

## Box 2

# Assessment of the macroeconomic forecast error for 2024

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In 2024, the Colombian economy began a comeback in its economic activity recovery process, recording an annual growth rate of 1.7%, surpassing the 0.6% seen in 2023. Furthermore, headline annual inflation continued its convergence to the target, concluding 2024 at 5.2%, amid moderated yearly adjustments in food and regulated items, the resolution of supply disruptions, downward pressures in the foreign exchange market, and a restrictive monetary policy approach.

Relative to the forecasts made in January 2024<sup>1</sup> by the technical staff of *Banco de la República*, economic activity for the entire year exceeded expectations. Household expenditure on the non-durable goods component surpassed the anticipated growth. Similarly, gross capital formation exhibited increased dynamism, propelled by the robust performance of civil works projects. The decline in the annual fluctuations of the CPI for food and regulated items exceeded the technical staff's expectations during 2024. Core inflation (excluding food and regulated items) saw a downward unanticipated decline attributed to the goods component, which displayed a more significant reduction than expected due to favorable trends in international prices. Conversely, the services basket aligned closely with expectations, with slight downward deviations for the 2024 closing outcome.

This Box employs one of the central forecasting models (4GM)<sup>2</sup> to analyze the technical staff's forecast errors concerning the behavior of inflation and annual GDP growth in 2024. This exercise aims to analyze the forecast errors, defined as the discrepancy between the actual data of macroeconomic variables at the conclusion of 2024 and the projections developed by the technical staff in January of that year, predicated on the shocks that, according to the model's framework, would explain these errors. This analysis parallels that outlined in *De Castro-Valderrama et al. (2021)* and constitutes a component of the annual internal assessment conducted by the technical staff on its forecasting methodology. The results of this exercise, including headline and core annual inflation and GDP growth, are presented below.

### 1. Headline and core inflation

Throughout 2024, actual lower headline and core inflation levels versus the forecast suggest that the technical staff overestimated the upward shocks to both baskets (Graph B2.1).

Compared to the projection made at the beginning of 2024, the forecast error for core inflation was mainly explained by favorable supply shocks in the baskets of goods and downward surprises in external prices. These factors more than offset the exchange rate pressures, which were less disinflationary than expected, and domestic demand, which

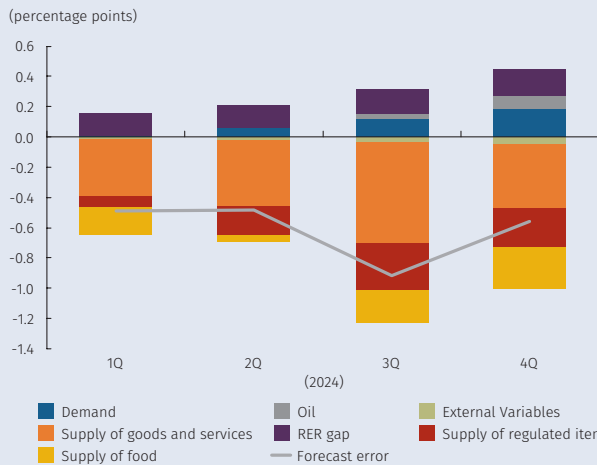
\* The authors are members of the Macroeconomic Models Department of *Banco de la República*. The opinions are the authors' own and do not reflect the views of Banco de la República or its Board of Directors.

1 This Box evaluates the January 2024 projections versus the year-end figures.

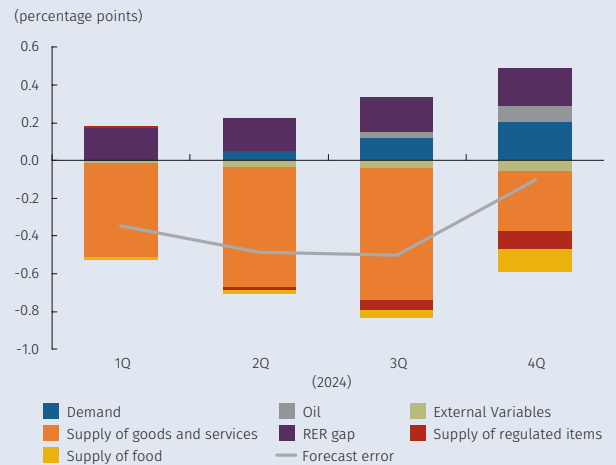
2 See <https://repositorio.banrep.gov.co/handle/20.500.12134/9812>

**Graph B2.1**  
**Inflation forecasting error in 2024**  
 (End-of-period, annual change)

**A. Headline inflation**



**B. Core inflation (excluding food and regulated items)**



Note: The forecast error is calculated as the difference between the observed value and the forecasts made in January 2024, so a positive value indicates that the final value observed was higher than the forecast and therefore the variable was underestimated. In each quarter, the bars represent the cumulative shocks that explain the discrepancy between the forecast and the observed data; thus, a bar above the horizontal axis indicates that more shocks materialized than initially expected by the technical staff. Source: Calculations by the authors.

was more robust than anticipated. By component, downward surprises were primarily attributable to overestimates in the goods basket, particularly for vehicles and miscellaneous items, which exhibited lower-than-expected inflation. The annual change in the CPI for services was relatively consistent with expectations, with slower food price adjustments than anticipated, influencing the prices of services such as food away from home, offsetting the undervaluation of the rents component.

The forecast error for headline inflation shows that the technical staff overestimated the latter for all quarters of 2024. The abovementioned behavior of the price adjustments in the goods and services baskets partly explains these downward surprises in headline inflation. Additionally, the shocks associated with the regulated items and food baskets were less severe than expected. In particular, the adjustments in fuel prices, public transport fares, and the price of public services<sup>3</sup> were lower than those assumed in the initial macroeconomic forecast. The overestimation of the annual adjustments of food prices was partly explained by a more favorable agricultural cycle, together with better weather conditions, which benefited the prices of perishables. This was in addition to lower prices for processed products, which benefited from lower international prices and costs.

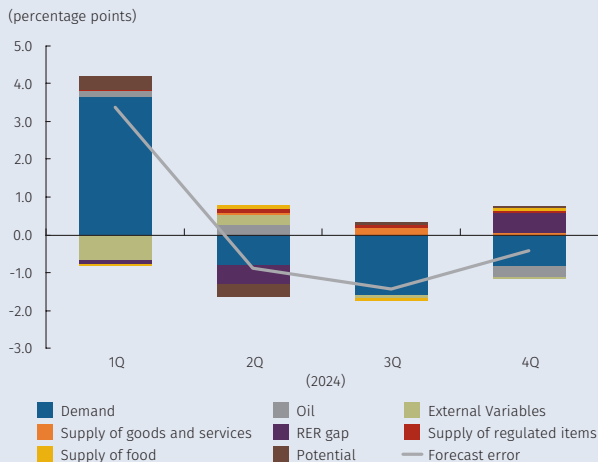
**2. GDP growth**

The forecast for economic activity growth at the beginning of 2024 anticipated less restrictive international financial conditions than those of 2023, which, together with growth in external demand, would contribute to a moderate recovery of the annual economic activity. The foregoing would occur in an environment of ongoing macroeconomic adjustment necessary to hasten the convergence of inflation towards the target. On the domestic front, private consumption was expected to gradually gain momentum during the year, after the low growth rates recorded in 2023. This, together with a steady investment recovery, would drive a moderate expansion of domestic demand.

Graph B2.2 illustrates a lower year-on-year quarterly GDP growth than forecast by the technical staff at the beginning of 2024. However, the first quarter saw a significant underestimate of output growth due to positive demand shocks associated with both

3 The downward surprise in the price of utilities was mainly explained by a lower increase in energy and gas tariffs.

**Graph B2.2**  
**Error in quarterly GDP growth forecasting in 2024**  
 (End-of-period, annual change)



Note: The forecast error is calculated as the difference between the observed value and the forecasts made in January 2024, so a positive value indicates that the final value observed was higher than the forecast and therefore the variable was underestimated. In each quarter, the bars represent the cumulative shocks that explain the discrepancy between the forecast and the observed data; thus, a bar above the horizontal axis indicates that more shocks materialized than initially expected by the technical staff.

Source: Calculations by the authors.

consumption and investment. In consumption, the surprise is explained by a stronger recovery in private consumption, particularly in the services and non-durable goods components. Investment exhibited unexpected vitality in gross fixed capital formation, particularly the civil works component. While both factors were seen throughout the year, a more active consumption behavior was expected after the first quarter, growing from the lower levels projected for the first three months of the year. As a result, the data exhibited a lower annual growth dynamic, reflected in negative demand shocks in the forecast error variance decomposition exercise of the January 2024 *Report*, as seen in Graph B2.2. In this case, external conditions and oil behavior were generally aligned with initial projections. For the full year, these elements collectively explain the underestimation of economic activity growth at the beginning of the year, when the technical staff foresaw a product increase of 0.8%, versus the 1.7% actually observed.

In summary, in 2024, GDP growth at the beginning of the year was higher than anticipated due to stronger-than-expected domestic demand. Concurrently, inflation was lower than projected due to positive supply shocks, which outweighed the effects of stronger demand and lower-than-projected exchange rate disinflationary pressures.

### References

De Castro-Valderrama, Marcela, Santiago Forero-Alvarado, Nicolás Moreno-Arias, and Sara Naranjo-Saldarriaga. "Unraveling the Exogenous Forces behind Analysts' Macroeconomic Forecasts." *Borradores de Economía*, no. 1184 (2021). <https://doi.org/10.32468/be.1184>

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