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Chile

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Chile thesis: higher growth, higher interest rate?

Chile was one of the countries that had more stimulus and, consequently, growth since the beginning of the Covid-19 outbreak. Therefore, there was a sharp increase in inflation in the country.

Chile has shown inflationary pressures similar to those seen in other countries such as Brazil and the USA. While the reopening of the economy led to a normalization of the dynamics of inflationary services, the expected reduction in industrial goods inflation did not occur. On the contrary, inflation of industrial goods continues pressuring heavily in recent months.

The Central Bank of Chile has been forced to revise its outlook for the normalization of monetary conditions on several occasions. This review was due to a much more vigorous activity scenario than anticipated. These movements were contrary to what the institution showed in its forward orientation.

Will we see a continuation of this dynamic from now on? Our view is that the scenario has become more symmetrical. The continuation of bullish GDP surprises would require consumers to use a substantial proportion of the circumstantial savings of 17% of the GDP accumulated in the months of the pandemic.

Econ 101: determinants of inflation and interest rate

- In summary, inflation depends on past inflation (inertia), future inflation expectations, external inflation (exchange rate, commodities, etc.), the output gap (demand vs. aggregate supply), as well as other factors such as climate, supply shocks, productivity.
- The instrument used by the Central Bank is the current interest rate. It affects inflation through three channels: (i) increases/reduces aggregate demand (hiatus); (ii) appreciates/depreciates the exchange rate (external inflation); (iii) anchors inflation expectations. The Taylor Rule is a *suggestion* of how Central Banks should act to achieve the inflation control goal.
- At each moment, several uncertainties hinder the work of the Central Bank. For example, the output gap is not real but rather estimated; the economy is susceptible to various supply and demand shocks not included in the model (e.g., climate); the parameters of the equations themselves are not respected and change over time.
- Because of these uncertainties, Central Banks are susceptible to errors and have to correct the course of monetary policy in an almost continuous manner.

Small-sized model for inflation

Phillips Curve:

$$\text{inflation}_t = \beta_1 \text{inflation}_{t-1} + \beta_2 E[\text{inflation}_{t+1}] + \beta_3 \text{external inflation}_{t-1} + \beta_4 \text{Gap}_{t-1} + \varepsilon_t$$

IS Curve:

$$\text{Gap}_t = \alpha_1 \text{Gap}_{t-1} + \alpha_2 \text{fiscal}_{t-1} + \alpha_3 (\text{Int. Rate}_{t-1} + \text{Neutral Int. Rate}_t) + \delta_t$$

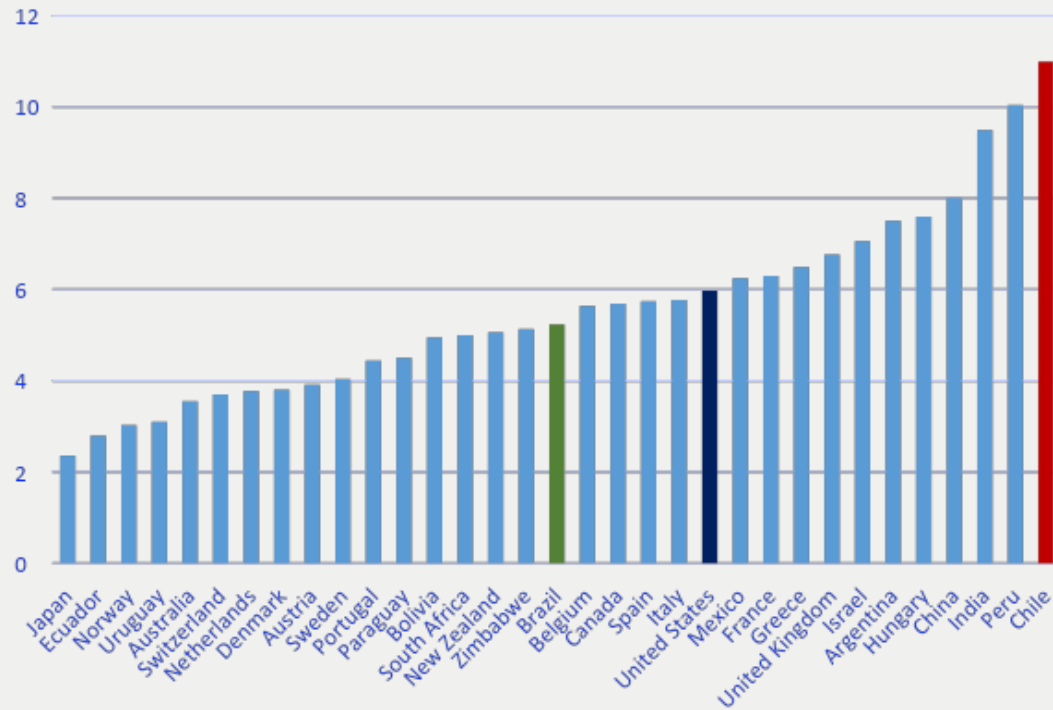
Taylor Rule:

$$\text{Int. Rate}_t = \text{Neutral Int. Rate}_t + \rho_1 (\text{inflation}_t - \text{target}_t) + \rho_2 \text{Gap}_t$$

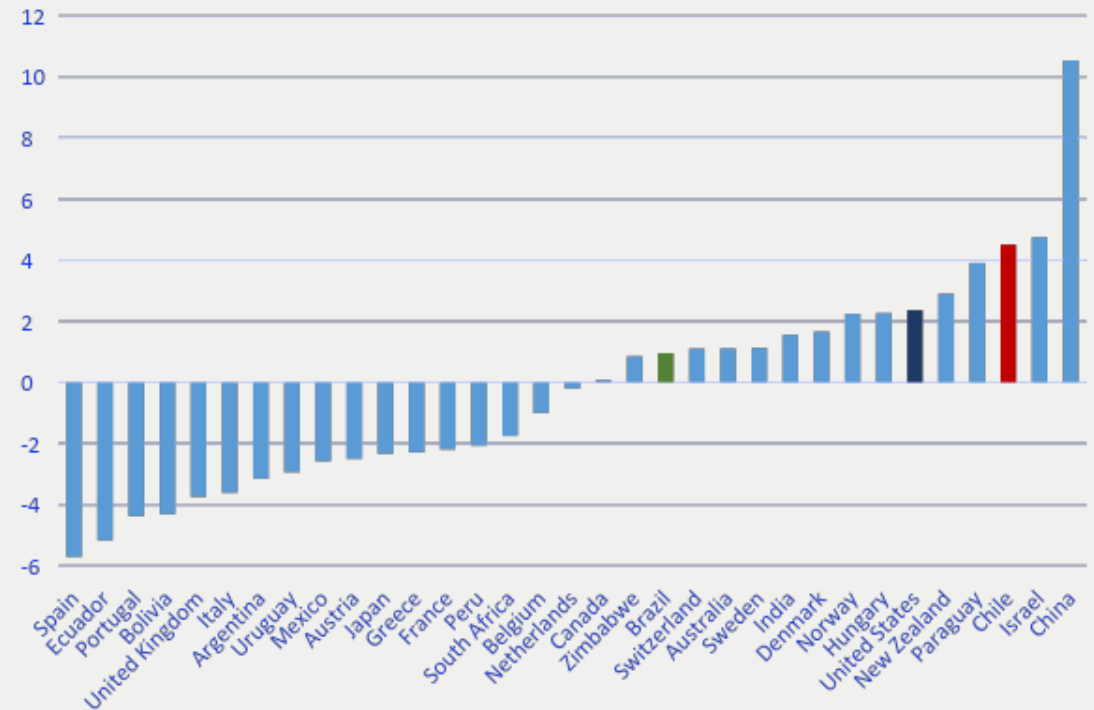
Chile's growth in 2021 will be one of the largest

- Chile's GDP would have grown above 10% in 2021. If that is the case, this will be the most significant growth among several emerging and developed countries.
- Chile will come out with one of the strongest GDPs in the post-crisis. In the 2020-2021 biennium, only China (10.5%) and Israel (4.8%) will grow more than Chile (4.5%). This is far above Brazil (1.0%) and the United States (2.7%)

GDP growth in 2021 (%, yoy)



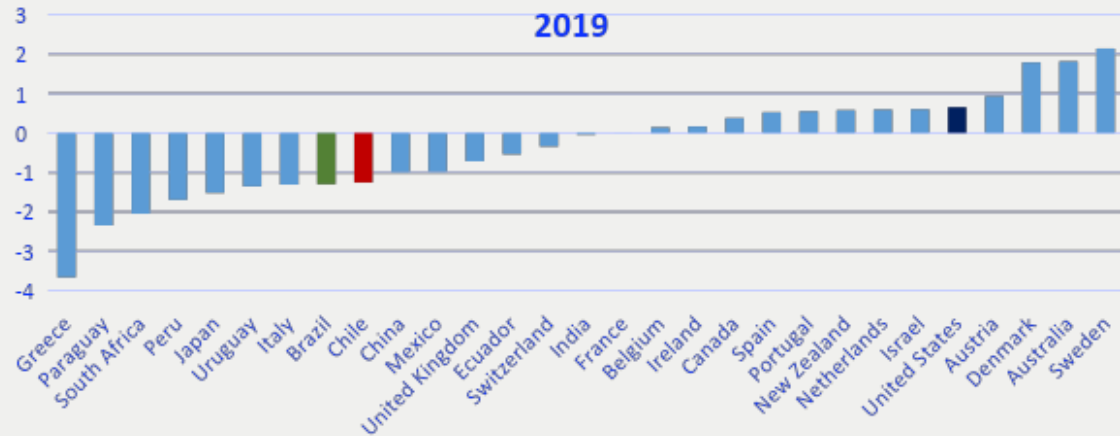
GDP growth in the 2020-21 biennium (%, yoy)



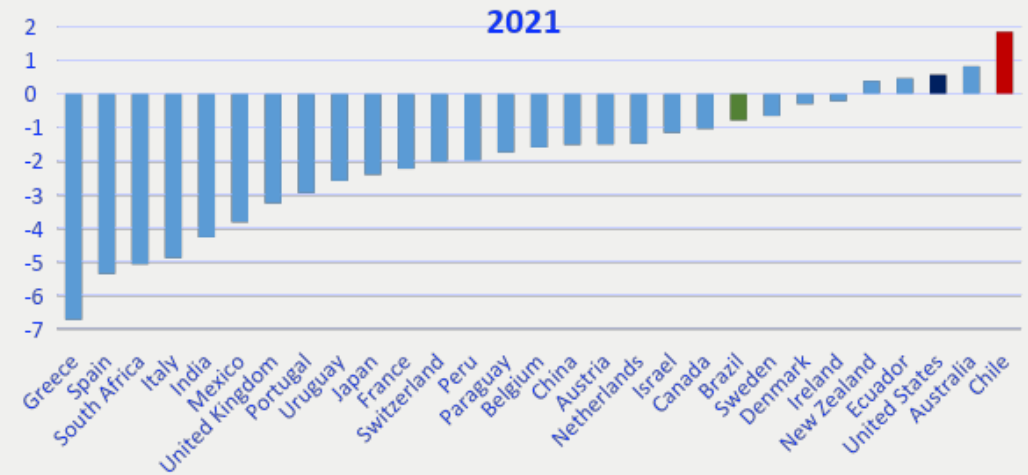
Chile will have a positive gap in 2021 and 2022

- Chile will be one of the few countries with a positive output gap in 2021. Most countries will not be in full employment by 2022.
- The discrepancy tends to be even greater. The data was calculated based on the IMF projections as of October 2021. Since then, there have been downward revisions in GDP growth in 2021-22 in most countries. In Chile, on the other hand, revisions were for greater growth.
- Chile's recovery is even more evident when we consider the starting point. Unlike the USA and many European countries, Chile had a negative gap of more than 1% of potential GDP in 2019, before the crisis.

Output gap in 2019 (% of potential GDP)



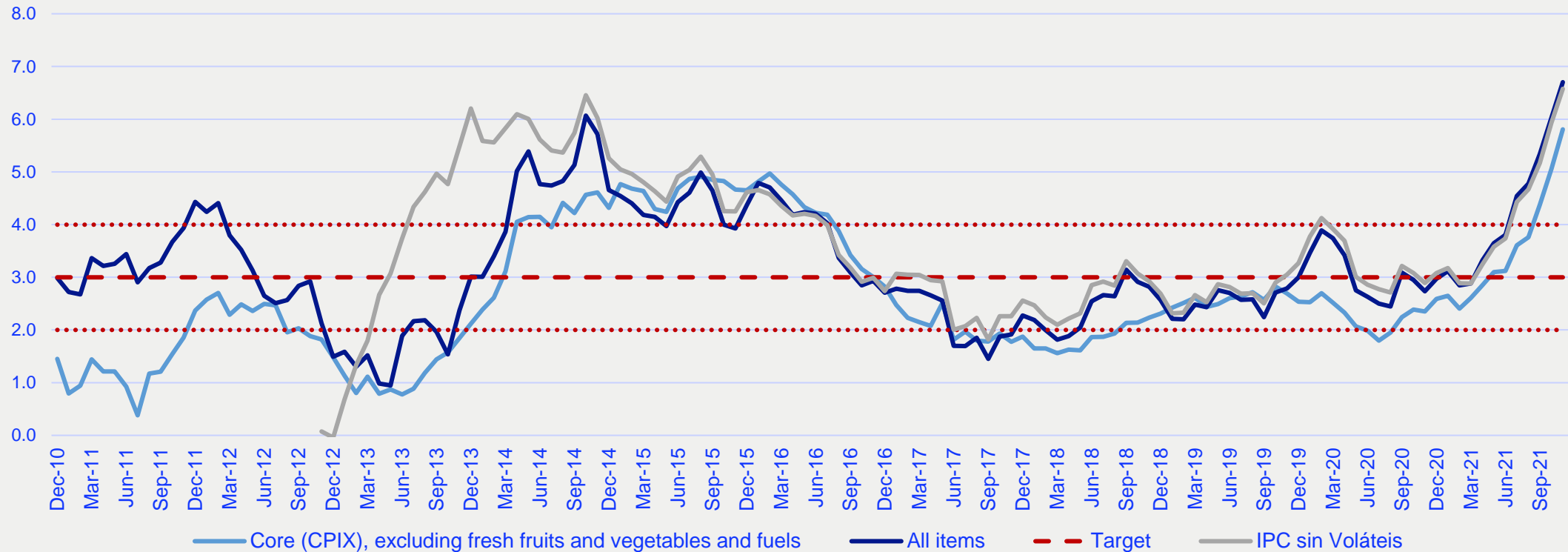
Output gap in 2021-22 (% of potential GDP)



Inflation Core Above Inflation Target Center

- Inflation in ex-fuels and perishable foods in Chile has been at the highest level since at least 2010. After core inflation had reached below the lower limit of the inflation target in July 2020, 12-month cumulative inflation reached 5.8% in August 2021. Total inflation and the nuclei are above the upper limit of the target set by the Central Bank.

Headline and core inflation (% , yoy)

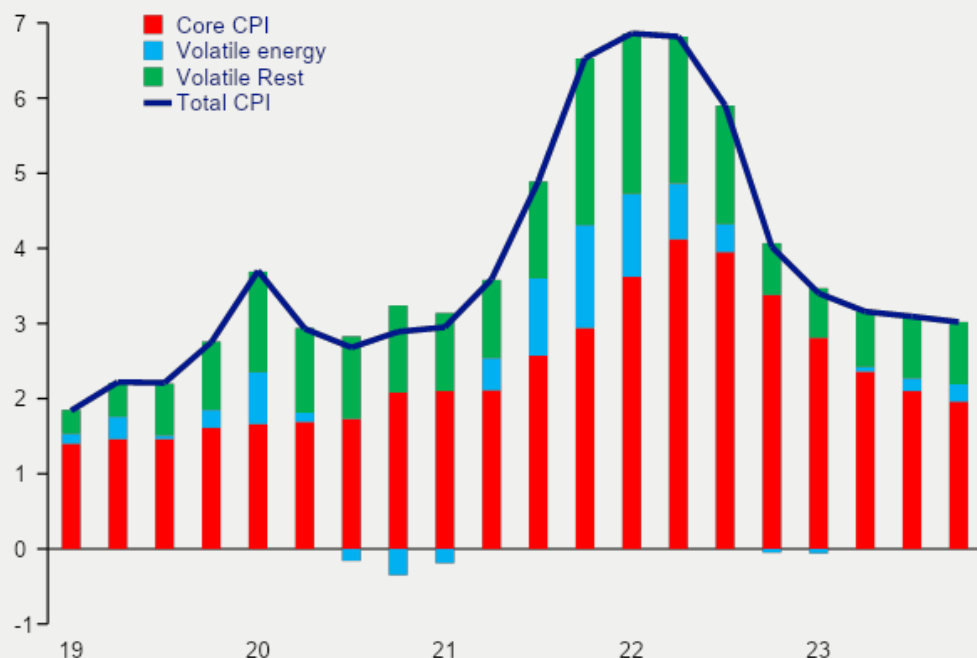


Source: INE, Bloomberg, Mar Asset management

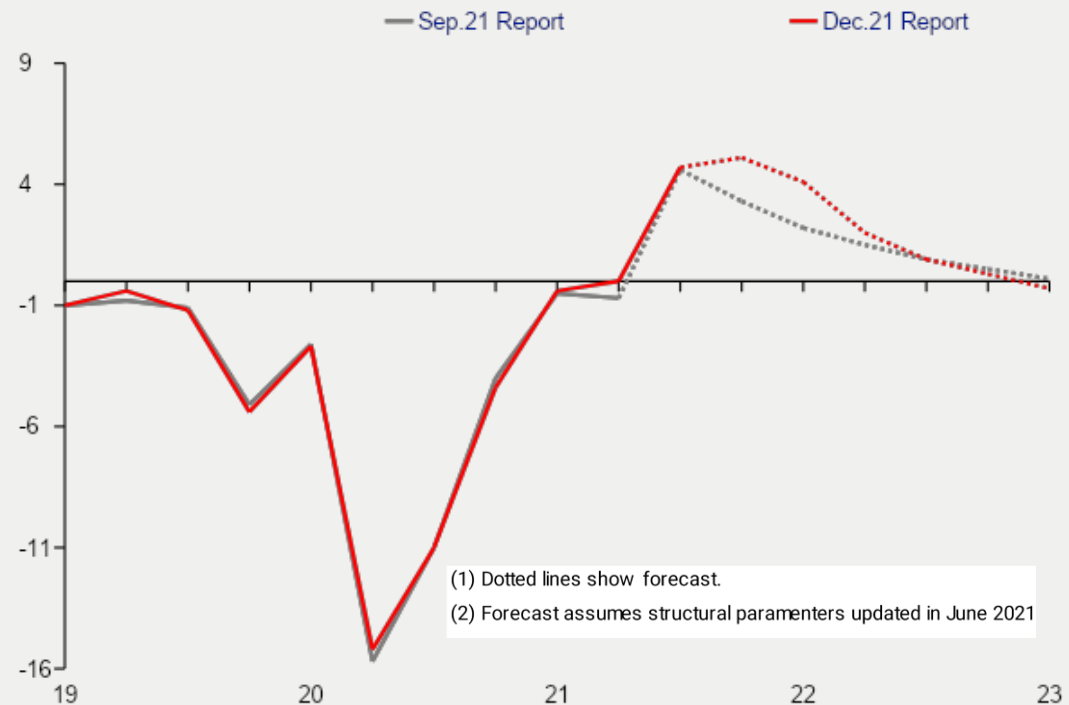
Chile thesis: higher growth, higher interest rate 1

- The Central Bank of Chile (BCCh) scenario is one in which there is a gradual convergence of inflation to the target. A hypothesis that uses to draw on the scenario is the convergence of the output gap to near zero by the end of 2022.
- Therefore, the scenario considers the dissipation of energy shocks and other volatile items and the dissipation of pressure from a heated economy.

BCCh projection for inflation and its composition (% , yoy)



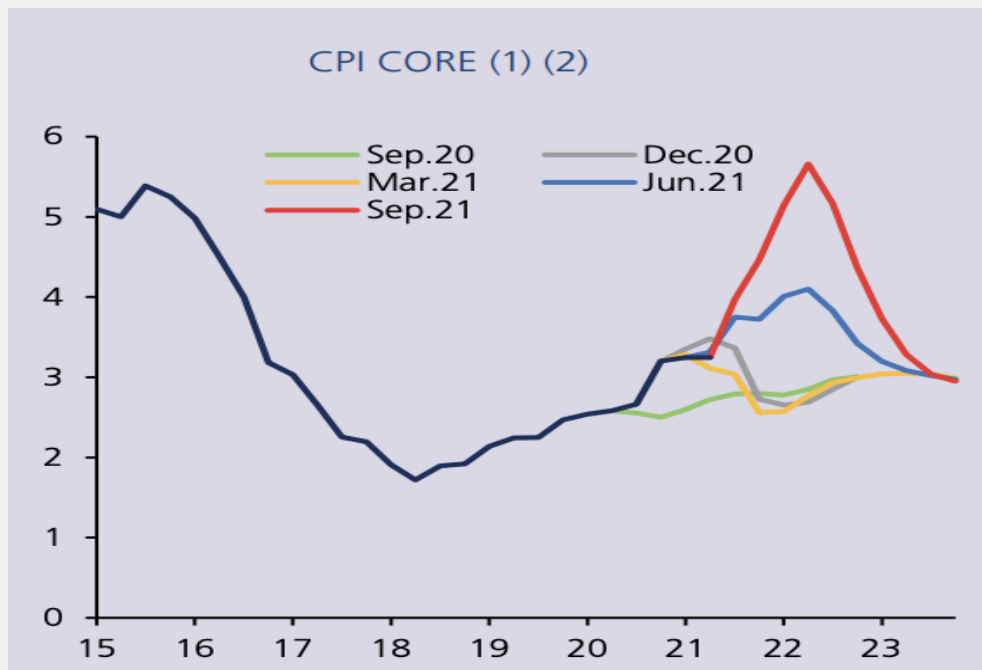
BCCh projection for the output gap (%)



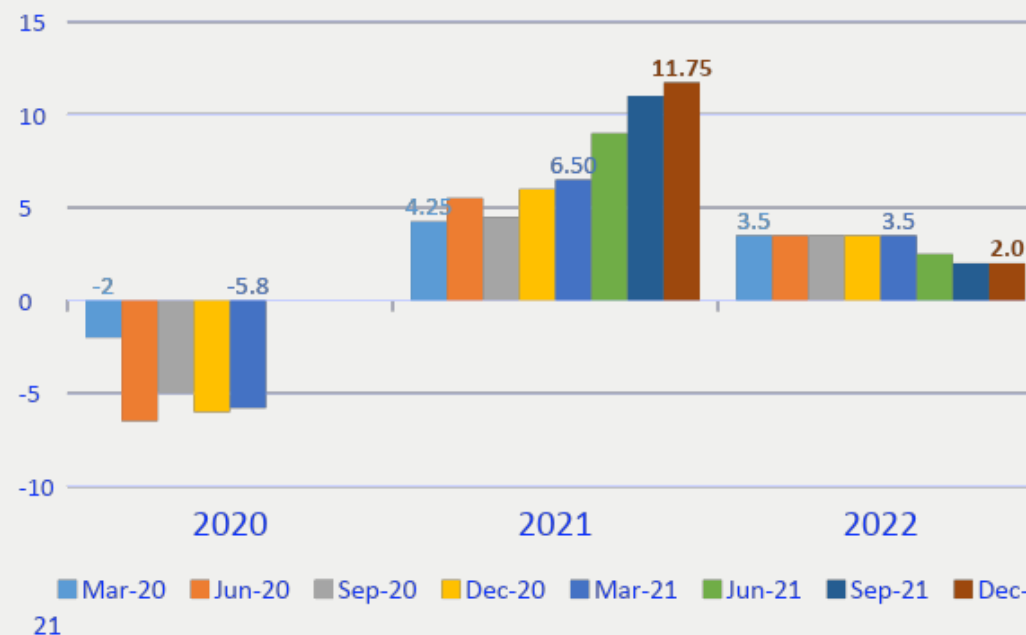
Chile thesis: higher growth, higher interest rate 2

- We believe there is an asymmetric risk to the Central Bank scenario. As we will detail in the following slides, the volume of fiscal and parafiscal stimuli was so significant in Chile that it will probably sustain a higher level of GDP growth for longer.
- If it is achieved, BCCh would be forced to revise its forecasts for growth and inflation. In fact, bullish reviews have been very frequent in recent quarters. In March 2021, the Central Bank expected growth of 6.5% for the year and an inflation core peak close to 4.0% in 2022. In December of the same year, it expected growth of 11.75% and a peak above 6.0%.

BCCh projection for inflation core at different times (% , yoy)

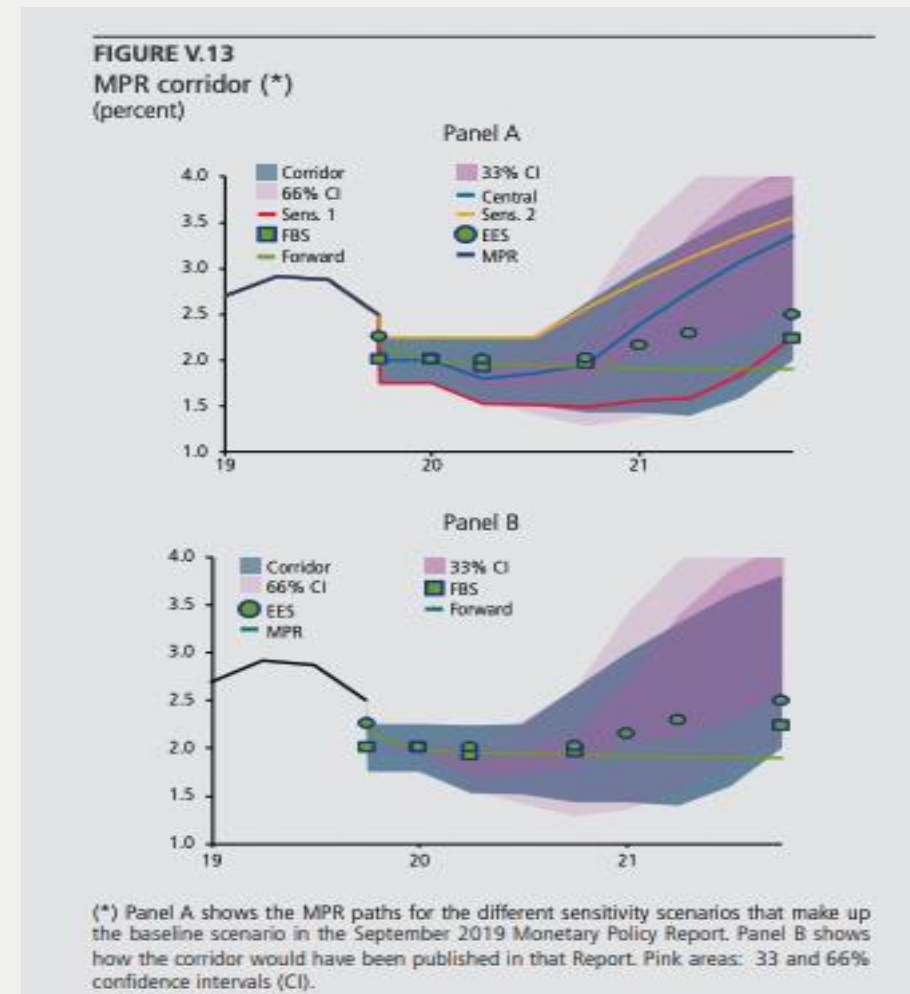


BCCh projection for GDP growth in 2020-21-22 at different times (%)



BCCh implemented forward guidance in Mar-20

- In March 2020, the Central Bank of Chile implemented forward guidance. That is, the CB started to indicate its expectation of short-term interest rate in the subsequent quarters. This instrument is used by other central banks in the world and aims to control interest rates at longer vertices in which the CB does not act directly through its primary instrument – the overnight interest rate.
- How BCCh opted was to publish a “range” through which it expects the interest rate to follow in the medium term. The range is calculated as follows.
 - Based on the information available at the moment, BCCh estimates what would be the path of the interest rate consistent with the inflation convergence to the 3% target in two years. This is the blue line in the chart above.
 - The BCCh also calculates different interest rate paths based on alternative scenarios for GDP dynamics “consistent with output growth in the forecast ranges.” Throughout MPR, BCCh describes alternative scenarios for the economic scenario, especially GDP growth. The range is calculated by the upper and lower bound of the interest rates required to bring inflation to the target in these alternative scenarios. This range is represented by the blue area on the right chart.
 - Throughout the MPR, the CB presents extreme scenarios in which the interest rate would be out of the range.
 - In addition, the CB calculates ranges according to the historical standard deviation of the interest rate. This confidence interval is represented by the pink and purple areas.



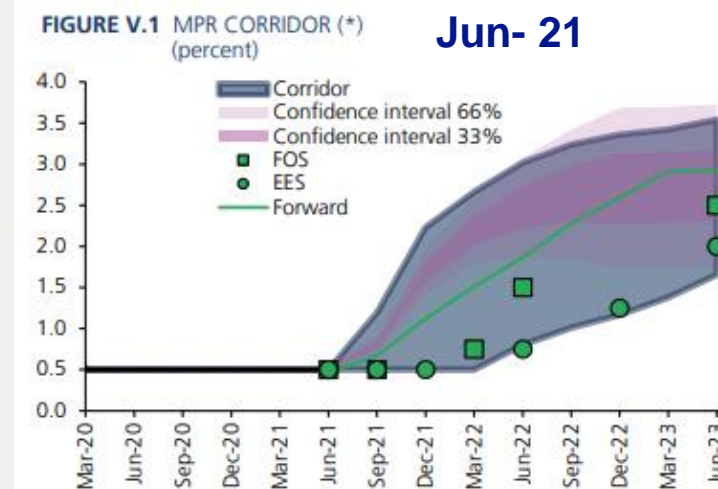
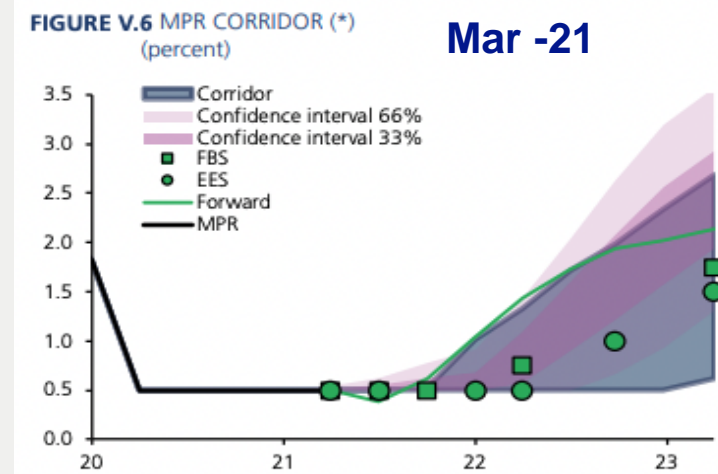
Forward guidance should not be taken literally

- In March 2021, shortly before we set up our position, the range presented by the CB did not show an MPR above 2.5% until at least 1Q21. In addition, it did not consider that he could review the range if the activity were stronger. In fact, the risk of more vigorous activity was “inside the range.” The only alternative scenario outlined for an MPR out of the hallway was a negative one:

“These estimates also consider risk scenarios whose consequences could push growth outside the range of projections for the coming years. These include a more negative scenario for the pandemic at the global level, as well as adjustments in financial conditions caused by a possible de-anchoring of inflation expectations in the face of significant international fiscal packages.”

- In June 2021, the communication was similar. The positive risk of more robust than expected demand due to tax transfers was contemplated in the range. The risk of the MPR being outside the range outlined in the Ipom was low.

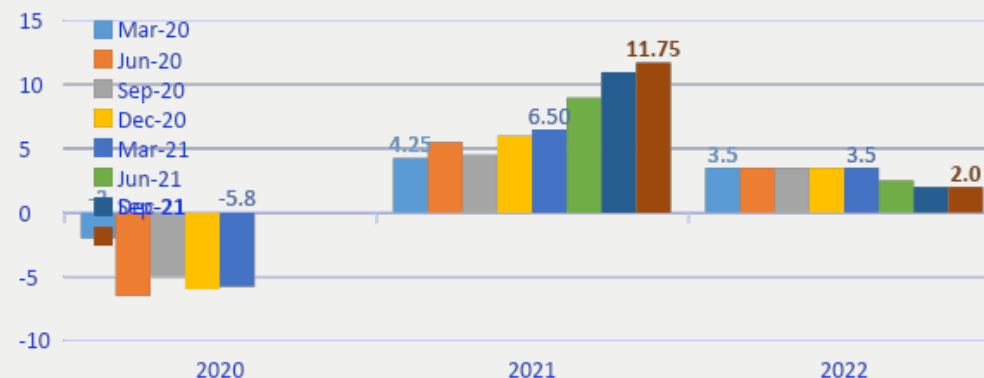
“Besides the sensitivity exercises, risk scenarios in which the changes in the economy would be more significant and where the monetary policy reaction should be more intense are also analyzed. Locally, the risks associated with an evolution of public finances that are unclear as to their long-term stabilization are worth noting, which could affect local financial conditions, investment, and the perception of country risk. Internationally, the main risk continues to be an abrupt change in global financial conditions. This event has become more prevalent due to doubts about the evolution of inflation in the U.S. The intensity of these scenarios may jeopardize the convergence of inflation within the policy horizon, placing activity below the expected ranges and/or compromising the proper functioning of financial markets.”



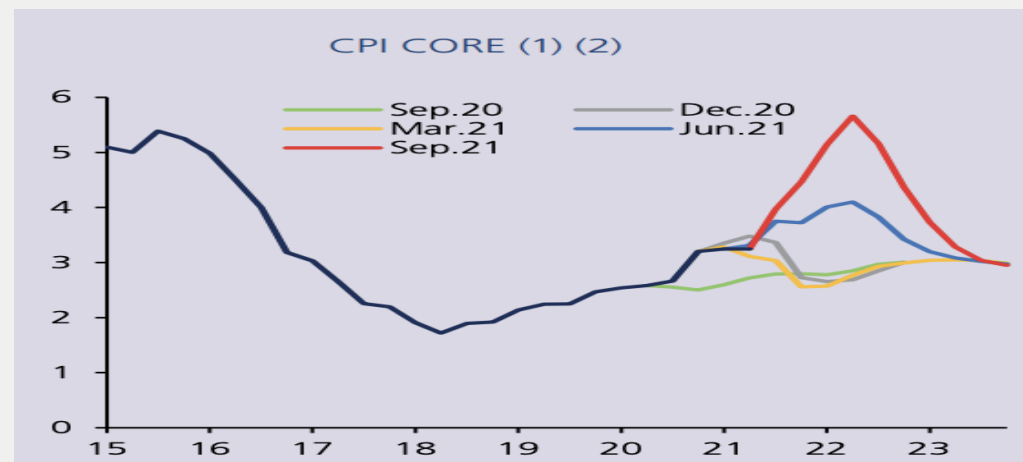
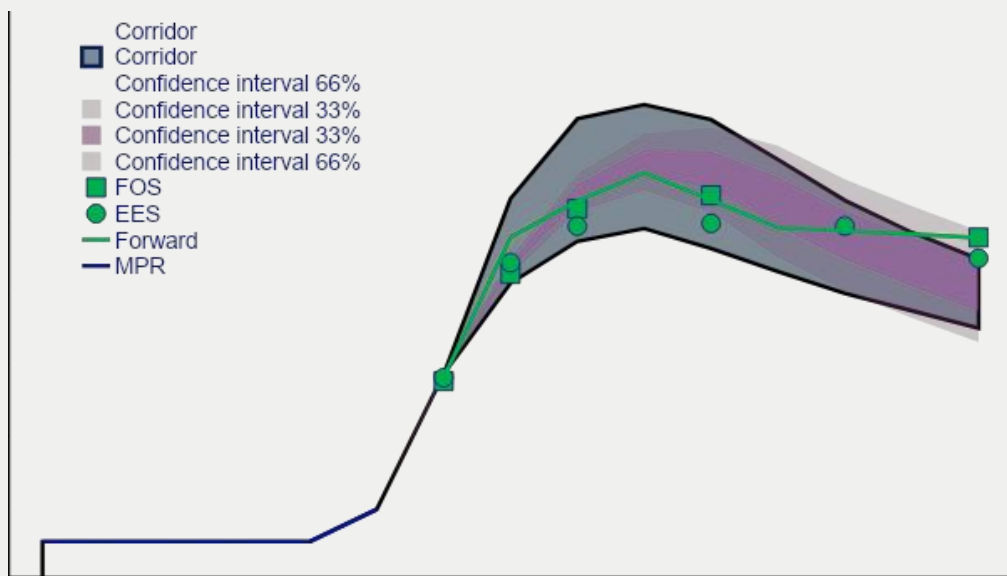
GDP reviews led to change in Forward Guidance

- Although not explicitly considered in the risk scenarios, the constant upward revisions of GDP for 2021 led BCCh to change the expected trajectory above that compatible with the previously published ranges.
- Currently, the BCCh core scenario predicts an MPR close to 5.5%, with an upper limit close to 6.5%. The curve priced a scenario above the upper boundary of the range. In our view, this requires further bullish revisions of GDP projections

BCCh projection for GDP and CPI in 2020-21-22 at different times (%)



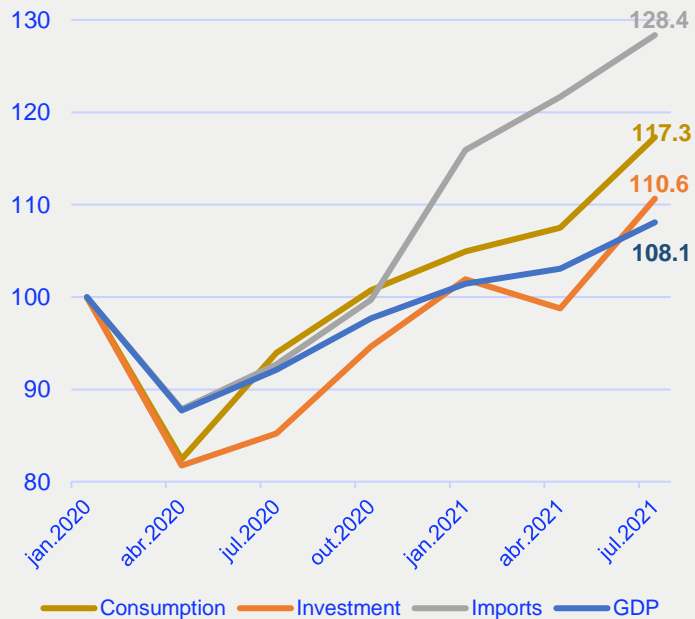
Range presented at the last Ipom



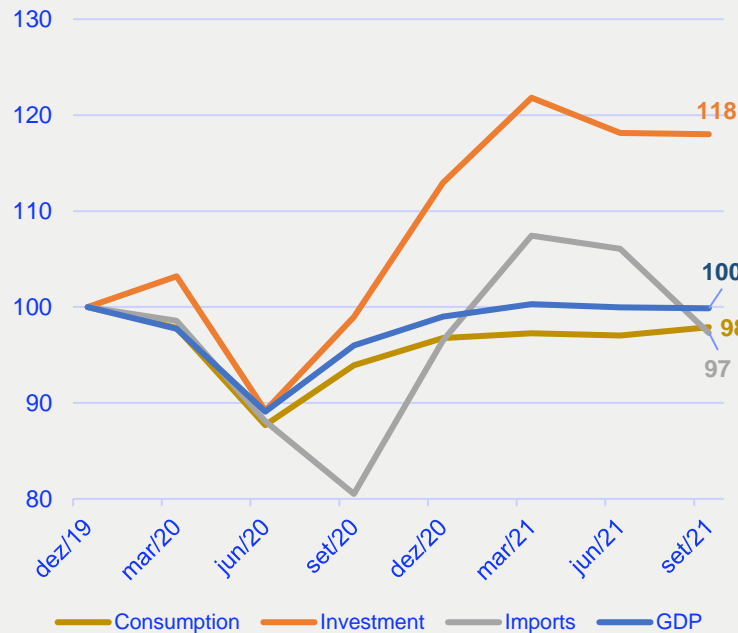
Chile's GDP was 8% above pre-crisis and 3Q21

- In Chile, GDP was 8% above the pre-crisis level. Consumption and investments were 10.6% and 17.3% above the 1Q20 level, respectively. Much of the increase in domestic demand was met by production from the rest of the world — imports were almost 30% above the pre-crisis level.
- Both in Brazil and the USA, GDP was very close to the pre-crisis level. In Brazil, in particular, there was a decrease in consumption in recent months. In the USA, consumption was 3.6% above the 4Q19 level.

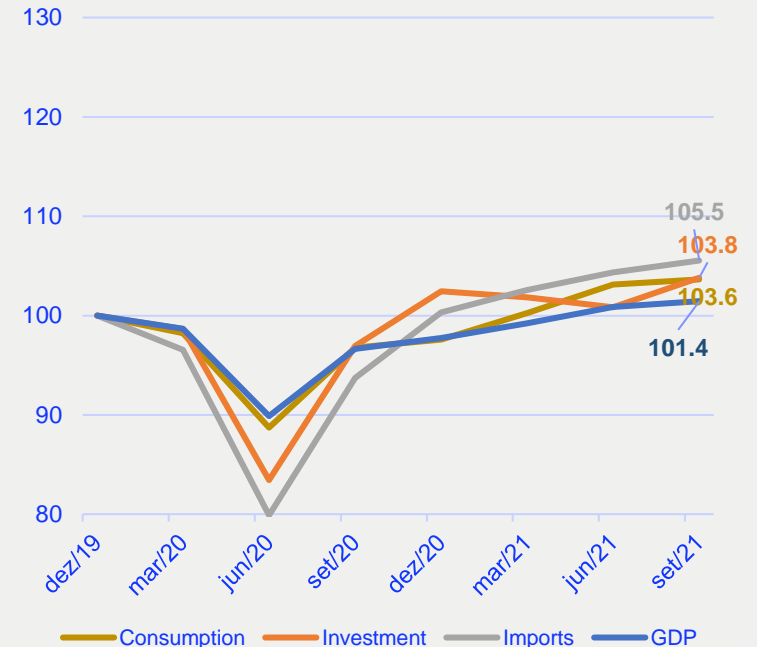
**GDP on the demand side – USA
(Index number, 1Q20=100)**



**GDP on the demand side – Brazil
(Index number, 4Q19=100)**



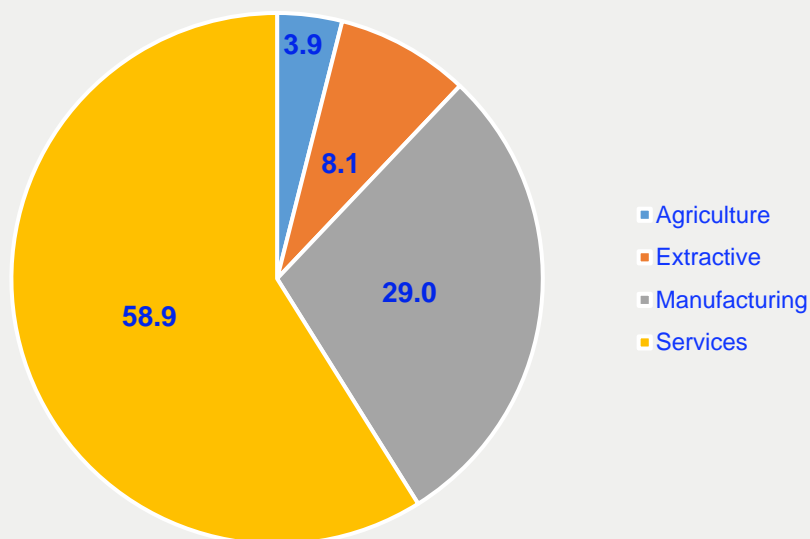
**GDP on the demand side – USA
(Index number, 4Q19=100)**



Growth in Chile disseminated among sectors

- Chile's growth was widespread. Virtually all sectors of the economy were above the pre-crisis level in 3Q21. Strong growth occurs despite the extractive industry showing contraction.
- This is different from what happens in Brazil and the USA, where several services and industry are still below.

Composition of Chile's GDP (% of total)



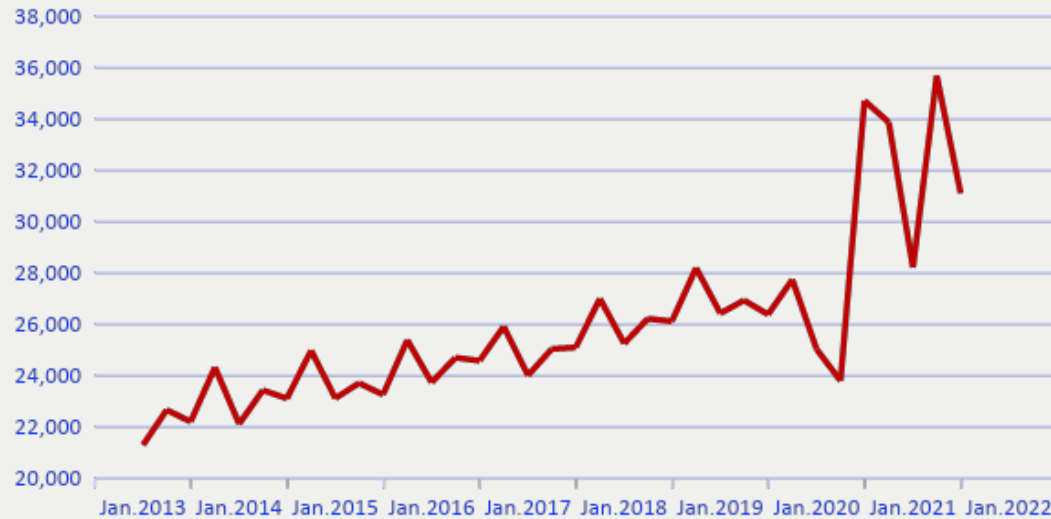
GDP Growth - Supply

	Peso	Mar-20	Jun-20	Sep-20	Dec-20	Mar-21	Jun-21	Sep-21
1.Agriculture	3%	0%	-2%	0%	4%	3%	4%	1%
2.Fishing	1%	0%	1%	11%	-4%	10%	9%	18%
3.Mining	11%	0%	-1%	1%	-3%	-1%	2%	-3%
4.Copper Mining	10%	0%	-1%	2%	-3%	-1%	1%	-5%
5.Other	1%	0%	-3%	-6%	-2%	0%	8%	12%
6. Manufacturing	11%	0%	-10%	-4%	3%	4%	4%	8%
7. Food, drinks and Tobacco	4%	0%	-5%	0%	3%	4%	5%	8%
8. Food	3%	0%	-3%	0%	0%	0%	-1%	2%
9.Drinks and Tobacco	1%	0%	-9%	1%	8%	14%	18%	24%
10. Textile, clothing, leather and footwear	0%	0%	-38%	-17%	12%	10%	11%	13%
11. Wood and furniture	1%	0%	-11%	2%	5%	8%	11%	12%
12. Cellulose, paper and printing	1%	0%	-2%	0%	3%	-2%	1%	2%
13. Chemical, petroleum, rubber and plastic	3%	0%	-17%	-11%	4%	3%	-1%	3%
14. Oil refining	1%	0%	-29%	-24%	16%	4%	0%	6%
15. Chemical, rubber and plastic	2%	0%	-11%	-4%	-3%	1%	-3%	-1%
16.Non-metallic minerals and basic metal	1%	0%	-23%	-14%	7%	6%	14%	10%
17. Metallic products, machinery, equipment and others	2%	0%	-11%	-7%	-1%	3%	6%	13%
18. Electricity, gas, water and waste management	3%	0%	-4%	0%	3%	1%	7%	5%
19.Construction	7%	0%	-21%	-30%	-14%	-11%	-9%	-3%
20.Commerce, restaurants and hotels	12%	0%	-22%	-6%	5%	7%	16%	27%
21.Commerce	10%	0%	-15%	2%	11%	13%	22%	30%
22.Restaurants and hotels	2%	0%	-48%	-38%	-20%	-18%	-10%	16%
23.Transport	5%	0%	-27%	-23%	-10%	-6%	-14%	-2%
24. Communications and information services	4%	0%	-2%	-1%	1%	7%	7%	13%
25. Financial and business services	17%	0%	-7%	-8%	-5%	-2%	1%	8%
26. Financial services	6%	0%	-2%	-3%	-1%	-1%	2%	4%
27. Business services	11%	0%	-10%	-9%	-7%	-3%	1%	9%
28. Housing and real estate services	8%	0%	-5%	-4%	-2%	1%	2%	6%
29. Personal services	13%	0%	-24%	-17%	-8%	5%	-2%	5%
30. Public administration	5%	0%	-1%	1%	1%	3%	4%	4%
34.Gross Domestic Product	100%	0%	-12%	-8%	-2%	1%	3%	8%

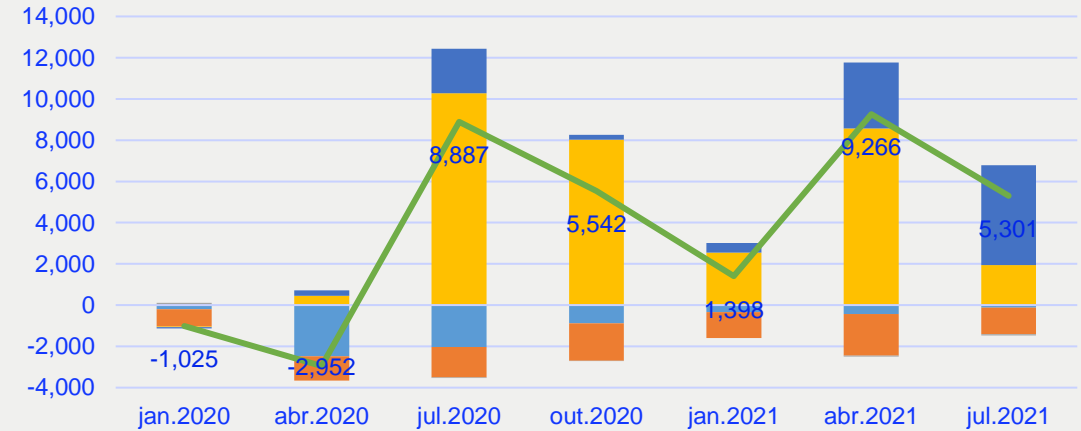
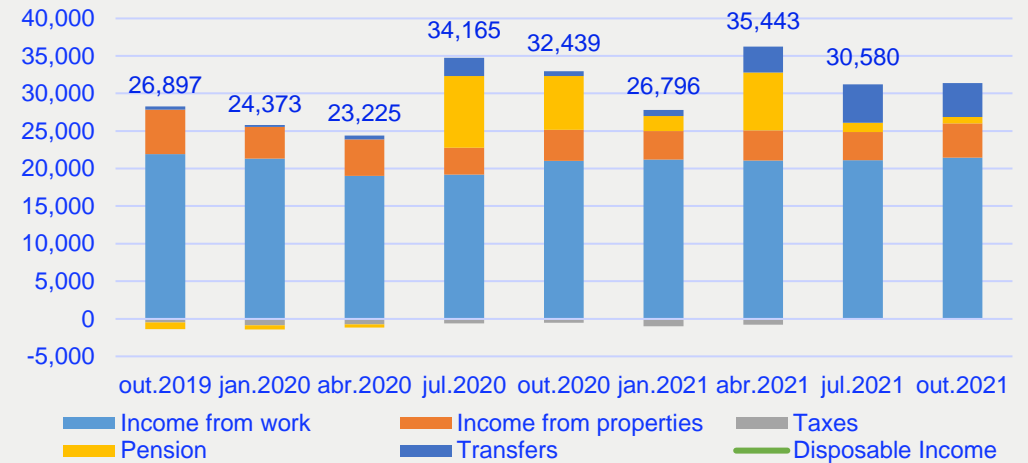
Available income increased 25% during Covid crisis

- Between the second quarter of 2020 and the third quarter of 2021, the Available Income of Chilean families was, on average, 18% above the pre-crisis level. This figure already considers withdrawals from pension funds.
- The increase in disposable income in Chile was explained by withdrawals from pension funds and increased transfers. The latter is due to the IFE program, which is a kind of Emergency Aid that ended in November.

Household disposable income (bi, 2Q21 pesos)



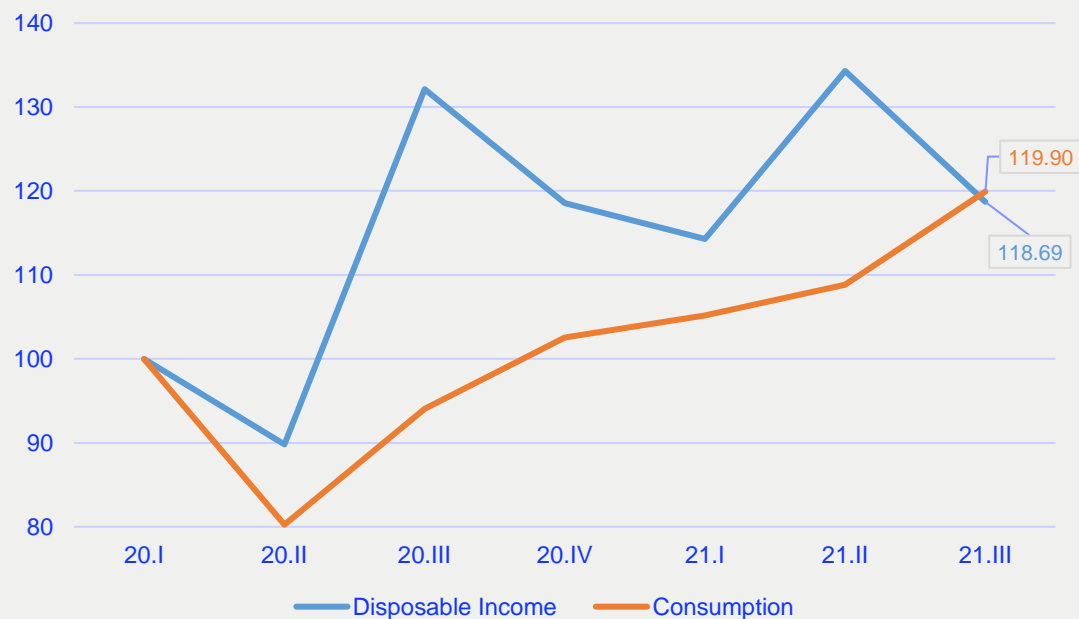
Composition increase in disposable income (bi, pesos)



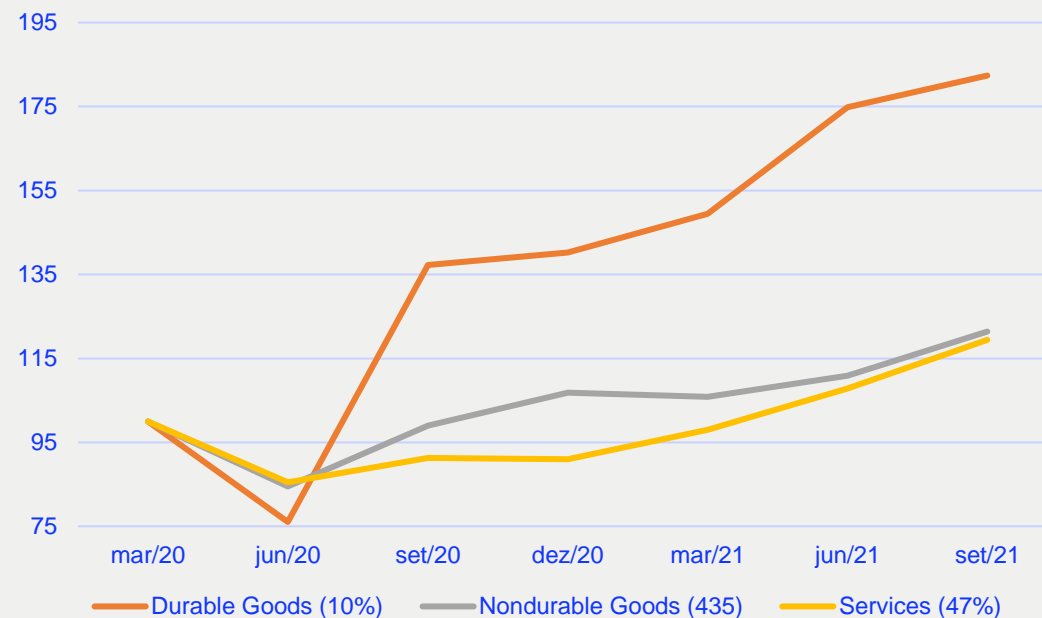
Consumption increase well below income increase

- Household consumption increased significantly from 2Q21 onwards. In particular, it was 20% above the pre-crisis in 3Q21. However, the increase in consumption fell short of the growth in household disposable income.
- The increase in consumption occurred in all sectors, with a greater emphasis on the consumption of durable goods. Consumption of non-durables and services was just over 15% in the third quarter, while consumption of durables was 80% above.

Household consumption and income in Chile
(Index number, 1Q20=100)



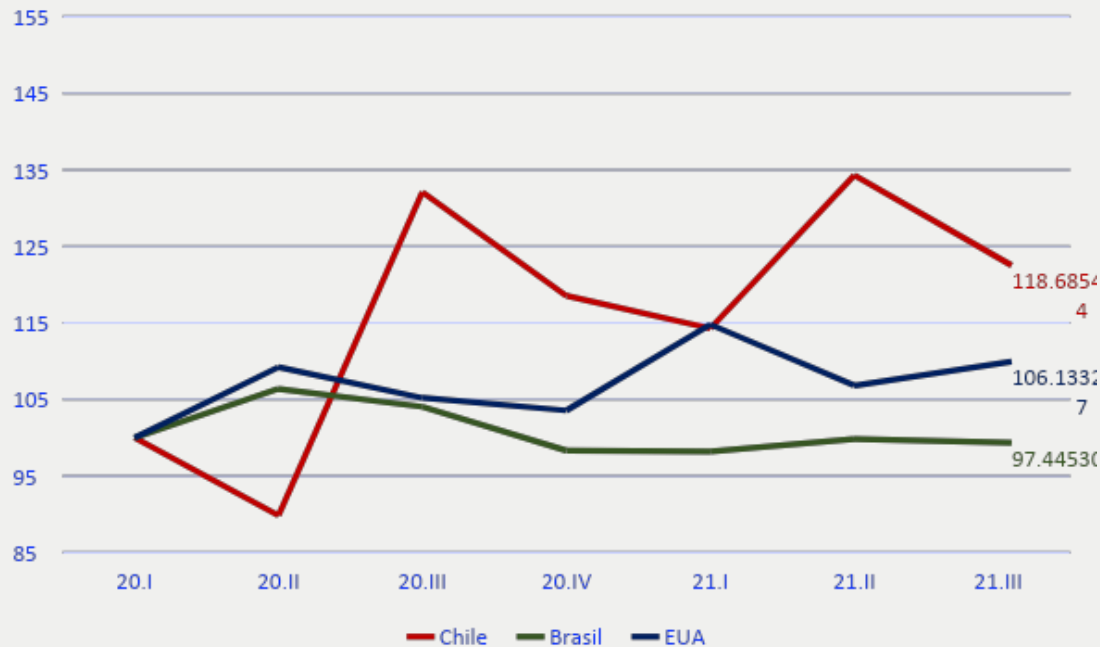
Household consumption and income in Chile
(Index number, 1Q20=100)



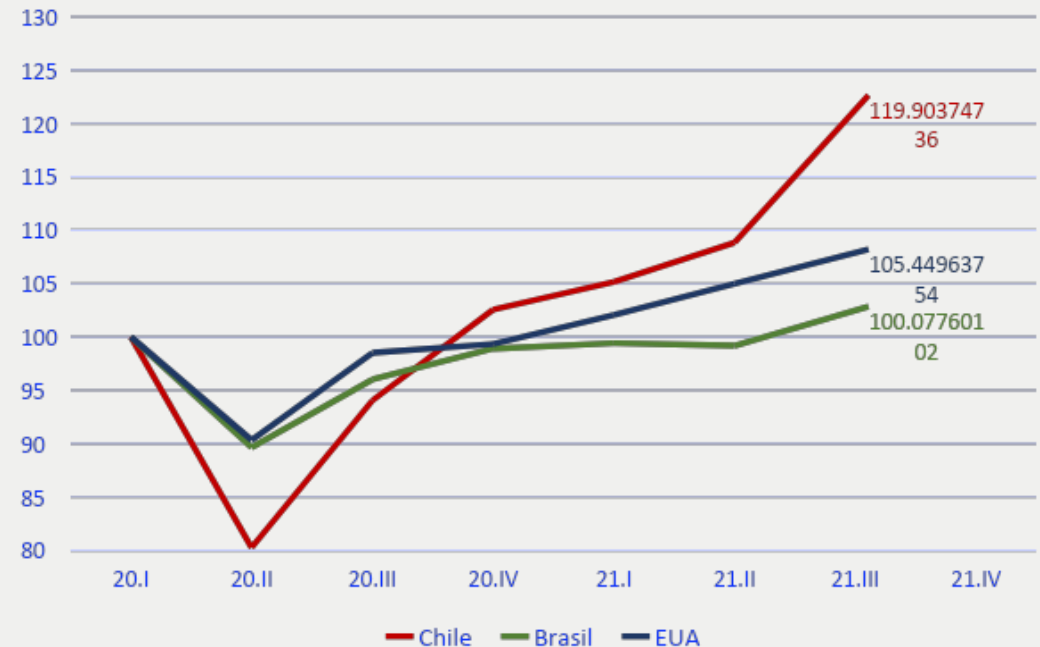
Stimuli in Chile greater than in the USA and Brazil

- The increase in liquidity for Chilean families was much more significant than in the US and Brazil, two countries with generous support packages for families.
- Consequently, the increase in consumption in Chile was also higher, especially from the economy reopening after Covid. In 3Q21, household consumption in the USA was 5.0% above the pre-crisis. In Brazil, consumption was more than 2% below.

Household disposable income in the USA, Chile and Brazil (index number, 1Q20=100)



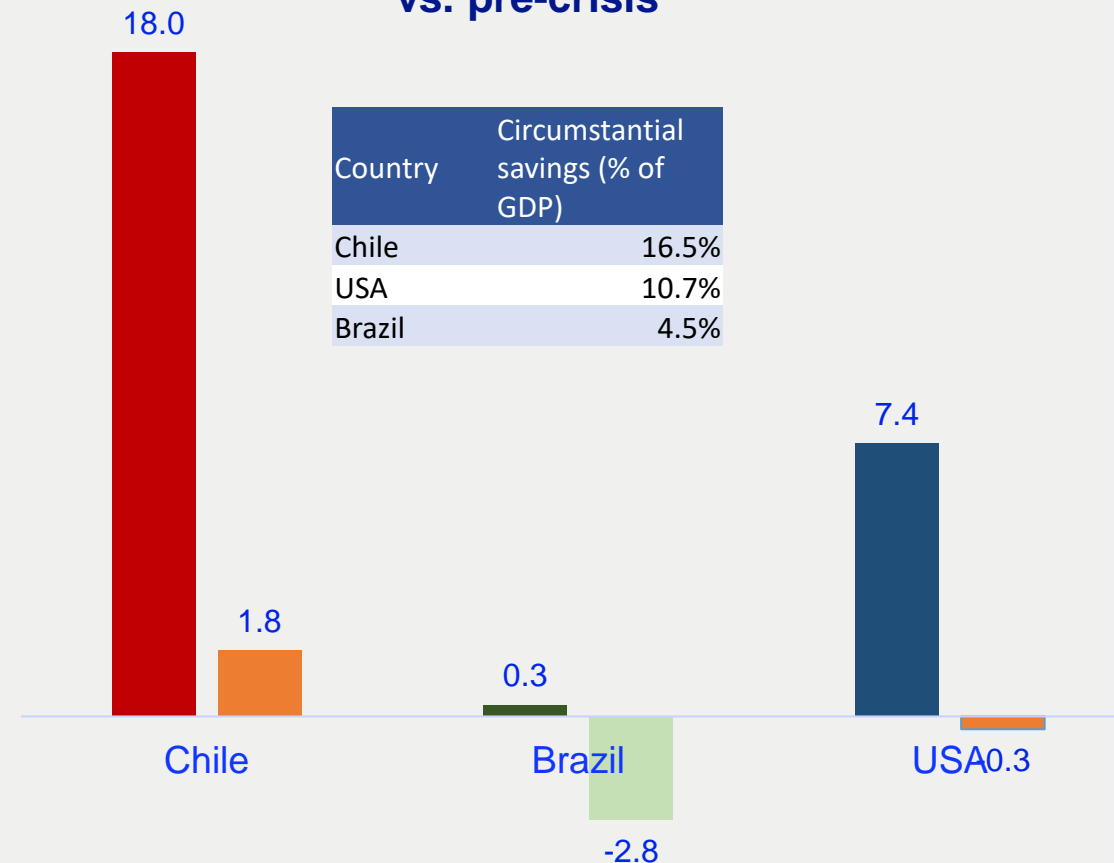
Household consumption in the USA, Chile and Brazil (index number, 1Q20=100)



Circumstantial savings of 17.1% of GDP in Chile

- Between the second quarter of 2020 and the third quarter of 2021, the Available Income of Chilean families was, on average, 18% above the pre-crisis level. In the same period, consumption increased on average by only 1.8%.
- In comparison, the average disposable income in Brazil during this period was 0.7% above pre-crisis. Consumption, on the other hand, contracted 2.8% with respect to the pre-crisis level. In the USA, one of the countries with the most significant stimulus to combat the economic effects of the Covid-19 outbreak, disposable income was 7.6%, on average, above the pre-crisis level during this period. Average consumption was stable.
- The increase in liquidity for households in a much more significant proportion than the increase in consumption has enabled the formation of very high circumstantial savings in Chile. We estimate that the circumstantial savings in Chile of 16.5% of GDP compared to 10.7% in the USA and 5.0% in Brazil.
- This exacerbated liquidity generates a much higher-than-normal uncertainty when we project growth over the medium term. With the end of income support programs and withdrawals from pension funds, we will see a significant shrinkage in household income flow. Maintaining consumption at a high level will depend on the speed at which they will use the resources saved in recent quarters. As we will see in the following slides, the hypothesis we make about the speed at which savings will be deployed generates very different results for 2022 GDP.

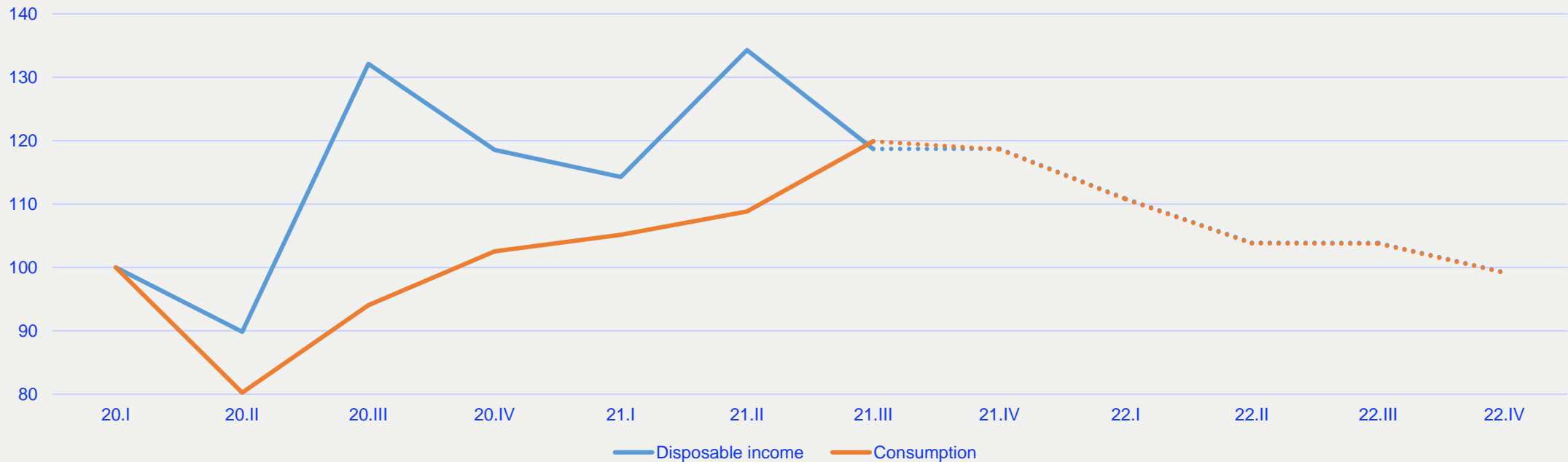
Average gap in disposable Income 2Q20 and 3Q21 vs. pre-crisis



"Disaving" will be crucial to keep consumption level

- Assuming that (i) there will be no more withdrawals from pension funds, or the IFE program (kind of Brazil Aid) will not be extended in 2022, (iii) wage income returns to the pre-crisis growth trend (3.5% real) and (iv) property income converges at the end of the year to the pre-crisis value; households' disposable income would show a -17% decline in 2022.
- The -0.2% contraction in household consumption projected by BCCh already requires the use of savings made over the last few years. To give some idea, if the ratio of disposable income consumption returned to the pre-crisis level in 2022 (chart below), consumption would be 6.0% lower than expected for 2021.

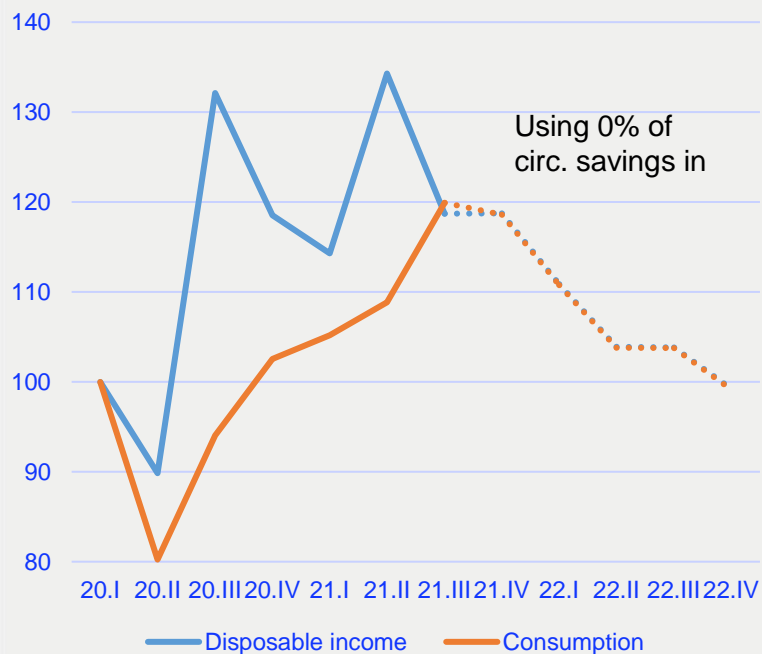
**Household consumption and income – scenario of return to normal savings rate
(Index number, 1Q20=100)**



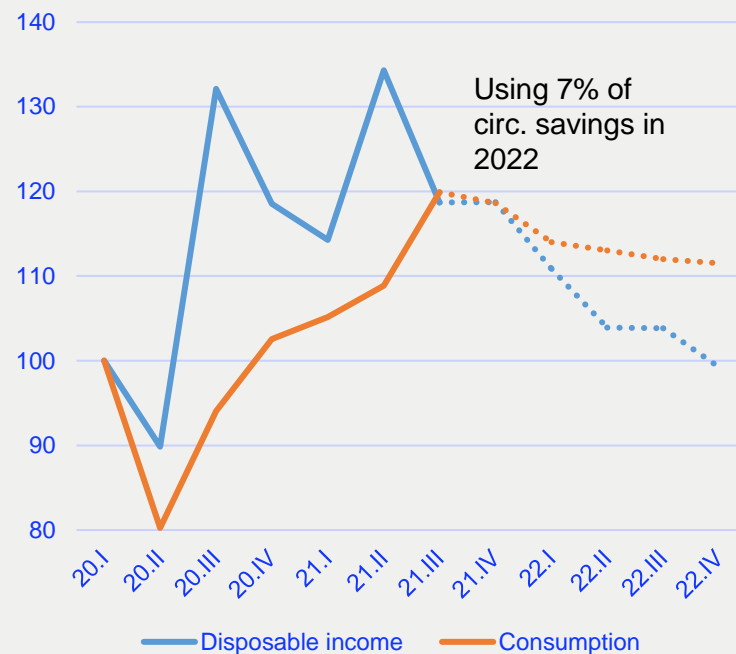
Very uncertain scenario for growth in 2022

- A contraction of 0.2% of consumption in 2022 is a conservative scenario, but not out of reality. This scenario requires, for example, the usage of 30% of the circumstantial savings formed in recent quarters to sustain consumption at a higher level. It would be compatible with consumption 10% above the pre-crisis level.
- An aggressive scenario, in which the level of consumption remained constant at the level of 3Q21 would lead to a growth of 5.7% year over year in 2022. This scenario requires the usage of about 60% of the savings.

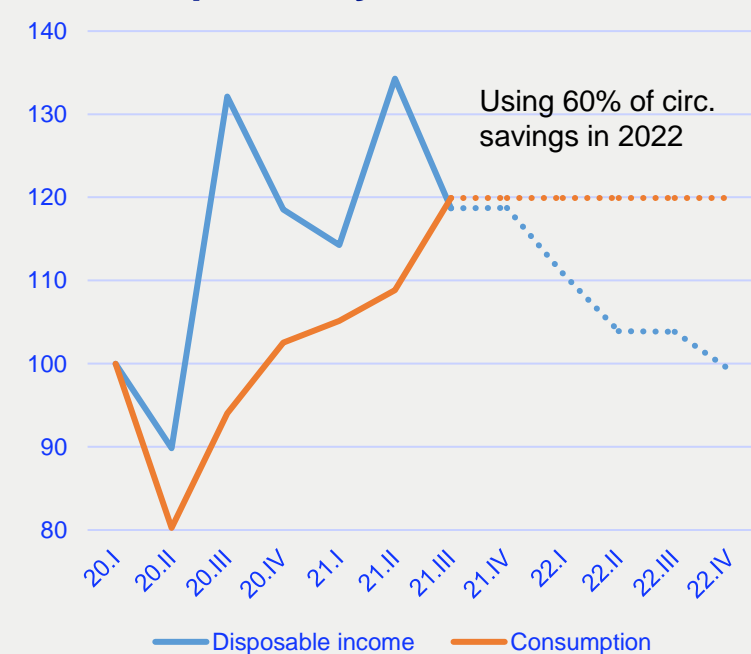
Use of 0% of savings -consumption contracts -6.0% in 2022



Use of 7% of savings -consumption contracts -0.2% in 2022



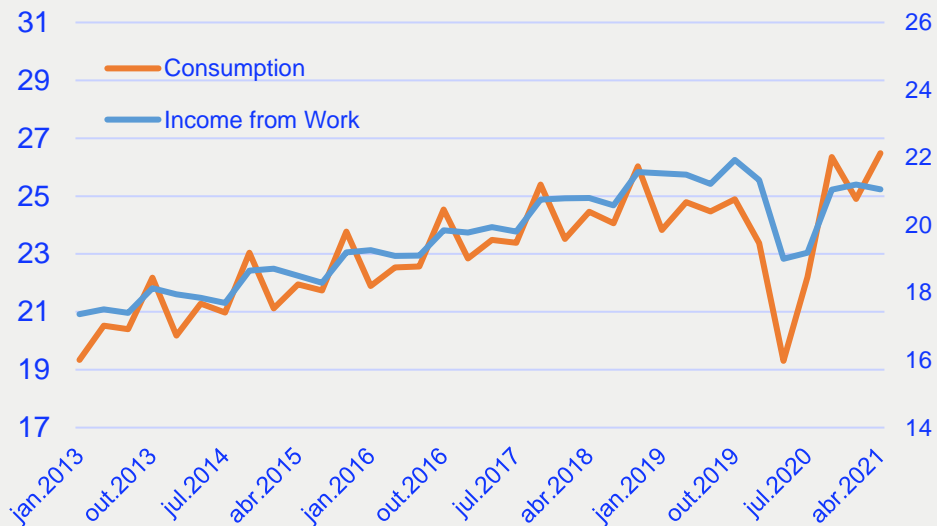
Use of 60% of savings -consumption expands by 5.7% in 2022



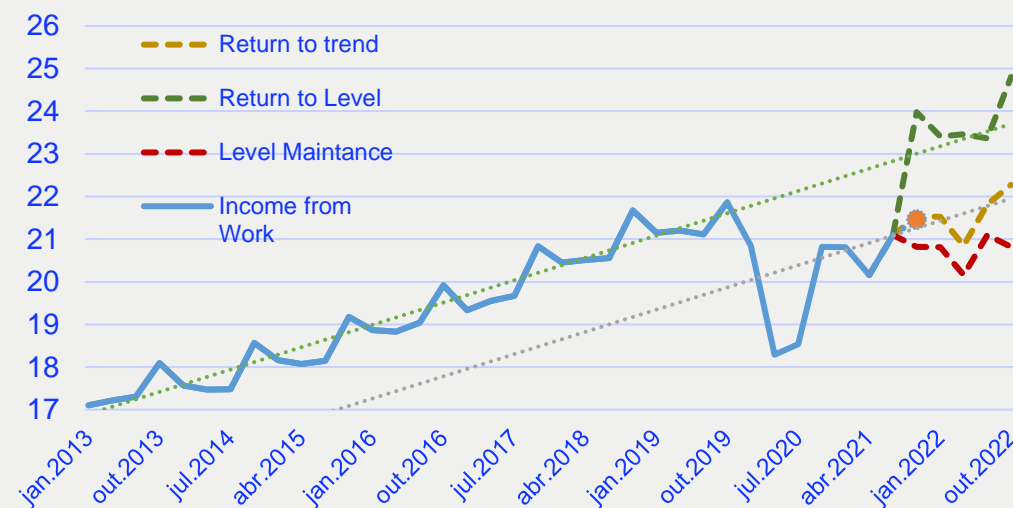
Labour income will be critical for consumption in 22

- Historically, the relationship between labor consumption and income is constant over time. This relationship was initially broken in 2019 due to the wave of protests in the country and intensified during the Covid-19 outbreak. Once the post-surge economy was normalized, a return to normality would happen naturally.
- Therefore, in addition to how circumstantial savings will be used, the dynamics of labor income in the coming quarters will be decisive in explaining the evolution of household consumption. Assuming scenarios in which labor income (i) returns to the level and growth trend compatible with the pre-crisis (green), (ii) returns only to the pre-crisis growth rate of 3% (real) per year, or (iii) remains constant at the 2021 level, household consumption would contract -3.8%; -9.8% and -12.3% respectively. These scenarios assume zero utilization of circumstantial savings.

Household labour consumption and income (bi, 2Q21 pesos)



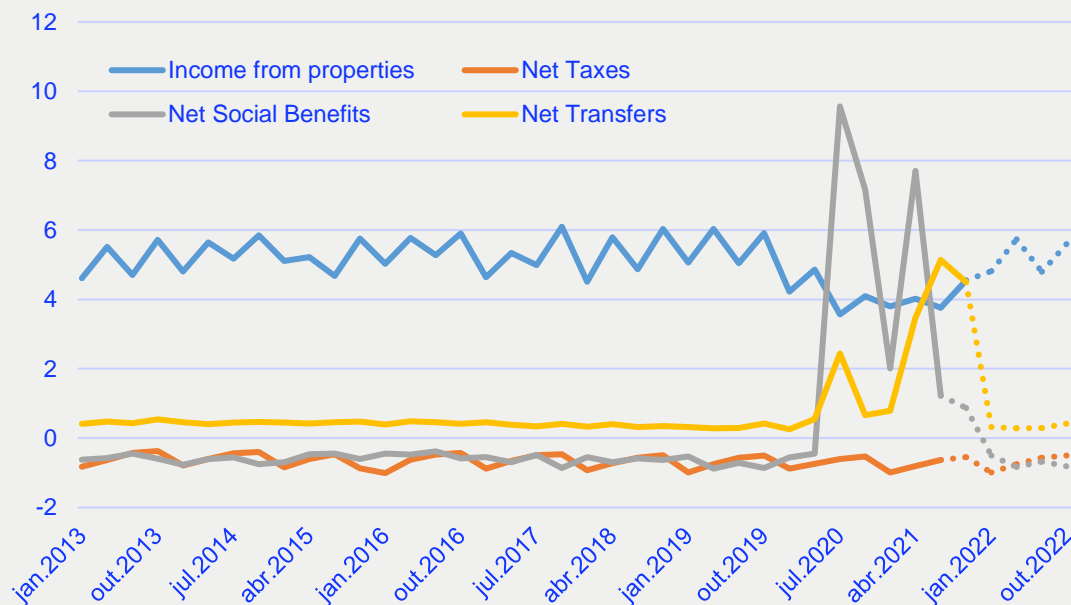
Scenarios for income from work in 22 (bi, 2Q21 pesos)



Contraction of -0.2% requires use of savings

- Assuming a return to normality of the other components of household disposable income (taxes, transfers, net social contributions, and other income), we simulate what would be the growth in household consumption due to the growth in labor income and usage of circumstantial savings.
- A consumption growth requires a strong recovery in labor income combined with the usage of circumstantial savings. For example, even if the use of circumstantial savings is 15% and labor income grows 12.5%, consumption would show a contraction of -0.6% in 2022 compared to 2021.

Hypotheses for growth of other income components (bi, 2Q21 pesos)



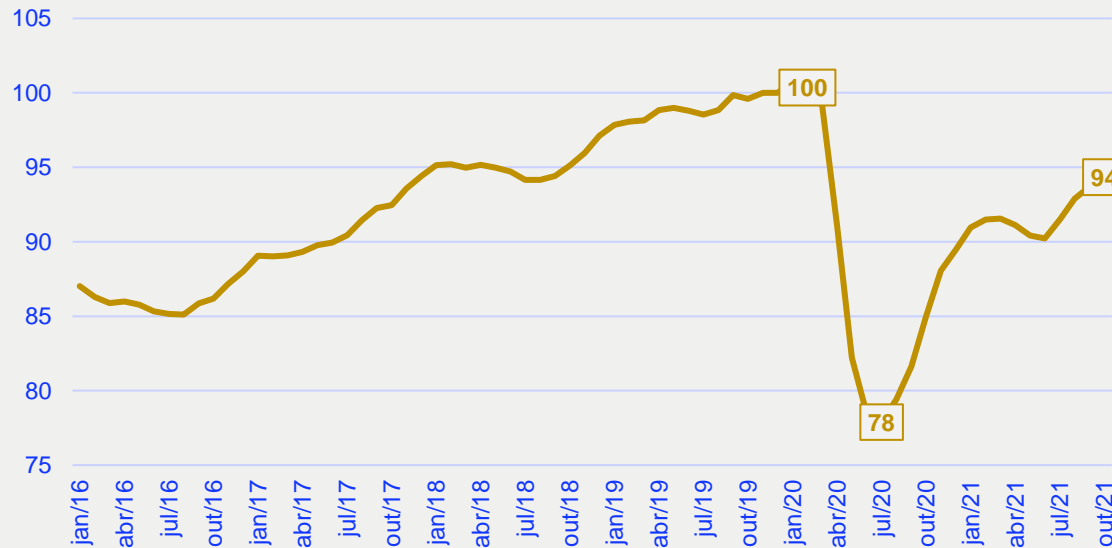
Simulations for household consumption growth in 2022 (% compared to 2021)

Use of Savings/ Income from Work	0.0%	5.0%	10.0%	15.0%	20.0%	25.0%	30.0%
0.0%	-10.3%	-9.2%	-8.1%	-7.1%	-6.0%	-4.9%	-3.8%
2.5%	-8.9%	-7.8%	-6.7%	-5.6%	-4.5%	-3.5%	-2.4%
5.0%	-7.4%	-6.3%	-5.3%	-4.2%	-3.1%	-2.0%	-0.9%
7.5%	-6.0%	-4.9%	-3.8%	-2.7%	-1.7%	-0.6%	0.5%
10.0%	-4.5%	-3.5%	-2.4%	-1.3%	-0.2%	0.9%	1.9%
12.5%	-3.1%	-2.0%	-0.9%	0.1%	1.2%	2.3%	3.4%
15.0%	-1.7%	-0.6%	0.5%	1.6%	2.7%	3.7%	4.8%
17.5%	-0.2%	0.9%	1.9%	3.0%	4.1%	5.2%	6.3%
20.0%	1.2%	2.3%	3.4%	4.5%	5.5%	6.6%	7.7%

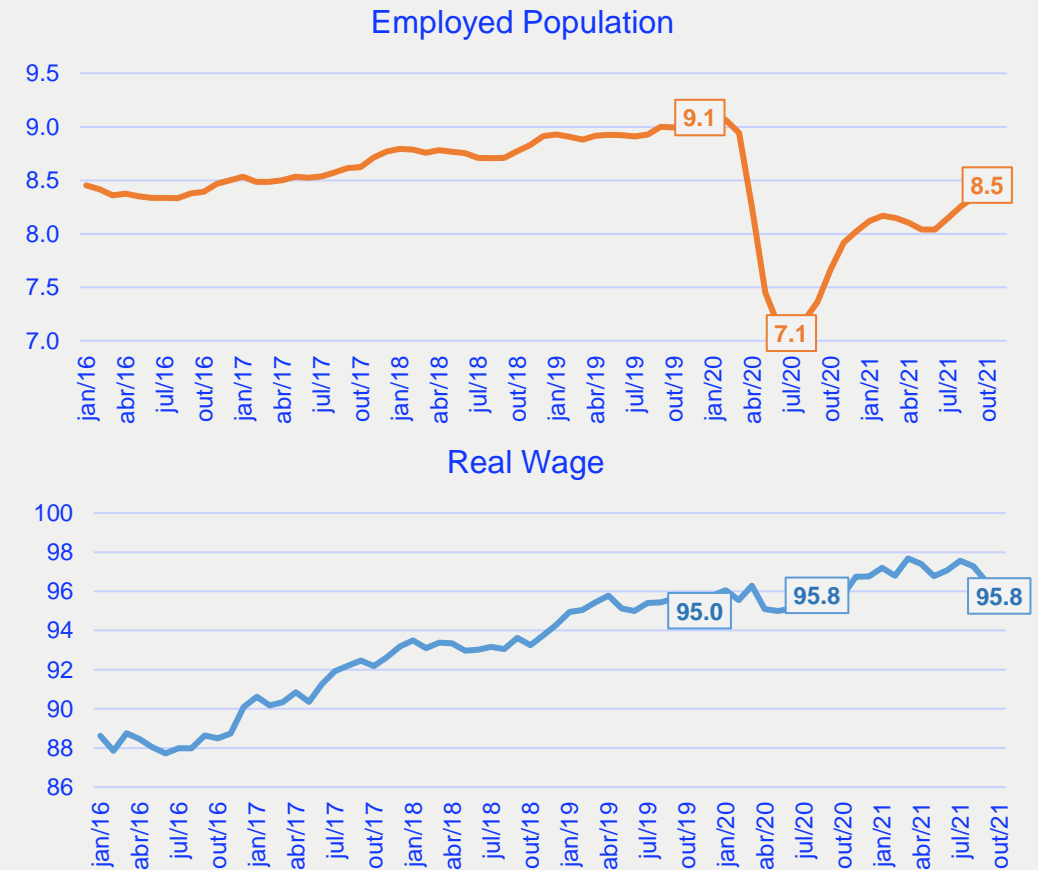
It is not clear that jobs will recover strongly

- It is unclear that aggregate labor income will increase significantly in 2022. So far, the number of people employed is still below pre-crisis, and the real wage is only 0.6% of the 2019 level. Our proxy for wages was still 4.9% below the pre-crisis in the quarter that ended in November.
- Chile's economy is so hot that it is impossible to rule out a strong acceleration in the coming quarters. However, we do not see a clear indication that this movement is taking place in Chile or even in other countries with a heated economy, such as the USA.

Proxy for wage bill (index, Nov-19)



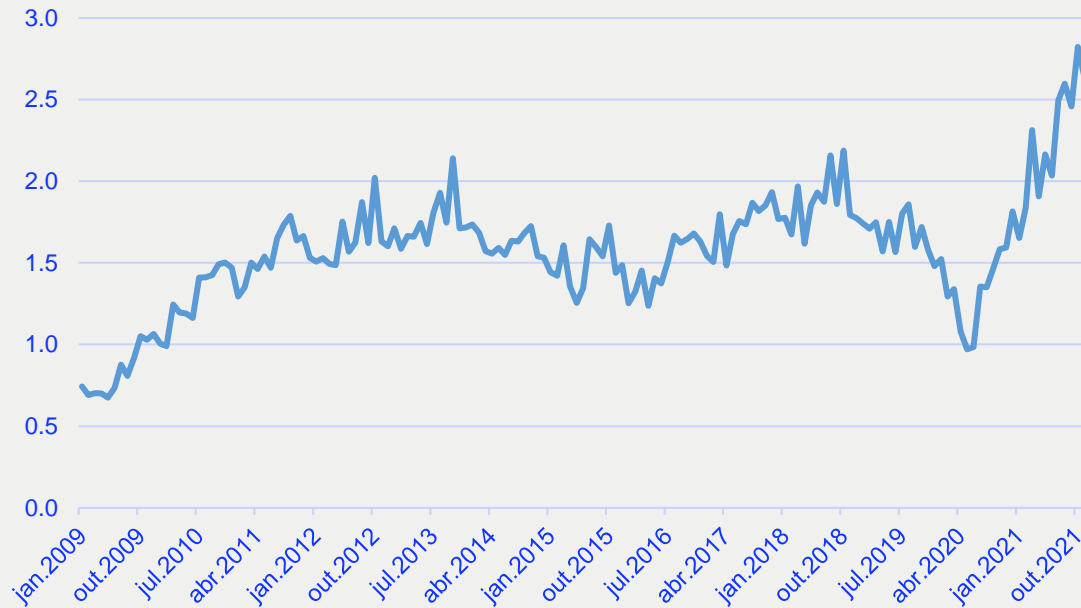
Occupied population and real income index (millions, index 2018=100)



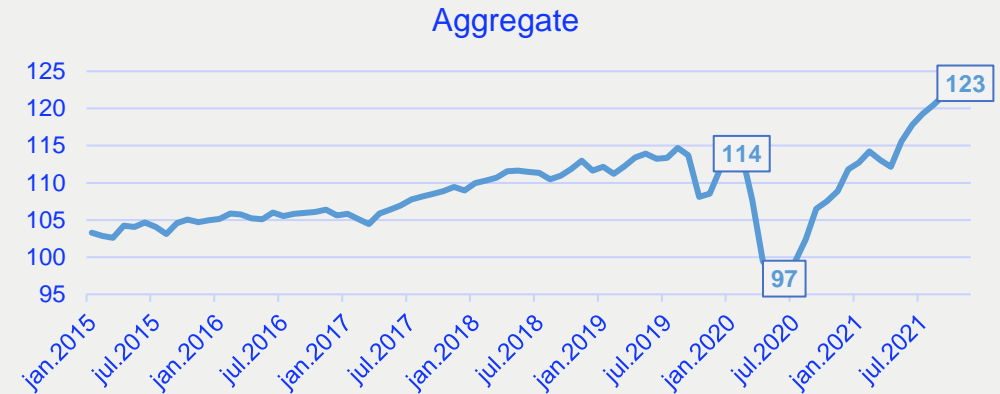
Household consumption is still very heated on margin.

- Household consumption is still very heated on margin. Imports of consumer goods continue on an upward trend and are more than 30% above the 2019 level.
- Imacec, a proxy for GDP, shows that activity in services and trade is still very high. However, marginally, it is **already** possible to see a stagnation of commercial activity. Service activity continues to increase.

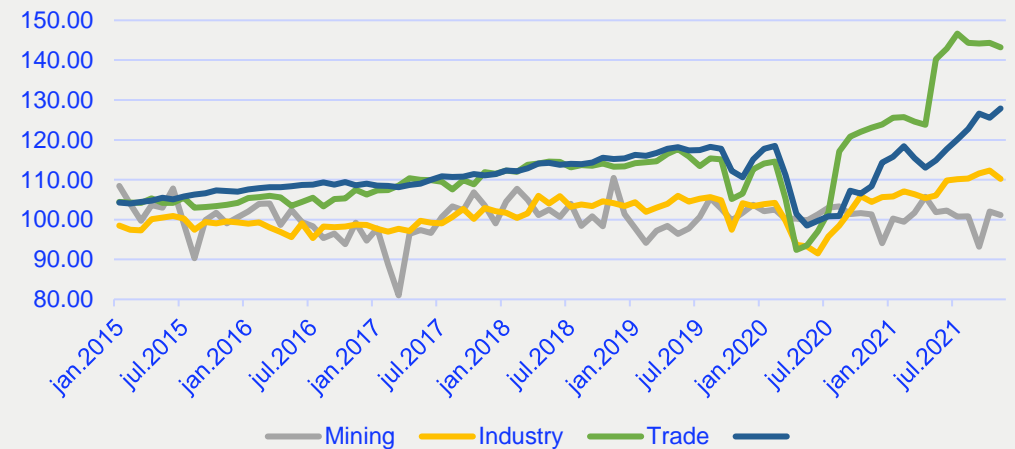
Import of goods (US\$, billions)



Imacec – GDP proxy (index)



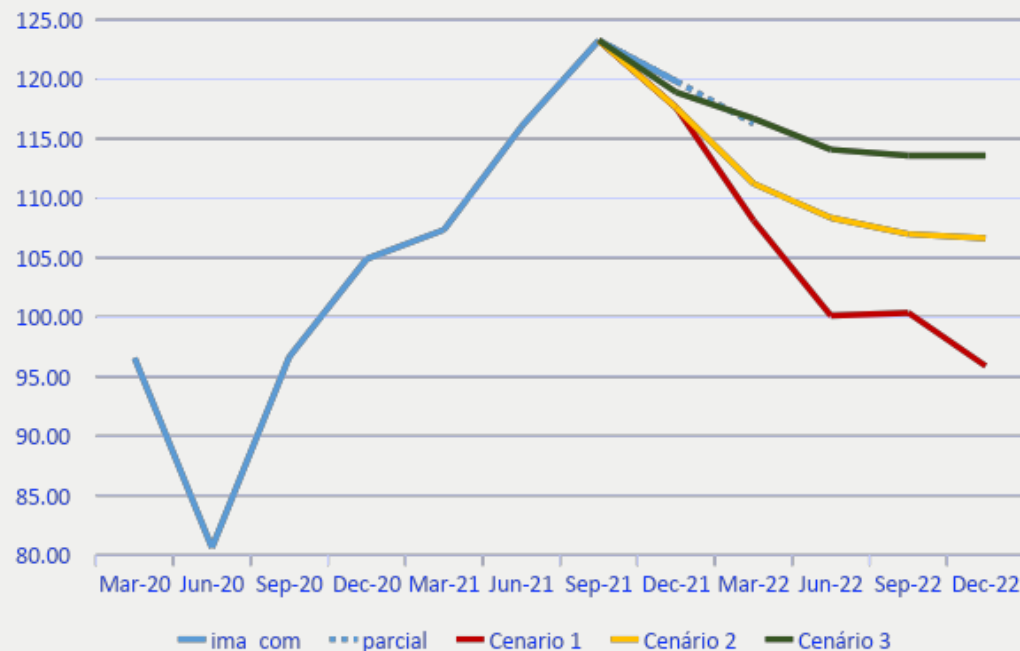
Imacec por setor



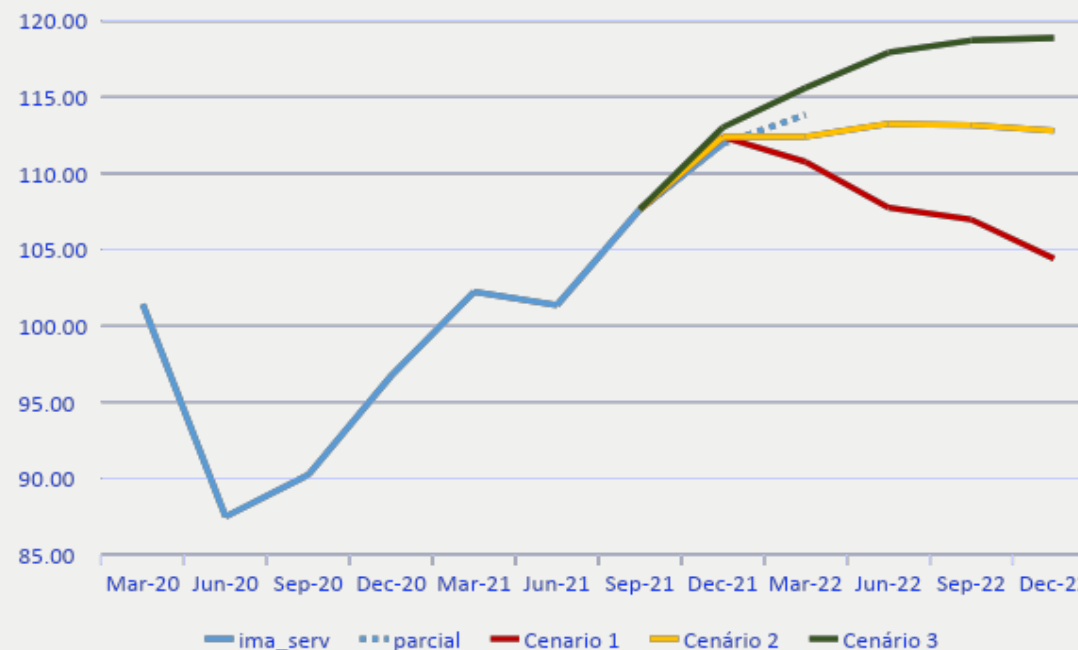
Follow-up – Imacec trade slows down

- We simulated trajectories for IMACEC trade and services to be compatible with the scenarios for consumption growth discussed on Slide 19.
- In January and February, the IMACEC Trade Index was in line with the optimistic scenario. This suggests that demand for goods remains heated at the margin. Imacec-services was also very high, between the optimistic and intermediate scenarios.

Imacec-Trade: scenarios and partial data until February (index number, MM 3 months)



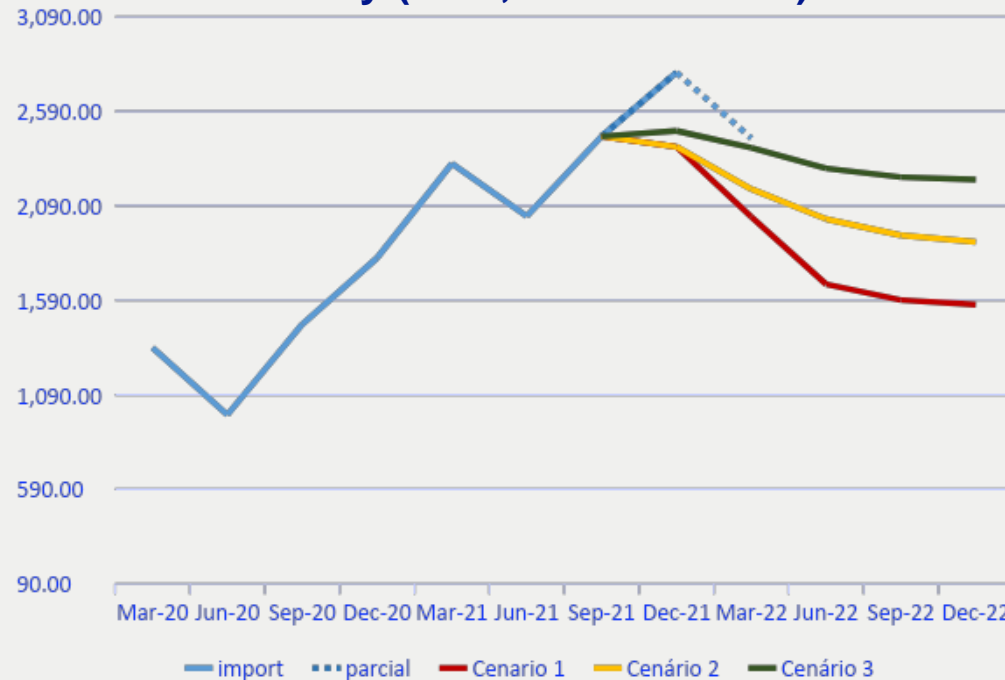
Imacec-Services: scenarios and partial data until February (index number, MM 3 months)



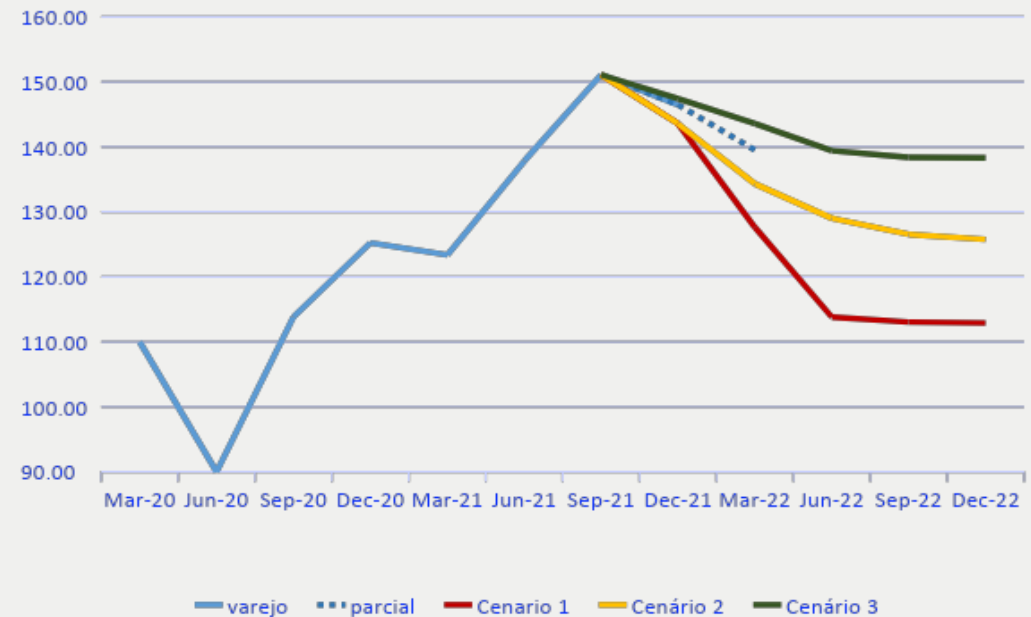
Follow-up – import and retail sales

- Imports of goods fell in January and February, after a very strong 4Q21. Even so, imports continued above the trajectory compatible with the most optimistic scenario for household consumption
- Trade indicator shows a loss of momentum and is already compatible with the intermediate scenario of household consumption. Unlike other indicators, retail sales already showed a reduction in volume in 4Q21 and continued to follow this trend at the beginning of this year.

Import of goods: scenarios and partial data until February (USD, MM 3 months)



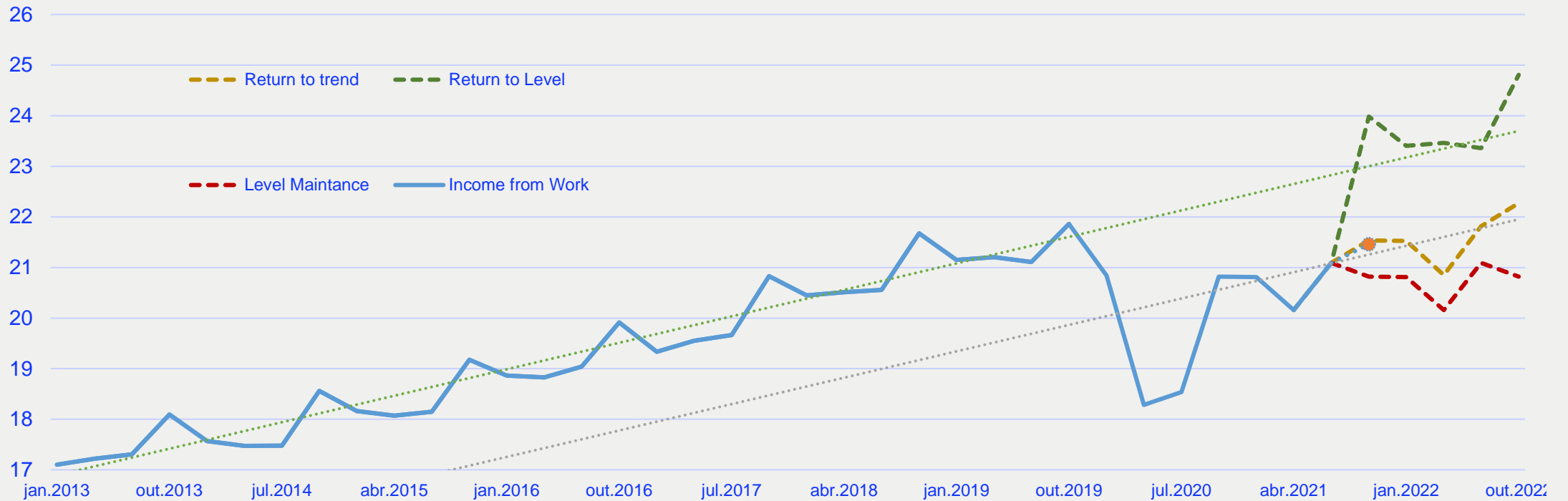
Trade indicator: scenarios and partial data until February (index number, MM 3 months)



Follow-up – return of Work Income

- Our proxy for the wage bill suggests a return slightly above the intermediate scenario (scenarios described on slide 20). The available income data will be published in a few months.

Work Income: scenarios and partial data up to December (CHP, MM 3 months)



Chile Inflation – May

In May, CPI inflation without volatiles was 0.9% mom (9.0% yoy). Headline inflation also came very high, at 1.2% mom (11.5% yoy). All core and headline measures are well above the upper limit of the inflation target.

Inflation in May was much higher than expected by the Central Bank of Chile. In the March Ipom, BCCh made a significant upward revision to the inflation path in 2022. The CPI of the last three months has greatly surprised this new projection.

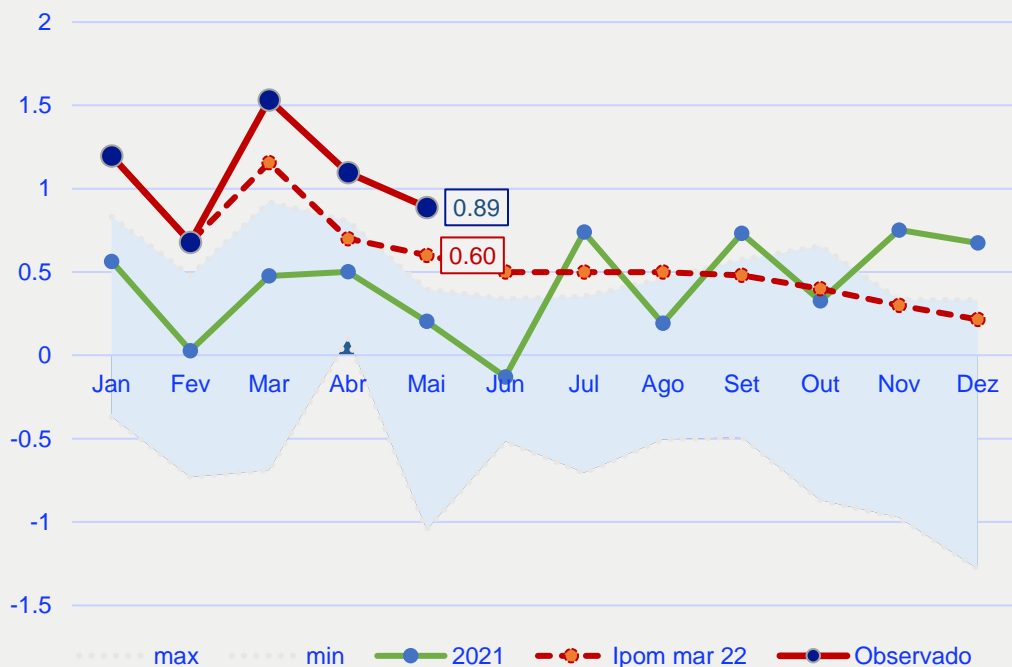
The difference between volatile-free inflation and the total index was due to strong food and energy inflation. Nevertheless, this month showed high inflation in all groups. Services showed inflation of 1.16%, much higher than the median for the month.

May result was again solid. The core of inflation is the highest in many years and is close to double digits. This current dynamic will make it challenging to execute the BCCh plan to close the high-interest cycle at upcoming meetings.

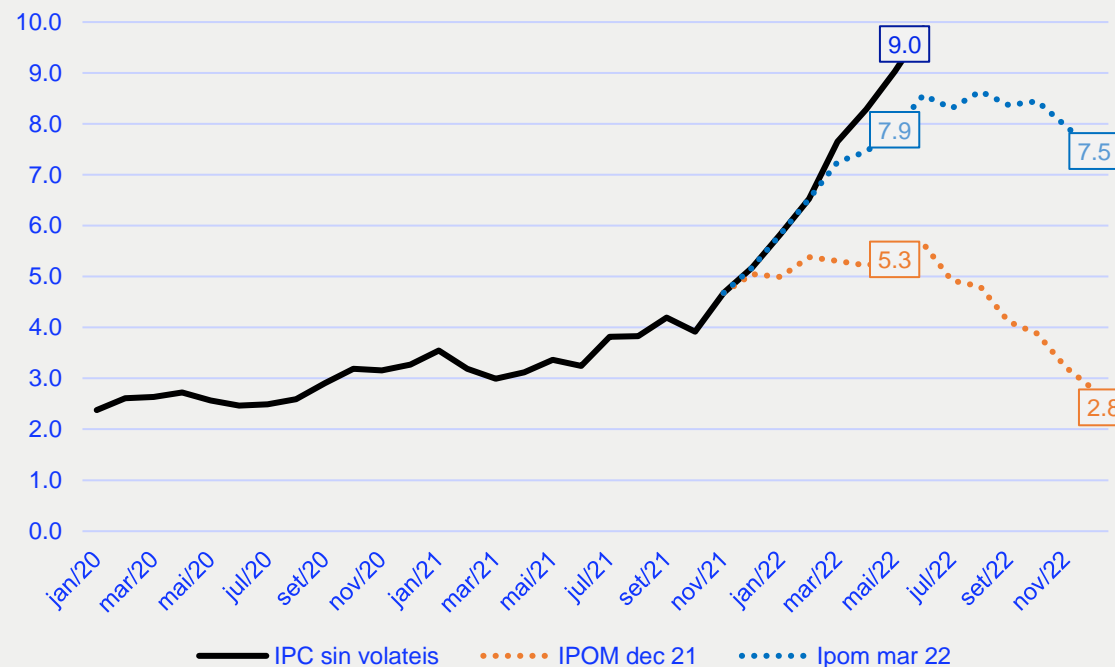
IPC without volatiles above the Ipom projection

- The Central Bank of Chile publishes its estimate for full and volatile inflation in the future. The last projection was taken from the Monetary Policy Report (Ipom) published at the end of March. The expectation was for volatile-free inflation of 0.6% mom (7.9% yoy) in May vs. 0.9% mom (9.0% yoy) realized. Inflation has surprised upwards every month since December.

Inflation without volatiles - realized, projected by Ipom, minimum and maximum for each month (% mom)



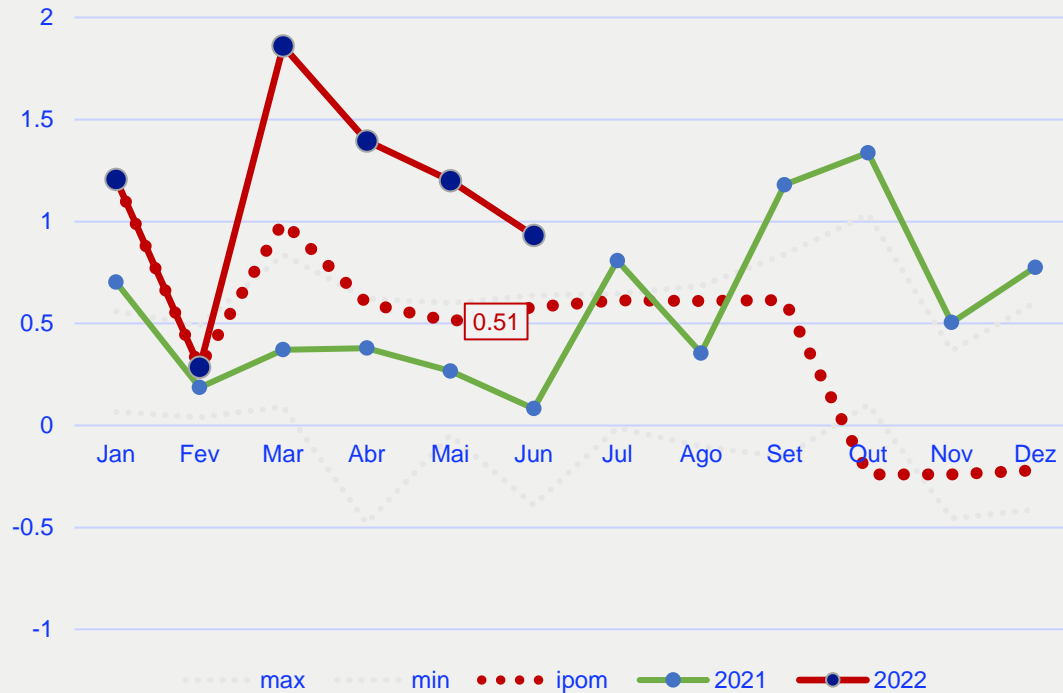
Inflation without volatiles – performed and projected by Ipom (% yoy)



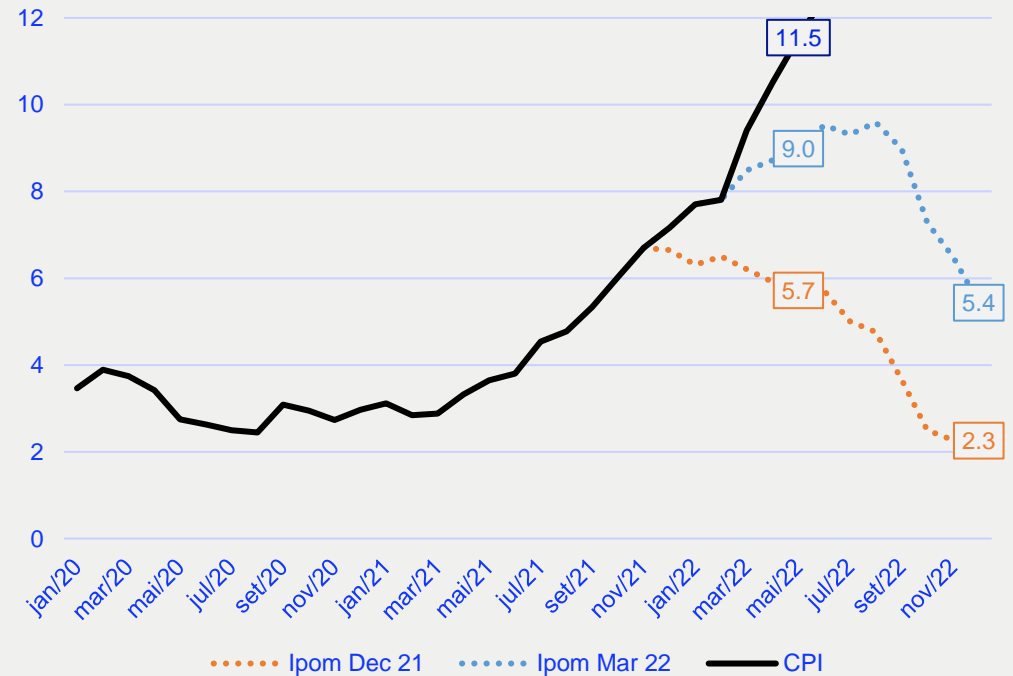
CPI also above the Ipom projection

- The expectation was for volatile-free inflation of 0.6% mom (7.9% yoy) in May vs. 0.9% mom (9.0% yoy) realized. Inflation surprised upwards despite major upward revisions in expectations. Compared with the estimates of the Ipom of December, the CPI in May is more than 6pp above expected.

CPI Inflation – realized, projected by Ipom, minimum and maximum for each month (% , mom)



CPI Inflation – performed and projected by Ipom (% , yoy)



Chile Inflation – Main Figures

- CPI ex-energy and fresh food inflation reached 9.0% yoy in May. Inflation in the month was high in all groups. Inflation of services was also relatively high, in part due to tourist package. The positive side was lower inflation of industrial goods

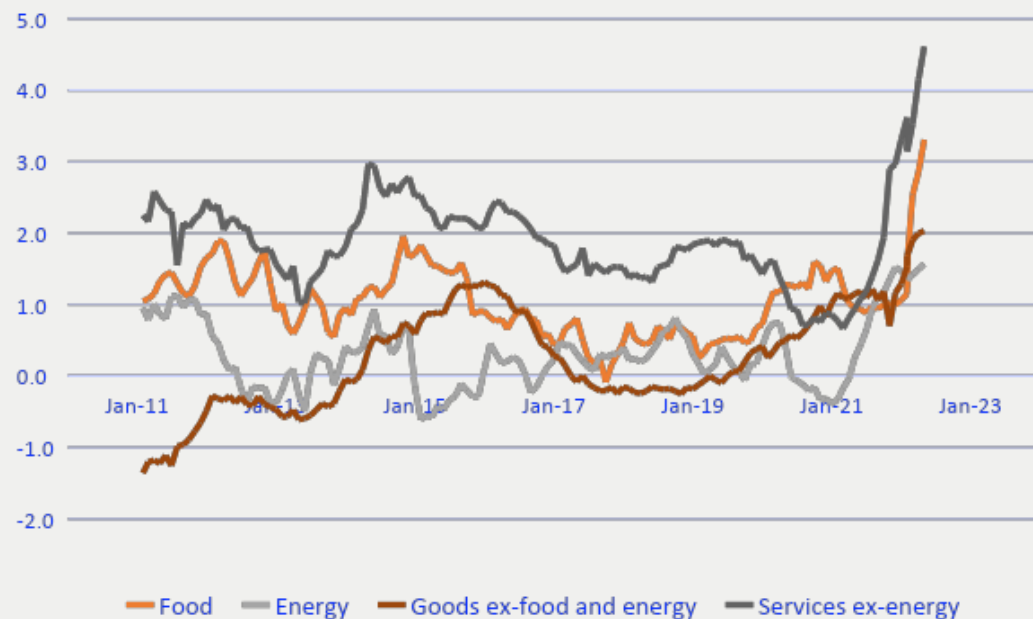
Inflation in Chile – main figures

	Peso	Mensual					Acumulada em 12 meses				
		Apr-21	May-21	Jun-21	Apr-22	May-22	Apr-21	May-21	Jun-21	Apr-22	May-22
Food	19.3	0.50	-0.25	0.24	2.46	1.68	5.2	4.8	4.8	15.9	18.1
In Natura	2.8	0.69	-2.19	-1.06	1.81	1.48	10.1	8.4	8.2	8.2	12.3
Other	16.5	0.47	0.09	0.46	2.58	1.72	4.3	4.1	4.2	17.2	19.1
Services	47.1	0.04	0.25	0.24	1.27	1.16	2.0	2.3	2.5	8.8	9.8
Restaurants and Hotels	6.4	0.47	-0.18	0.07	1.99	1.41	2.7	3.2	3.1	14.7	16.5
Tourism	0.8	0.00	0.00	0.00	14.89	6.86	0.0	0.0	0.0	55.6	66.3
Transportation	4.3	-1.96	2.19	0.74	-0.51	4.62	-3.2	-1.0	-0.1	22.3	25.3
Rent	5.5	0.24	0.27	-0.01	0.28	0.36	2.5	3.1	2.5	3.1	3.1
Education	6.6	-0.02	-0.01	0.00	0.00	0.14	2.8	2.7	2.8	6.8	7.0
Communication	4.8	0.00	0.00	0.00	0.87	0.00	-0.2	-0.1	-0.1	-3.8	-3.8
Other Services	18.6	0.32	0.12	0.42	1.73	0.93	3.2	3.1	3.6	7.3	8.2
Industrials Goods	26.1	0.32	0.50	-0.60	0.69	0.68	4.4	4.5	4.2	7.9	8.1
Clothes	3.5	-2.37	-0.51	-1.86	-0.05	-0.29	3.7	4.0	2.8	1.3	1.5
Motovehicles	3.3	0.51	-0.03	0.30	1.67	0.82	8.5	8.2	8.6	20.9	21.9
Other Goods	2.4	0.44	1.00	-0.94	0.10	1.00	10.6	10.5	10.0	7.6	7.6
Furniture	16.9	0.82	0.75	-0.47	0.73	0.80	2.8	3.0	2.8	7.0	7.0
Energy	7.5	1.62	0.79	1.56	2.47	1.60	3.4	5.7	8.5	19.8	20.8
Energy Services	2.3	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.4	0.4
Fuel and Others	5.3	2.26	1.02	2.21	3.42	2.17	5.2	8.5	12.4	28.3	29.7
CPI ex-Energy and in natura	89.6	0.14	0.34	-0.07	1.02	0.97	2.9	3.1	3.1	8.3	9.0
CPI	100	0.38	0.27	0.08	1.40	1.20	3.3	3.6	3.8	10.5	11.5

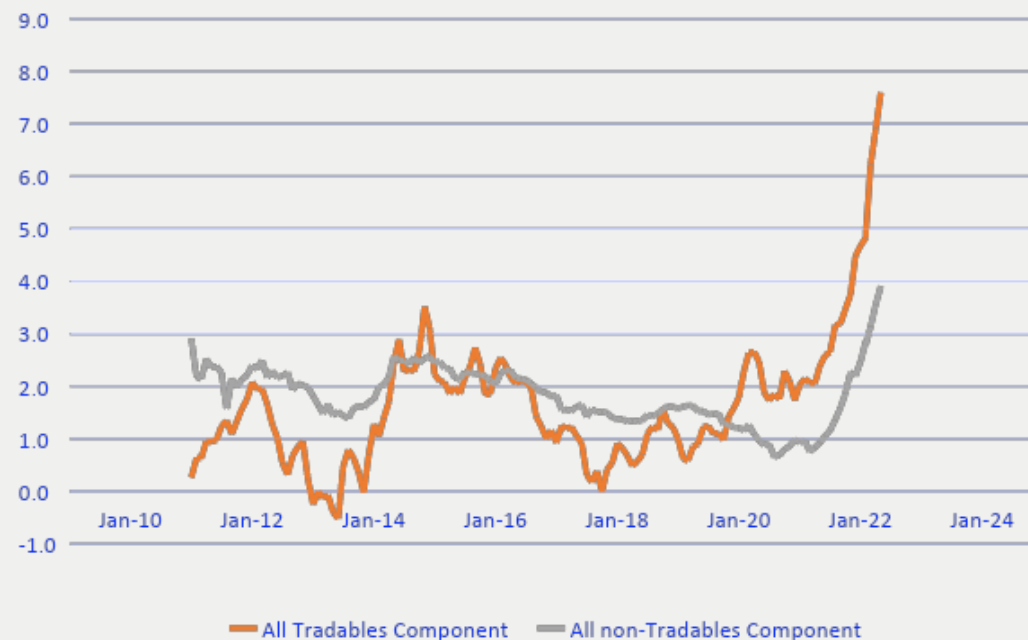
Inflation of services much higher than historical average

- The division of inflation between industrial goods, services, and food show that the current inflation dynamics in Chile are very similar to that observed in Brazil and the rest of the world. Service inflation, which fell below the historical average in the quarters following the beginning of the pandemic, now shows a payback due to the reopening. On the other hand, we see no sign of slowing down in industrial goods inflation. Alternative division shows that, initially, the inflation of Tradables pressed the headline. More recently, Non-tradable have also contributed significantly to the increase in inflation.

Contribution to Chilean inflation by groups – Food, Industrial Goods and Services (% , yoy)



Contribution to Chilean inflation between Tradables and Non-tradables (% , yoy)



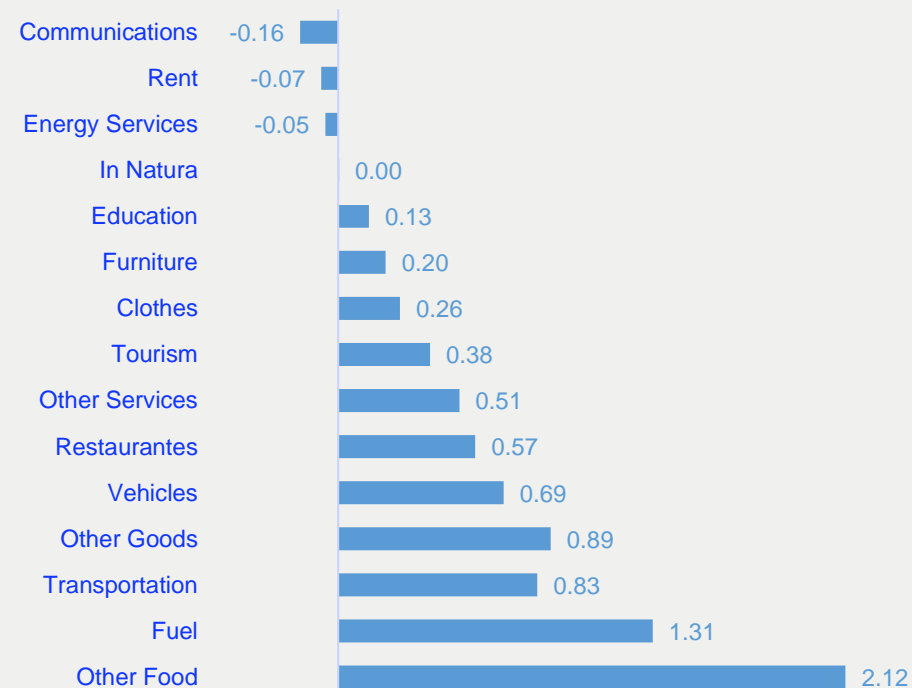
High inflation in Chile is widespread among groups

- The inflation core is well above average between 2010 and 2020. Service inflation is above average, with few subgroups contributing negatively. Until a few months ago, service inflation contributed significantly downwards. Services related to reopening are the ones pressuring the most the inflation of services.

Average yoy inflation between 2010 and 2020, current and contribution to increase (%)

	Peso	Média 2010-2019	Apr-22	Delta	Contribuição
Food	19.3	4.95	15.86	10.92	2.11
In Natura	2.8	8.08	8.22	0.13	0.00
Other	16.5	4.35	17.20	12.86	2.12
Services	47.1	4.14	8.83	4.69	2.21
Restaurants and Hotels	6.4	5.75	14.72	8.97	0.57
Tourism	0.8	5.87	55.63	49.76	0.38
Transportation	4.3	3.10	22.35	19.25	0.83
Rent	5.5	4.34	3.06	-1.28	-0.07
Education	6.6	4.90	6.84	1.94	0.13
Communication	4.8	-0.53	-3.82	-3.28	-0.16
Other Services	18.6	4.56	7.28	2.71	0.51
Industrials Goods	26.1	0.16	7.91	7.74	2.02
Clothes	3.5	-6.09	1.25	7.34	0.26
Motovehicles	3.3	-0.31	20.88	21.19	0.69
Other Goods	2.4	-0.64	7.59	8.23	0.20
Furniture	16.9	1.71	6.96	5.25	0.89
Energy	7.5	3.23	19.83	16.59	1.25
Energy Services	2.3	2.77	0.40	-2.37	-0.05
Fuel and Others	5	3.32	28.26	24.94	1.31
CPI ex-Energy and in natura	89.6	2.63	8.34	5.71	5.12
CPI	100	3.13	10.52	7.39	7.39

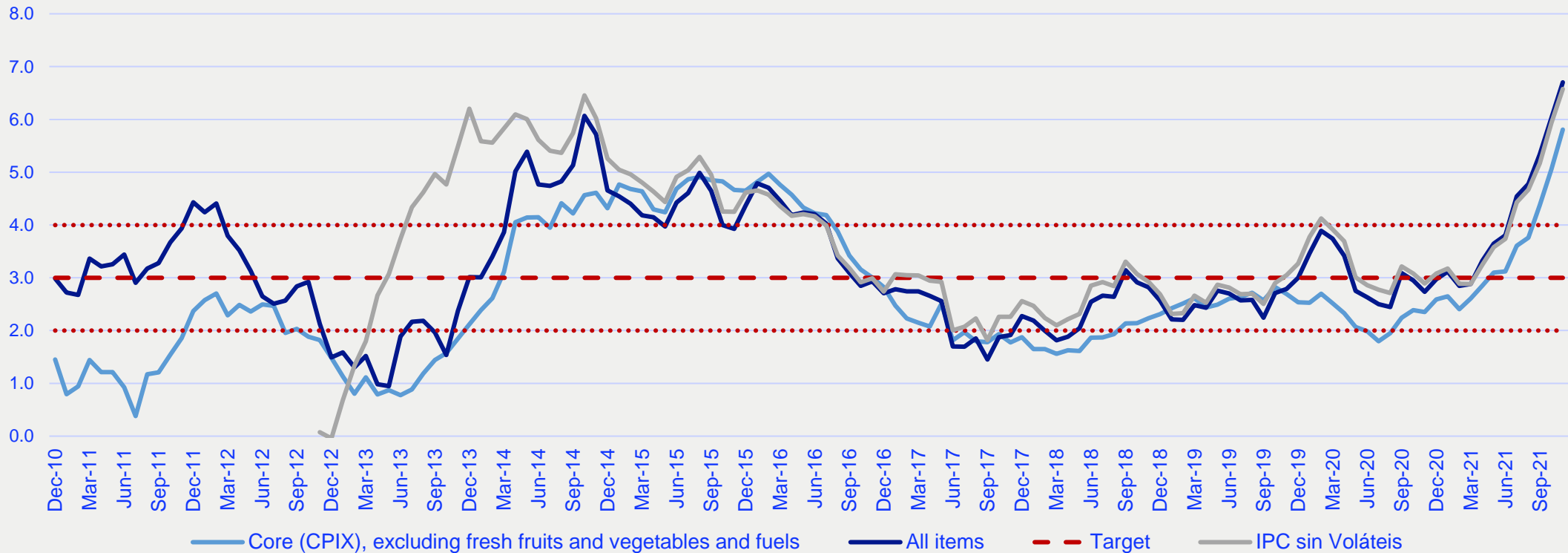
Contribution of each group to the reduction of yoy inflation compared to 2010-2020 (p.p.)



Inflation Core Above Inflation Target Center

- Full inflation and the nuclei are well above the upper limit of the target set by the Central Bank. Inflation in ex-fuels and perishable foods in Chile has been at the highest level since at least 2010. After this core inflation was reached below the lower limit of the inflation target in July 2020, 12-month cumulative inflation reached 8.3% in April 2022.

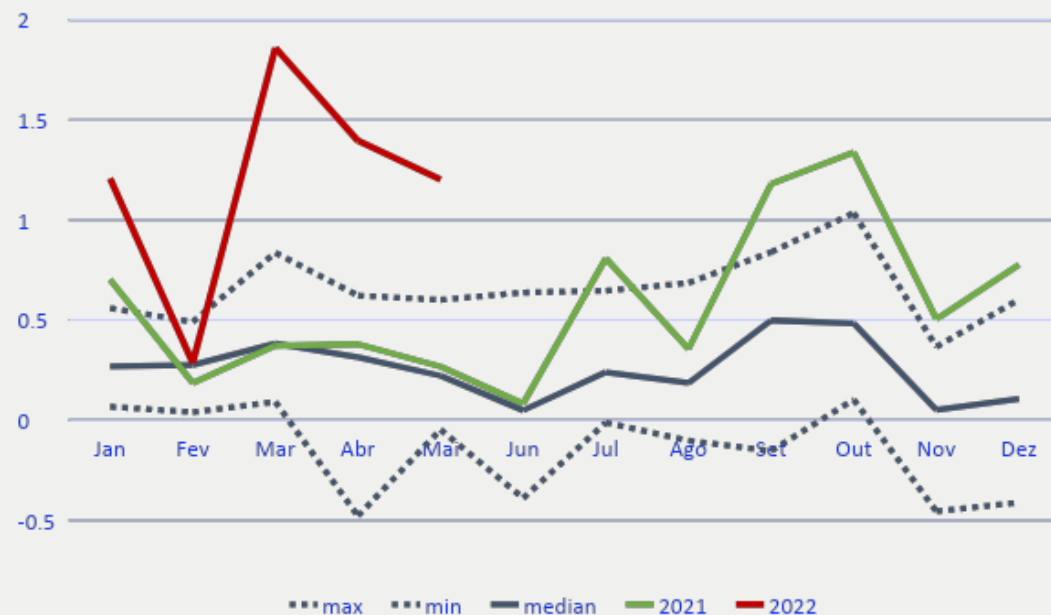
Headline and core inflation (% , yoy)



IPC inflation without volatiles well above the median

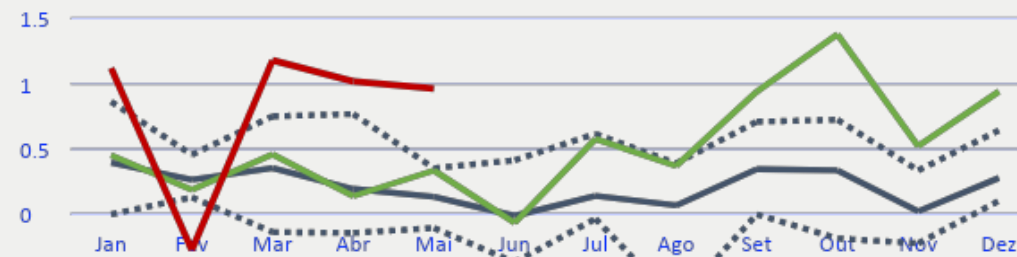
- Inflation in the month came well above the median in May. *Sin voláteis* inflation accelerated sharply earlier this year and is well above the historical standard.

Monthly, median and maximum inflation between 2010 and 2020 – full index (% , mom, NSA)

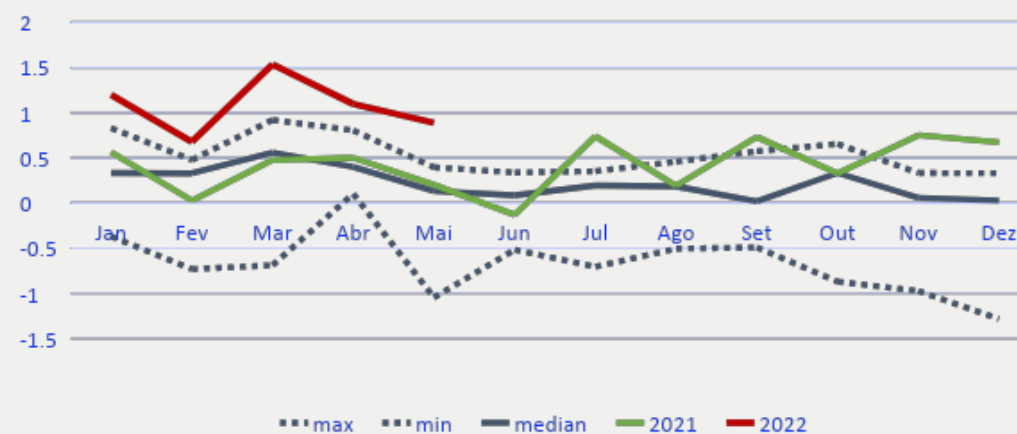


Inflation cores (% , mom, NSA)

CPI ex-food and energy



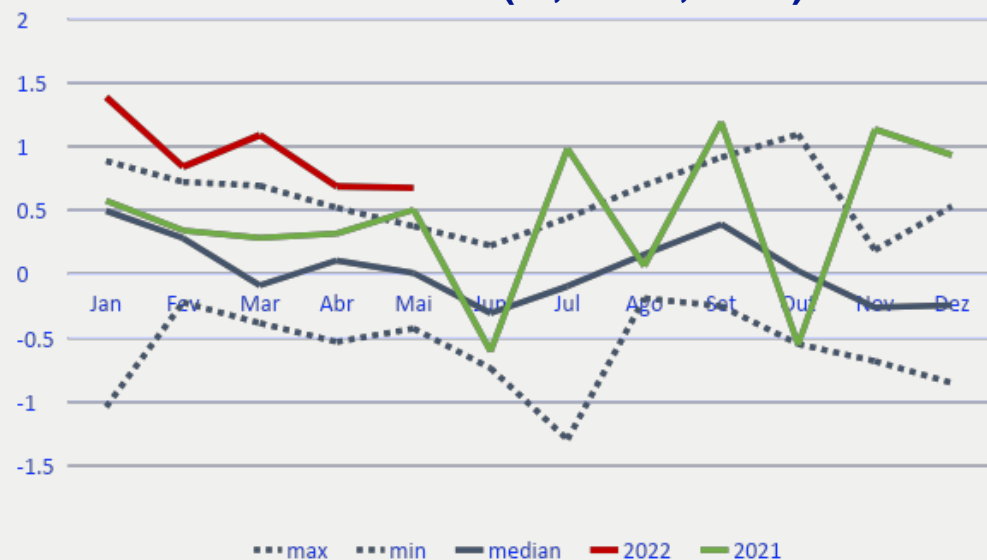
IPC sin voláteis



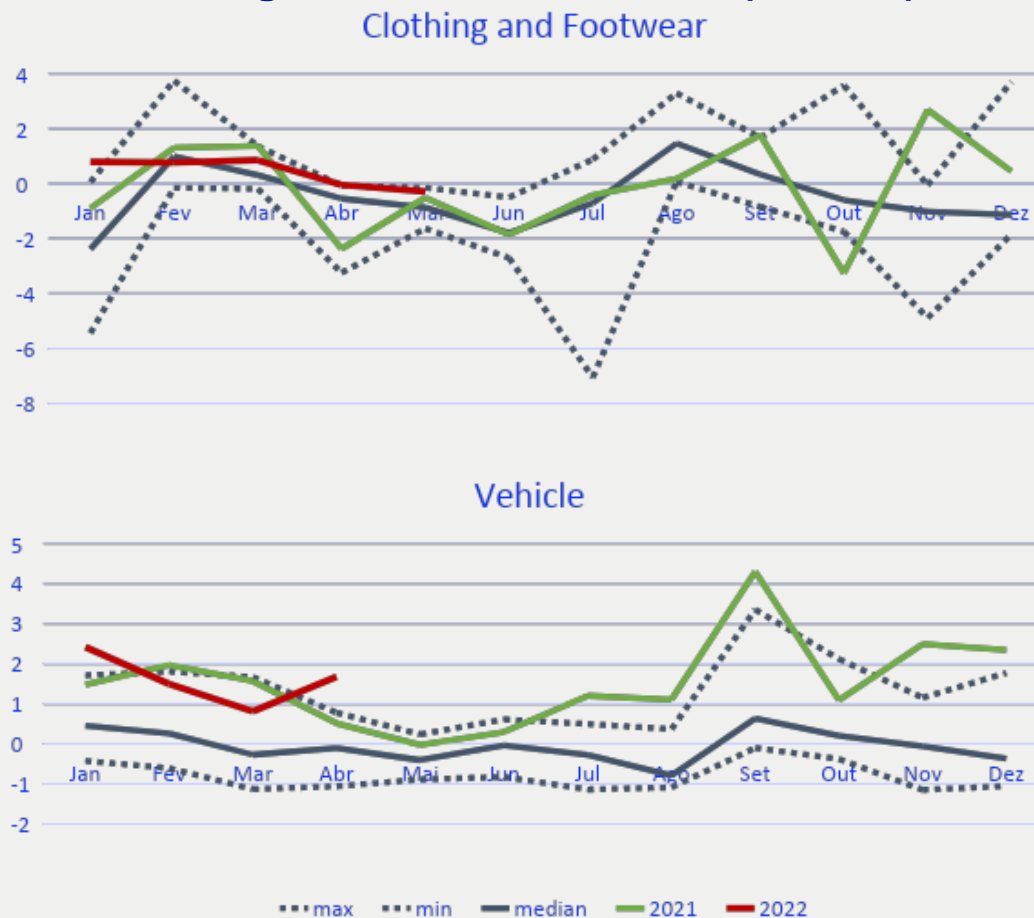
Inflation of industrials presses the core of inflation

- The recent composition of inflation in Chile has been similar to that of other countries. Initially, industrial goods inflation was extreme, while services showed inflation below the historical average. More recently, we have seen a recovery in services, but industrial goods inflation remains high.

Industrial Inflation, median and maximum between 2010 and 2020 (% , mom, NSA)



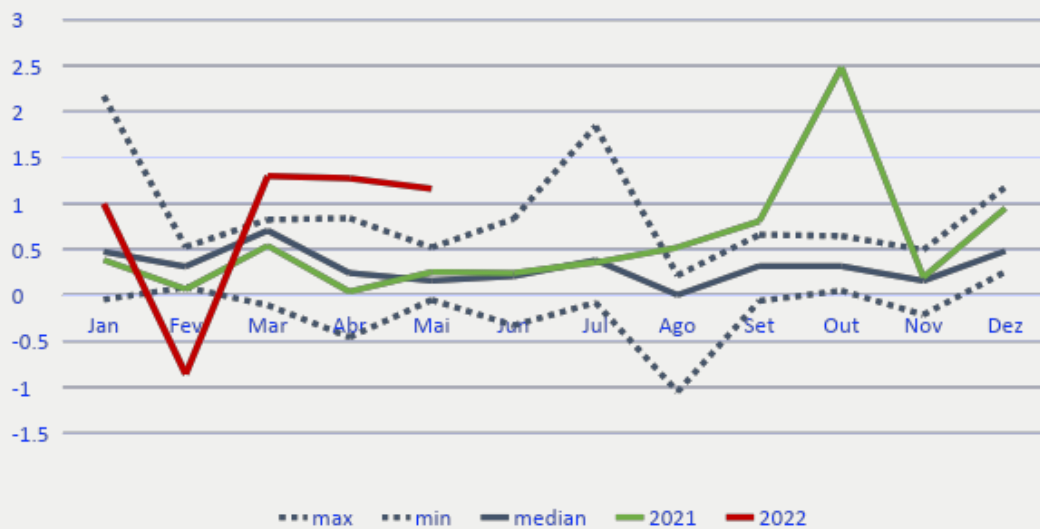
Clothing and vehicles inflation (% mom)



Inflation of services returned to high levels in March

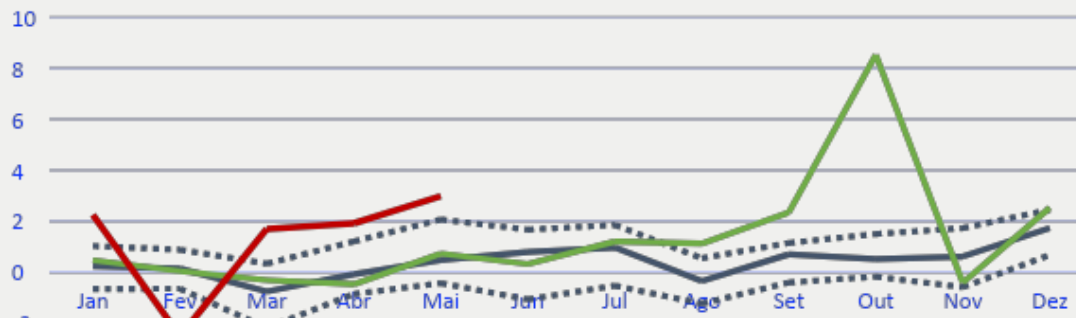
- After showing deflation in February, services again contributed positively to the CPI in March, April and May. The movement was explained by services that were more sensitive to the reopening of the economy, which has shown above-normal volatility.
- Inflation of the most stable components also shows above-regular inflation but within the range seen in the years before the Covid-19 crisis.

Service Inflation, median and maximum between 2010 and 2020 (% mom, NSA)

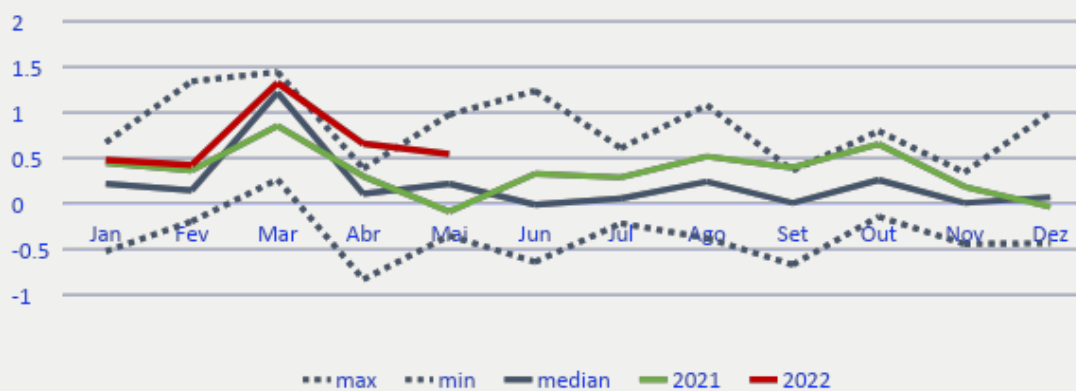


Inflation of different service groups (% mom)

Tour Package + transportation services + restaurant



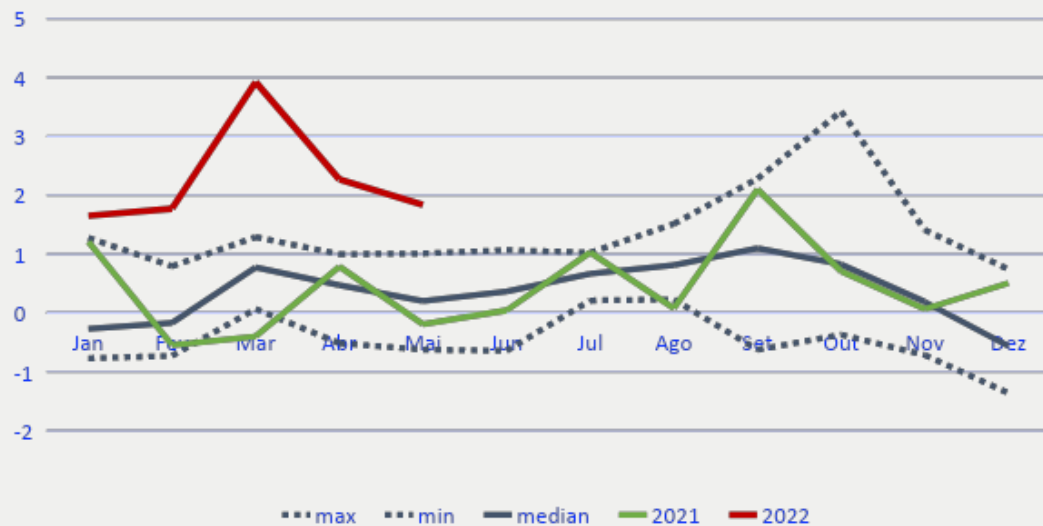
Housing, education and communication



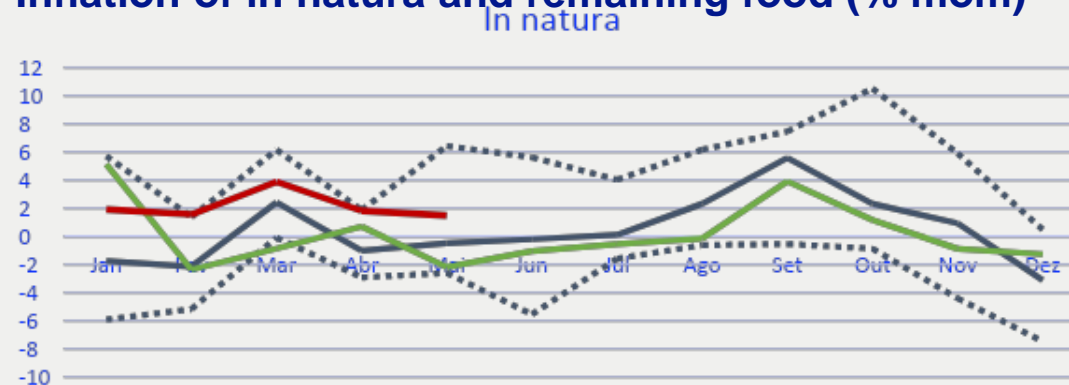
Very high food inflation in early 2022

- Food inflation, which had been behaving very positively throughout 2021, showed a substantial increase at the beginning of this year.
- Inflation is not explained purely by climate. Inflation, more sensitive to the environment (fresh food), is high but within the standard. The other foods are under pressure, probably reflecting higher commodity prices in the international market.

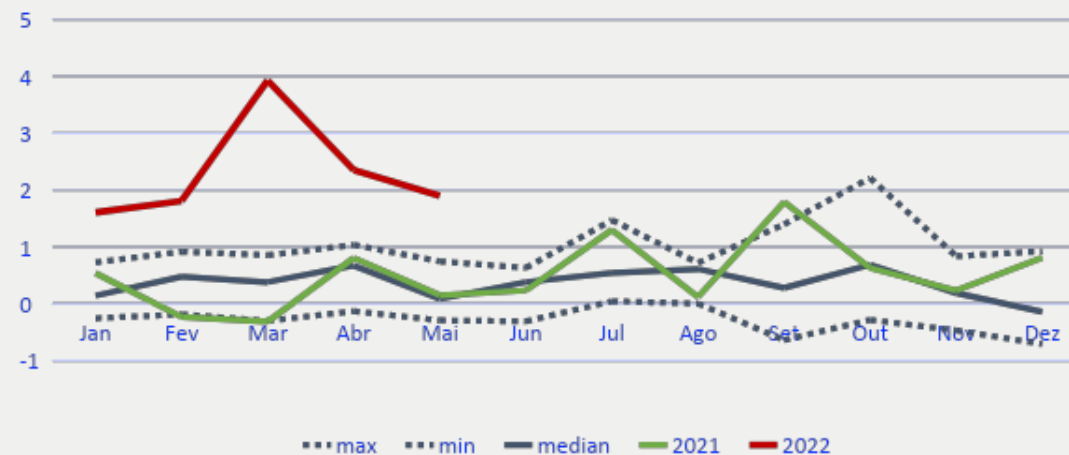
Food Inflation, median and maximum between 2010 and 2020 (% mom, NSA)



Inflation of in natura and remaining food (% mom)



Outros alimentos





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