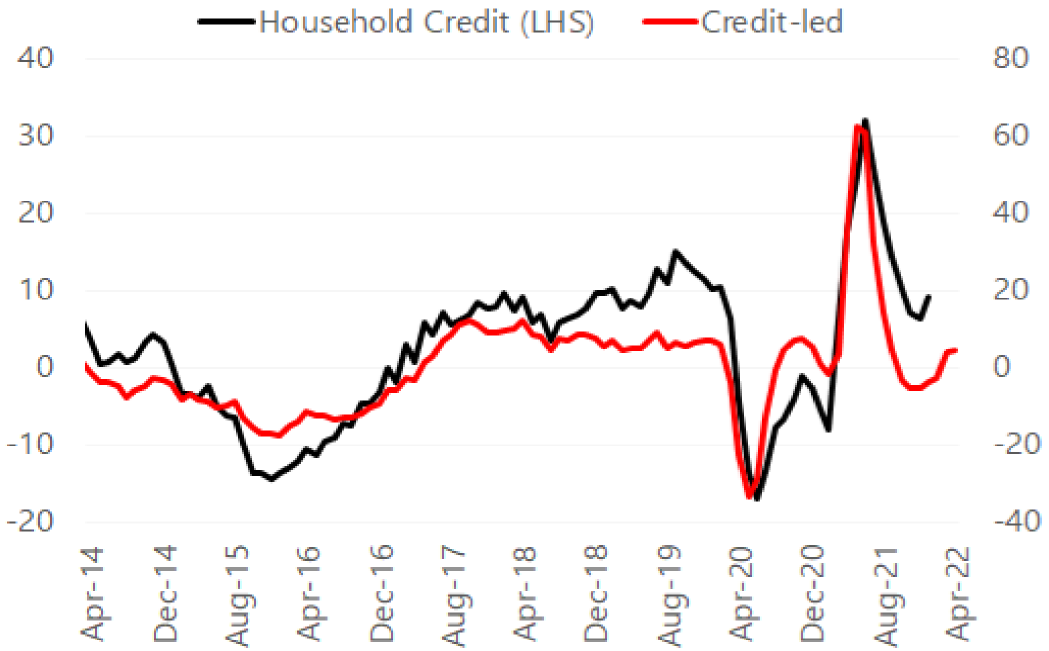


Sources: Bloomberg

What to expect from now on? Less pressure on the demand side

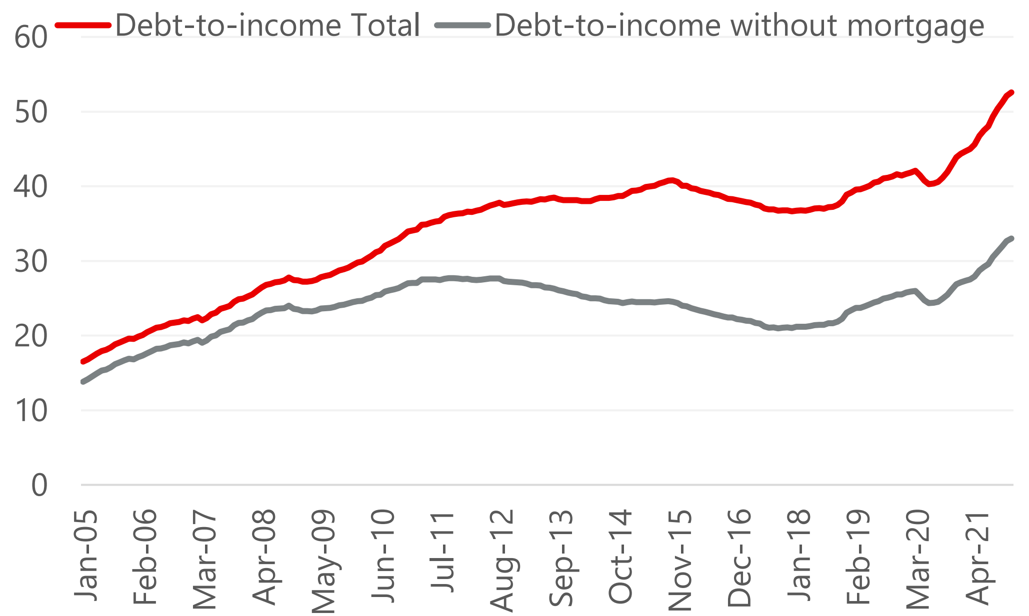
- For households, new loans are slowing down and debt is at the highest levels (and still rising)
- At some point, this should help to reduce inflation

Slowing credit reducing retail sales



Sources: IBGE, BCB,Santander

Household debt-to-income %

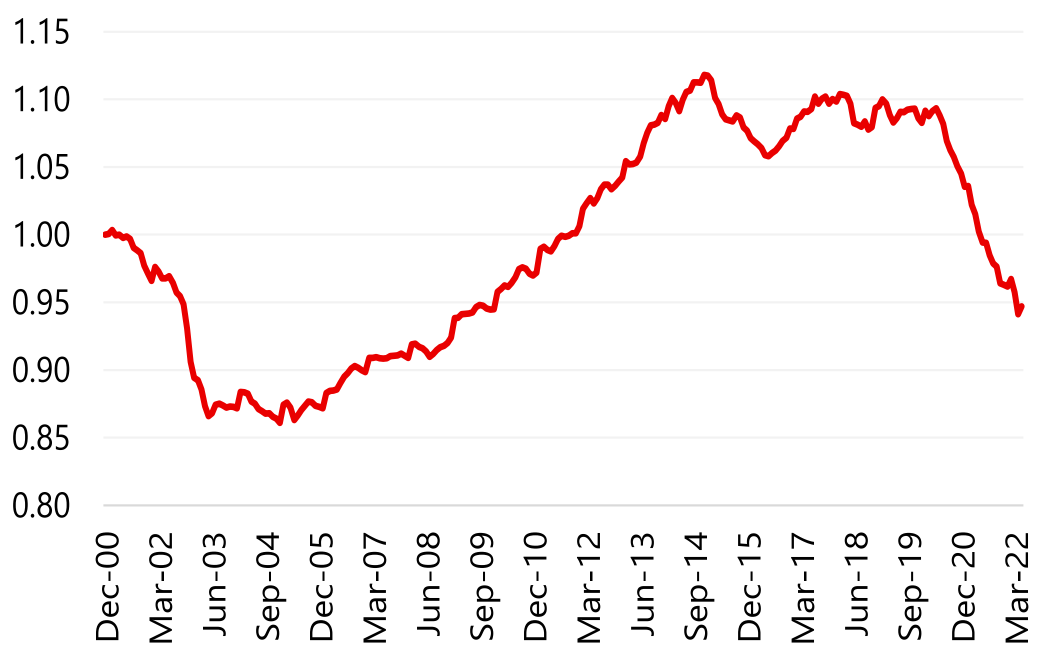


Sources: BCB, Santander

Services: a relative-price adjustment, but then a cool down on the back of rising unemployment

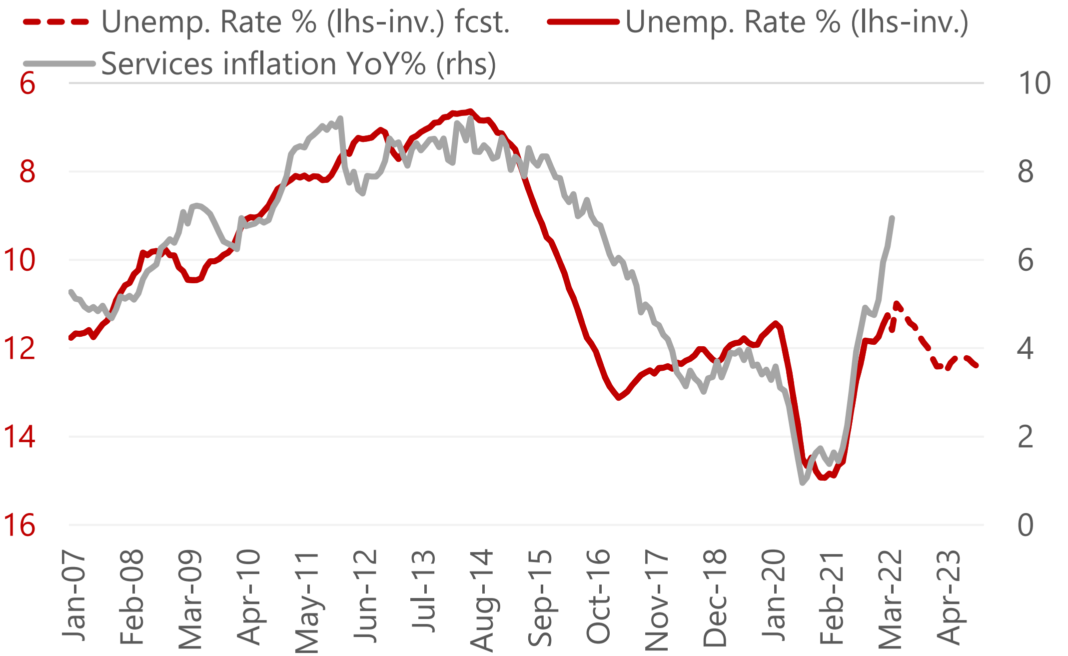
- Services are now benefiting from the end of social distancing measures and enjoying a relative-price adjustment (after lagging all the shocks in other sectors)
- Looking ahead, we expect the economy to cool down (monetary policy acting), rising unemployment and helping services inflation to cool down

Relative price: IPCA Services/IPCA Ex-Services



Sources: IBGE, Santander

We expect unemployment rate to rise, which should take out services inflation steam

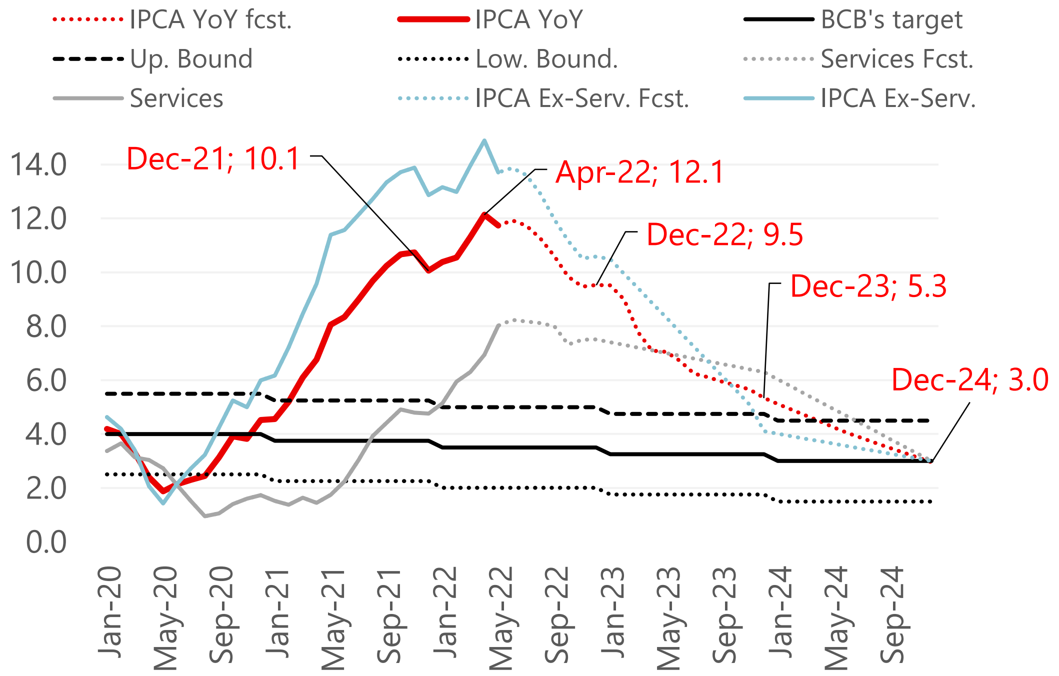


Sources: IBGE, Santander

Worse outlook for inflation, but a deceleration should still come

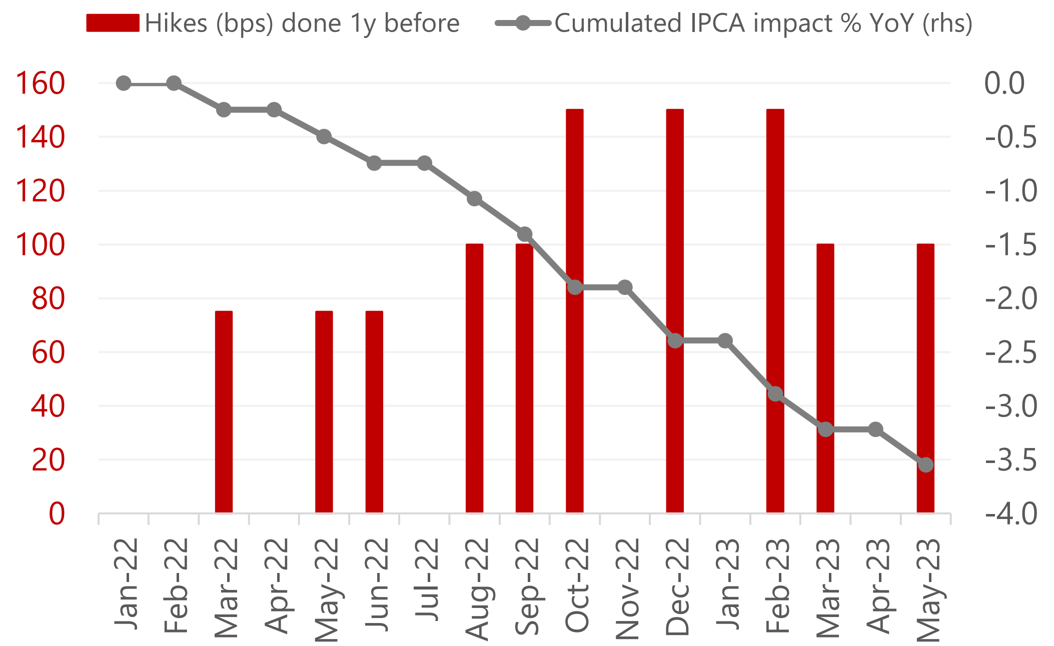
- We believe the bulk of the monetary policy tightening is about to kick-in more intensely: so far, just 225-bps of Selic hikes have reached the economy; 500-bps are yet to come until 2022 year-end and at least more 350-bps in 1H23
- The inflation peak (YoY) should have been in April 2022

IPCA forecast



Sources: IBGE, BCB, Santander

Monetary policy lag: date of expected impact of each Selic hike done so far and likely effect on IPCA



Sources: BCB, Santander

*BCB's models consider 4 to 6 quarters of monetary policy lag, here we use 4 quarters (12 months).

**Impact on IPCA estimated just by cumulating the BCB's model rule-of-thumb of +100 bps Selic = -33 bps IPCA YoY.

Main Risks: general drivers still point towards upward risks, but there is a main specific downward risk coming from possible tax cuts

04

Congress is discussing measures to cut taxes for electricity, gasoline and other items

- Tax cuts could have a strong downward impact on short-term inflation; but part of the measures should be temporary, so a rebound would be expected for 2023
- Moreover, the full impact will probably not be seen, as the increase of expenses in other sectors (income-effect) should push inflation up, compensating part of the downward impact
- Our baseline scenario described in this presentation does not consider the approvement of the tax cuts, but the probability of approval is very high

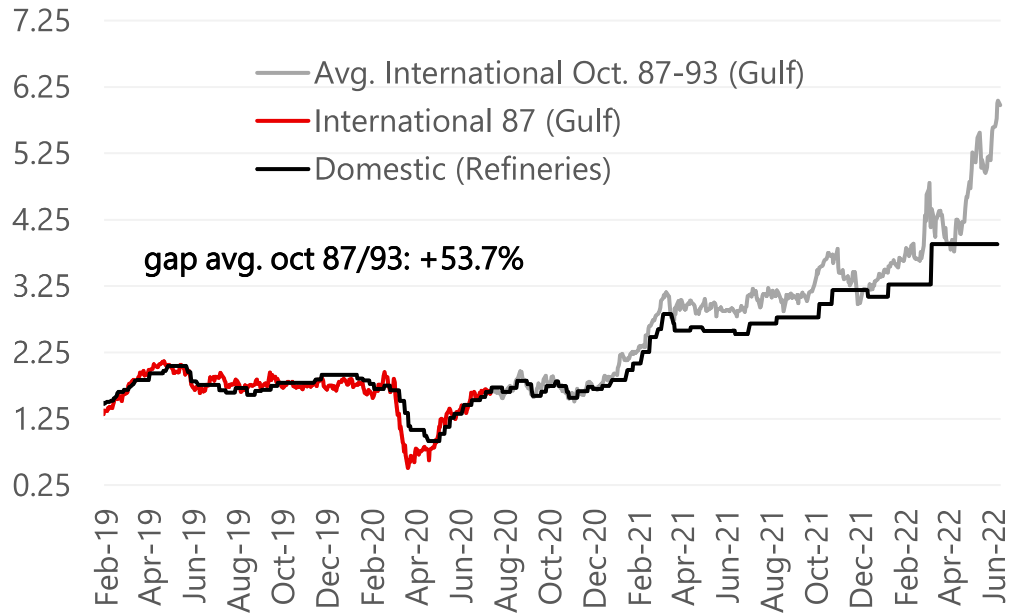
	Inflation Scenarios for 2022			Inflation scenario for 2023
	Full	Most likely	Low effect	Most likely
I. PLP 18/22 ICMS Cap (Impact)	**-253**	**-104**	**-2**	**45**
Fuels ICMS Cap 17-18%	-85	-59	-2	0
Gasoline	*-80*	*-56*	*0*	*0*
Diesel	*-2*	*-2*	*-2*	*0*
Ethanol	*-3*	*-1*	*0*	*0*
Zeroing PIS-Cofins and CIDE Gasoline	-64	-45	0	45
Telecom cap	-30	0	0	0
Electricity	-74	0	0	0
ICMS cap to 17-18%	*-40*	*0*	*0*	*0*
Changing the ICMS base (TUSD/TUST)	*-34*	*0*	*0*	*0*
II. PEC Fuel (Compensation)	**-25**	**0**	**0**	**0**
Zeroing ICMS Diesel	-4	0	0	0
Zeroing ICMS LPG	-17	0	0	0
Zeroing ICMS Ethanol	-4	0	0	0
III. Tax Credits	**-32**	**-32**	**-32**	**10**
Electricity	-32	-32	-32	10
Total Impact (I + II + III)	**-310**	**-136**	**-34**	**55**
IPCA	**6.4**	**8.1**	**9.2**	**5.9**

Sources: Santander

Meanwhile, part of the possible tax cut might be compensate by a gasoline price hike

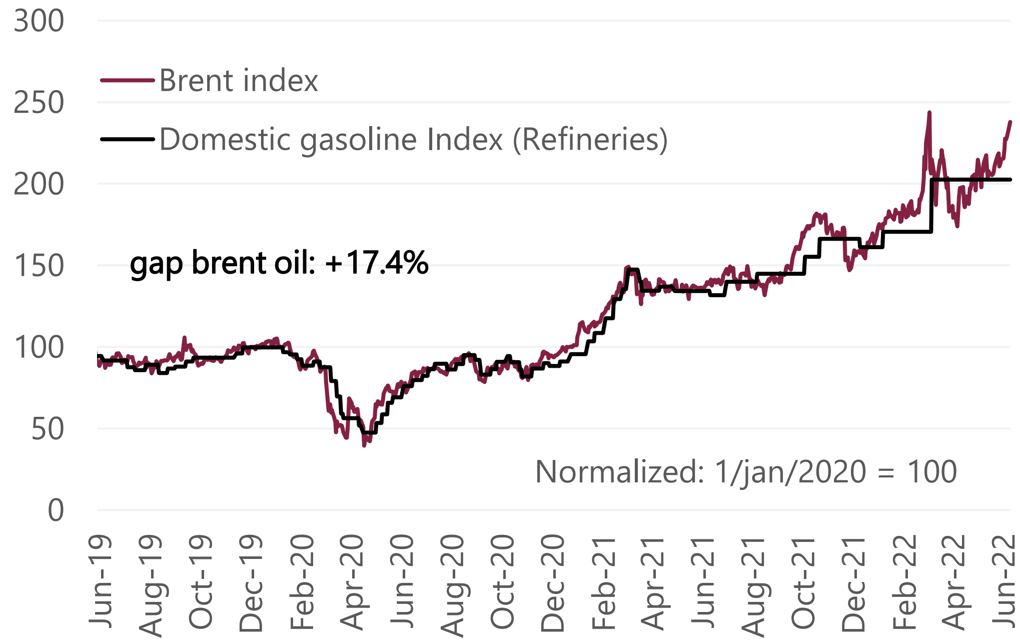
- The usual tracking—difference between the international price of gasoline (at the Gulf) and the domestic price (at refineries)—is above 50%, suggesting risks of an upward price adjustment
- Even the tracking using directly the Brent (hence not considering the recent refinery shortage worldwide) is now at 17%, also suggesting risks of an upward adjustment

Gasoline gap: Domestic vs. International



Sources: Bloomberg, Santander

Gasoline gap: Domestic vs. Brent

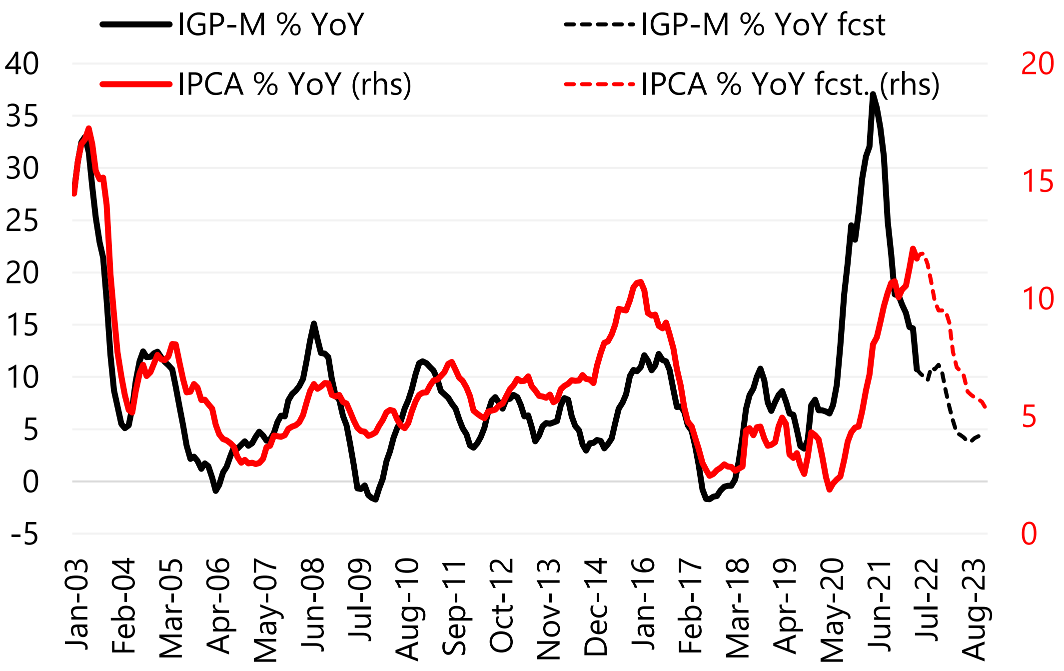


Sources: Bloomberg, Santander

Specific upward risk: backlog of wholesale price rises

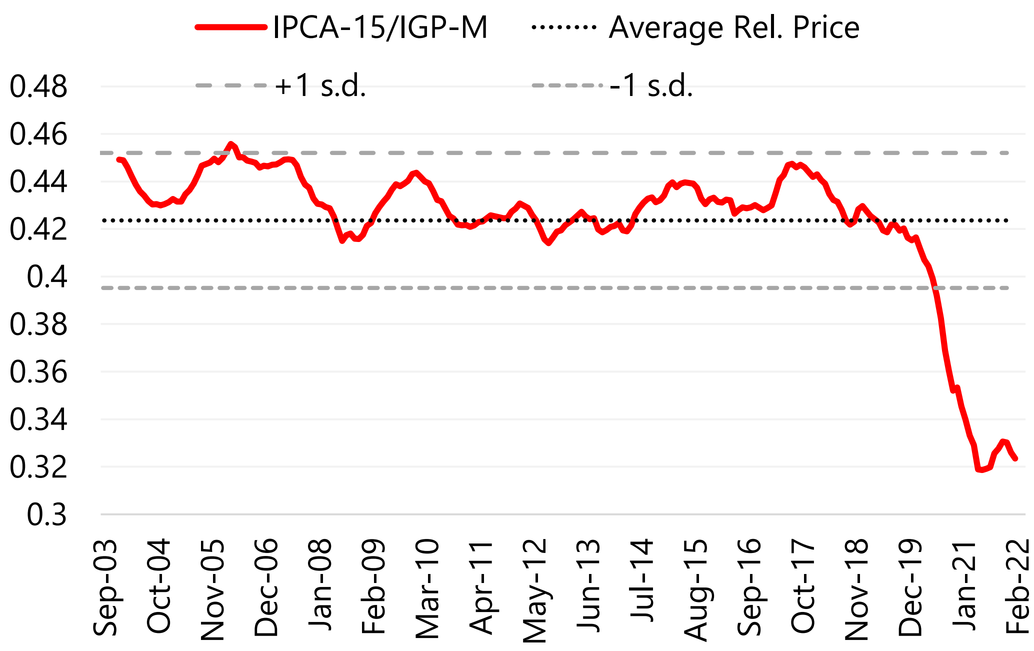
- Even with IGP-M decelerating, IPCA still lags the previous strong price rise at the wholesale level
- There is a risk of a convergence coming from IPCA being persistently higher than we expect.

IGP-M already peaked, which normally would push IPCA down right after, but this time IPCA is lagging because it didn't rise as much as the historical relation would project



Sources: FGV, IBGE, Santander

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

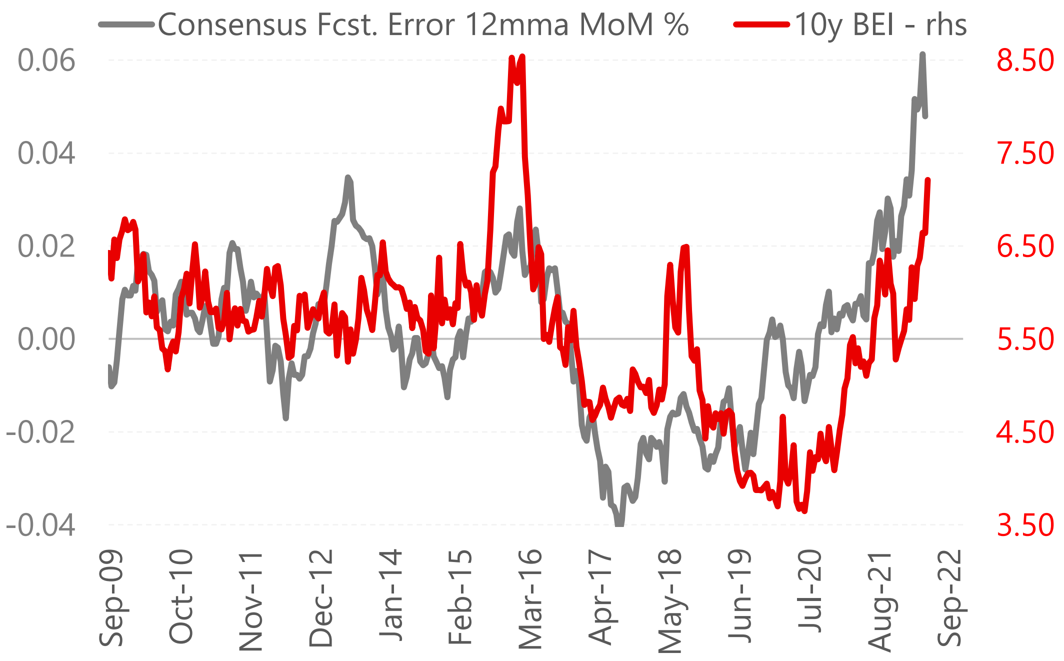


Sources: IBGE, FGV, Santander

Inflation keeps surprising upwards and pushing expectations up

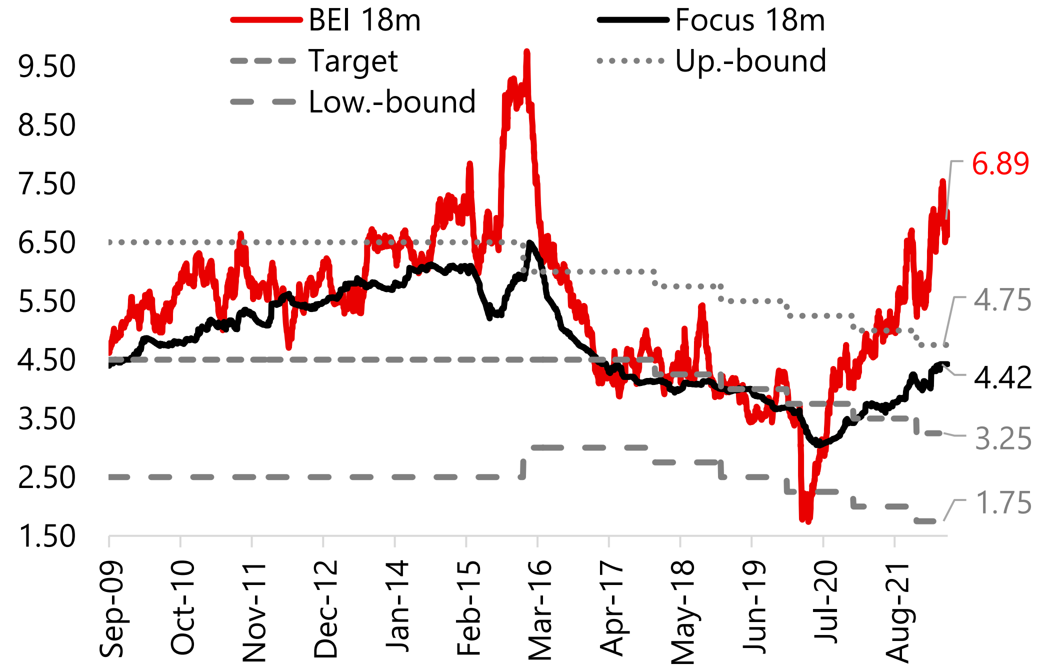
- The 12 month moving average of the monthly IPCA (and IPCA-15) prints' consensus error is at the highest levels
- This trend correlates (and even anticipates) moviments in the market's inflation expectations (break-even inflation and survey-based expectations)
- As a result, expectations keep unanchoring further from the target

Inflation surprises are rising, pushing expectations up



Sources: Santander

Both survey- and market-based inflation expectations are above the target for the relevant horizon



Sources: Santander

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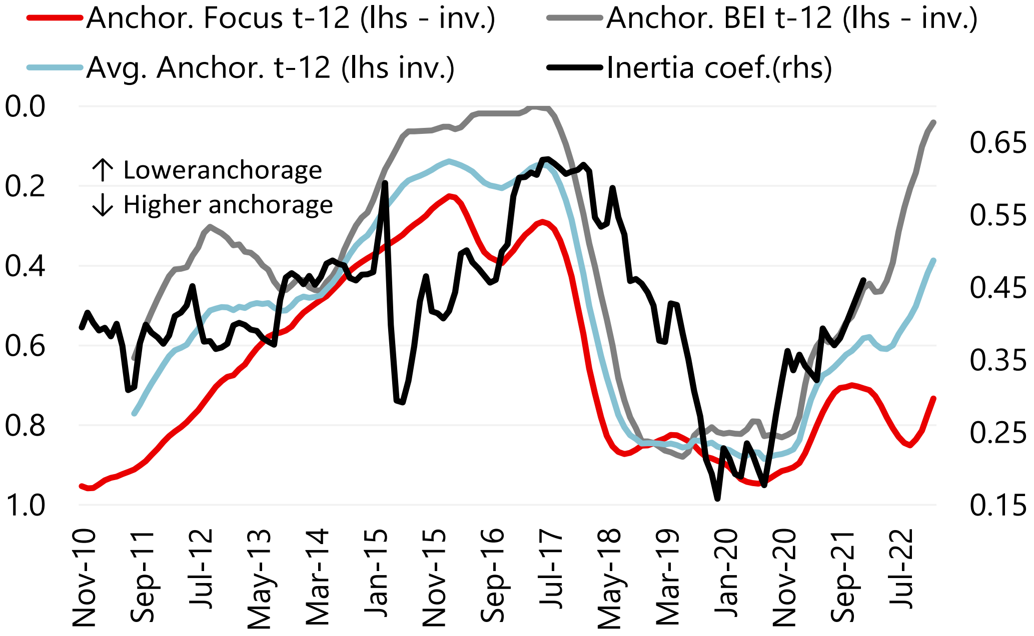
With expectations detached from the target, inertia gains steam

- The unanchoring of inflation expectations make the price-setting process more based on past inflation, rising inertia
- We see inertia is picking up with the rise of domestic risk, making inflation stickier and turning it in a more self-fulfilling process

Inertia seems to be picking up on the back of lower expectations anchoring



Sources: Santander

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