Positive surprises in economic activity across all sectors

- **The performance of the Brazilian economy in all segments has been a positive surprise this year.** Although industry, commerce and services have been subject to health restrictions since March, the numbers for these sectors have been stronger than expected. Despite the social distancing measures still in effect, resumption has also occurred more quickly. The opening of the economy, with the advancing vaccination, mainly favors the service sector, but agriculture remains in the spotlight in 2021.

- **The global balance between supply and demand in agriculture remains very tight, keeping prices high and margins positive.** On the other hand, livestock is still undergoing major cost pressures, without much room for pass through, given the low level of consumption.

- **Industry continues to report lack of inputs and low inventories as limiting factors for growth.** Demand and restocking tend to continue to drive the intermediary industry. The demand for durable goods remains high, but the lack of inputs limits progress. Similarly, historically low interest rates and economic recovery have benefited the demand for capital goods. The highlight in construction is the demand for residential properties, while in infrastructure, the resumption of auctions signals a positive scenario ahead.

- **The demand for durable goods and construction materials remains at a very high level.** On the other hand, food inflation and the reduction of government programs are already affecting supermarket sales, as well as the gradual reopening of restaurants. Sales of semi-durable goods are still lagging behind in the cycle, but tend to accelerate with the reopening of the economy.

- **The recovery of services remains below that of other sectors due to the poor performance of services provided to families.** Information technology services are the positive highlight. Health services continue to benefit from the reopening and advancement of the job market. Finally, the education sector is recovering, but attracting students is a major challenge.

Industry Focus: Electricity

Risk of electricity rationing and impacts on the economy and inflation

- **The critical situation of hydroelectric reservoirs and the possibility of energy rationing has been debated in recent weeks.** Energy consumption quickly recovered, in line with economic recovery. On the other hand, weather conditions have been unfavorable since the middle of last year, driving the reservoirs of hydroelectric plants in the Southeast/Midwest to very low levels.

- **The situation generates immediate comparisons with other episodes.** There was rationing of energy consumption in 2001, with tariff increases and restriction of domestic activity. Between 2014 and 2015, the lack of rain led to the activation of thermal plants, impacting prices more than activity.

- **So far, our analyses suggest that the risk of rationing is low,** but point to a very tight generation scenario this year, with an expected impact on electricity prices and contained negative effects for domestic activity.

Positive surprises in economic activity across all sectors

The performance of the Brazilian economy in all segments has been a positive surprise this year. Although industry, commerce and services have been subject to health restrictions since March, the numbers for these sectors have been stronger than expected. Despite the social distancing measures still in effect, resumption has also occurred more quickly. This resilience of the economy was supported by low real interest rates, broad credit supply, high levels of savings, recovery of formal employment, strong global growth and adaptation to restrictive measures. The opening of the economy, with the advancing vaccination, mainly favors the service sector, but agriculture remains in the spotlight in 2021.

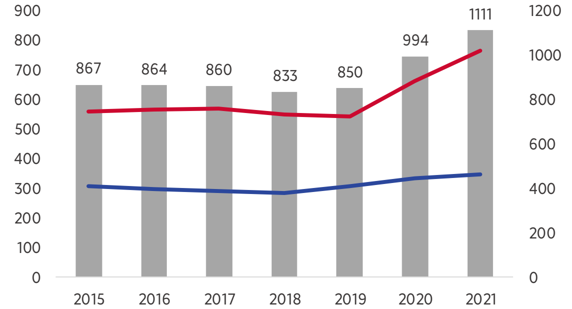
We highlight the hydrology and still imponderable events of the pandemic as the main highlights among the risks to the economic scenario. With the energy market more diversified than in previous periods (greater thermal capacity and from renewable sources), we believe that the water risk will have a greater impact on prices than on activity. However, the extension of the drought could reduce the productivity of agriculture and livestock, affecting the numbers for this and for the next year. Regarding the pandemic, our calculations indicate that the Brazilian adult population should be vaccinated, at least with the first dose, by September this year, reducing the risk of generalized closure of the economy. In any case, any setbacks in the fight against the pandemic could once again negatively impact the economy.

Agriculture: despite the drought, the scenario remains very positive

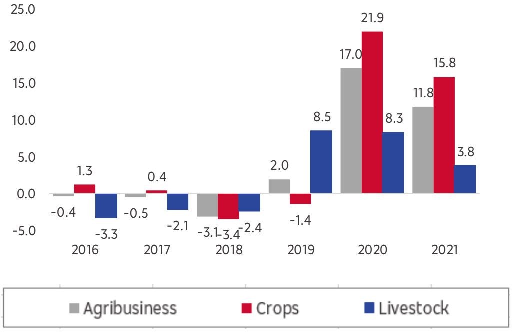
The global balance between supply and demand in agriculture remains very tight, keeping prices high and margins positive. For soybeans, we harvested the largest crop in Brazilian history. For corn, the delay in planting and the dry weather affected the productivity of the 2nd harvest, especially in Paraná and Mato Grosso do Sul. The drought also affected the productivity of: i) beans, with a drop expected for the 2nd and 3rd harvests; ii) sugarcane, leading to lower sugar and ethanol production; and iii) coffee, which is also in the down year of its two-year cycle. Even so, high prices in the foreign and domestic markets have ensured good margins and mostly offset the losses with crops and increased fertilizer costs.

Chart 1: Gross Value of Agricultural Production

BRL Billions



Annual variation (%)



Source: MAPA

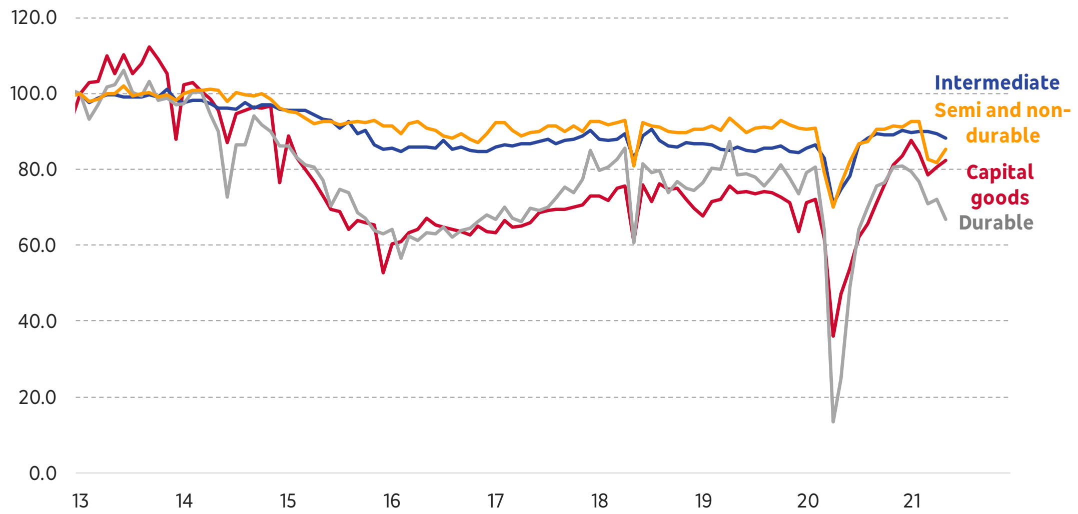
Livestock continues to experience great feed cost pressures. The slaughter of chickens and swine is expanding, taking advantage of the increase in domestic demand and the advance of exports, respectively. However, high feed costs are compressing the sector's margins, which were negative in some markets. In turn, the slaughter of cattle continues to decline, reflecting the female retention cycle, which should start to be reversed only at the end of this year. Low availability has driven live cattle prices up. Refrigerators have been trying to pass the cost pressure through to the consumer, but without success. The current level of beef prices has already led to a certain drop in domestic consumption; additional increases would further reduce demand in the domestic market. Thus, exports continue as a great alternative for the cattle producer and are at high levels. The drought should reduce the level of confinement in this off-season, increasing the supply (greater slaughter) of live cattle in the short term and generating less pressure on prices. However, the relief should be temporary, since the number of animals slaughtered at the end of the year tends to be lower, leading to further price increases.

Industry: intermediate and capital goods are the highlights this year, with inventory replenishment and positive demand

Industry has reported lack of inputs and low inventories as limiting factors for growth. About 25% of the manufacturing industries have indicated that the lack of inputs is a limiting factor for growth, according to a survey by FGV. There is a shortage of electronic components, rubber, long steel, ceramic products and wood, among others. In this scenario, we have seen the rebuilding of inventories since the beginning of the year, quite gradually, as shown by the first quarter GDP result, the FGV survey and our business survey. Inventory levels are still below standard, both in industry and in commerce, and some industries announced a stoppage due to lack of inputs. Thus, the sector will continue to rebuild inventories in the coming quarters.

The intermediate goods industry tends to continue to benefit, driven by demand and restocking. The production of wood, metallurgical products, pulp, chemicals, rubber and plastics remains at a high level. These sectors are at low inventory levels. In addition, domestic demand remains positive.

Chart 2: Industrial production
Breakdown, seasonally adjusted index



Source: IBGE

The demand for durable goods remains high, but the lack of inputs limits growth. Demand remains positive due to historically low interest rates, resumption of formal employment and high savings. Durable goods are the most impacted by the lack of inputs and we do not rule out an increase in production stoppages. Such interruptions may limit a more intense advance of the sector, even if the scenario is favorable.

Similarly, historically low interest rates and economic recovery have benefited the demand for capital goods. The most favored segments in recent months were: serial industrial capital goods, agricultural machinery and parts, and construction and mining, sectors that are in fact showing stronger performance and that have resumed their investment plans.

Civil construction: performance has been positive, but rising costs are a point of attention

Demand for residential properties remains strong, after the sharp drop in inventories in 2020. The number of new starts has grown across all regions of the country and the sector proved to be resilient during the stoppages in activity earlier this year. The sector continues to be driven by low real interest rates, the creation of formal employment, increased consumer confidence and the reopening of the economy. Raw material cost pressure deserves attention. In this sense, the possibility of pass through from costs to final prices favors the medium-high income segment.

In infrastructure, the resumption of auctions signals a positive scenario ahead. In 2021, the federal government has already conducted the concession of 29 projects, 22 of which are airports, 5 ports, a highway and a railway. The list for the year is still long and some delays may occur. Even if part of the auctions is pushed to 2022, the year 2021 will be marked by the resumption of infrastructure concessions, with effects on the economy that spread over time.

Retail: demand remains especially favorable for durable goods and construction materials

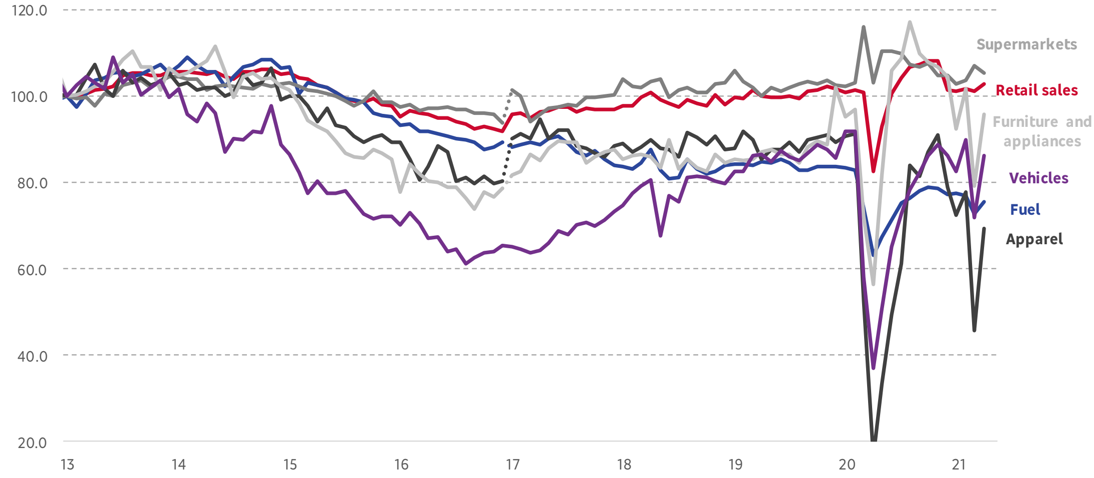
Demand for durable goods and construction materials remains at a very high level, although they have slowed during the activity stoppages of the 2nd Covid-19 wave. Vehicles, furniture and electronics and construction materials still benefit from low interest rates and the resumption of formal employment, in addition to the accumulation of savings last year. The performance is not better due to the lack of inputs, something that the industry of these goods has drawn attention to in recent surveys and which maintains longer delivery times.

Food inflation and the reduction of government programs are already affecting supermarket sales, as well as the gradual reopening of restaurants. Sales levels remains positive and the sector has in fact shown to be more resilient at times when the activity is closed, even with the replacement of restaurants. Even so, there are signs of a slowdown in the sector and the shift from more expensive brands to cheaper ones. In this environment, mixed retail/wholesale operations achieve better performance.

Sales of semi-durable goods are still lagging behind in the cycle, but tend to accelerate with the reopening of the economy. This segment includes apparel, footwear and fuel. If there are no setbacks in immunization or additional complications from the pandemic, the outlook for the sector is encouraging.

Chart 2: Retail sales

Breakdown, index without seasonal effects



Source: IBGE

Services: reopening will boost segments focused on families and transport

The recovery of services remains below that of other sectors due to the poor performance of services provided to families. Current social distancing measures prevent the full use of these services, especially accommodations and food. But the advance of vaccination in the country and the reopening of the economy should boost demand for these services.

Information technology services are the positive highlight. The current level of actual billing for these services is 28% above the pre-pandemic figures, favored by the advance in the use of e-commerce and remote work. Storage and logistics services are also being favored, with greater demand from e-commerce, despite transport services being more fragile due to air transport.

Health services continue to benefit from the reopening and the increasing numbers of health plan beneficiaries. Elective procedures were temporarily interrupted during the 2nd wave of Covid-19 in several states, but have already resumed. In addition, the number of health plan beneficiaries has been increasing, hand in hand with the recovery of formal employment.

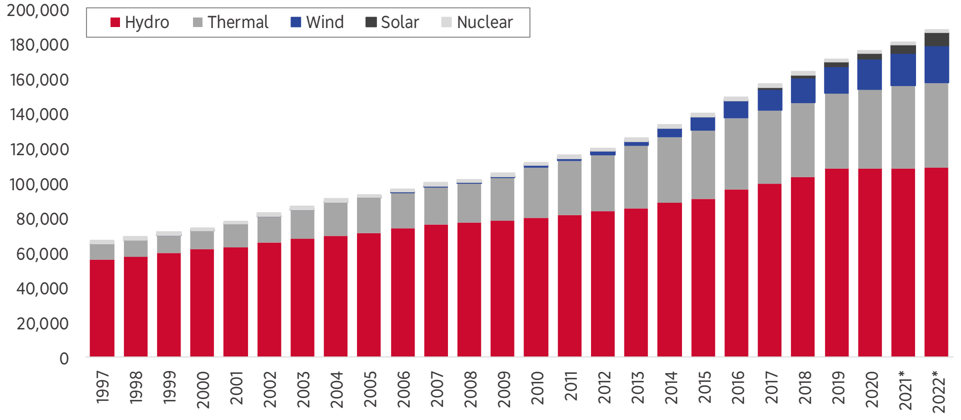
The education sector is recovering, but attracting students is still a challenge. Demand has shown some improvement in basic education and, as a result, enrollment adjustments and installment renegotiations have ceased. In higher education, drawing students is still a great challenge, but the recovery of activity and employment should boost the segment in the coming quarters, albeit gradually.

Risk of electricity rationing and impacts on inflation and the economy

The critical situation of hydroelectric reservoirs and the possibility of energy rationing has been debated in recent weeks. Energy consumption recovered quickly, in line with economic recovery. On the other hand, weather conditions have been unfavorable since the middle of last year, driving the reservoirs of hydroelectric plants in the Southeast/Midwest to very low levels. The situation generates immediate comparisons with what happened in 2001, when there was rationing of electricity consumption due to the restricted generation conditions. Another reference episode is the most recent water crisis, between 2014 and 2015, when the lack of rain led to the activation of more thermal plants. So far, our analyses so far suggest that the risk of rationing is low, but point to a very tight generation scenario this year, with an expected impact on electricity prices and contained negative effects for domestic activity.

In the last 20 years, the electric system has gained more capacity and diversified the generation matrix, in addition to becoming more interconnected. In 2001, 80% of the matrix was made up of hydraulic plants, compared to around 62% today. Wind and photovoltaic generation have gained more space in the electrical matrix, with the advantage of being clean and renewable sources. Thermal plants account for 25% of the total, compared to 17% in 2001, complementing the electric park. In addition, installed capacity and transmission line extension more than doubled in this period. Nevertheless, our electrical system is still dependent on hydropower, subject to variations in the rainfall scenario.

Chart 3: Total installed capacity by source
In MW of power



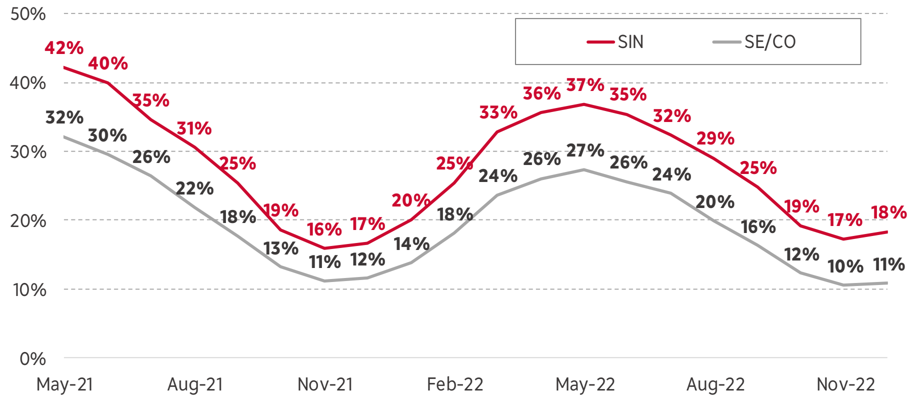
Source: ANEEL, Bradesco

Seeking to measure the risks of rationing, we developed simulations for the reservoir levels of the hydroelectric plants of the National Interconnected System (SIN) and of the Southeast/Midwest. The reservoirs were estimated according to hydrological and energy supply and demand assumptions. For simplicity, we do not consider imports, so the electricity system needs to generate all the demand. The following is a list of the main assumptions for the exercise: (i) the energy load was projected in accordance with our economic growth expectations; (ii) we assume the use of the capacity of the thermal plants in the pattern of the 2014/15 water crisis, while the wind, photovoltaic and nuclear plants operate at the historical average level; (iii) the system assumes that hydroelectric generation must be sufficient to cover the remaining energy demand; (iv) for the end of this year, we consider the same hydrology as in the second half of 2020 and, for 2022, we replicate the rainfall level of 2021. These are stressed assumptions, which configure an adverse generation scenario for two consecutive years.

In these projections, the SIN and Southeast/Midwest reservoirs reach critical levels, but are still operable. In November 2021, in the central scenario, the SIN and Southeast/Midwest reservoirs reach 16% and 11% of capacity, respectively – values above the operable minimums indicated by the ONS. It is also worth mentioning that the Ministry of Mines and Energy intends to reduce the flow between reservoirs and rivers/dams, a measure that should help keep hydroelectric reserves at safer levels – and this is not incorporated in these simulations.

Next year, the risk is higher if these adverse water conditions persist. Reservoirs will start next year at significantly low levels. In the absence of rain, if water reserves are unable to recover, the thermal dispatch should remain high throughout 2022. Thus, the baseline scenario shows a reduced risk of rationing, which increases over time if hydrology remains very poor.

Chart 4: Forecast of SIN and SE/CO reservoirs until December/22



Source: ONS, Bradesco

If the risk of rationing seems low, it is true that energy will be supplied at a high cost. The cost of energy generated by thermoelectric plants is significantly higher than that of other plants, since natural gas, the main fuel used by thermoelectric plants, is an input that is often imported and quoted in dollars. The PLD (Settlement Price for Differences, or the price of energy in the short-term market) should reach the threshold level of 583.88 BRL/MWh, or values close to it, over the next few months.

Therefore, the red tariff flag should be maintained throughout the rest of this year. It is possible that it will continue at the beginning of next year, signaling to the consumer the more costly generation conditions. It is worth noting that this increase in costs is not passed on to consumers only via tariff flags, but also through annual tariff readjustments by energy distributors. Thus, distributor readjustments may be higher next year, considering the transfer of costs to the consumer. According to our calculations, for each additional BRL 10 billion in costs with thermal plants, there would be a potential impact of 0.26 p.p. of inflation in 2022, due to annual adjustments. As a base scenario, we are working with an average readjustment of 6% for the main distributors that impact the IPCA. It is important to note that we do not consider the impacts of a water crisis on household food prices here. If the volume of rainfall is similar to that of the end of 2020, we could have an upward impact on our food at home forecast (from 3.9% to 5.5%), adding an impact of around 0.25 pp in our IPCA estimate of 3.50% in 2022.

If the hydrology is worse than that used in reservoir models, the risk of rationing could rise. Thus, we simulated the impact of rationing on the economy based on the 2001 episode. Between the first and fourth quarters of that year, the GDP declined by 1.3%, mainly as a result of measures taken in response to the energy crisis, but also from a context of greater uncertainty. The component of industry in the national accounts dropped 5.2% in the same period, with staggered impacts across segments (Table 1). Considering that the reality of the system's energy generation and distribution capacity differs from that of 2001, it is possible to consider a fraction of the impact observed in the period, depending on the evolution of the hydrological framework and its consequences over this year and the next.

Table 1: Impact of 2001 rationing on industrial activity
Accumulated drop between 1Q01 and 3Q01

	Accumulated drop from Mar-Dec/01	Approximate weight	Contribution (p.p.)
GDP	-1,3%	100%	-1,3
Total industry	-5,2%	17,6%	-0,9
Mining	6,5%	2,8%	0,2
Manufacturing	-3,1%	9,7%	-0,3
Civil construction	-6,5%	2,7%	-0,2
Production and distribution of electricity, gas and water	-15,0%	2,4%	-0,4

It is noteworthy that even in a less acute hydrological scenario, there is a potential downward impact on economic activity. Compared to other energy sources, thermoelectric plants contribute less added value to production and, therefore, their mere activation negatively impacts the "Production and distribution of electricity, gas and water" component in the industry. According to our calculations, an increase of 10 p.p. in the share of thermoelectric plants in total generation reduces the aggregate GDP index by approximately 0.2 p.p. per quarter, in the year-on-year comparison. In this sense, even if a more acute rationing scenario does not materialize, this is a risk in case of prolonged activation of these plants throughout the year.

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