Box 3: Inflation Diffusion in Colombia

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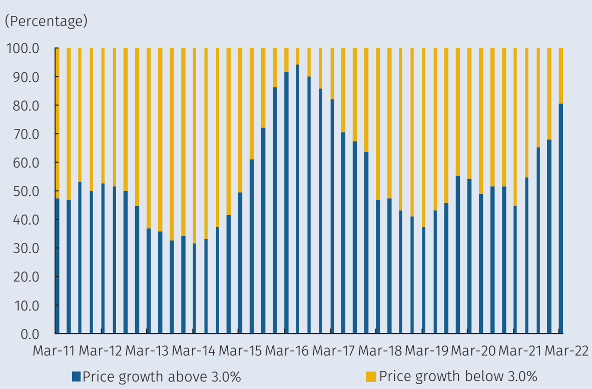
Inflation consists of a generalized increase in the price level of goods and services in an economy. This box presents some indicators that seek to establish the diffusion and magnitude of the consumer price increases that have led to a notable annual change in Colombia's CPI in recent quarters.

After a period of relative price stability from 2010 to 2014, with annual inflation between 2.0% and 4.0%, a series of economic shocks created an ample base for consumer price increases that led to a surge in inflation to almost 9.0% in July 2016. Those shocks included a fall in oil prices at the end of 2014 (leading to significant peso depreciation), tax reform in 2016 (increasing VAT from 16% to 19%), an extensive trucker's strike in mid-2016, and an intense El Niño weather pattern in 2015 and 2016.

The following box assesses various indicators of inflation diffusion with the goal of monitoring the breadth and magnitude of changes in consumer prices. As shown in Graph B3.1, from 2011 to the middle of 2014 between 30.0% and 55.0% of the sub-categories of the consumer basket registered price increases above the target inflation rate. From the second half of 2014 to the middle of 2016 inflation became significantly more generalized, as the portion of consumer basket categories registering annual growth above 3.0% reached a historical high in June 2016. Subsequently, and until the beginning of the COVID-19 pandemic in February 2020, the generalization of price increases above the target rate declined to levels close to those observed prior to the El Niño weather pattern in 2016.

Graph B3.1
Portions of the consumer basket registering annual price change above and below 3.0%.



Source: DANE; calculations by the authors.

As explained in Section 3 of this report, recent external events, together with some idiosyncratic factors, drove annual consumer inflation from a historical low of 1.61% in December 2020 to 8.53% in March 2022. Diverse indicators suggest that this increase has been the result of price increases in a wide range of goods and services in the consumer basket[1].

Once the worst phase of the pandemic was overcome, roadblocks in May and June 2021, a contraction in agricultural supply, and disruption to global supply chains, together with recovery in consumption and the lapse of some government price relief measures, caused generalized and significant magnitude price increases. In December 2021 close to 68.0% of the components of the family basket exceeded the target inflation rate of 3.0%. With data through March 2022, with the upward effects on consumer prices derived from the Russian invasion of Ukraine already

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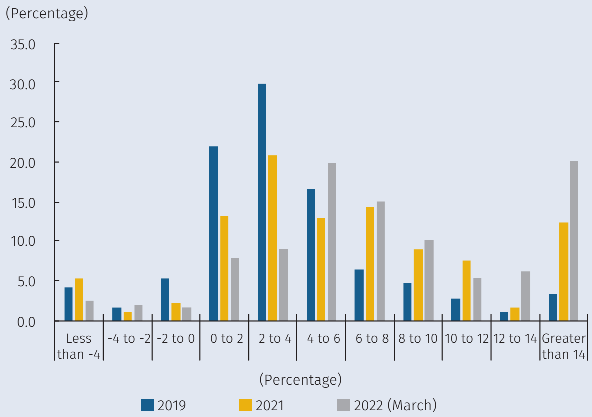
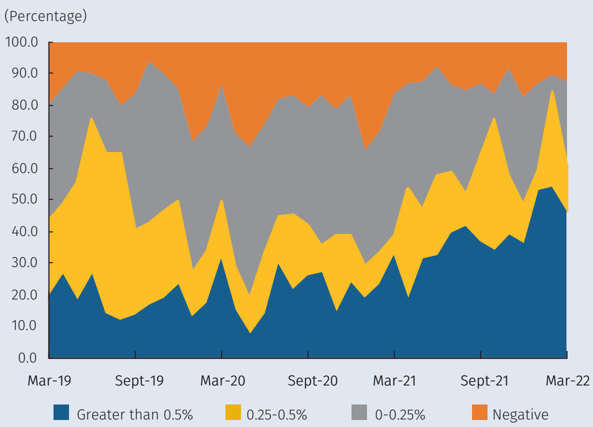
1 A similar exercise to the one proposed in this supplement can be found here: https://www.cnb.cz/en/monetary-policy/monetary-policy-reports/boxes-and-articles/Two-phenomena-of-the-current-high-inflation-intense-and-broad-based-price-growth/

Graph B3.2
Distribution of annual price change by range



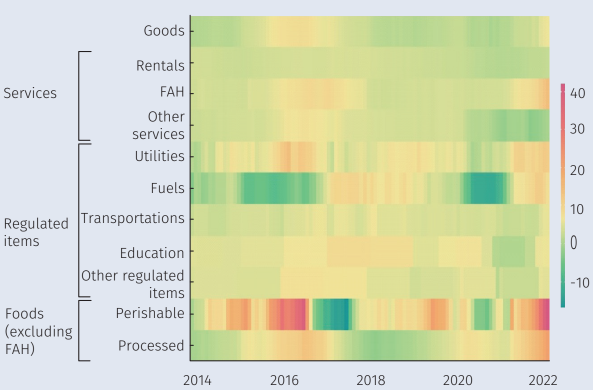
Note: Monthly data
Source: DANE; calculations by the authors.

Graph B3.3
Distribution of monthly change (SACE) by growth range



Source: DANE; calculations by the authors.

Graph B3.3
Evolution of annual change in major segments of the CPI and their components



Source: DANE; calculations by the authors.

apparent, that ratio rose to above 80%, a level not registered since the high-inflation episode of 2015-2016 (Graph B3.1).

Graph B3.2 shows how price growth was distributed across the consumer basket prior to the pandemic, as well as in 2021 and in 2022 so far. In December 2019, prior to the health emergency, 34.6% of CPI sub-categories registered annual price increases above the 2.0%-4.0% range. However, at the end of 2021 this percentage had risen to 57.7%. With data through March 2022, close to 77.0% of items had exceeded this range, with 20% of segments registering annual change above 14.0%.

Of a total of the 188 segments of the CPI, in March 2022 176 (94%) registered positive annual change. Within the segments that registered higher price increases (above 14.0%) are foods, food away from home, electricity, car insurance, bicycle tires and equipment, and cleaning and maintenance supplies. By contrast, few items showed negative annual price changes. These include men's and women's apparel, information and communications technologies, mobile phones, and information processing devices.

Graph B3.3 shows the distribution of annual inflation in the consumer basket seasonally adjusted and corrected for calendar effects. These results suggest that at the beginning of 2021 close to a quarter of the consumer basket was registering monthly increases above 0.5%. Since then, there has been a marked generalization of price increases at significant rates of growth. In March 2022 close to 46.0% of the sub-categories of the CPI registered monthly growth above 0.5%.

Graph B3.4 is a heat map showing the magnitude of the inflationary phenomenon, grouped by the main aggregates of the CPI that are regularly analyzed by the Bank (foods, regulated items, goods and services) for each month from 2014 to March 2022[2]. The heat map shows an increase in the annual change in prices for a majority of categories. However, price growth for utilities and fuels (within regulated items), perishable and processed foods and food away from home (in services) were all particularly noteworthy, growing in recent months in annual terms by more than 10%.

The recent increase in inflation, which has approached highs from mid-2016, can been characterized by sharp price increases and significant dispersion in the consumer basket. Distinct measures of the distribution and intensity of adjustments in the CPI analyzed in this box suggest that price increases in the Colombian economy, especially in the consumer basket, have not been concentrated in a small number of categories but instead have become generalized, and accompanied by historically high monthly and annual increases.

2 With the entry into force of a new definition of the family basket (base December 2018 = 100), *Banco de la República* periodically began to monitor prices in four large segments of the consumer basket and their components: goods, services, foods, and regulated items. For more information, see Borrador de Economía, No. 1122, "Nueva clasificación del Banrep de la canasta del IPC y revisión de las medidas de inflación básica en Colombia". https://repositorio/banrep.gov.co/bitstream.handle/20.500.12134/9881/be_1122.pdf?sequence=10&isAllowed=y