

4th QTR – Oct/21

MACROECONOMIC SCENARIOS AND PERSPECTIVES ON BRAZIL 2021/2022

REDWOOD ASSET MANAGEMENT

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Redwood

Summary

- OPENING STATEMENT
- POLITICAL, ECONOMIC AND FINANCIAL SCENARIOS
 - WORLD
 - BRAZIL
- MARKETS
- REDWOOD MACROECONOMIC FORECAST 2021 AND 2022
- CONCLUSION

OPENING STATEMENT

A Thousand Days Governing in Sin: words, attitudes and omissions

We all have been aware of the truth in these nearly three years of government, and it is far from pretty. The capital sin was indeed abandoning his campaign promises, with a sole focus to defend his position of power and perpetuate the possibility of re-election. The basis of many patches, monumental errors and the inability to reflect on correcting routes, especially in the economic front, all originating from the ineptitude and inertia of the country's leader, thus little is expected for progress at the end of the year and in 2022, election year. The pandemic was a stumbling block, yes, as it was in many countries, but it also served to bring out real interests, priorities and ambitions, and how convictions are molded to greater objectives. Those who did not bow to short-term electoral factual reality left, and the few who remained submerged into an undignified survival or embarrassing irrelevance. The combination of the pandemic and the direction the current administration has taken has been a disaster and could be explosive if not reversed. Brazil, left in tatters by the PT administration, could have had other luck if not for the mismatch of the Commander-in-Chief and his dissimulation. Indicators of inequality, education and productivity are looming high. Social development policies all slip at a crucial moment. And our competitiveness, a reflection of all this, is stagnant and enjoy no prospects of improvement, since the promised reforms have made little progress. We need to turn this page urgently.

The Political, Economic and Financial Scenarios – Brazil, in what follows, is the result of a better interpretation of the domestic and international economies and markets, the result of various analyzes and perspectives, evaluating causes and consequences in order to identify risks and opportunities. Political aspects and their broad impacts on society and markets are also considered in all segments of the analysis. The presented Probabilistic Scenario comes from a deep technical discussion, based on probabilities attributed by a multidisciplinary and independent team.

Thus, for a year that was far more than difficult (2021) and which may still have surprises lying ahead, and an even more challenging 2022, we readjusted assumptions and hypotheses for what we believe to be the most feasible. Obviously, it is not what we would wish or expect to be right to be done, but objectively what can be done and that the government actually signals (subliminally and not explicitly) will do so. The health crisis leaves, the hybrid crisis enters... The political crisis intensifies. With the consequences of all of them, the economy's recovery speed slows down. Stagflation is on the radar, but the probability is still low. On the other hand, the monetary tightening is most likely able to "tame" inflation, of which we lost the timing and still flirted with its transience. Activity and employment will show little progress. On the fiscal side, it would be naive to imagine greater reformist advances in an election year and the presidential stance, as well as the unquestionable need for fiscal incentives for the population in the midst of an economic "non-recovery". Inflation, unemployment and economic activity are all variables "interconnected" by the enormous political risk inherent in an election year and enhanced by the current polarization. Hard times!

Overseas, with the phasing out of the COVID crisis and the reopening of economies, numerous problems arise on the track "back to normal". Notably in the US, for the obvious reasons of its "dominance" and impacts around the world, all eyes turn to identifying the beginning of the monetary tightening cycle. In addition to setting the "tone" around the world with effects on economies and markets across the planet, we have claimed that the Fed will not only be more "energetic" (albeit cautious), but also "surgical" in its attitudes. Translation: Tapering still in this year and interest hikes in Q1 2022 – beginning limit H2 2022. CBs will have to adjust, but specific cases may face some delay... Nothing that represents any inflection or reversal of trends... There will indeed be a strong reduction in liquidity and its effects on the world economy will be far from negligible. This shift will invariably affect emerging markets in particular.

In the midst of such troubled landscape, our Scenarios foresee paths and alternatives for the preservation and optimization of investments. Seize the opportunities!

Translation: Tapering still in this year and interest hikes in Q1 2022 – beginning limit H2 2022. CBs will have to adjust.



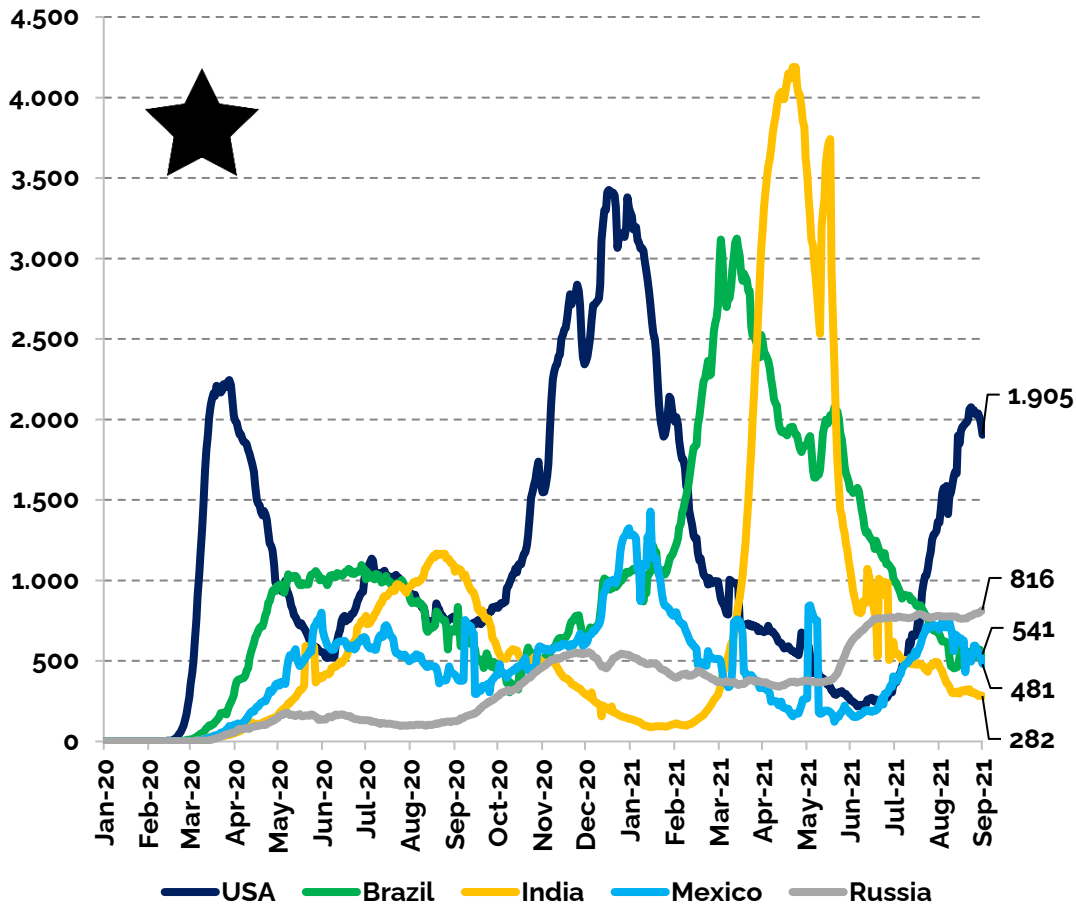
**POLITICAL, ECONOMIC AND
FINANCIAL SCENARIO**

INTERNATIONAL OUTLOOK

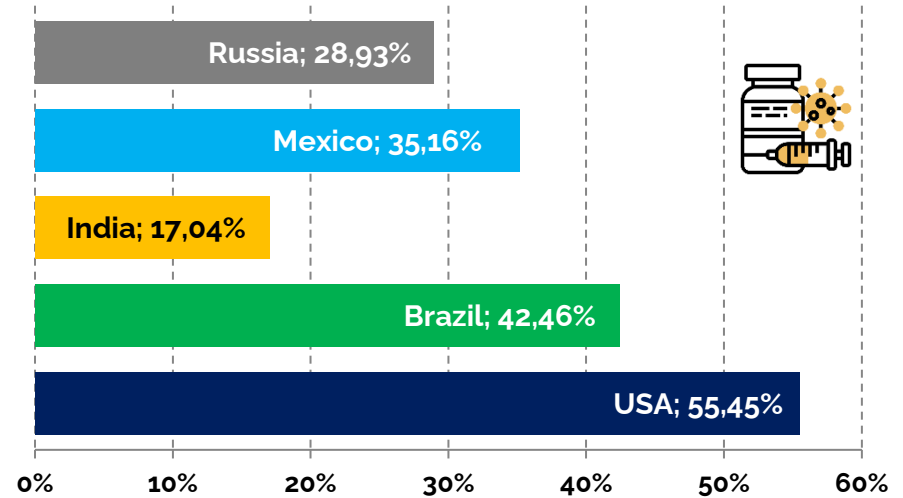
POLITICAL, ECONOMIC AND FINANCIAL SCENARIOS

Overseas - COVID-19 Evolution (as of Sep, 30th)

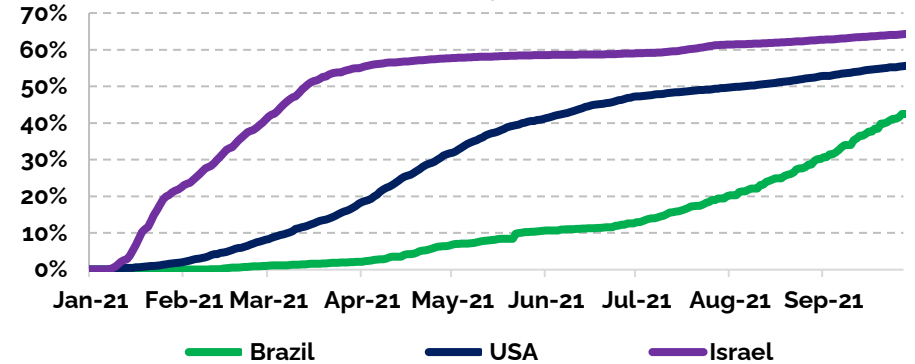
Number of Deaths – 7-day Mo. Avg.



People Fully Vaccinated - % Pop.




People Fully Vaccinated





Source: GitHub; Johns Hopkins University; Our World in Data; | Elaborated by Redwood

POLITICAL, ECONOMIC AND FINANCIAL SCENARIOS

Overseas - World

- 
- Estimated growth of around 6% for the US economy. This outcome takes place amid the end of pandemic relief programs and drops in household consumption;
 - The advancement of the delta variant may pose new challenges to the US employment level. In September, 194,000 jobs were created, a much lower number than expected. The difference for the pre-pandemic level is five million jobs;
 - Joe Biden's "Build Back Better" plan (USD 3.5 Tri) can be sliced, as signaled by Nancy Pelosi. The measure would serve to win over centrist senators, since the plan has strong resistance among Republicans;
 - The Biden government continues to press for taxing large fortunes in the US and the creation of a 15% minimum global tax on corporate profits;
 - The IMF alerted the country as to the need of an eventual monetary tightening, but the Chicago Fed chairman believes that inflation will stay below target during the correction of logistical bottlenecks;
 - The debt ceiling raise was enacted by Biden, avoiding default risk for the time being;

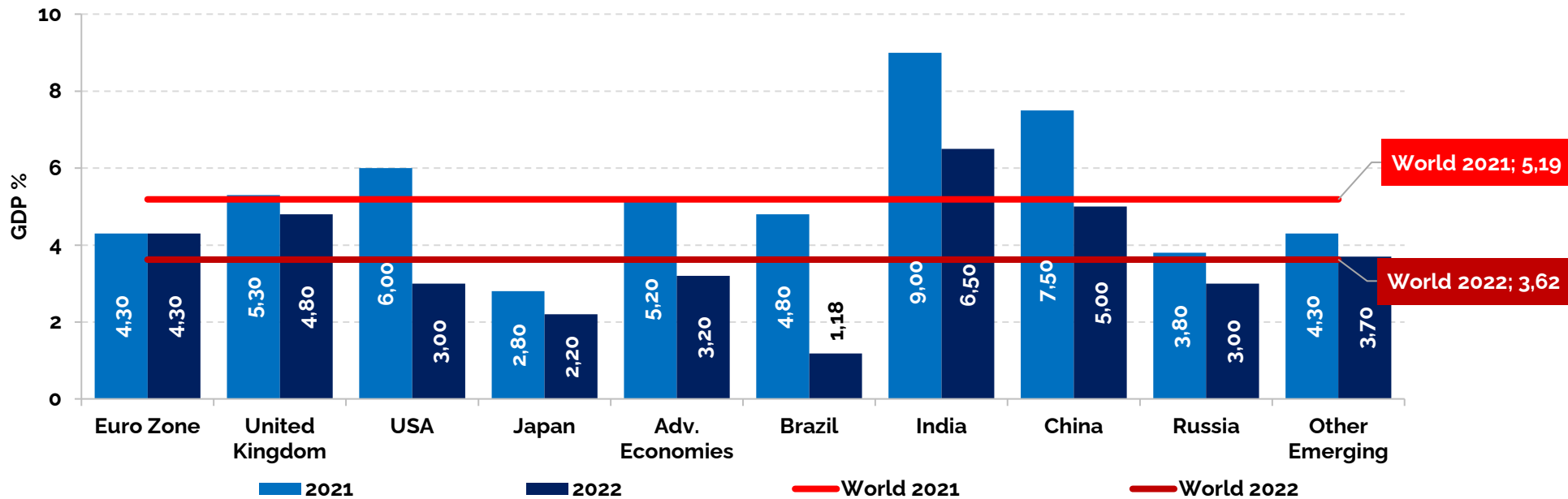
- 
- Expected growth rate near 8% of GDP in 2021;
 - After the latest distress involving the large Chinese real estate developer Evergrande and the country's energy shortage, the second largest economy in the world experienced a slowdown in the third quarter of 2021;
 - China injected USD 25bn into the banking system to calm nerves over default by Evergrande;
 - The country had the largest change in the PPI (Producer Price Index) in September since the beginning of the series: 10.7%;
 - Chinese air force was identified approaching Taiwan airspace without authorization. The Taiwanese government warned that the response would be proportional. Possible invasion would terminate US alliance system in Asia and deteriorate US-CHINA relations;
 - Although both countries disagree with Taiwan's independence, any action taken would be seen as a unilateral decision;
 - After publicly declaring support for the Taliban and offering financial aid (USD 31 million) to the regime, China defends in a G20 special meeting that countries help Afghanistan as soon as possible. Starting by lifting of unilateral sanctions;

- 
- ECB already faces the risk of inflation outpacing expectations in the short and medium run. The PEPP (pandemic emergency purchasing program) should be completed in March 2022;
 - United Kingdom: robust growth is expected in 2021 due to a successful vaccination program. In the medium run, the economy is expected to show the worst performance among the G7 while striving to reduce public debt until 2025;
 - Germany: also affected by the supply shortages, the growth forecast shifted from 3.7% to 2.4% in 2021. In 2022, it is expected to grow at 4.8% (previously 3.9%) with the perspective of lower inflation;
 - France: with 77% of citizens over 12 years of age immunized, the second largest economy in the bloc is expected to grow 6.25% in 2021. Although inflation is above 2% (supply bottlenecks) the economic environment is moving towards stabilization from other sectors;

POLITICAL, ECONOMIC AND FINANCIAL SCENARIOS

Overseas – GDP – Major Countries and World

GDP - Major Countries and World - Redwood Forecast



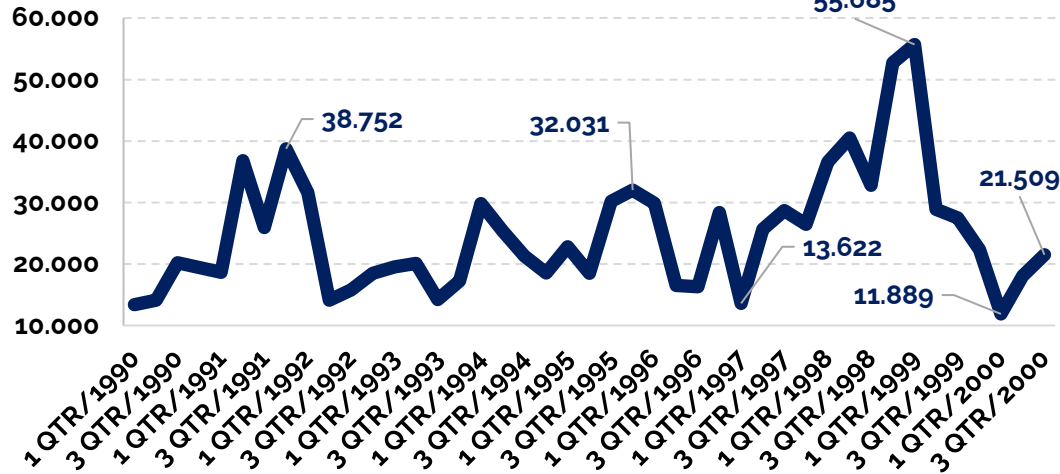
The recovery of world economic activity in 2021 loses thrust and slows down its *momentum*. The problems arising from the COVID health crisis impose several bumps on the way toward a more consolidated advance. For 2022, although these problems are assumed to be “solved”, the pace of growth “returns” to its trend along with other doubts and challenges. Notably on account of the Fiscal and Monetary Policies put in place due to the pandemic, its consequences will be felt starting next year.

Source: Redwood Forecast | Elaborated by Redwood

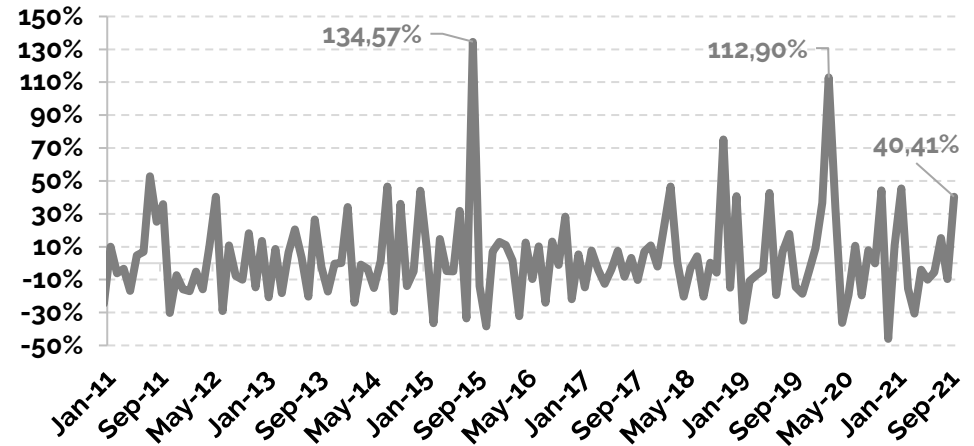
POLITICAL, ECONOMIC AND FINANCIAL SCENARIOS

Overseas – Risks, Uncertainties and Inflation

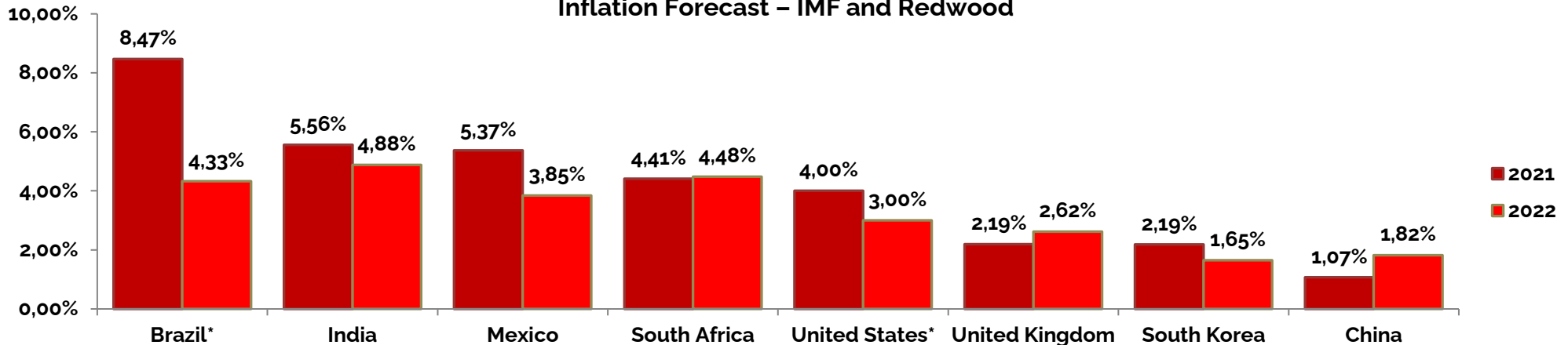
WUI Index



VIX Evolution (Monthly Change)



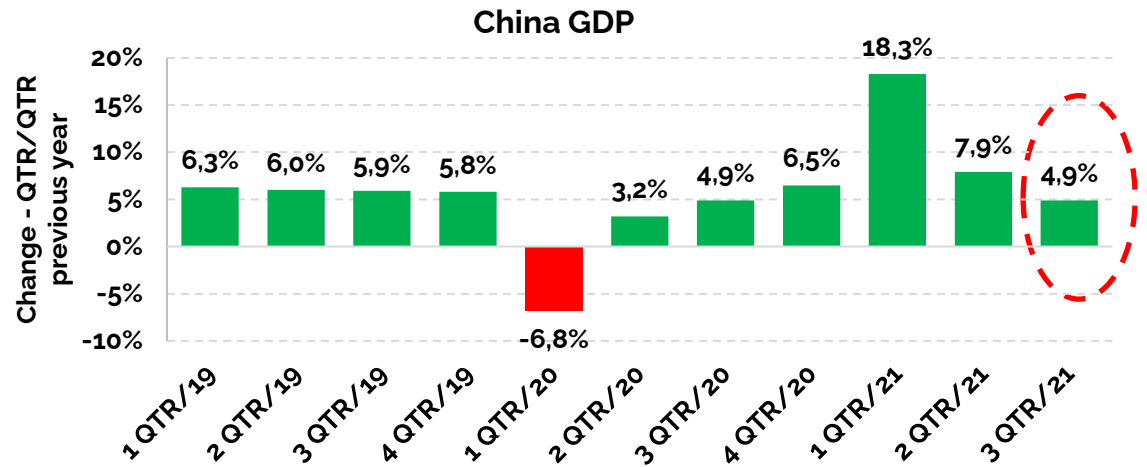
Inflation Forecast – IMF and Redwood



Source: Bloomberg; Worlduncertaintyindex.com; IMF | Elaborated by Redwood *Redwood Forecast

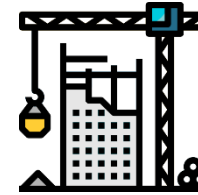
POLITICAL, ECONOMIC AND FINANCIAL SCENARIOS

Overseas – China and its Lehman moment
Potential Impacts



China's 3rd Qtr/21 GDP is below expectations.

Main impacts



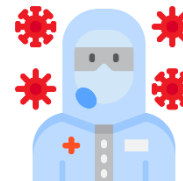
Plunging real estate industry (sector representing around 30% of GDP). Evergrande real estate developer with debts of over USD 300 billion.



China's energy crisis spreads blackouts in several regions, disrupting production in various economic sectors.



The energy crisis disrupts the operation of industries that, therefore, affect the distribution chain inside and outside the country.



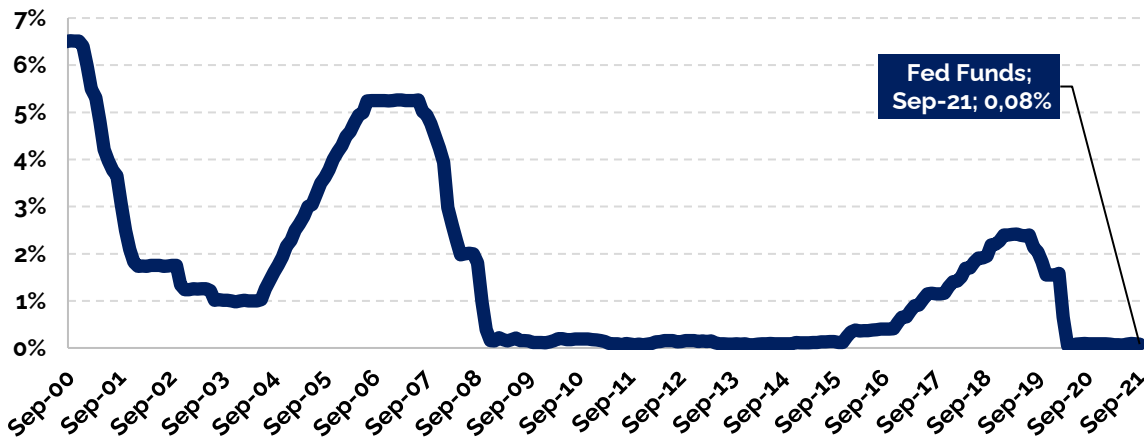
Isolated outbreaks - allied to the points above - harm economic activity, despite advances in vaccination rates and the low overall number of new cases.

Source: Trading Economics | Elaborated by Redwood

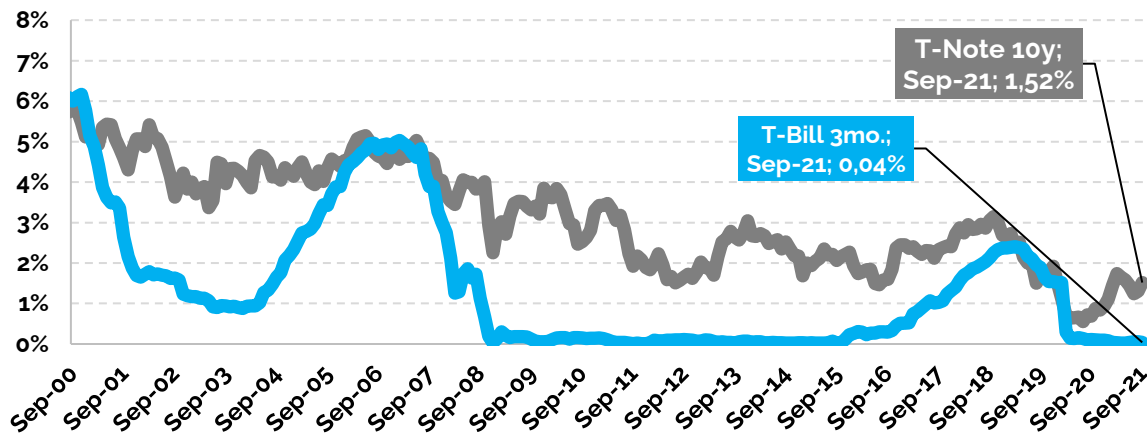
POLITICAL, ECONOMIC AND FINANCIAL SCENARIOS

Overseas – FED Funds and US Treasuries

Fed Funds Rate



Texas T-Bill 3m. e T-Note 10a



FED:

Romantic Vision: *Tapering* starts in Nov/21, it goes on until the end of the H1 2022 and the interest increase starts only in the H2 2022. This is the predominant scenario in the media and in some important consulting firms.

Practical vision: reducing the thrust verified in economic activity will not be enough to curb inflation satisfactorily. Unemployment will reach 4.5%, and the trillion-dollar packages will eventually come out. Anticipation of end of *tapering* and/or a combination with interest increase – possible!

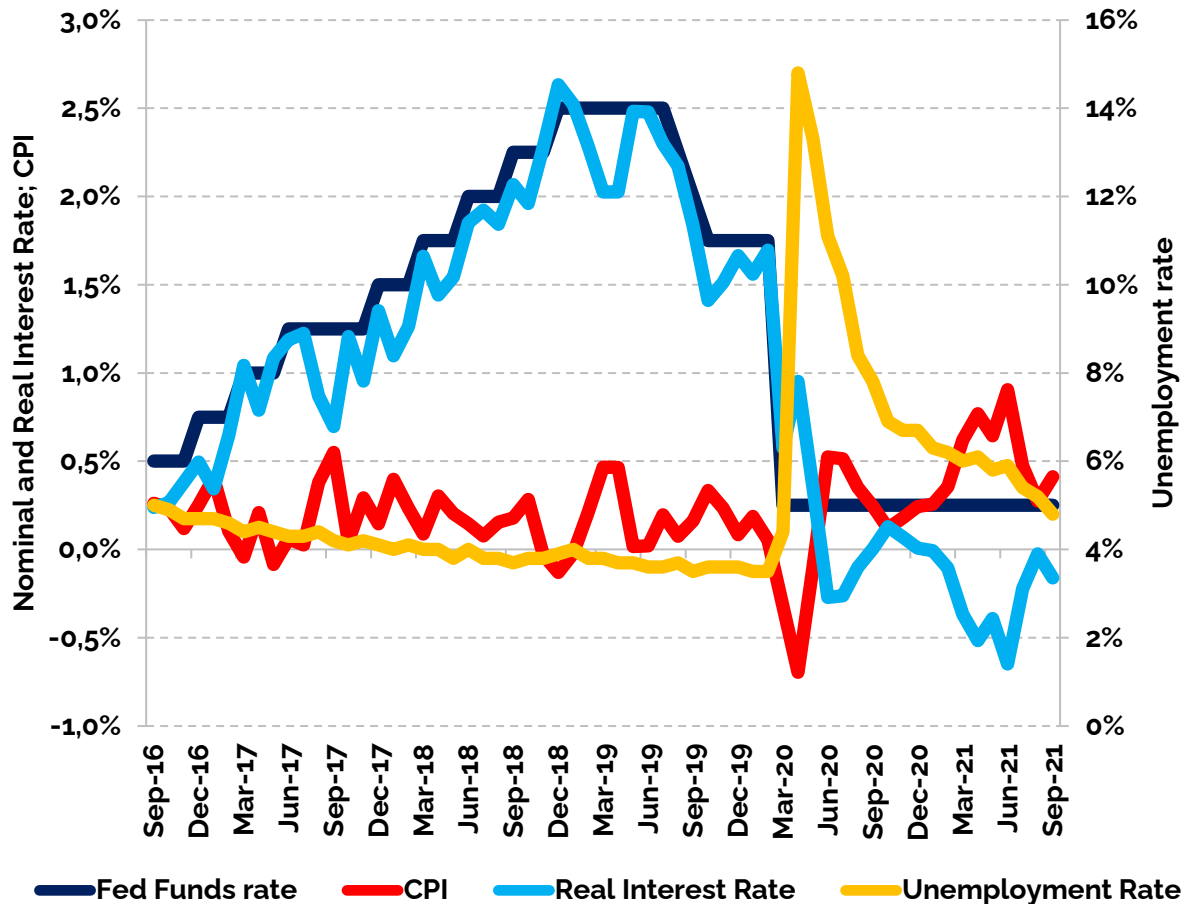
The symptoms are given, and the diagnosis is almost certain... the Treasuries price in the move! Like anywhere else in the world, CBs “stubbornly” stay behind the curve. A combination of disorganization in the economy, which suffers in many ways in the post-pandemic recovery, and gigantic tax incentives, associated with the various problems in world economies, put pressure on longer interest rate curves. Reality is indisputable!

Source: FRED; Bloomberg | Elaborated by Redwood

POLITICAL, ECONOMIC AND FINANCIAL SCENARIOS

Exterior - FED Funds, Inflation and Unemployment

USA - Nominal and Real Interest Rate x CPI x Unemp.



"Disregarding" higher and persistent inflation in the US or even a spike in the coming months, especially when facing supply shortages, puts Joe Biden's plans for the economy at risk. Janet Yellen, current Secretary of the Treasury, appears as though she has never sat in Powell's chair, Fed chairman, and is fixated on stimulus plans. The resilience and flexibility of the American economy, however, show that it resists and adjusts to the times... but it should not be "stretched" too far.

Source: FRED | Elaborated by Redwood

POLITICAL, ECONOMIC AND FINANCIAL SCENARIOS

Overseas – Emerging Markets

MEXICO

- Growth hovering around 6% is expected;
- Banxico increases (for the third consecutive time) the interest rate to 4.75% and signals future increases. Strong inflationary pressure threatens 3% target for this year;
- The Mexican government resumes talks with the US government to address issues such as migration, infrastructure and trade. Discussion takes place amid the return to “Remain in Mexico” policy by court decision;
- AMLO's constitutional reform that addresses the energy sector may violate two clauses of the new USMCA treaty;
- Opening the Texas border to fully vaccinated Mexican citizens should bring benefits to both countries;
- **GDP 2021: 6.20%¹ | 2022 GDP: 4.00%¹**

SOUTH KOREA

- IMF maintains its 4.3% growth forecast for South Korea while revising its global projection downwards;
- Improved chip and auto exports have supported the recovery. In September, export growth reached 16.7%;
- BOK signaled an interest rate hike amid high consumer inflation. The rate is currently at 0.75%, after rising 0.25% in August. Stance is still seen as accommodating;
- In addition to the pursuit of inter-Korean peace, Moon Jae-in also stands out for its New Southern Policy (NSP) which seeks to strengthen ties with India and ASEAN (Association of Southeast Asian Nations);
- **GDP 2021: 4.27%¹ | GDP 2022: 2.82%¹.**

INDIA

- Indian economy is expected to grow between 9.0% and 9.5% in 2021;
- RBI cuts down inflation forecast for this year from 5.7% to 5.3%. A substantial decline in short-term inflation is expected;
- Tensions rise again in the Himalayas, 16 months after a clash between Chinese and Indian troops. Indian Defense Ministry statement accuses China of not cooperating to solve the conflict;
- Despite close-to-double-digit growth projections in 2021, some regions of the country face high unemployment. This issue poses a new challenge to sustained growth and highlights the scars left by the pandemic in some parts of the economy;
- **2021 GDP: 9.00%² | GDP 2022: 6.50%²**

SOUTH AFRICA

- IMF revises the GDP forecast for 2021 from 4% to 5%. Growth unlikely be sustained, slowing down to 2% in 2022;
- President Cyril Ramaphosa has a final test of his popularity with local elections in November 2021;
- The country's high unemployment rate (34.4%) is likely to be the focus of elections;
- SARB sees the need to increase interest rates if growth pulls an increased demand;
- **GDP 2021: 5.00%¹ | 2022 GDP: 2.20%¹**

¹IMF Forecast; ²Redwood Forecast

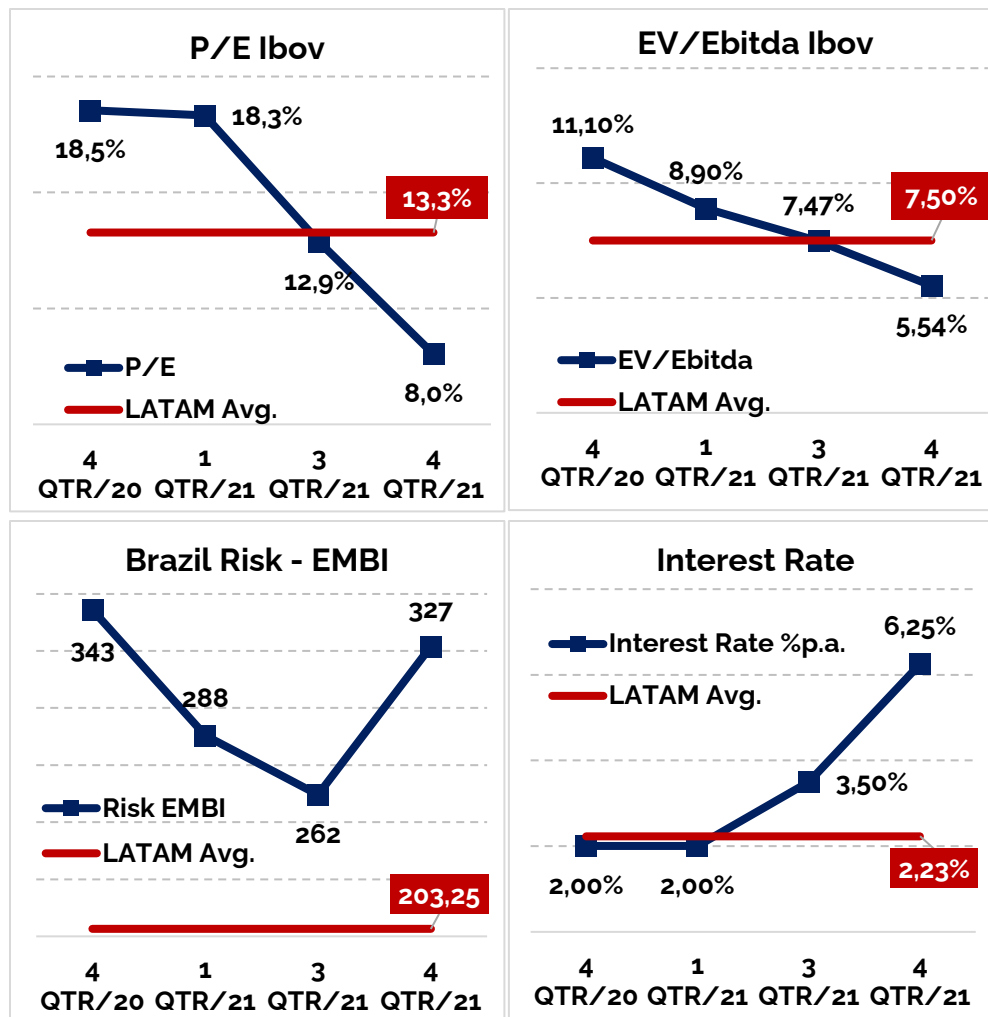
POLITICAL, ECONOMIC AND FINANCIAL SCENARIOS

Overseas - Latam

| Country | P/E | EV/Ebitda | Risk EMBI ¹ | Exchange Rate | Interest Rate % p.a. | OBS |
|-----------|-------|-----------|------------------------|---------------|----------------------|---|
| Argentina | 9.73 | 2.80 | 1,607 | 98.75 | 38.00 | Minimum rate repurchase (CB) after 7 days |
| Chile | 12.35 | 7.61 | 141 | 809.20 | 1.50 | Overnight rate |
| Colombia | 13.39 | 8.08 | 306 | 3,816.37 | 1.75 | Overnight rate |
| Mexico | 14.83 | 7.51 | 218 | 20.57 | 4.66 | Overnight rate |
| Peru | 12.50 | 6.80 | 148 | 4.14 | 1.00 | CB's reference rate |
| Brazil | 8.03 | 5.54 | 327 | 5.44 | 6.25 | Selic rate |

Source: Bloomberg; Central Bank of Brasil | Elaborated by Redwood
Date: 31st, May 2021; ¹Various sites. Chile = monthly average

History of Redwood and LATAM Average Scenarios - Q4 2021

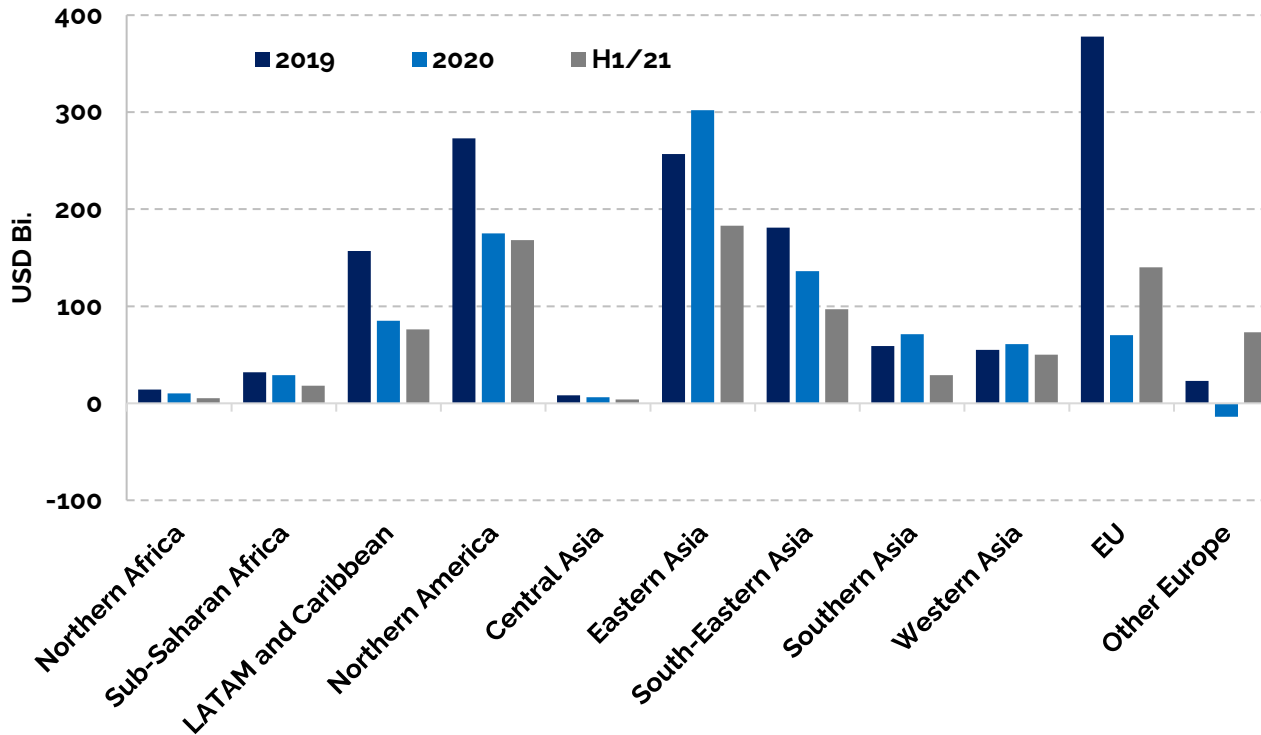


Obs.: Argentina - Excluded from Latam Average

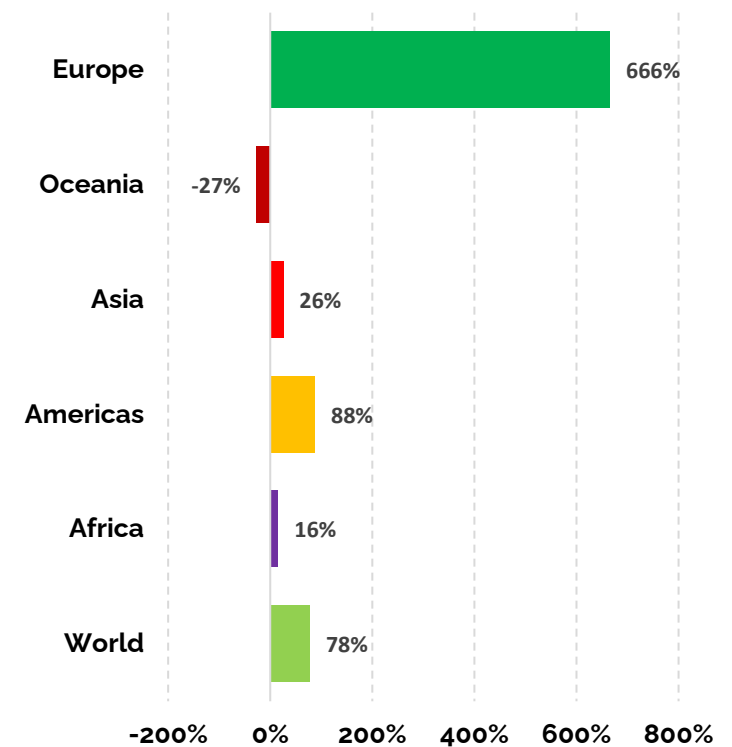
POLITICAL, ECONOMIC AND FINANCIAL SCENARIOS

Exterior – Direct Investments (FDI): Unequal Impacts

FDI around the world - 2019, 2020 and H1/21



FDI Regions and World – % change - H1 2021 / H1 2020



Source: UNCTAD, FDI/MNE | Elaborated by Redwood

- Investment channels tend to close with more restrictive monetary policies worldwide in 2022
- This movement will have unequal effects on countries, but especially bad for emerging countries
 - Brazil: worsening of economic activity and of exchange rate (level and volatility) are not helpful

A Brazilian flag is shown waving against a blue sky with scattered white clouds. The flag is green and yellow with a blue globe in the center. A red rectangular box is drawn around the flag. The text "POLITICAL, ECONOMIC AND FINANCIAL SCENARIO" is overlaid in white, bold, uppercase letters.

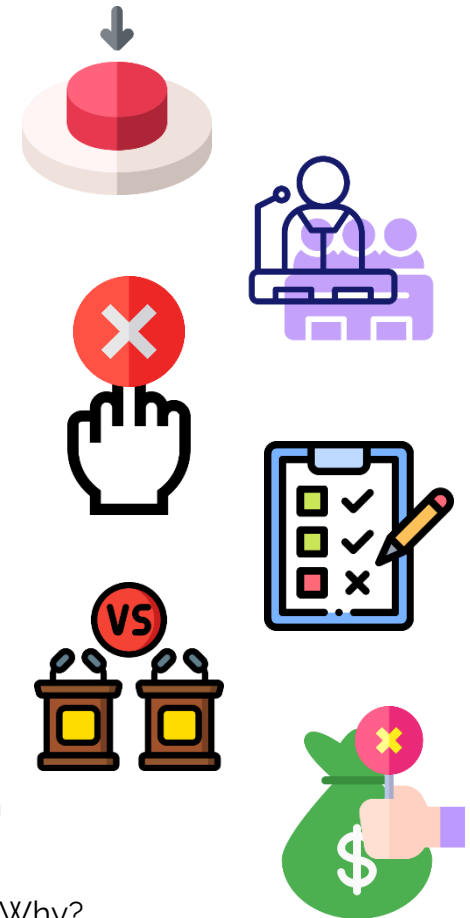
**POLITICAL, ECONOMIC AND
FINANCIAL SCENARIO**

BRAZIL

POLITICAL, ECONOMIC AND FINANCIAL SCENARIOS

Political Aspects – Brazil under political rhetoric – Elections

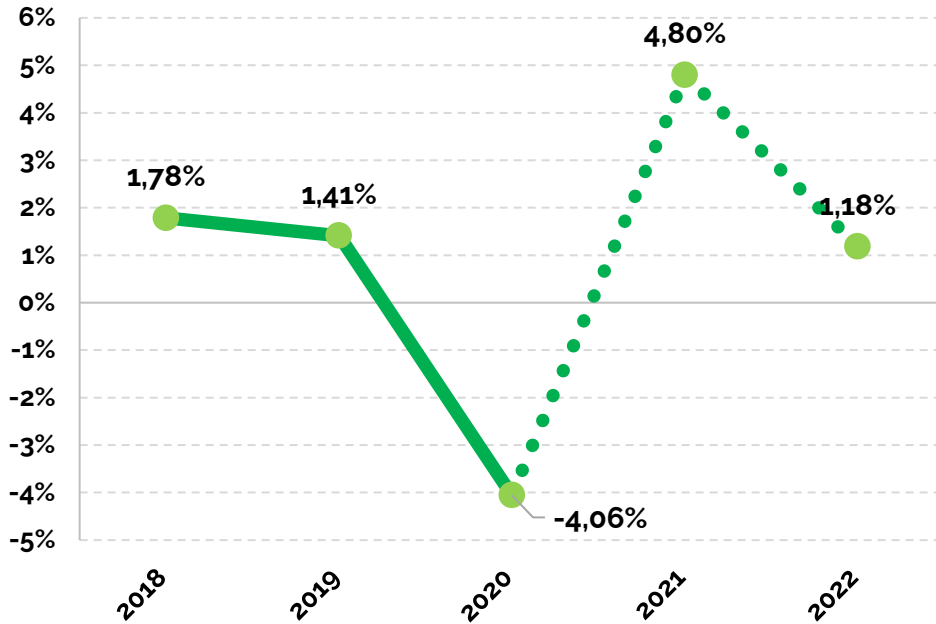
- ✓ President Bolsonaro: panic button has been pushed
 - COVID Congressional Hearing: endless friction and indictments
 - All or nothing from the starting line. Outlandish ideas surface.
 - Perversity amidst arbitrariness
- ✓ Executive branch
 - Executive ministers submerged
 - Very few agreed to stay in the Ministry of Economy
 - Min. Health: gave us the middle finger!
 - Infrastructure: fares well, does what he can
 - Others: mostly supporting actors
- ✓ National Congress: Dominated by the Centrão: is always game just for the money!
- ✓ Reforms: those that pass, if they do, will be absolutely dehydrated
- ✓ Supreme Court: has definitively assumed its *Supreme* stance
- ✓ Institutions: the "rupture" has already happened
- ❖ *Brazil in Highlights - Summary*
 - Economic team – conservative agenda is over, now "a helping hand" for re-election
 - Out the COVID crisis, comes the water crisis... increased politicization
 - Matters fiscal "improved" ... but the market does not "buy" and the stress lingers on. Why?
 - External scenario: the liquidity binge is over! Capital flow to emerging markets will phase out.



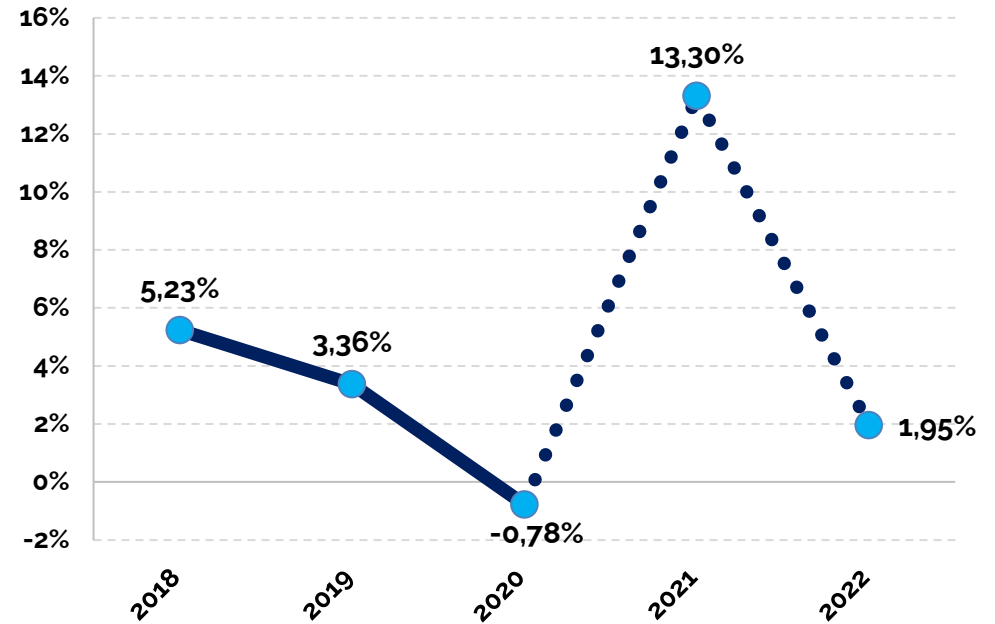
POLITICAL, ECONOMIC AND FINANCIAL SCENARIOS

Brazil GDP

GDP Evolution



GFCF Evolution



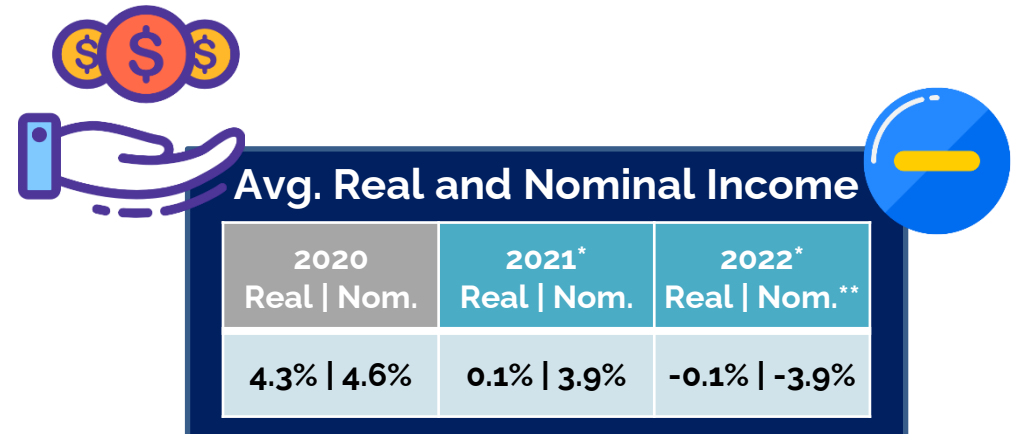
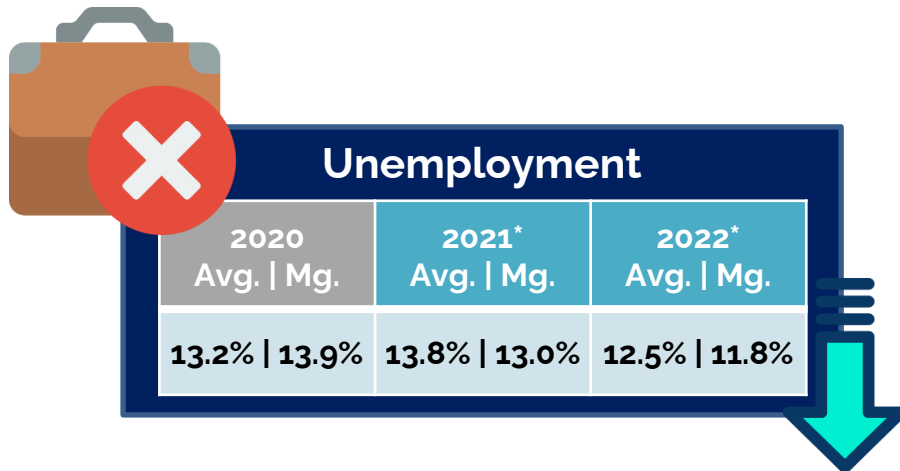
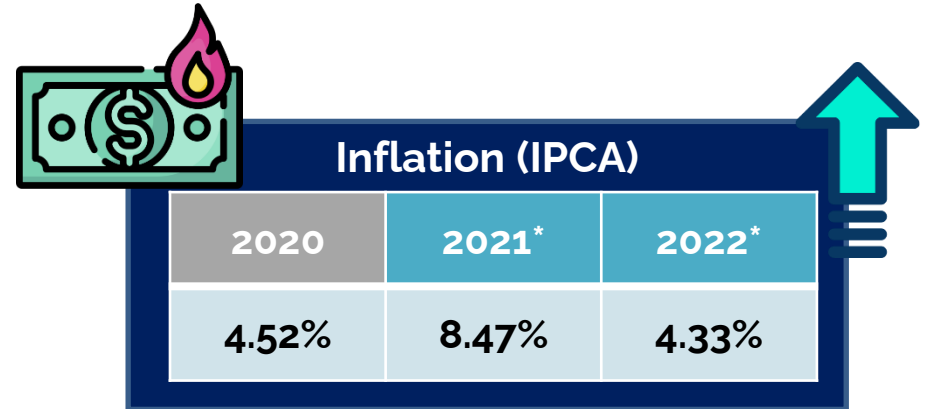
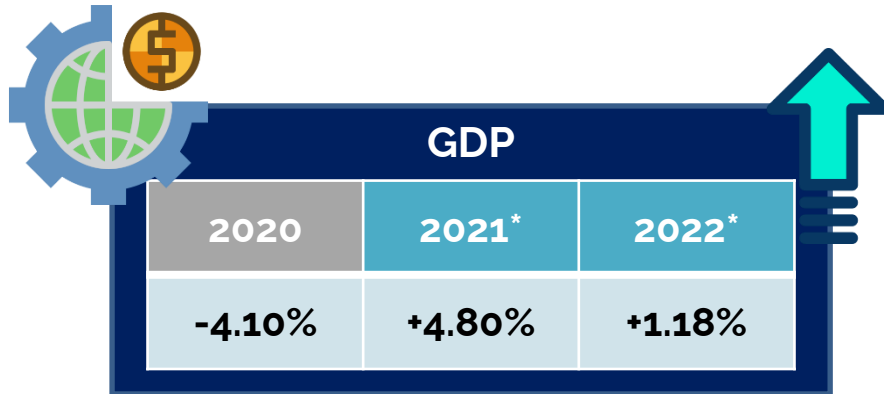
Source: IBGE; Redwood Forecast – 2021/2022 | Elaborated by Redwood

A chicken's flight

After GDP advanced in the Q1 2021 and a sequence of bullish revisions, there came recent retreat in projections for both this year and for 2022. Many crises, no significant advance in Reforms, political risk and an external sector ever less beneficial for emerging countries. With rising inflation and the ensuing monetary tightening, economic activity will likely suffer.

POLITICAL, ECONOMIC AND FINANCIAL SCENARIOS

GDP Brazil - Jobful' Growth in quantity and quality?



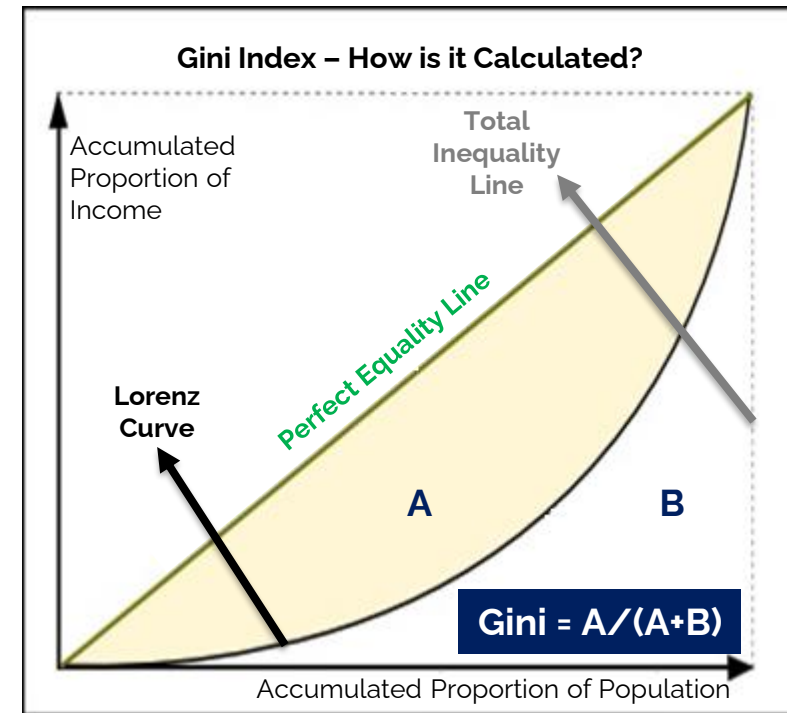
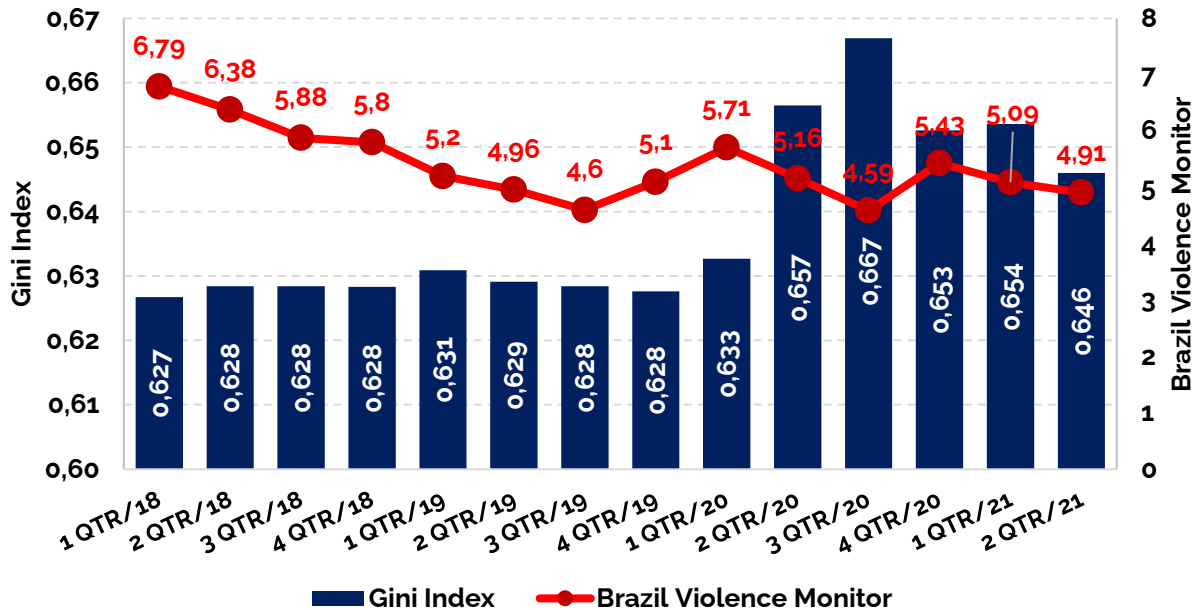
Source: IBGE; *Redwood Forecast | Elaborated by Redwood

**Particularly impacted by averages (dispersion of values) and variation in unemployment, both increase the gap between Average Real and Nominal Income.

POLITICAL, ECONOMIC AND FINANCIAL SCENARIOS

GDP Brazil - More than inequality, its most vicious effects

Gini x Brazil Violence Monitor

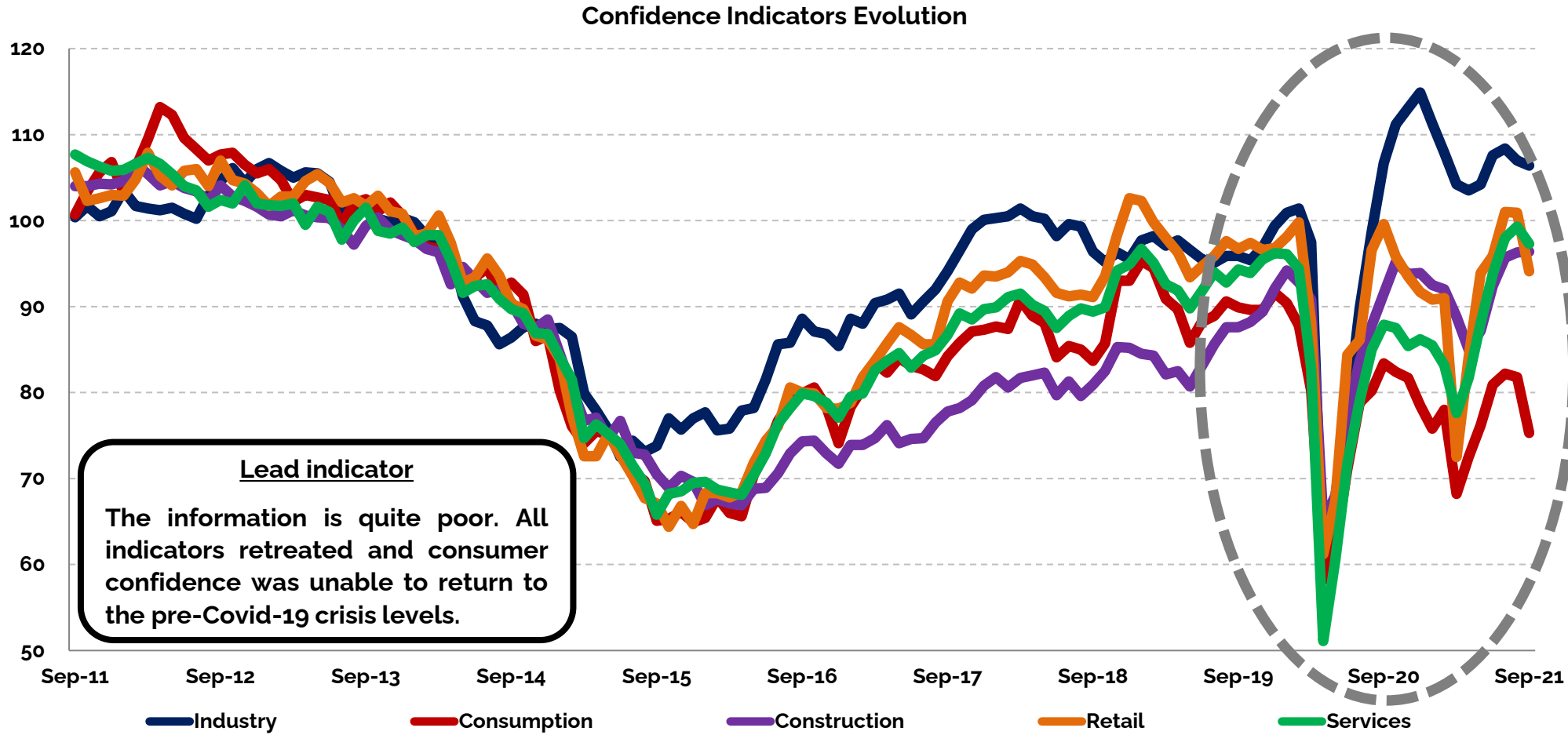


Source: FGV Social; Monitor da Violência - Núcleo de Estudos da Violência da USP, Fórum Brasileiro de Segurança Pública and G1 | Elaborated by Redwood
 Obs.: The Violence Monitor considers victims (per 100,000 inhabitants) of intentional homicide (including femicide), robbery and bodily injury followed by death.

- Inequality increased during the health crisis
- Inequality fostered all kinds of violence
- Violence has a greater impact on the most vulnerable, with repercussions on all aspects of human development
- Violence affects economic growth just as much as it affects society as a whole

POLITICAL, ECONOMIC AND FINANCIAL SCENARIOS

Confidence Indicators

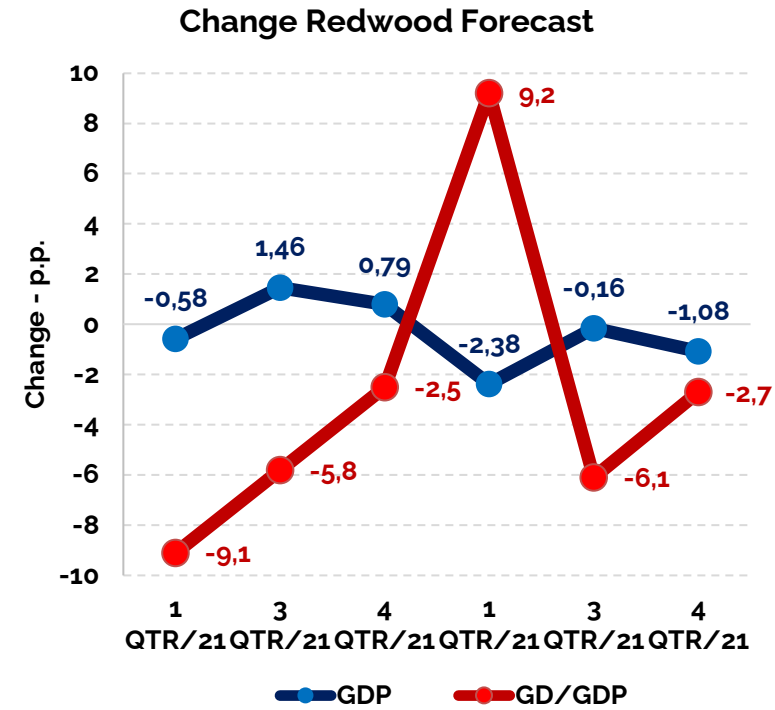


Source: FGV | Elaborated by Redwood

POLITICAL, ECONOMIC AND FINANCIAL SCENARIOS

Fiscal – Has deterioration been reversed?

| Scenarios (QTR) | Forecast 2021 | | | | Forecast 2022 | | |
|-----------------|---------------|----------|----------|----------|---------------|----------|----------|
| | 4 QTR/20 | 1 QTR/21 | 3 QTR/21 | 4 QTR/21 | 1 QTR/21 | 3 QTR/21 | 4 QTR/21 |
| GDP | 3.13 | 2.55 | 4.01 | 4.80 | 2.42 | 2.26 | 1.18 |
| GD/GDP | 100.3 | 91.2 | 85.4 | 82.9 | 92.1 | 86.0 | 83.3 |

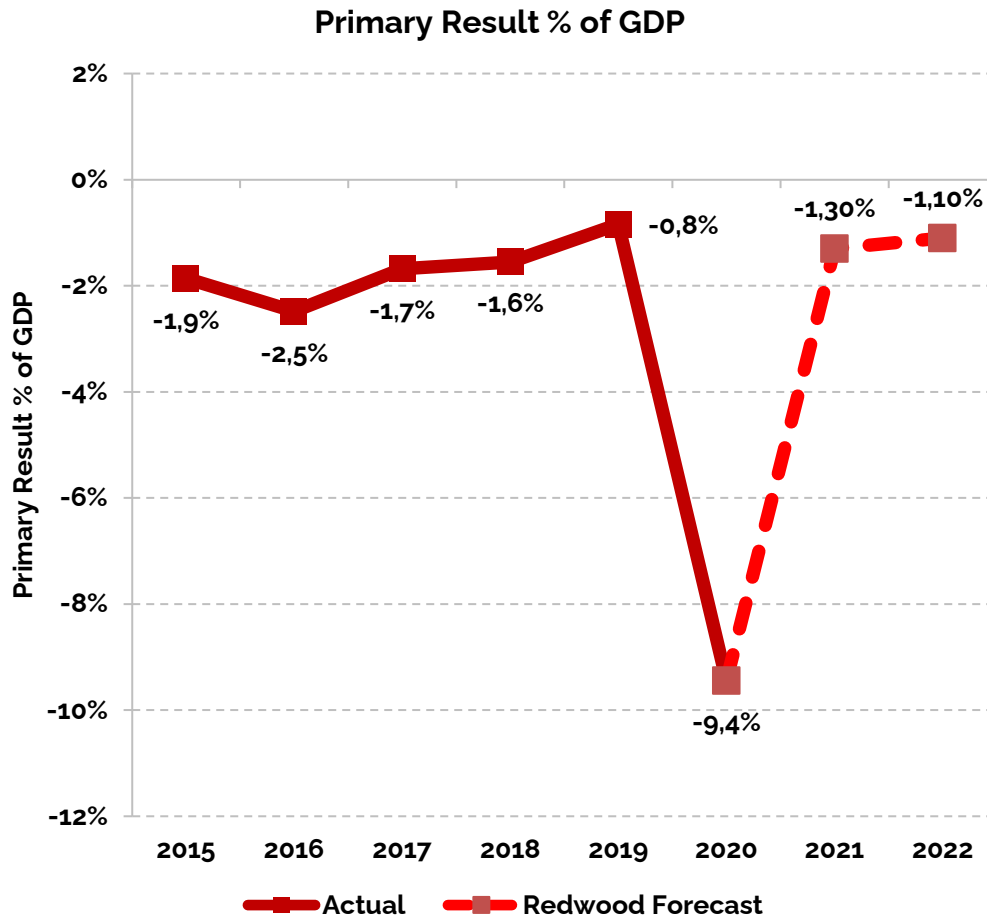


The GDP clearly shows a “chicken flight”, we will grow at a rate that is a little more than 1/3 of our potential. It’s truly a shame. A reasonably “stable” numerator in 2021 with recession recovery in the denominator is part of the explanation. Inflation also helped. However, the improvement of the projections and the numbers realized for the public debt-to-GDP ratio is undisputed. But disrespect and/or mismanagement of public accounts prevails in market sentiment and reactions. The huge expenses soon to come, especially for electoral purposes, tend to undermine credibility and should be behind these numbers. This is the real one!

Source: STN and Redwood Forecast | Elaborated by Redwood

POLITICAL, ECONOMIC AND FINANCIAL SCENARIOS

Fiscal – “Impossible” forecasts



Budget Hawks in the Economy and the final challenge

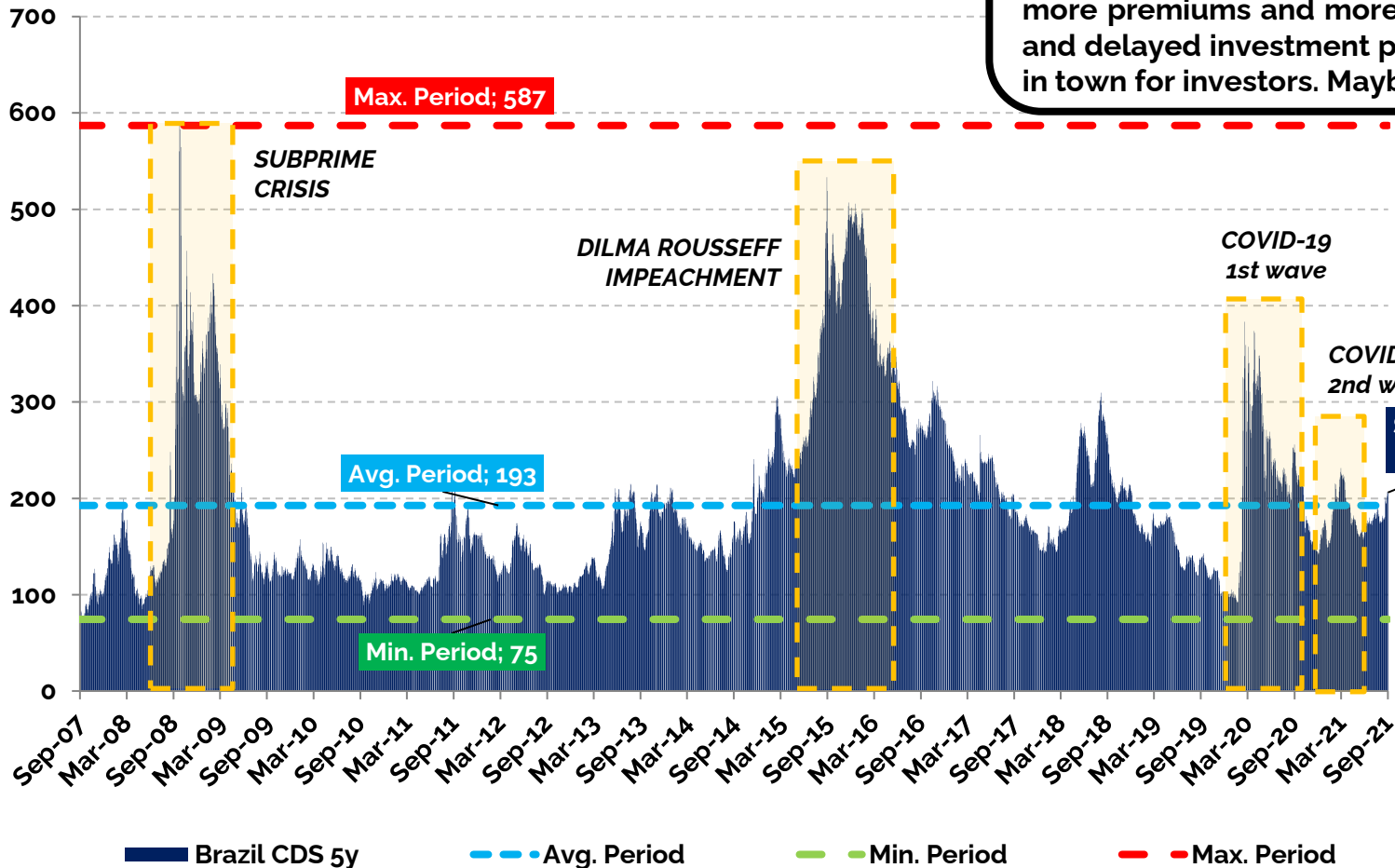
- The great achievement: moving towards a primary surplus
- Stress in the rollover of Federal Public Bonds has passed... for now, although there are premiums in the LFTs
- Increase of wages "repressed" and other "stable" expenses contribute
- Risks remain and intensify:
 - Extended Emergency Relief or *Auxilio Brazil?*
 - Other emergency expenses
 - Congress and Supreme Court making bizarre decisions
 - Election, populism, etc....

Source: BACEN; Redwood Forecast | Elaborated by Redwood

POLITICAL, ECONOMIC AND FINANCIAL SCENARIOS

Credit Default Swap (CDS) - 5 years

From wine to water! The indicator had been showing some "resilience" with the "guarantee" of complying with the Expenditure Cap and better fiscal outcomes, as well as the hope of still seeing some reforms pass. Distrust took hold and CDS rose 24% this year alone! More uncertainties, more premiums and more volatility. More expensive loans and delayed investment projects. Caution is the only game in town for investors. Maybe 2023...



REDWOOD FORECAST

Dec-21: 204

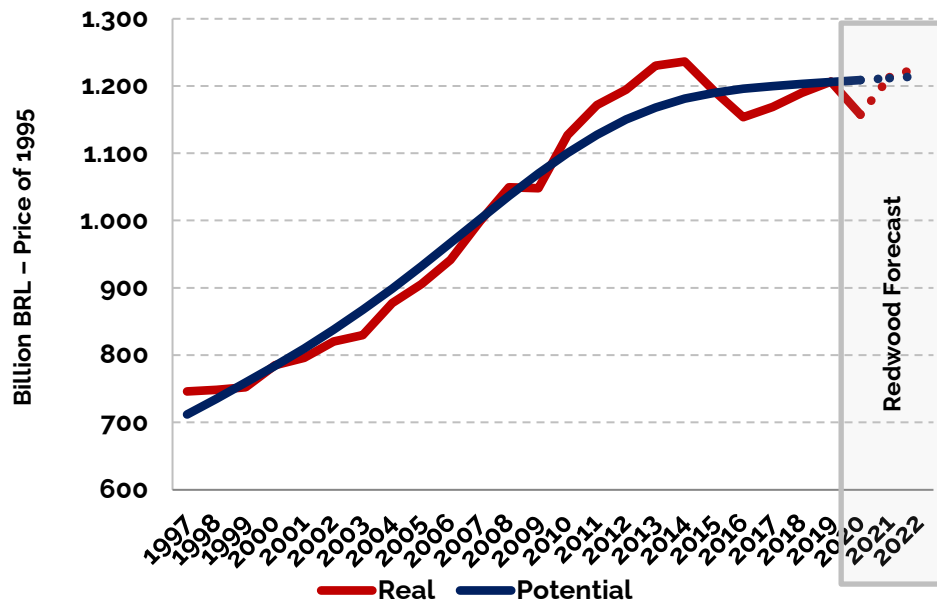
Dec-22: 297

Source: Bloomberg | Elaborated by Redwood

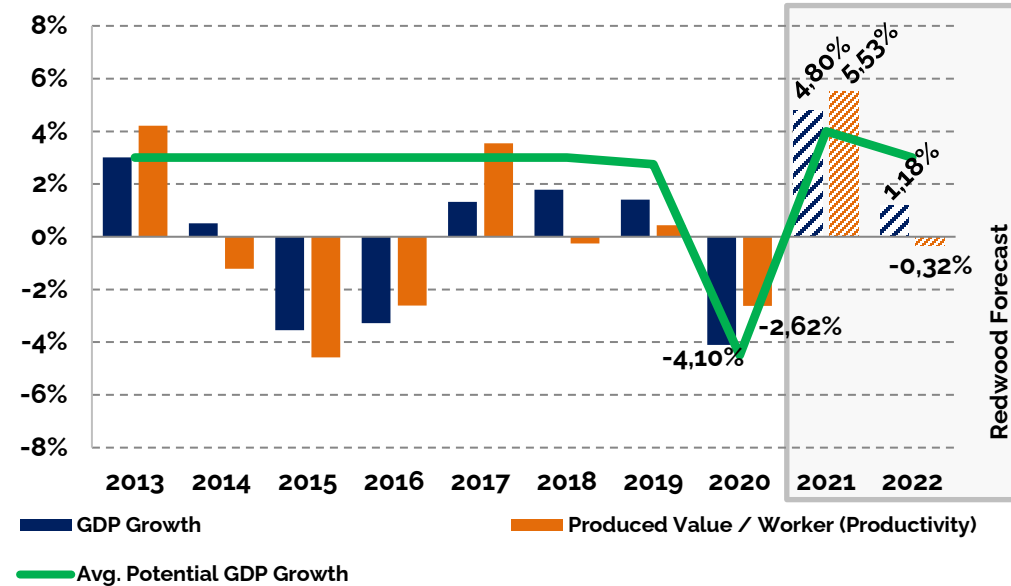
POLITICAL, ECONOMIC AND FINANCIAL SCENARIOS

Economic Activity and Productivity

GDP Real and Potential (HP Filter)



Growth of GDP, Potential GDP and Productivity



Obs.: Potential GDP and Unemployment Rate under methodological review.
Here, we cautiously assume a Potential GDP adjusted for the "short term".

Source: IBGE | Elaborated by Redwood

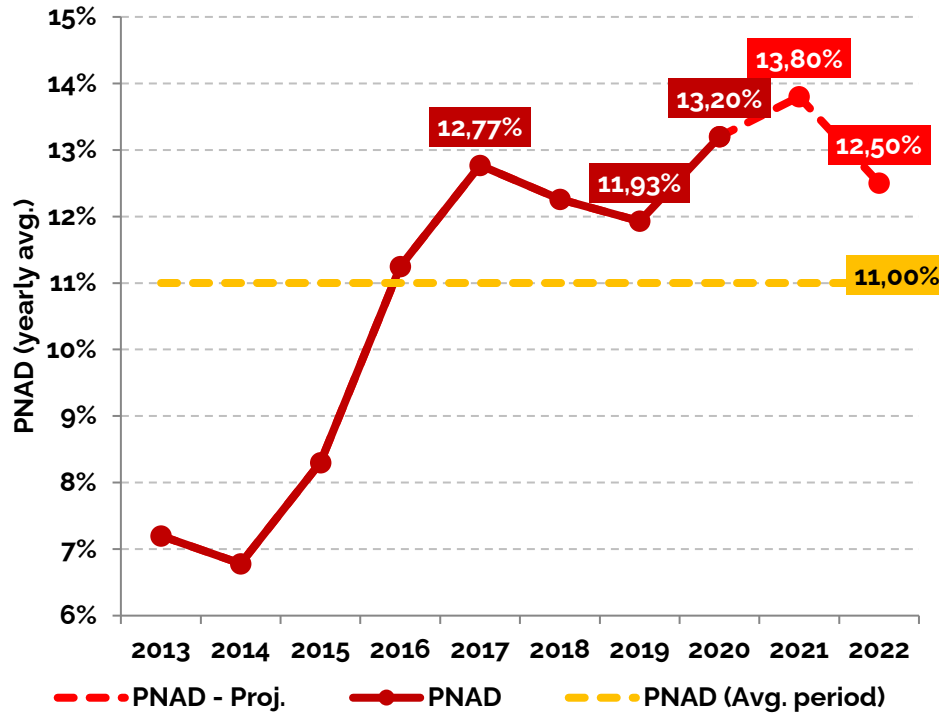
- Our GDP, although adjusted upwards, is still lower than the market, but there seems to be a convergence for 2021 and 2022
- Election year challenges are a negative component
- Output gap with no prospects for improvement in 2022

- V-shaped recovery in 2021; 2022 borders on "stability"
- Little can be expected without the essential Reforms
- Sectors react unequally and unemployment remains high
- Confidence=> Investments (GFFC) => GDP Anticipations (Productivity?)

POLITICAL, ECONOMIC AND FINANCIAL SCENARIOS

Unemployment and Wages

Unemployment Rate (PNAD)

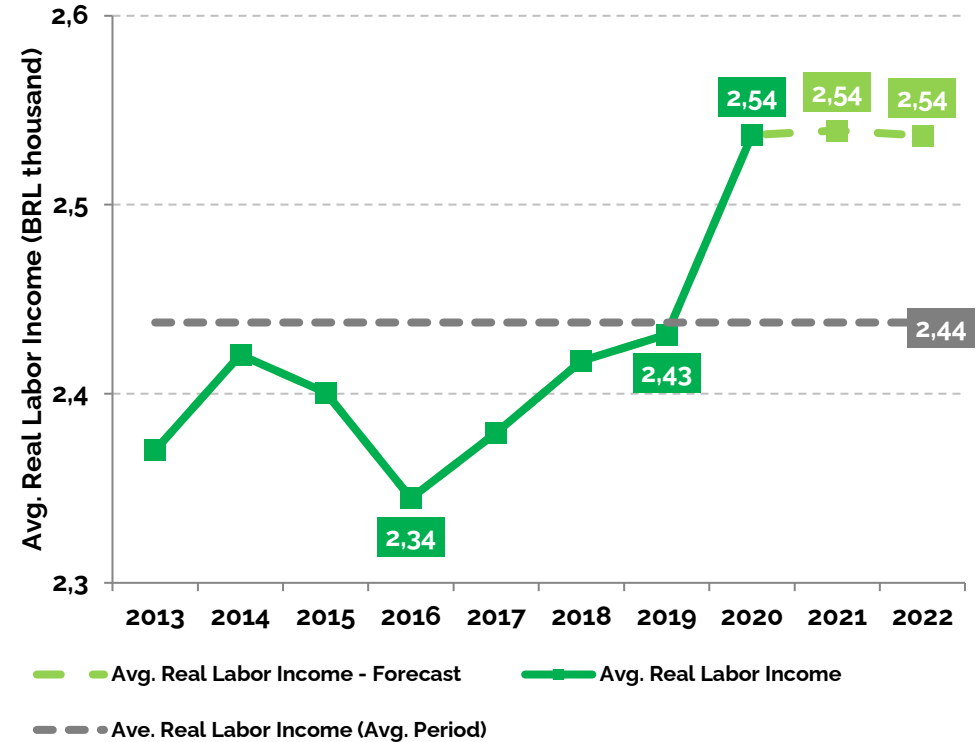


Source: PNAD; IBGE | Elaborated by Redwood

Unemployment rate:

Very far from average and with no forecast of reaching 11% even in the medium term.

Average Real Labor Income



Average real earnings:

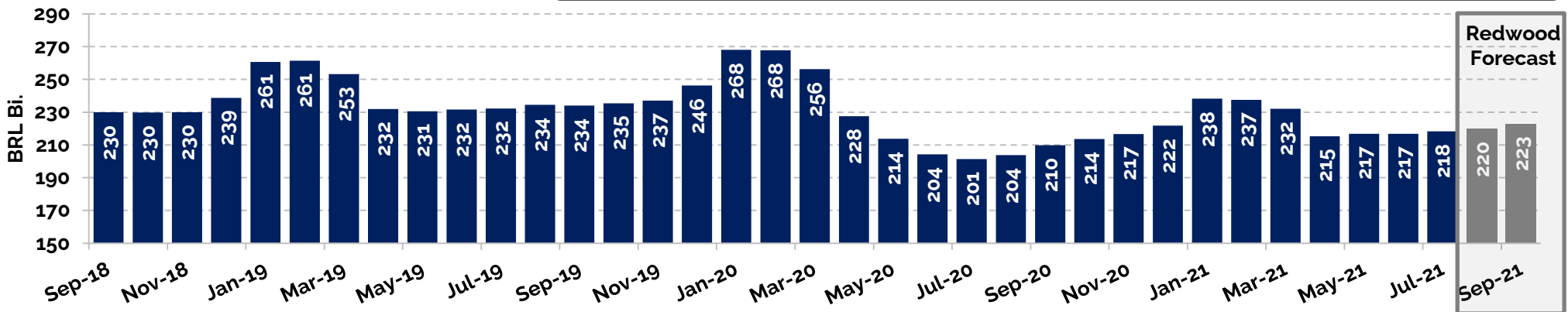
With some increase at the beginning of 2021, it reverted and is on its way to close the year at the same levels as December 2020 and with no major changes for 2022.

POLITICAL, ECONOMIC AND FINANCIAL SCENARIOS

Real Wage Bill vs. Uncertainty Index

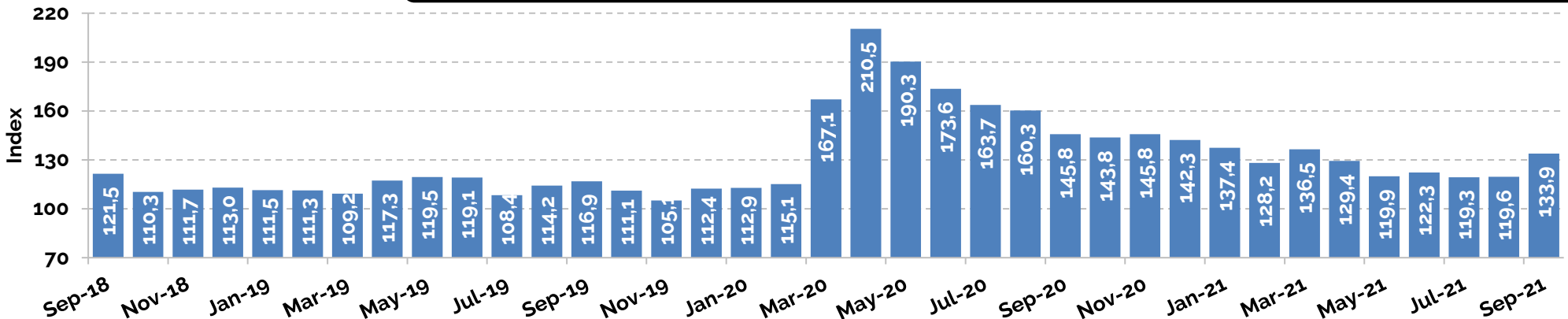
Real Wage Share (MMR)

Wage Bill = (Average Income of all jobs) x (Employed Population on Payroll)



Uncertainty Index -IIE

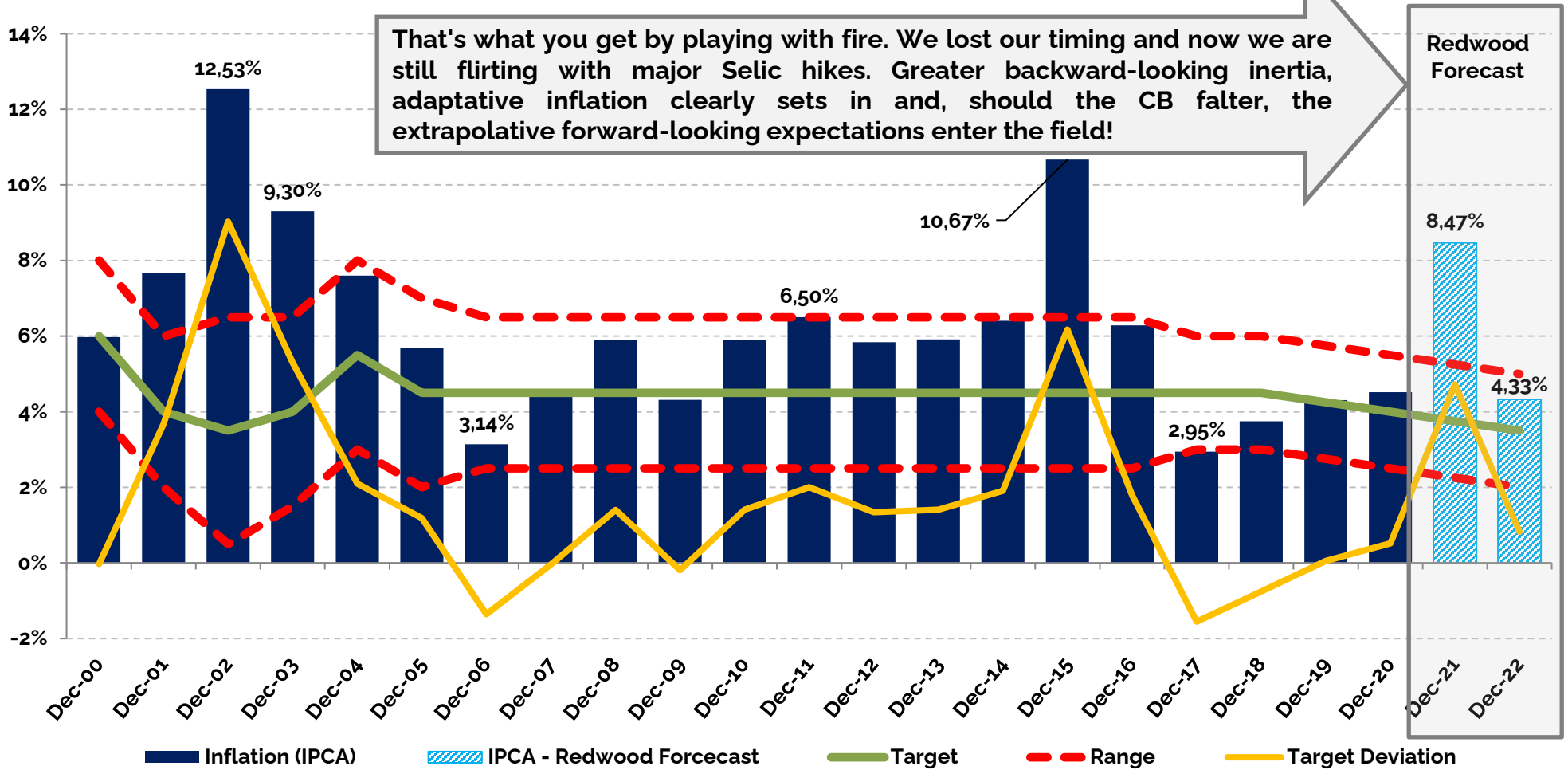
Seasonal effects or impacts of uncertainty? Spurious correlations between MMR and IIE?



Source: IBGE; FGV | Elaborated by Redwood - Redwood Forecast MMR Ago/21 and Set/21

POLITICAL, ECONOMIC AND FINANCIAL SCENARIOS

IPCA Evolution, Inflation Targets and Inflation Target Deviation



Source: IBGE; BACEN | Elaborated by Redwood

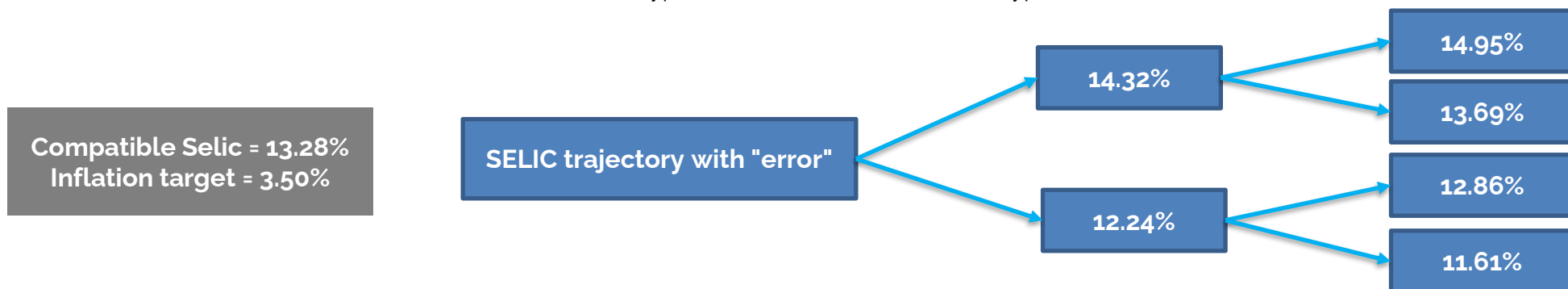
POLITICAL, ECONOMIC AND FINANCIAL SCENARIOS

Monetary Policy – Extra effort not worth the trouble

A "disproportionate" cost - Huge asymmetry and many unknowns

| Hypothesis | Selic ¹ 1 QTR/22 | Target | | Inflation ² | | GDP | | Unemployment | |
|------------|--------------------------------|--------|-------|------------------------|-------|--------|-------|--------------|--------|
| | | 2022 | 2023 | 2022 | 2023 | 2022 | 2023 | 2022 | 2023 |
| I | 8.25% | 3.50% | 3.25% | 6.00% | 5.50% | 1.80% | 3.00% | 12.00% | 11.50% |
| II | 9.00% | 3.50% | 3.25% | 4.33% | 3.75% | 1.18% | 2.60% | 12.50% | 11.78% |
| III | 13.25% | 3.50% | 3.25% | 3.50% | 3.25% | -1.50% | 0.00% | 13.25% | 12.50% |

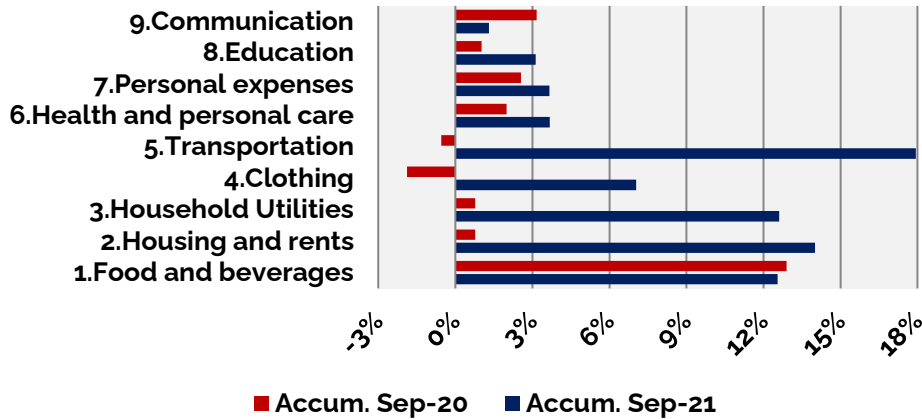
¹ Maintenance in 2022 with a reduction in 2023 to 6.75% for Hypothesis I and II, and 9.75% for Hyp. III; ² 2021 inflation baseline at 8.47%



POLITICAL, ECONOMIC AND FINANCIAL SCENARIOS

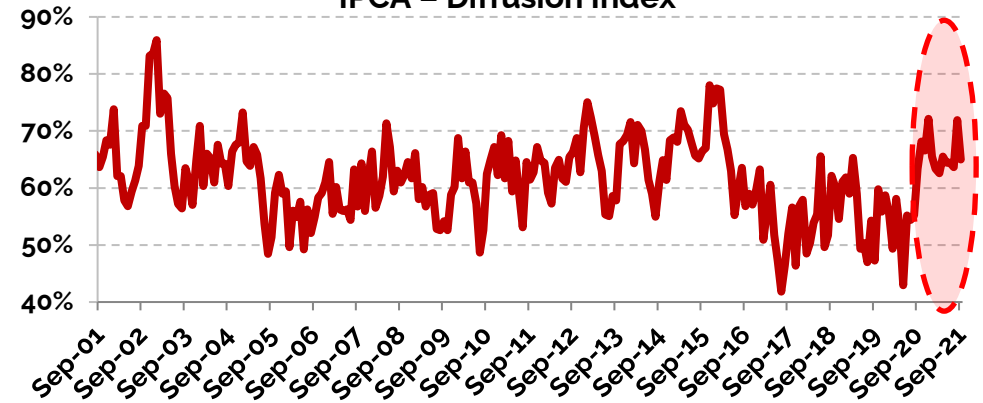
IPCA - Decomposition

IPCA - Accum. Change in 12m. by Group

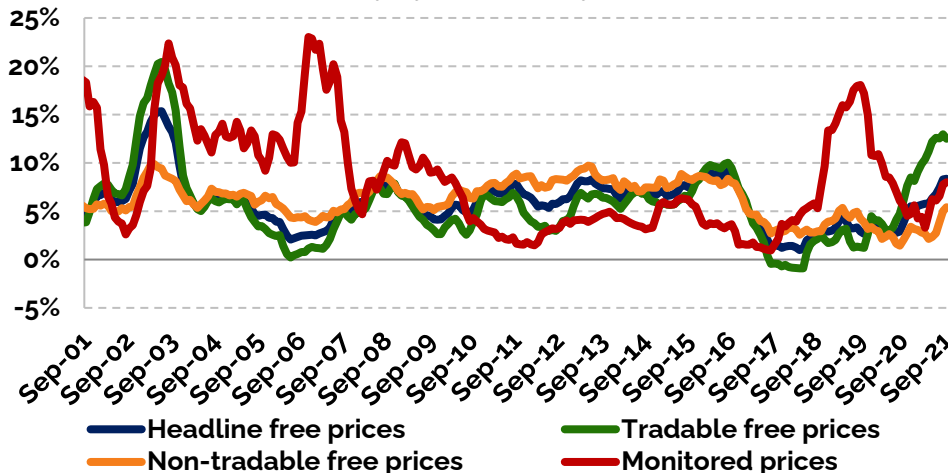


The situation was a given. Denial here will cost us dearly, but there is still time. The vulnerability to which high inflation takes the economy will be the backwash in our super slow post-pandemic economic recovery process. Let's forget about "fiscal dominance". Higher interest rate now so we can have less of it and less sacrifice further down the road.

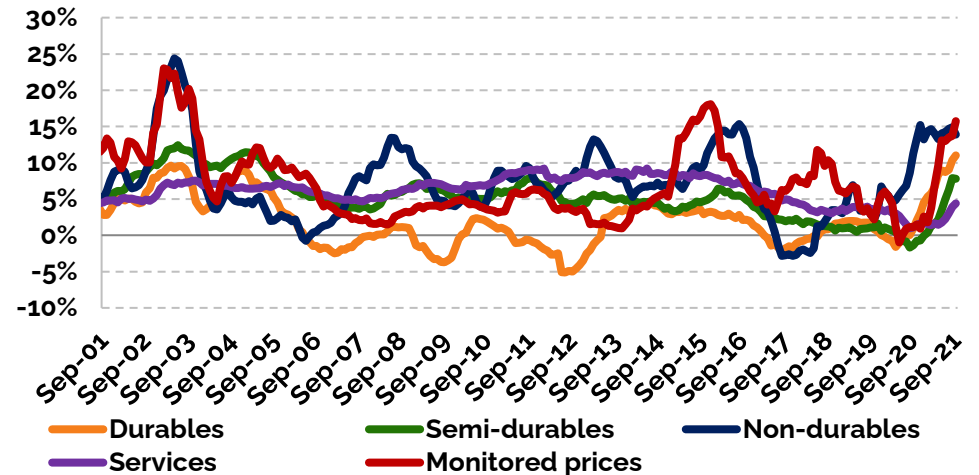
IPCA - Diffusion Index



Free and Monitored Prices



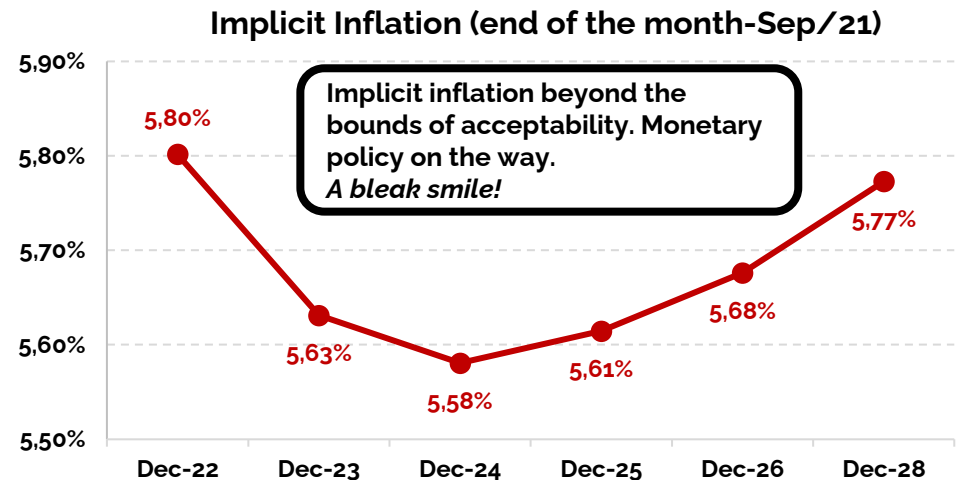
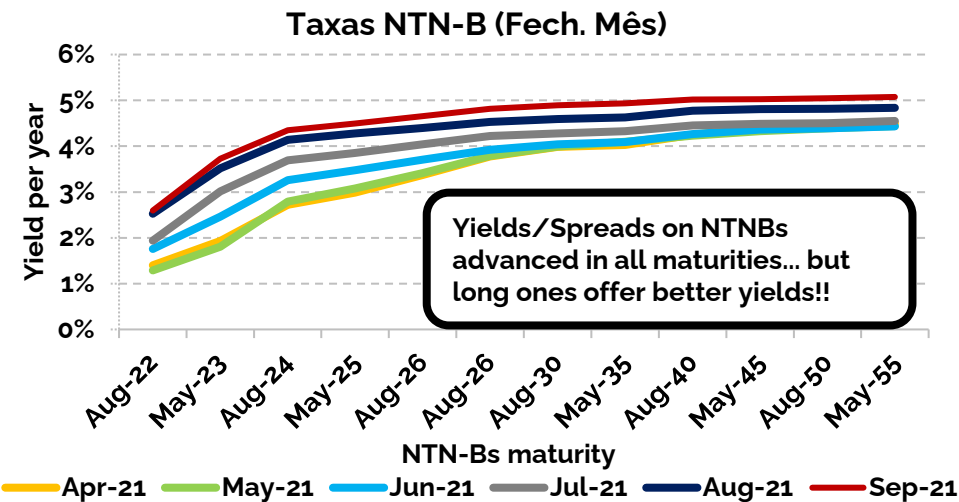
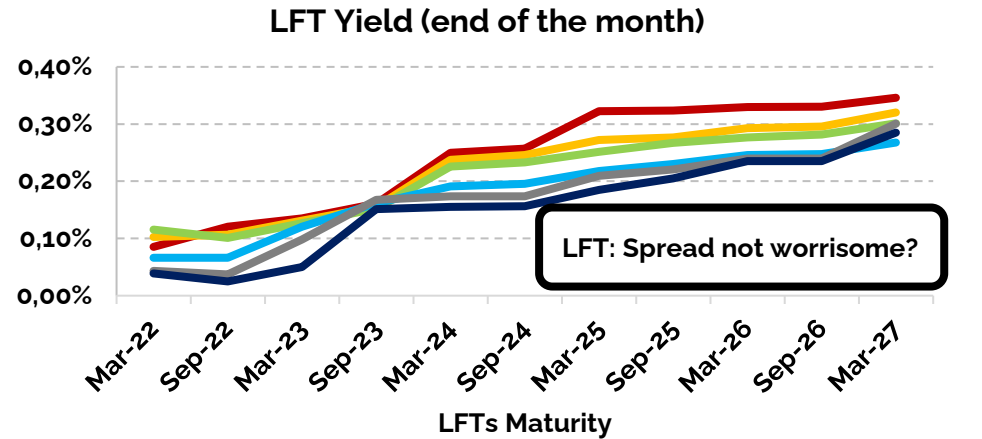
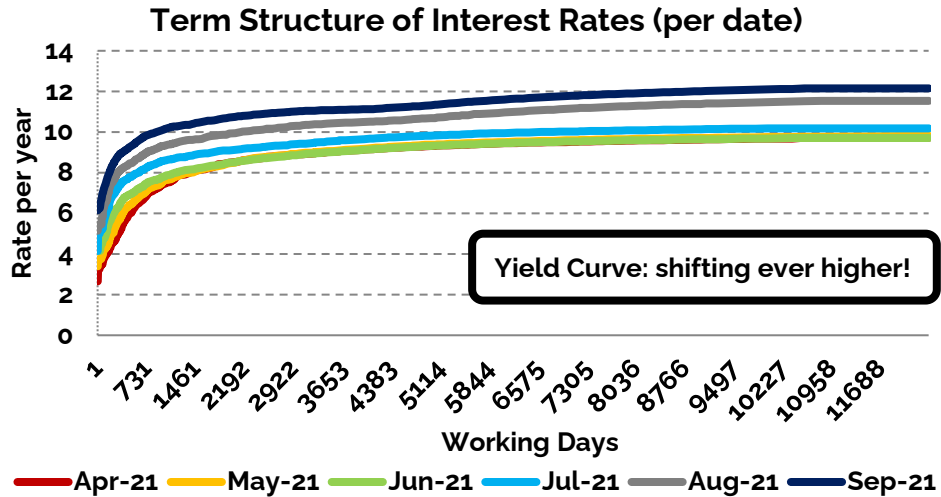
Goods, Services and Monitored (Accum. 12m)



Source: IBGE; BACEN | Elaborated by Redwood

POLITICAL, ECONOMIC AND FINANCIAL SCENARIOS

Interest Rates – What to expect of the Yield Curve and real interest rate

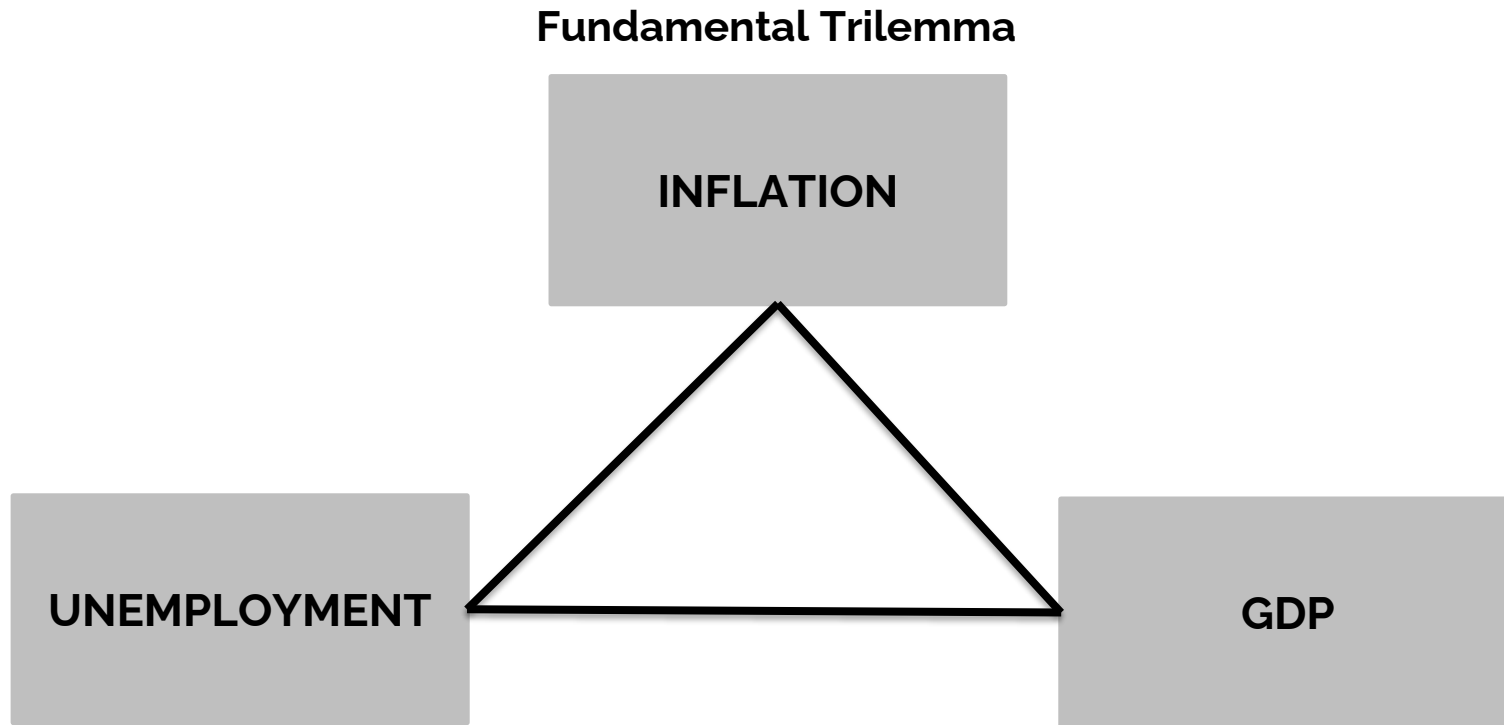


Source: B3; Anbima; Broadcast | Elaborated by Redwood

POLITICAL, ECONOMIC AND FINANCIAL SCENARIOS

BACEN's - Independent and unfocused?

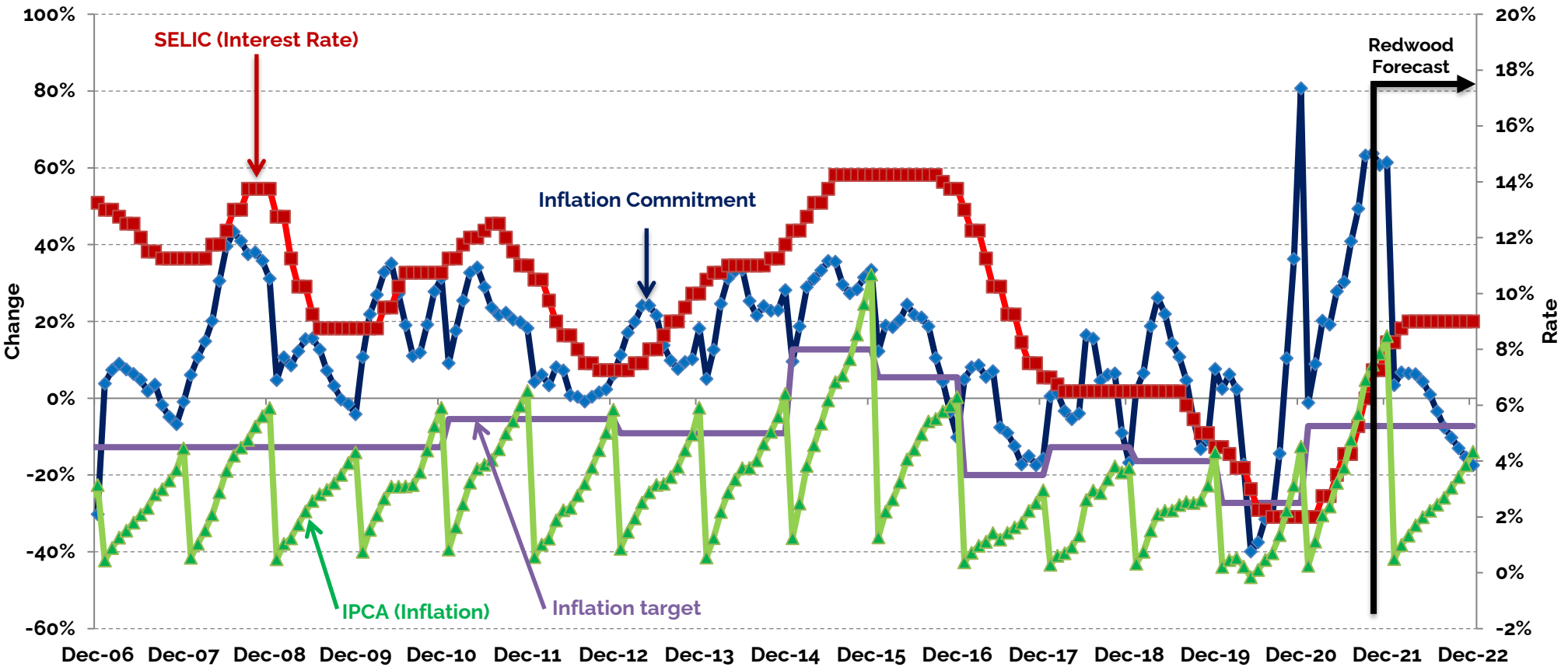
Do secondary targets help or get in the way?



OBS: Incompatibility of a mathematically restrictive structure

POLITICAL, ECONOMIC AND FINANCIAL SCENARIOS

BACEN's Reaction Function - Forecast 2021/22 - 4th QTR 2021



Dec-06 Dec-07 Dec-08 Dec-09 Dec-10 Dec-11 Dec-12 Dec-13 Dec-14 Dec-15 Dec-16 Dec-17 Dec-18 Dec-19 Dec-20 Dec-21 Dec-22

Left Axis: Inflation Commitment

Right Axis: SELIC (Interest Rate), Inflation target and IPCA (Inflation)

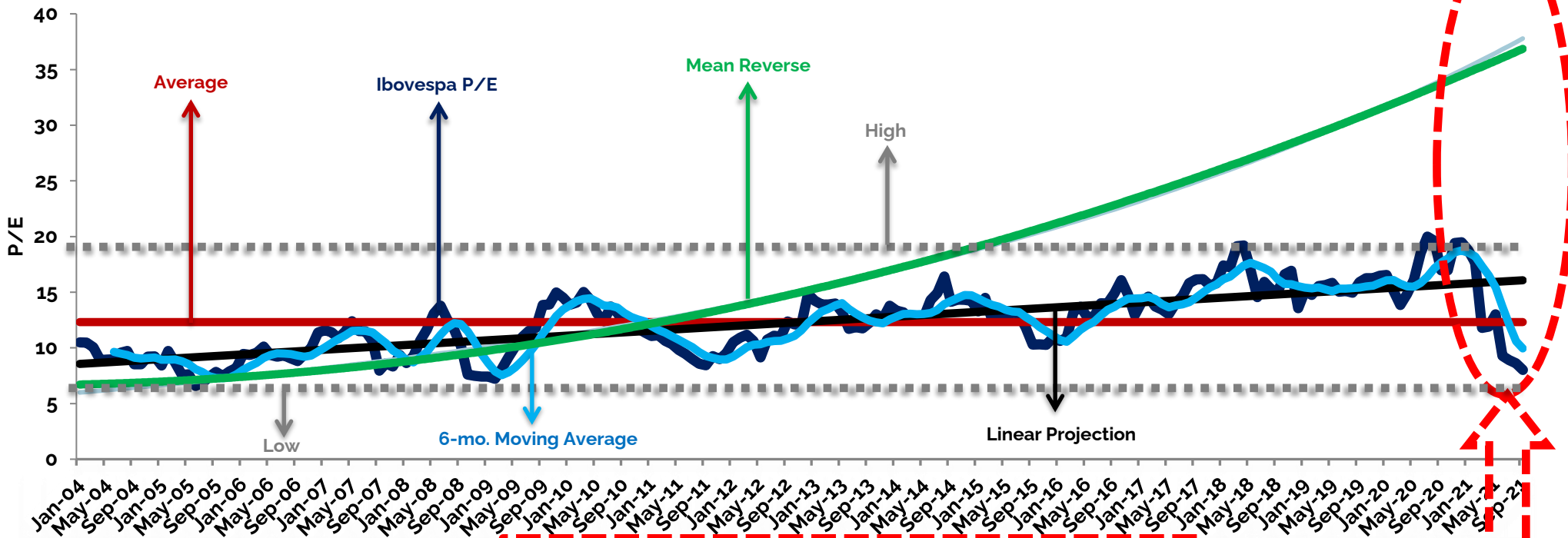
Obs.:
 GDP 2021: 4.80% | 2022: 1.18%
 FX 2021: BRL 5.20 | 2022: BRL 5.61
 Ave. Unemployment Rate 2021: 13.8% | 2022: 12.5%
 Inflation 2021: 8.47% | 2022: 4.33%



MARKETS

POLITICAL, ECONOMIC AND FINANCIAL SCENARIOS

Markets – Ibovespa P/E Evolution

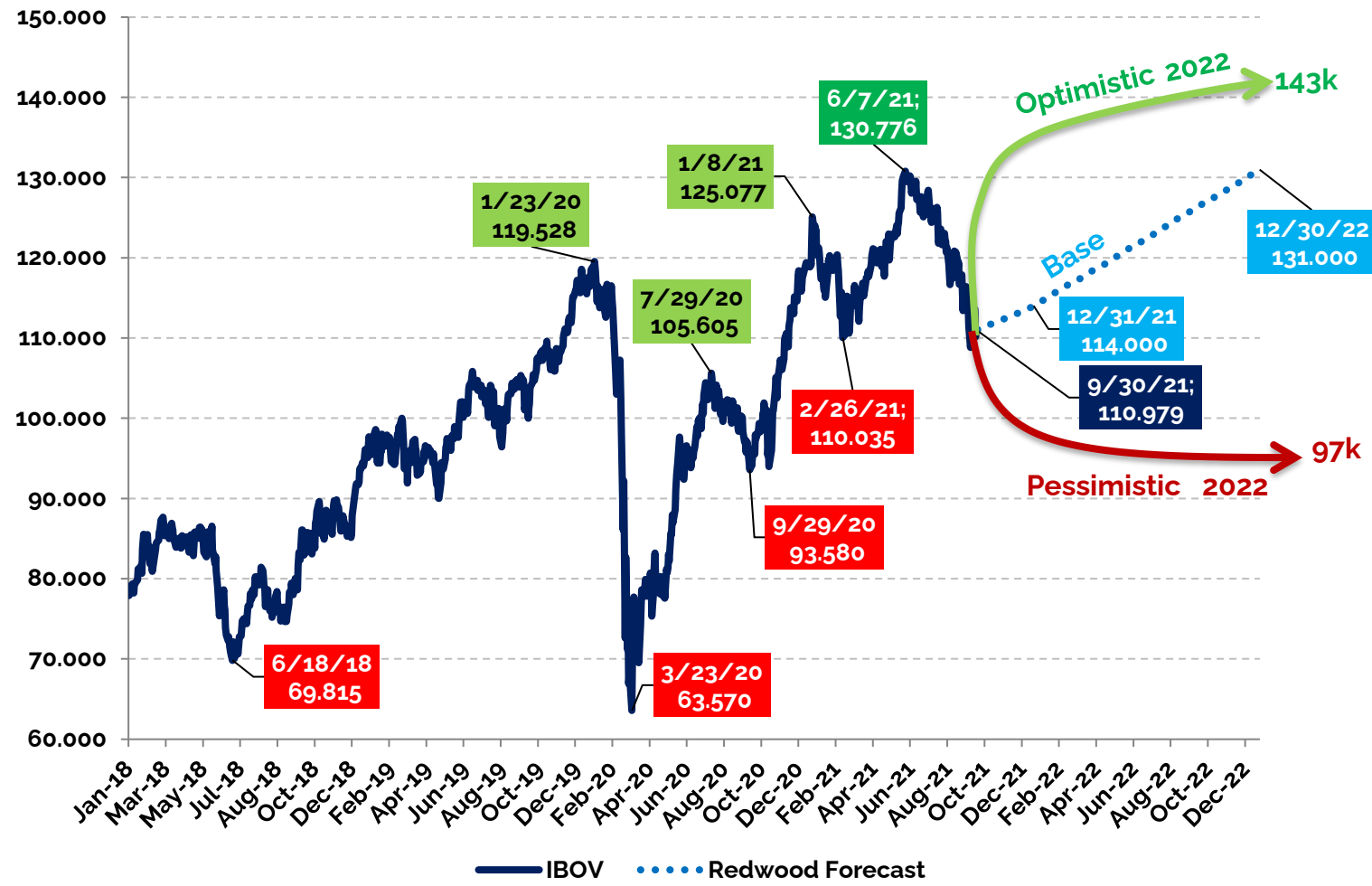


Period: 17.5 years
Source: Bloomberg
Elaborated by Redwood

| IBOV forecast related to | Up/Downside | 30/09/2021 |
|--------------------------------|-------------|------------|
| Fair Price (Points) | 09/30/2021 | 110.979 |
| Linear Projection: | 205,094 | 84.80% |
| Historical Average Projection: | 170,241 | 53.40% |
| Mean Reverse: | 522,334 | 370.66% |
| Historical Low (P/E) 06/30/05 | 90,983 | -18.02% |
| Historical High (P/E) 12/31/20 | 276,405 | 149.06% |

POLITICAL, ECONOMIC AND FINANCIAL SCENARIOS

Markets – Ibovespa Assessment – Comparative projections



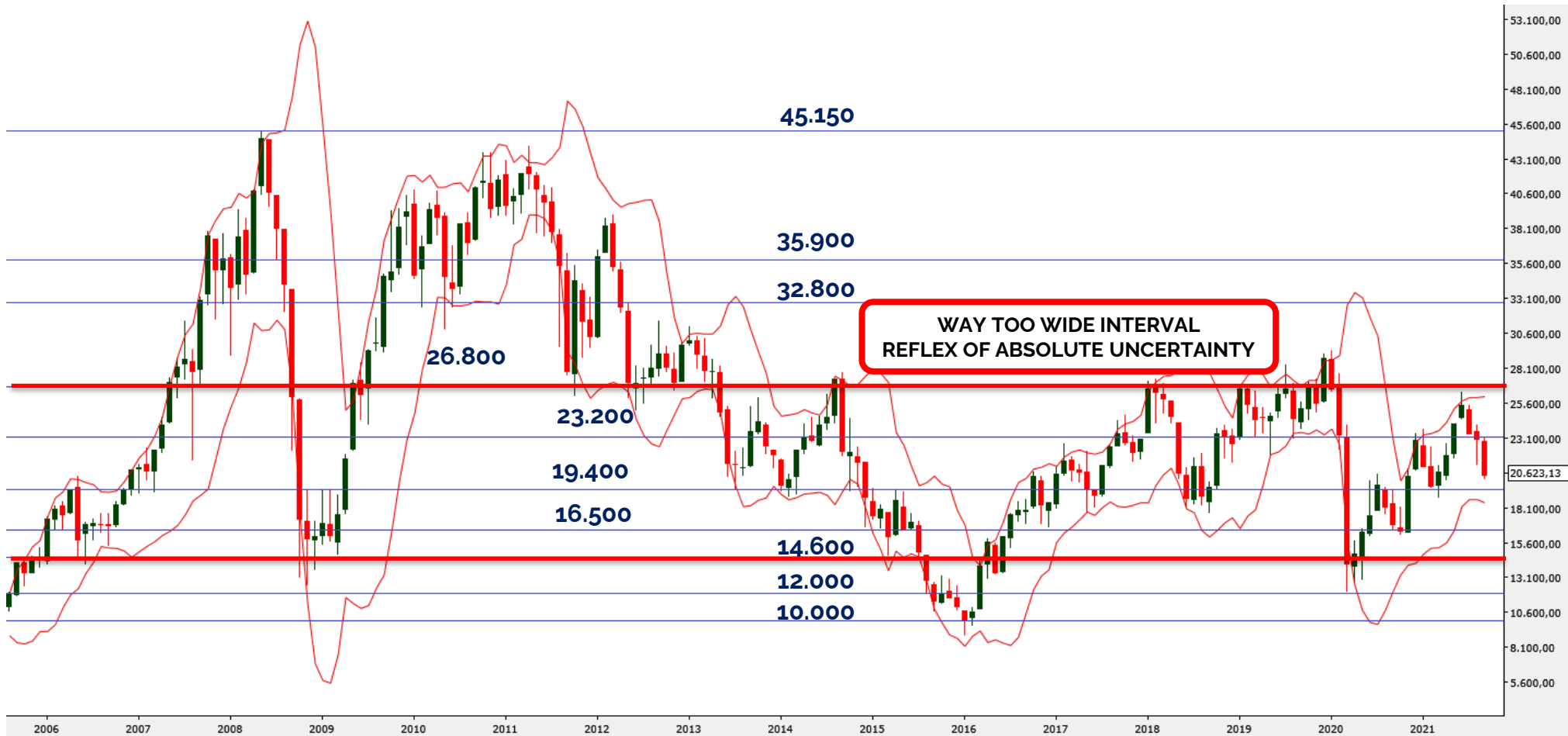
Uneasy Considerations

- Crises on all sides are stumbling blocks
- The long-awaited reduction in the P/E ratio happened. However, not everything has yet been properly priced. Decreased the gap, but not all of it.
- Yield curve and Treasuries both sky high also exert influence
- Fiscal risk increasingly present
- World liquidity will decrease and with it flows to emerging countries will dry out

Source: Broadcast; B3 | Elaborated by Redwood

POLITICAL, ECONOMIC AND FINANCIAL SCENARIOS

Markets - Ibovespa in USD terms



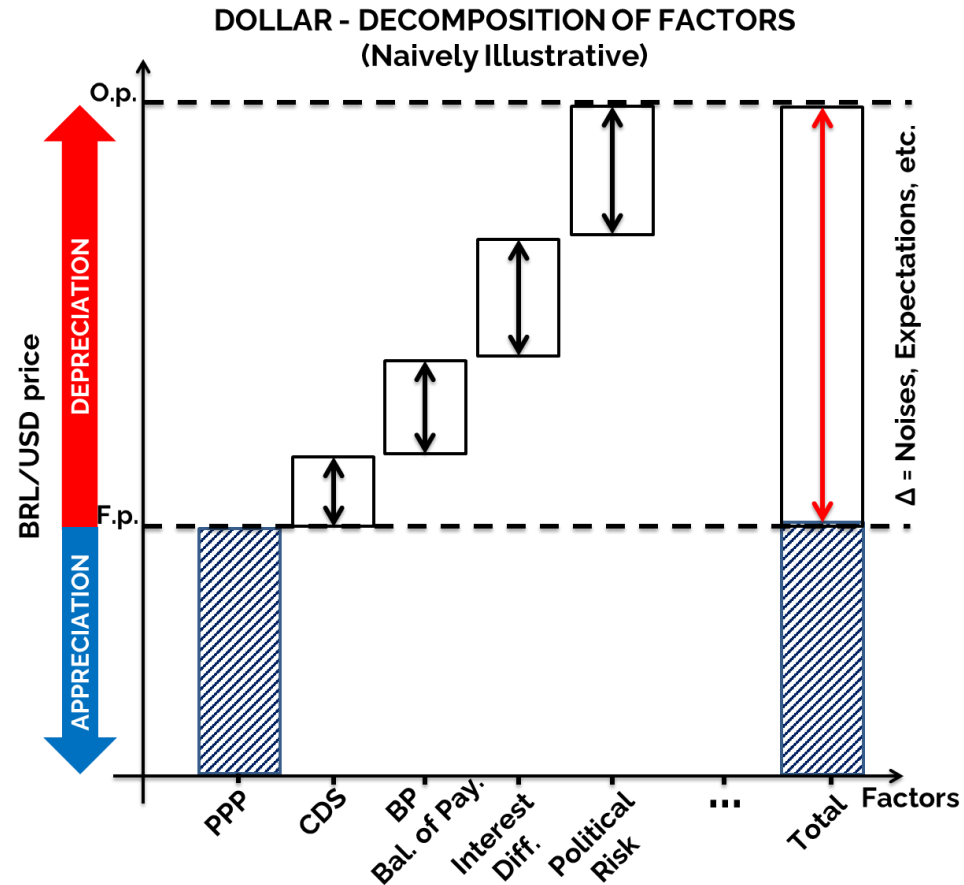
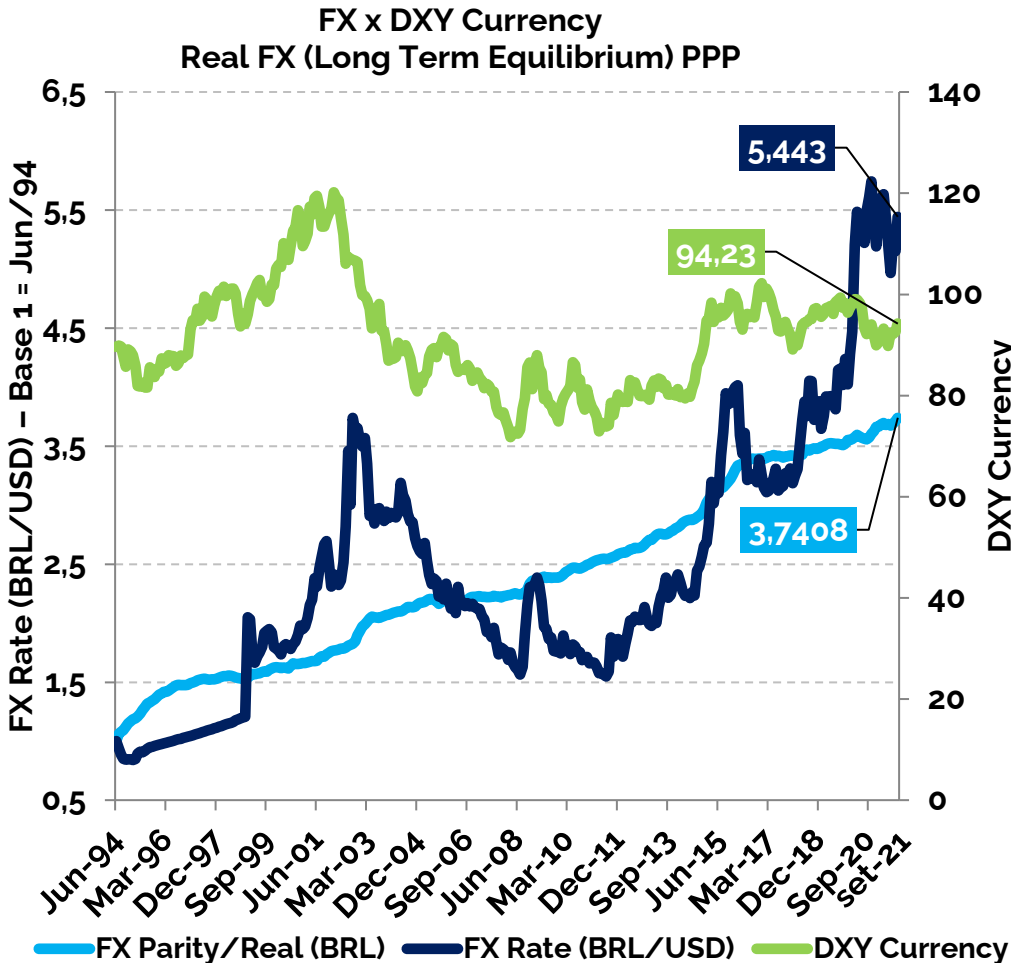
Monthly Candles - Base 09/30/2021

Source: Broadcast | Elaborated by Redwood

POLITICAL, ECONOMIC AND FINANCIAL SCENARIOS

Markets – Foreign Exchange vs DXY

- Real (BRL) devalued and far from parity
- Political instability explains a lot
- BACEN tweaks “too much”:
 - Level matters, but it doesn’t admit it
 - Volatility “imposes”, and interventions come in...

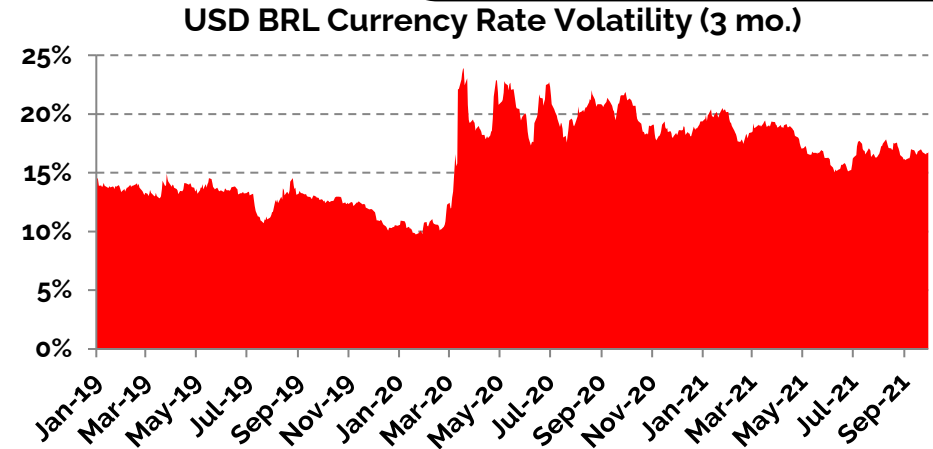
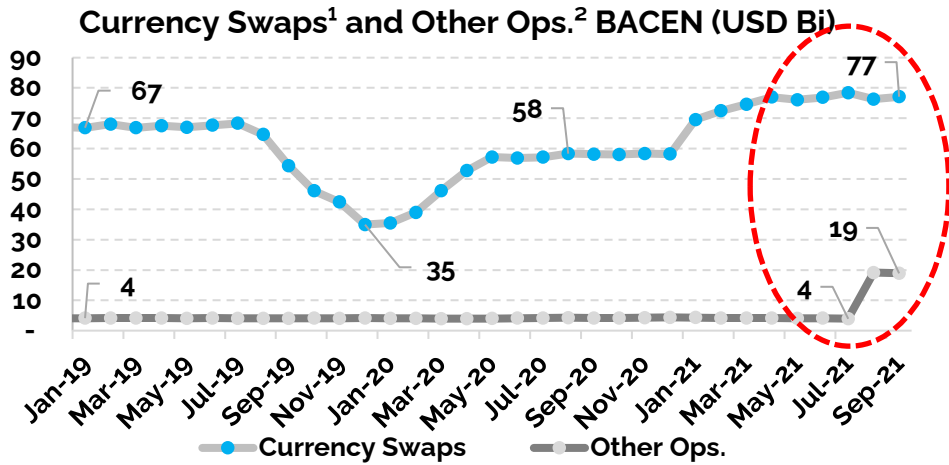


Obs.: There are correlations among exogenous factors and impacts left unexplained here.

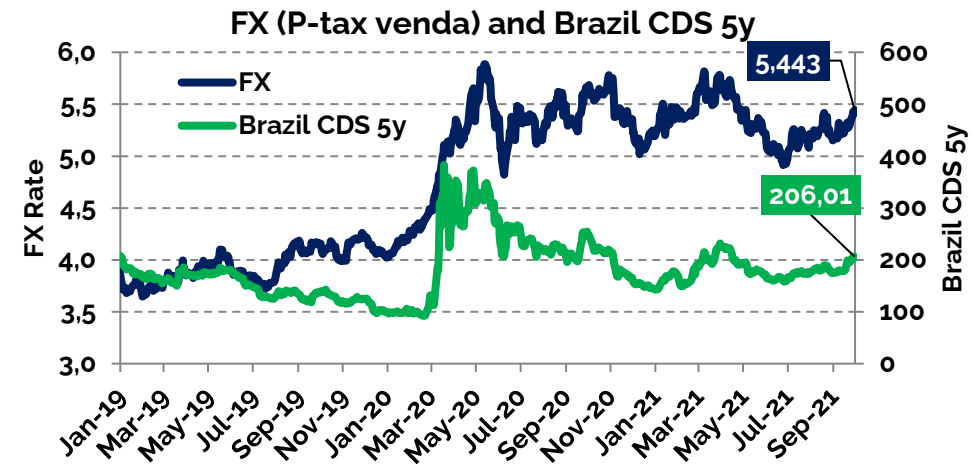
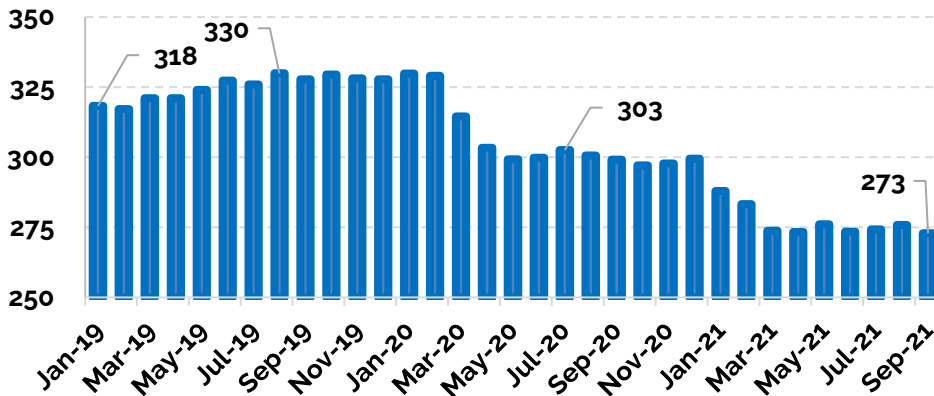
POLITICAL, ECONOMIC AND FINANCIAL SCENARIOS

Markets – Exchange rate policy: Endless Interventions

- Highlights:**
- Exchange Rate Swap transactions: 32% increase on December 2020;
 - Other Transactions.: 356% rise with respect to USD 4 Billion-average;
 - Foreign Reserves: -26,5 Bi USD in 2021



Foreign Reserve Position - Bacen



Source: BACEN; Bloomberg | Elaborated by Redwood

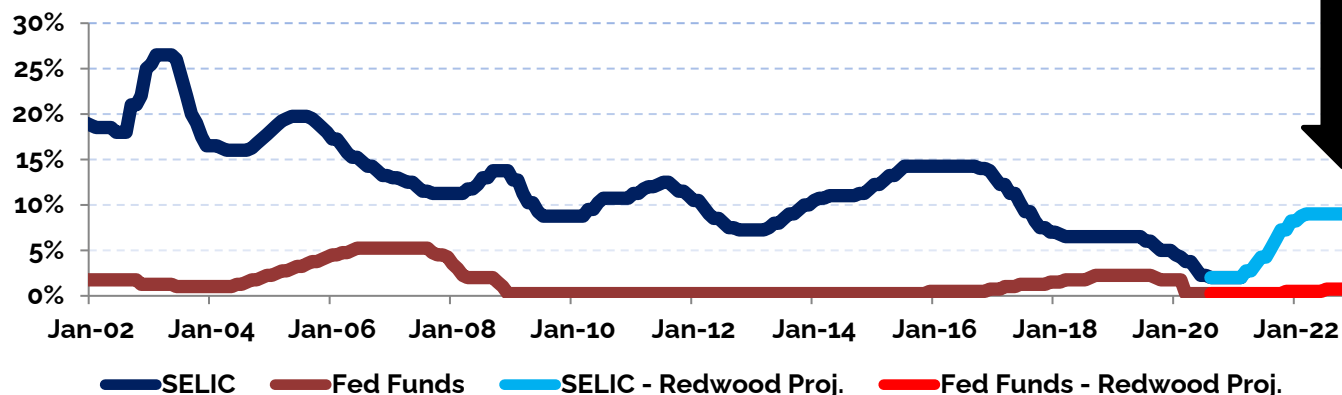
¹Transactions carried out through open market auctions and registered at BM&F/B3 S.A. Notional value of debtor position assumed by CB converted at the end-of-period purchase rate of currency. ²Assets and liabilities recorded in the CB balance sheet, except international reserves and stocks of repo lines and loans in foreign currency.

POLITICAL, ECONOMIC AND FINANCIAL SCENARIOS

Markets – Evolution of Interest Rates – Brazil x USA and Parity

The dovish stance continues, “pero no mucho” for the Fed. Both here and there, it is important to know not what the Central Bank should do, but what it will actually do! Inflation starts to bother, but the Fed's moves are slower and more restrained. Tapering and effective hikes may take place by the end of this year. It won't be long before other countries follow suit, and this movement (or at least a signaling of it), will affect markets, especially ours. Rapid vaccination anticipates the return to activity with some lack of price control. It does influence.

The analysis above is only three months old, from the previous Scenarios... let there be one adjustment or another, but the interpretation remains strictly unaltered. Thus, economic analyzes and their consequences for investment decisions remain valid.



International Interest Rate Parity - Redwood

| | NTN-B | T-Bond | CDS | Spread |
|--------------------|-------|--------|-------|--------|
| Average | 4,64% | 1,94% | 3,03% | -0,37% |
| Standard Deviation | 1,15% | 0,71% | 0,74% | 0,48% |
| Sep-21 | 4,89% | 1,49% | 2,98% | 0,36% |
| Low stress 2020 | 3,60% | 1,49% | 2,95% | -0,85% |
| Low stress 2021 | 5,73% | 1,74% | 4,30% | -0,36% |

Taylor Rule - Redwood

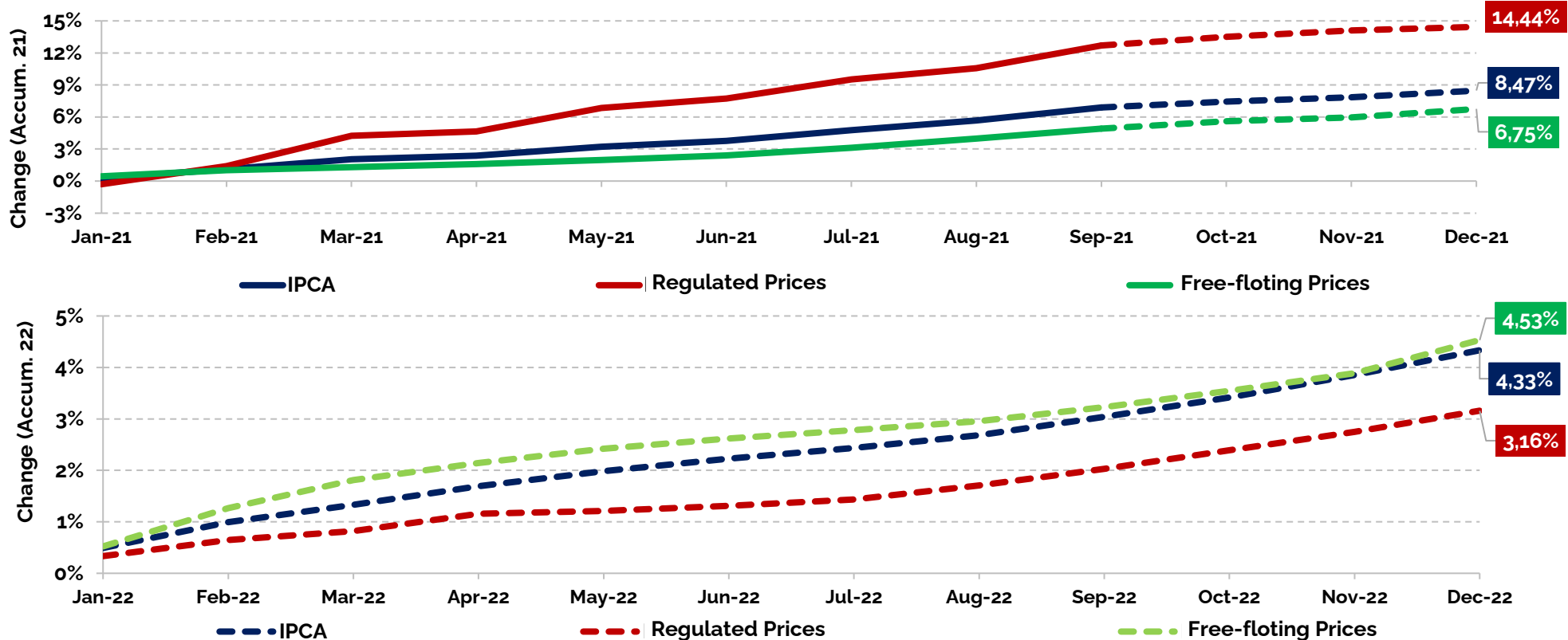
$$(2021) \text{ Target Rate} = \text{Neutral Rate} + 0.5 \times (\text{GDP}_e - \text{GDP}_t) + 0.5 \times (I_e - I_t) = 9,01\%$$

$$(2022) \text{ Target Rate} = \text{Neutral Rate} + 0.5 \times (\text{GDP}_e - \text{GDP}_t) + 0.5 \times (I_e - I_t) = 6,76\%$$

POLITICAL, ECONOMIC AND FINANCIAL SCENARIOS

Markets – Headline IPCA, Regulated and Free-Floating Price Inflation

IPCA, Regulated and Free-Floating Price Inflation – 2021 / 2022

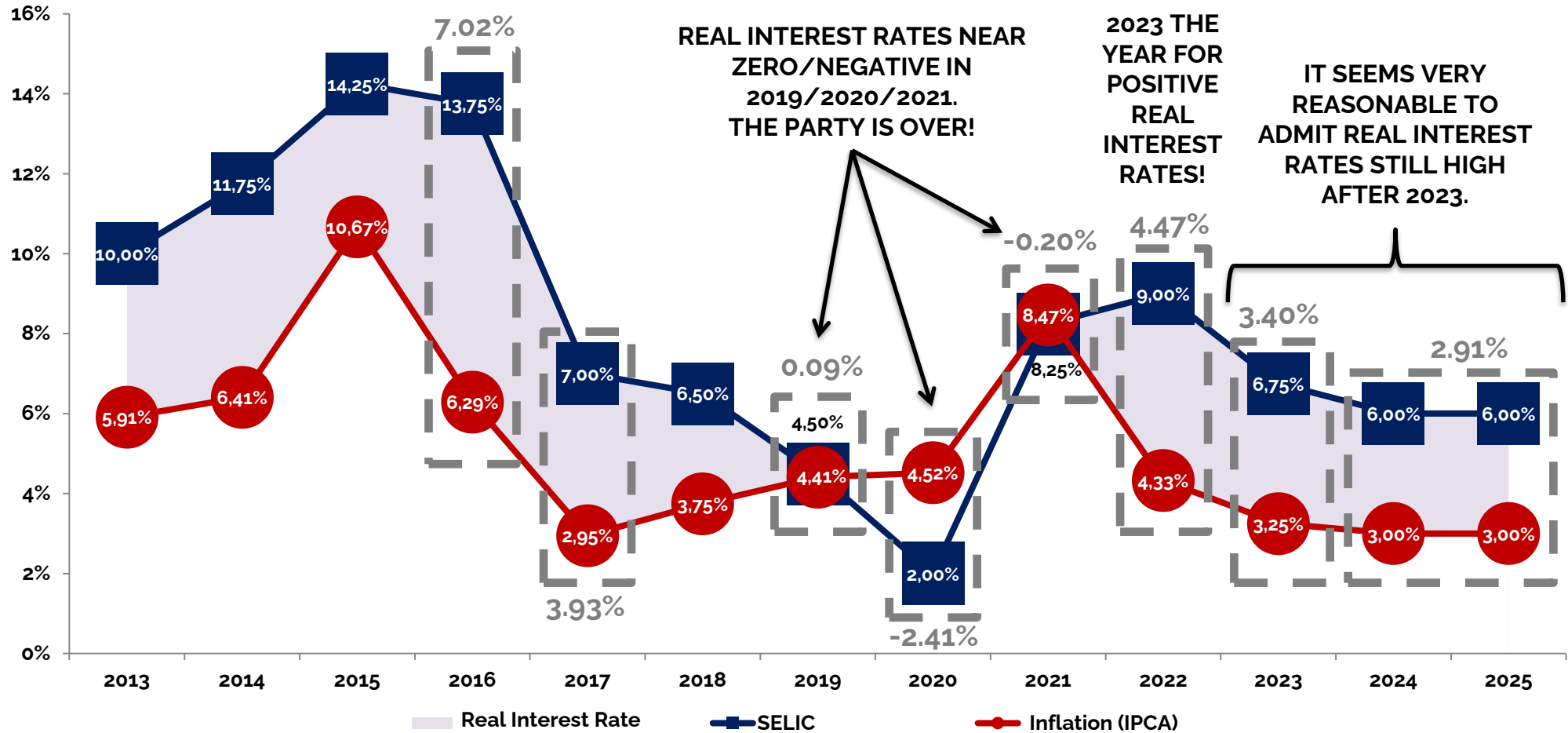


Temporary inflation pressures? Not indeed! If we don't take care of it, 2022 could easily "replay" 2021. Administered prices going lower than market prices is a possibility, but numerous uncertainties could betray this expectation.


Source: IBGE | Elaborated by Redwood (Redwood Forecast from Sep/21)

POLITICAL, ECONOMIC AND FINANCIAL SCENARIOS

Markets – Evolution of Interest Rate and Inflation in Brazil



Source: BACEN; IBGE | Elaborated by Redwood – Obs: Redwood forecast for IPCA and SELIC – 2021-2025



REDWOOD MACROECONOMIC FORECAST 2021 AND 2022

POLITICAL, ECONOMIC AND FINANCIAL SCENARIOS

Probability-based Prospect 2021 and 2022 – 4th QTR 2021

| INDICATORS | | 2018 | 2019 | 2020 | 2021 (Prob./Base) | 2022 (Prob./Base) |
|--|-------------------|-------|-------|-------|----------------------|----------------------|
| Economic Growth | | | | | | |
| GDP Growth | % | 1.32 | 1.14 | -4.10 | 4.80 | 1.18 |
| Investment Rate | % GDP | 15.83 | 15.36 | 16.43 | 17.64 | 16.84 |
| Labor Markets (PME-IBGE) | | | | | | |
| Average Rate of unemployment (yearly rate) | % | 12.3 | 11.9 | 13.2 | 13.8 | 12.50 |
| Real Average Wages | R\$ const | 2.417 | 2.431 | 2.537 | 2.539 | 2.536 |
| Exchange, Interest and Inflation Rates | | | | | | |
| Exchange Rate (December) | BRL/USD | 3.87 | 4.03 | 5.20 | 5.20 | 5.61 |
| Headline Inflation (IPCA) | Var. % yearly | 3.75 | 4.31 | 4.52 | 8.47 | 4.33 |
| Nominal Interest (Selic) - (December) | Var. % yearly | 6.50 | 4.50 | 2.00 | 8.25 | 9.00 |
| Real Interest (Selic/IPCA) | Var. % yearly | 2.65 | 0.18 | -2.41 | -0.21 | 4.47 |
| CDS Brazil – 5Y (end of year) | Percentage points | 208 | 99 | 143 | 204 | 297 |
| Balance of Payments | | | | | | |
| Exports | USD Billions | 239.9 | 225.4 | 209.8 | 272.5 | 274.2 |
| Imports | USD Billions | 181.2 | 177.3 | 158.9 | 196.8 | 204.9 |
| Trade Balance | USD Billions | 58.7 | 48.1 | 50.9 | 75.7 | 69.3 |
| Current Account Balance (new methodology starting in 2019) | USD Billions | -14.5 | -65.0 | -25.9 | -10.4 | -4.1 |
| Current Account Balance | % GDP | -2.20 | -3.50 | -1.70 | -0.68 | -0.27 |
| Public Finances | | | | | | |
| Primary Result | % GDP | -1.6 | -0.8 | -9.4 | -1.3 | -1.1 |
| Nominal Result | % GDP | -7.0 | -5.8 | -13.6 | -4.9 | -4.8 |
| Net Debt Stock | % GDP | 52.8 | 54.6 | 62.7 | 62.3 | 64.5 |
| Gross Debt Stock | % GDP | 75.3 | 74.3 | 88.8 | 82.9 | 83.3 |
| World & US Economies | | | | | | |
| World GDP Growth Rate | % | 3.57 | 2.76 | -3.27 | 5.19 | 3.62 |
| US Growth Rate | % | 3.0 | 2.2 | -3.5 | 6.00 | 3.00 |
| CPI | Var. % yearly | 1.9 | 2.3 | 1.3 | 4.0 | 3.0 |
| Nominal interest rate (Fed Funds) | Var. % yearly | 2.50 | 1.75 | 0.25 | 0.50 | 0.75 |

Elaborated by Redwood | Forecast in red

POLITICAL, ECONOMIC AND FINANCIAL SCENARIOS

Variables Chart – Summary Exchange Rate/Inflation/SELIC – Proj. 2021/22

| Summary - 2021/2022 | | | | | | |
|-----------------------------------|----------------------------|-------------|------------------|--------------|--------------|--------------|
| Scenarios ¹ | Exchange Rate ² | | Inflation (p.a.) | | SELIC (p.a) | |
| | 2021 | 2022 | 2021 | 2022 | 2021 | 2022 |
| Optimistic | 4.75 | 5.17 | 5.50% | 3.25% | 7.50% | 6.75% |
| Baseline | 5.15 | 5.61 | 8.47% | 4.33% | 8.25% | 9.00% |
| Pessimistic | 6.02 | 7.11 | 10.00% | 5.50% | 9.50% | 12.00% |
| Probability-based Scenario | 5.20 | 5.61 | 8.47% | 4.33% | 8.25% | 9.00% |

¹Tax and Administrative Reform dehydrated for 2022;

²December Quotes

| GDP | 2021 | 2022 |
|-----|-------|-------|
| | 4.80% | 1.18% |

| Unemployment | Ave. Rate | | Dec. Rate | |
|--------------|-----------|--------|-----------|--------|
| | 2021 | 2022 | 2021 | 2022 |
| | 13.78% | 12.50% | 12.97% | 11.79% |

POLITICAL, ECONOMIC AND FINANCIAL SCENARIOS

Conclusions – Brazil: Macro. Scenario – Sole Focus: elections

- ❖ ***Brazil is under ubiquitous politicization: economy, health, etc. We were "taken" to a level where politics dominates all issues and lends itself, at this time, and the administration, to coordinated solutions with an exclusive focus: the 2022 presidential elections. Our time horizon and prospects for solving chronic problems are gone; in its place were "bypasses" that will necessarily need a definitive alternative ahead. We lost our timing. The pressures now come from both sides: abroad and at home. Against externalities we can do little... and as for our problems, we don't want to do much. The result is a predicament of extreme caution and, for investors, thinking above all about "protection" and risk aversion. That's it!***
 - Monetary Policy: Selic goes from neutral to a positive level;
 - Fiscal Policy: Public Debt-to-GDP ratio improves, but "phantoms" loom and tear expectations down;
 - Brazil risk: CDS finally reacted and started pricing in the "real" Brazil;
 - Exchange rate policy: is Central Bank now using it to tame inflation?
 - External Scenario: The "structural disruption" of economies is a reality, especially through the supply chain. With the health crisis phasing out, countries' monetary policies tend to reverse, starting with the FED's tapering and an effective increase in interest rates – later the ECB and Asian countries. Inflation is an issue. Capital flows to emerging markets will slow down;
 - Essential reforms: It's over. Even dehydrated makeovers or even mash-ups are now as far away and discredited as its original versions. Not even an "extra effort" by the Centrão seems to do the job;
 - Stock Exchange: latest scenario assessments realized that China's demand, liquidity and rising commodities were in favor, and everything else against... well, the "everything else" finally prevailed and prospects for Ibovespa "bleak";
 - Structured and Alternative Investments: Some regulatory milestones came out and in the long-run these investments are quite good;
 - Unemployment rate: CAGED does not adequately "sensitize" the PNAD. We are not in the stone age. Different methodology.



The deterioration of the current government and the total and exclusive attention given to matters fundamentally related to the election took over the entire executive branch. The agenda's priorities are those with direct and indirect actions to regain the President's popularity and credibility. Everything else falls to the background.

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