

Box 3 The Upward Dynamics of Food Prices

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The recent increase in consumer prices due to the Covid-19 pandemic, which has also affected Colombia in recent months, is a central theme for governments and monetary authorities worldwide. Indeed, the country has not only been impacted by an unfavorable international context regarding high transport costs, restricted access to supply chains, and higher international food prices, but also by domestic impacts resulting from low production cycles in some agricultural activities and because of the damage caused by road blockages to the production chains of some food products during May and part of June this year.

This global and local outlook led consumer inflation in Colombia to exhibit an increasing trend during the second quarter of the year. Although these circumstances pushed various goods upwards, the impact on food has been strongest, as evidenced by the increase in the annual variation of this sub-basket, from 3.92% in March to 9.52% in May and 8.52% in June. Thus, the food consumer price index (CPI) contributed to about one-third of the annual inflation increase in this period (from 1.51% in March to 3.63% in June). Besides, the price of food products accumulated a significant growth between April and June (6.48%), well above the figures observed in the rest of the CPI groupings (see section 3.1 of this Report). The main factors behind the recent increase in food prices, both domestic and external, are presented as follows.

1. Domestic Factors

On the local front, there are three inflationary pressures on the food CPI segment so far this year: 1) Unfavorable production cycles for the agricultural sector; 2) expansion of exports of bovine products; and 3) road blockages that generated scarcity and caused damages to the productive system in some agro-industrial sectors. First, the increase in food prices during much of the second quarter is explained by the contraction of supply in several items, among them perishable food items, whose prices increased 6.98% during the second quarter, on average, and their annual variation went from 1.58% in March to 18.2% in May and 8.69% in June. This performance was associated with a low cycle in the production of potato, some vegetables, and fruits during much of the semester. For

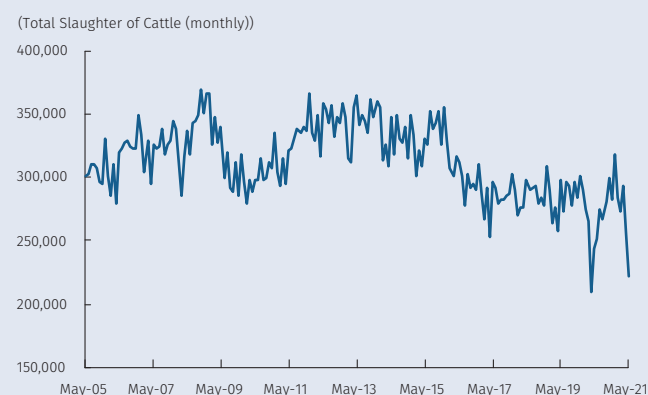
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example, so far this year, potato prices increased by over 75%¹. Similarly, beef supply has been facing a decline resulting from the slaughter of cattle which, with the latest information available from the National Administrative Department of Statistics (DANE), has recorded historically low levels (Graph B3.1, panel A).

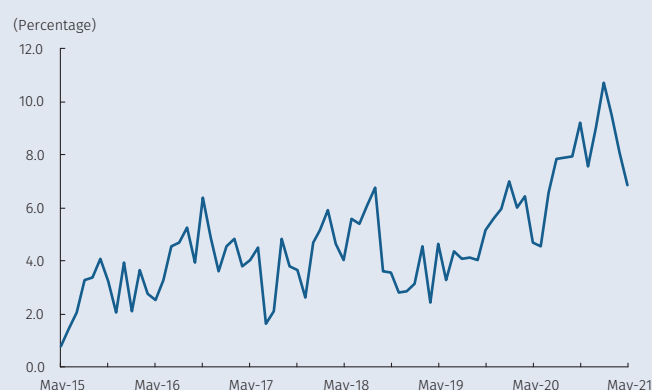
Secondly, a significant rebound in beef exports must be added to these upward pressures once Colombia regained its foot-and-mouth-free status since February last year². This would contribute to reduce the domestic supply available and boost consumer meat prices, which so far this year exhibit a 20.7% variation. As shown in Panel B of Graph B3.1, meat exports, as a percentage of total national pro-

Graph B3.1
Slaughter of Heads and Beef Exports as a percentage of National Production

A. Total Slaughter of Cattle (monthly)



B. Beef Exports / Total Domestic Production (carcass weight)



Source: DANE (Livestock Sacrifice Survey, ESAG).

- 1 The theoretical basis for the formation of prices for agricultural products is the cobweb theorem. In situations where there is a low price and high production (as was the case for potato at the end of last year), the farmers' response for the next production cycle is a reduction of the cultivated area, therefore with a lower supply and again with a rising phase of prices.
- 2 See: <https://www.ica.gov.co/noticias/colombia-recupera-estatus-pais-libre-aftosa>

duction, multiplied three times in one and a half years³. The lower supply of this type of animal protein has been accompanied by a marked shortage of its closest substitutes, such as pork, chicken, and egg. As a result, consumers have not easily replaced one animal protein with a cheaper one. In addition to the global shortage caused by the pandemic, the largest exports are being driven by growing demand and interest for healthier bovine products subject to less animal stress, such as those offered by Colombian livestock, whose main characteristic is meat from cattle grown in large areas, free of confinement and fed with natural pastures⁴. These exports are being placed mainly in countries in the Middle East (Iraq, Egypt, Jordan, and Lebanon), as well as in Hong Kong and Chile. However, the corresponding health permits to start exporting to China were recently endorsed. As a matter of fact, the first beef quota was sent to Macau in June, which could significantly boost these exports in the following quarters⁵.

Finally, from late April to mid-June, roadblocks prevented the mobility of people and goods, generating marked disruptions in the supply of inputs, goods, and food. Indeed, as illustrated in Graph B3.2, food supplies in the country fell significantly in May, and in cities such as Cali, they fell sharply, with a fall of over 70%. These restrictions on the mobility of goods and the reduced availability of products of agro-industrial origin led to a temporary and significant increase in prices, especially of perishable foods. In the case of processed foods, road blockages also favored further annual price adjustments (from 4.77% in April to 8.47% in June). However, it is important to clarify that this segment of food products has been heavily affected by other external factors, which will be detailed below.

In addition to generating lower food collection at rising prices, road blockages also resulted in losses and damage to the productive system of key agro-industrial sectors such as poultry. Egg and chicken production, which has also been affected by the increase in the international price of maize and sorghum, fell due to the road blockages and, according to the poultry guild, recovery will take them, at least, the rest of the year. These disturbances to the transit of goods also involved delays in agricultural tasks for soil preparation, pest and weed control, and the application of nutrients and fertilizers, which could lead to declines in agricultural yields for the remainder of the year, with reduced supply and upward price pressures. However, although these adverse events are expected to dissolve next year.

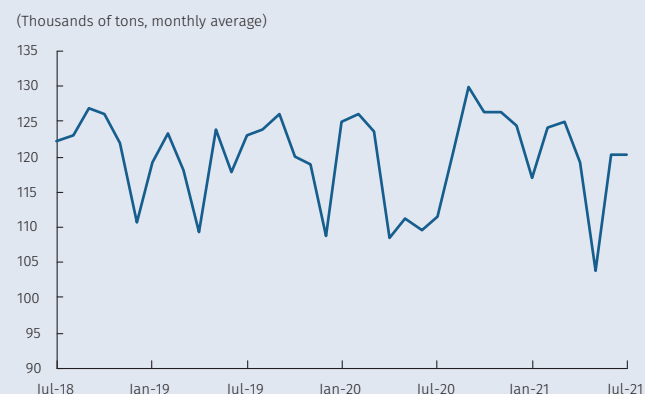
3 The volume of exports of standing livestock is still very low compared to the number of animals slaughtered. Between January and April 2021, live animals exported totaled 17,952, while the number of heads slaughtered in the same period amounted to 1,107,391, equivalent to 1.6%, according to export data and the DANE livestock slaughter survey applied in 273 municipalities.

4 At the end of 2020, a platform was implemented to boost exports of cattle products with the quality stamp of the Colombian brand, which highlights, among other qualities, production based on pastures and totally natural schemes. In this regard, visit: <https://www.fedegan.org.co/noticias/resaltamos-la-carne-traves-de-su-sello-colombian-beef-grass-fed-co-flavia-santoro>

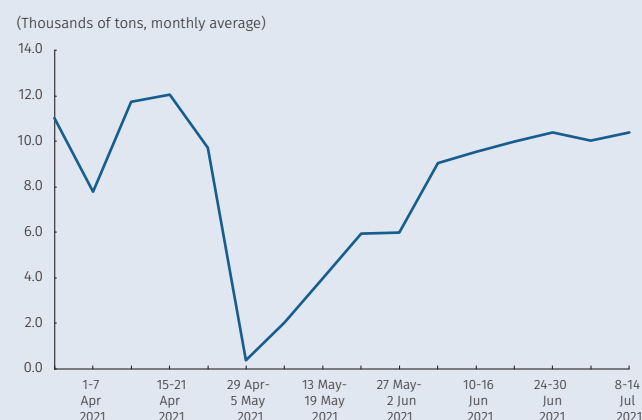
5 See: <https://www.contextoganadero.com/economia/primer-contenedor-de-carne-bovina-colombiana-zarpo-hacia-macao>

Graph B3.2
Supply at Distribution Centers, Sipsa/DANE

A. Total Supply



B. Supply in Cali



Source: SIPSAs/DANE.

2. External Factors

Other inflationary pressures that could have a greater upward persistence in domestic food prices come from the external front. According to the Food Organization of the United Nations (FAO), the international food price index has increased since June 2020, and in the second quarter of 2021, the average increased 7.3% *vis-a-vis* the previous quarter, recording in May the highest levels reported since September 2011 (Graph B3.3, Panel A). Although the increase in international food prices has been widespread, cereals, especially maize and soybeans, along with vegetable oils (mainly palm oil), have recorded the most significant increases (Graph B3.3, Panel B). Strong demand, limited supply, and a weakening US dollar are some factors that stand behind this upward trend in international food prices.

Particularly, demand for these foods has been linked to higher imports by China, which started taking place before the Covid-19 pandemic and that respond to different factors. According to the IMF, in 2018, the outbreak of African swine fever ended much of the pig farming production in China, a major world producer, which increased prices globally for

this product and other animal proteins. On the other hand, continued floods and grain crop impacts in this Asian country, together with the major concerns about the population's food security, which intensified with the pandemic, are other factors supporting China's high demand for food.

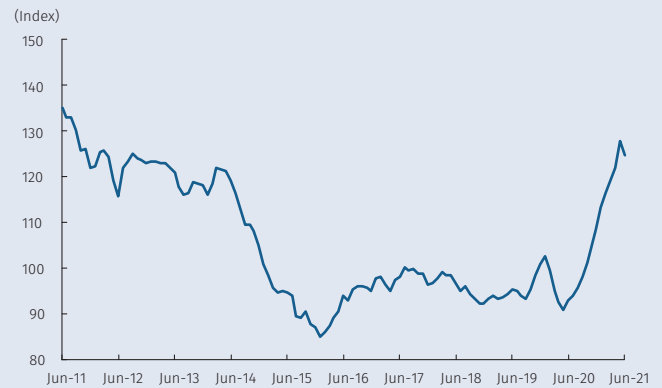
In addition, the accelerated reopening of major economies in an environment of broad global liquidity has favored the demand for commodities, including food. Also, so far this year until July, the US dollar has depreciated 6.4% *vis-a-vis* the average of 2019⁶, which has increased the demand for these products, boosting their prices upwards, as most are traded and invoiced in this currency. On the other hand, the concerns associated with the corona virus have led to the accumulation of food reserves. According to Berman *et al.* (2021), consumer behavior has shifted towards healthier products such as fruits, vegetables, healthy oils, and legumes as part of increased concern about the effect of Covid-19 on mental health.

In this context, the high demand for these products has coincided with a limited supply, thus pushing up prices. Particularly, supply shortages in some foods have been associated with climate factors and production bottlenecks resulting from the pandemic. Firstly, adverse weather conditions have worsened production prospects for some products such as corn, soybean, and sugar. According to the IMF, the *La Niña* weather phenomenon in 2020-2021 has caused dry climatic conditions for the main food-producing countries (Argentina, Brazil, Russia, Ukraine, and the United States), with Brazil standing out facing the worst drought in 41 years. Additionally, several countries have restricted their exports in the face of concerns associated with the pandemic and anticipating additional disruptions. Secondly, health measures to contain the virus have affected the production and marketing of these products. Barman *et al.* (2021) emphasize that physical distancing measures, the cases of Covid-19, and labor shortages reduced the working capacity of these sectors and disrupted the production chains for food products, which are typically labor-intensive. They also point out that the biggest problem in the supply chain has been the difficulty of transporting products from their suppliers to consumers. This is associated with the disruptions that also took place throughout the logistics transport chain during the pandemic (see Box 2 of this Report).

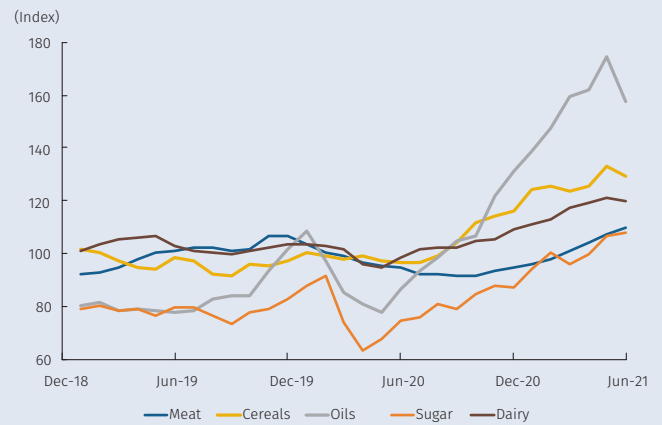
Looking forward, the duration of high food prices is uncertain and will depend, in part, on the persistence of the effects of Covid-19 on supply as well as on climatic conditions. Should this continue, the country's challenges regarding inflation will continue to be significant.

Graph B3.3
International Food Prices

A. Total Food Price Index (2014-2016 = 100)



B. Price Index by Product (2014-2016= 100)



Source: Food and Agriculture Organization (FAO).

In all, the recent increase in food prices is explained by a multiplicity of domestic and external factors. Domestic events such as national strike, road blockades, higher exports of bovine derivatives, and downward agricultural production cycles are expected, in principle, to have a shorter-term inflationary incidence, not later than this year (except for livestock exports). However, the external events driving the food CPI upwards such as the increase in global food prices, higher transport costs, and logistical difficulties in supply chains, among others, could persist longer than the domestic factors.

6 According to the DXY indicator, which compares the US currency with six major currencies. The euro (EUR), the Japanese yen (JPY), the pound sterling (GBP), the Canadian dollar (CAD), the Swedish krona (SEK), and the Swiss franc (CHF).

References

- Barman, A.; Das, R.; De, P. K. (2021). "Impact of Covid-19 in Food Supply Chain: Disruptions and Recovery Strategy", *Current Research in Behavioral Sciences*, vol. 2, No. 100017.
- Bogmans, C.; Pesatori, A.; Prifti, E. (2021). "Four Facts about Soaring Consumer Food Prices" [blog], IMF, 24 June.
- OCDE (2021). "Rising Container Shipping Costs Could Push Up Near-Term Inflation in OECD Countries", *OECD Economic Outlook*, vol. 2021, issue 1, No. 109, OECD Publishing, Paris, available at: <https://doi.org/10.1787/edfbca02-en>
- OCDE; FAO (2021). *OECD-FAO Agricultural Outlook, 2021-2030* [on line], OECD Publishing, Paris, available at: <https://doi.org/10.1787/19428846-en>
- World Bank Group (2021). "Causes and Consequences of Metal Price Shocks", *Commodity Markets Outlook*, April.