

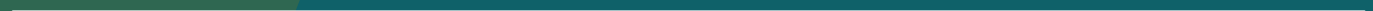
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# REPORT OF THE **BOARD OF DIRECTORS** TO **CONGRESS**

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**2024**



March 2024

REPORT OF THE  
**BOARD OF DIRECTORS**  
TO **CONGRESS**

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*Banco de la República*  
Bogotá, D. C., Colombia

ISSN - Pending



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## BOARD OF DIRECTORS

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Bogotá, 01 march 2024

To  
**PRESIDENTS AND OTHER MEMBERS**  
Honorable Chairmen and Members  
Standing Constitutional Committees  
The Senate of the Republic  
The House of Representatives

Dear Sirs:

In compliance with Article 5, Act of Congress 31/1992, the Board of Directors of *Banco de la República* hereby submits to the Congress of the Republic of Colombia their Report to Congress on the macroeconomic results for the first half of 2023 and the outlook for what remains of the year for its consideration. The recent developments in inflation and the decisions made by the Bank's Board of Directors in this context are presented. Furthermore, the changes in the local financial and the credit markets, the country's foreign balance, the breakdown of the foreign reserves and their performance, the financial position of the Bank and its forecasts, and the trend of payments in the Colombian economy are described.

Cordially,



**Leonardo Villar Gómez**  
Governor



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# Introduction

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The Colombian economy made progress on the macroeconomic adjustment required to achieve growth compatible with its productive capacity and with foreign and price stability over the course of 2023. Thus, after registering historically high growth in 2021 (10.7%) and 2022 (7.3%), which took the gross domestic product (GDP) to levels higher than those reported before the pandemic, the economy slowed down during 2023 to close the year with an annual change of 0.6%. The weak economic growth was caused by a weakening of domestic demand that contracted 3.8% in 2023, partly in response to the monetary and fiscal policies that were necessary to facilitate the adjustment process. The contractionary monetary policy was implemented through progressive increases in the policy interest rate starting in September 2021. The fiscal adjustment involved a reduction in the general government deficit which went from 6.5% to 2.5% of the GDP between 2022 and 2023. The more sluggish domestic demand basically came from a significant contraction in gross capital formation (investment), primarily in machinery and equipment, housing, and public works. Furthermore, total household consumption slowed down, and the segments of both durable and semi-durable goods contracted. One factor in the slowdown of growth was the environment of uncertainty that affected investment decisions.

The decline in domestic demand was reflected in a decrease in the balance of payments current account deficit that went from 6.2% of GDP in 2022 to 2.7% in 2023. This contributed to reducing the economy's vulnerability to possible deteriorations in the foreign environment. Likewise, the macroeconomic adjustment was reflected in the beginning of the convergence of inflation towards the target. In spite of the various pressures that remain, inflation closed the year at 9.3% and fell to 8.3% in January, which was substantially below the peak of 13.3% registered in March 2023.

In addition to the decline in inflation, there was also a downward revision in most measurements of inflation expectations which are pointing more clearly now to a downward trajectory in price changes. Specifically, the Bank's monthly survey of analysts showed that between January and December of the previous year, one-year inflation expectations in the median of the sample went from 7.7% to 5.7% and two-year inflation expectations from 4.5% to 3.8%. Similarly, expectations drawn from adjusted government bond markets showed declines for all maturities. The decrease in inflation expectations is an important step forward in the Board of Directors of *Banco de la República* (BDBR)'s efforts to drive inflation towards the target by mid-2025 at the latest as stated in their meeting last November. The favorable performance of inflation in January in falling to 8.3% and 7.8% for total annual inflation and core inflation, respectively, will give new impetus to the downward revision of inflation expectations in the short and medium terms to the benefit of the convergence of inflation to the target within the timeframe proposed by the BDBR.

Favorable developments in inflation and expectations for it led the BDBR to decide to reduce the policy interest rate by 25 basis points (bp) at each of their December and January sessions for a total cut of 50 bp. At its January meeting, all the members of the BDBR agreed that conditions were ripe for further reductions in the policy rate over the course of 2024 subject to the convergence of inflation expectations to the target and other indicators of the country's macroeconomic stability. The recovery of economic activity will be favored by lower interest rates and appropriate incentives to promote synergy between the public and private sectors to achieve their investment plans.

From this perspective, the growth projected by the technical staff anticipates a moderate expansion in 2024 of around 0.8%, and forecasts that the economy is likely to enter a phase of significant recovery by 2025, thus achieving an annual growth rate of 3.5%. At the same time, the technical staff forecasts that inflation would be 5.9% towards the end of 2024 and 2.8% at the end of 2025.

# 01/ Executive Summary

## 1. International Macroeconomic Environment

According to the main multilateral entities (IMF; World Bank; OECD), global economic activity slowed down in 2023 compared to their 2022 records. IMF measurements, for example, indicate that global GDP growth went from 3.5% in 2022 to 3.1% in 2023, and according to World Bank estimates, from 3.3% to 3.0%. Among the causes of this lower global activity are the contractionary monetary policy of many central banks, the fiscal adjustment in most advanced countries, and the high international uncertainty due to the conflicts between Russia and Ukraine and in the Middle East. This was compounded by lower growth in Europe as a result of the energy crisis in 2022. The resilience of private consumption in the United States given the tightening of monetary policy and the removal of covid-19 restrictions at the beginning of the year in China helped keep the global economic slowdown from being more severe.

The weakening of world demand and the greater global availability of petroleum led to a drop in crude oil prices in 2023. In the case of the Brent crude oil benchmark, its price declined nearly 17% compared to 2022 and stood on average around USD 82 per barrel (b). In spite of that, crude oil prices remained above their pre-pandemic records.

Global headline inflation moderated in 2023 as a result of lower energy prices, the normalization of global supply chains, lower food prices, and the more sluggish demand in many countries due to the synchronized cycle of contractionary monetary policy and less expansionary fiscal policies. Similarly, core inflation (excluding energy, fuel, and food) at the global level moderated although less than headline inflation did. Thus, annual inflation for OECD members stood at 6.0% by December 2023 after the maximum level seen in October 2022 (10.7%). Core inflation, in turn, stood at 6.7%, which is slightly below the peak of 7.7% seen in October 2022. In the case of Latin America where the monetary policy tightening cycle started earlier and was stronger than in advanced economies, inflation was seen to be close to its target in a number of countries. Headline inflation in Brazil (4.6%) and Chile (3.9%), in particular, was within the target range for December 2023, whereas in Mexico (4.7%) and Peru (3.2%), it was within one percentage point of the target.

Various international agencies are forecasting that global economic growth for 2024 will be equal to or marginally lower than what was registered in 2023. Thus, according to the IMF, worldwide growth in 2024 is likely to remain unchanged at 3.1%. According to the World Bank it will probably go from 3.0% to 2.9%, and according to the OECD, it is likely to go from 3.1% to 2.9%. These forecasts are not free of risks which include the following: 1) climatic conditions or a worsening of geopolitical tensions that could lead to sharp increases in food prices, energy, and transportation costs; 2) persistence of core inflation that would require restrictive monetary policies to be maintained; 3) a slowdown in the Chinese economy due to the escalation of problems in the real estate sector, and 4) excessive fiscal adjustments supported by tax increases or expenditure reductions in reaction to rising debt ratios.

After an estimated growth of 2.5% for Latin America and the Caribbean in 2023, the IMF is forecasting a slowdown to 1.9% in 2024. This reflects the prospect of a decrease in Argentina that would result from a strong macroeconomic adjustment, which would be, in part, offset by the improved outlook for growth in Mexico stemming from the continued strengthening of its domestic demand and the strength of its trade with the United States.

## 2. Economic Activity in Colombia

According to DANE data, the growth of the Colombian economy was 0.6% in 2023 and was below all the forecasts. The significant slowdown in economic growth was the result of a combination of factors. On one hand, monetary policy maintained a contractionary stance throughout the year in line with the BDBR's commitment to achieve inflation convergence to the target in the first half of 2025, along with a moderation in spending towards more sustainable levels that are compatible with the economy's productive capacity. As could be expected, this resulted in all types of credit becoming more limited. On the other, a major adjustment in public finances was undertaken in 2023 as shown by the 4 GDP-point decrease in the general government deficit as it went from 6.5% to 2.5% of GDP between 2022 and 2023. This adjustment was mainly due to an increase in the tax burden, resulting from the reforms carried out in 2021 and 2022 that, in the case of the central national government (CNG), led to an increase in tax collections of more than 2 points of the GDP that reached a historical maximum of 16.6% of the GDP in 2023. With respect to expenditures, the reduction in public works projects (-12.3%) reflected the low implementation of public investment combined with the impact of taxes on aggregate demand. One factor in the slowdown of growth was the environment of uncertainty that affected investment decisions.

From the expenditure standpoint, the GDP result was associated with a significant downturn in domestic demand which, after having expanded 10.2% in 2022, registered a drop of -3.8% in 2023. Gross capital formation (investment) was the component of demand that declined the most and showed a collapse (-24.8%) in 2023 that contrasts with the high growth of this item in 2022 (16%). The drop in investment in machinery and equipment (-16.2%) from the high levels reached in 2022 in a context of high financing costs and low willingness to invest, stands out in this category. Other investment components that performed poorly were housing (-1.2%) and other buildings and structures (-4.9%). This was reflected in the drop in construction, including public works. The fall in investment, especially in infrastructure, reduces the potential growth of the economy in the medium and long term. In contrast to investment, total consumption succeeded in sustaining itself in 2023 as it registered positive, but low, growth compared to the expansion seen in 2022. Household consumption, in particular, grew 1.1%, driven by an increase in the consumption of non-durable goods and services. Nevertheless, consumption of durable and semi-durable goods fell significantly (-10.3% and -5.6% respectively). Government consumption, in turn, rose 0.9% in 2023 and thus contributed to the expansion of total consumption. Finally, net foreign demand contributed positively to economic growth. This was because of the increase in real exports in pesos (3.1%) that resulted from the higher volumes of crude oil exports and the strength of sales abroad of manufactured goods and services together with the sharp fall in real imports (-14.7%).

With respect to supply, the low economic growth in 2023 was mainly due to the decrease in construction (-4.2%), manufacturing (-3.5%), and trade (-2.8%). The drop in construction was mainly due to the poor performance of public works. In

contrast to the poor performance of these sectors, an acceptable performance was seen in agriculture and mining with 1.8% and 2.6% rates of growth respectively. This was mainly due to the recovery in the production of agricultural crops other than coffee and the increase in oil drilling and coal mining. Other activities that stood out because of their strong performance were the arts and entertainment sector (7%) that were driven by the boom in online gaming, betting on sports, and large-scale concerts. Financial and insurance services, together with public administration, health, and education services, also registered positive growth rates (7.9% and 3.9% respectively) that were higher than those seen in 2022.

The technical staff expects the Colombian economy to continue to show a low growth rate of around 0.8% for 2024 thus pursuing a gradual recovery path that should be compatible with long-term macroeconomic stability and growth that is close to its potential from 2025 onwards.

### 3. Employment

The national unemployment rate declined in 2023 and stood at 10.4% at the end of the year. The decrease in the unemployment rate in the national aggregate was driven by the urban area and partially offset by the increase in unemployment in the other main cities and the rural areas as of the third quarter. The gender gap, which measures the difference between the (usually higher) unemployment rate of women versus men, had narrowed to 4.3 percentage points (pp) by the end of 2023. This result was, however, caused by the decrease in women's participation in the labor market by about 0.9 pp that was seen in the last few months of the year. This also explains the smaller increase in their unemployment rate. As for labor income, this grew during 2023 driven by nominal minimum wage adjustments and lower inflation pressure. In the salaried segment, in particular, real wages grew 4.8% in annual terms between December 2022 and one year later. During the same period, in turn, real labor income in the non-salaried segment grew 6.1%.

The employed population for the national aggregate showed an upward trend in 2023 with annual increases of up to 4.5%. However, employment began to show signs of deterioration in the last few months of the year. Employment in the other main cities and rural areas, in particular, shrank 3.8% between the third and fourth quarters of 2023, but urban employment remained stable. Thus, employment showed an annual increase of 2.4% in the national aggregate in December 2023. This was reflected in an employment rate (ER) that had grown 0.5 pp annually by December 2023 and stood at 57.1% at the national level. By geographical domains, the ER in main cities and rural areas stood at 55.1% in December 2023 while, in urban areas, it reached 59.1% during the same month. By economic sector, the drop in employment in the national aggregate noted between the third and fourth quarters of the previous year was concentrated in manufacturing, transportation and communications, and commerce.

Salaried and formal employment was the strongest segment over the course of 2023 with an increase of 2.9%. This was reflected in a decrease in the informality rate that went from 57.1% at the end of 2022 to 55.1% in December 2023 and reached historic lows. The non-salaried segment, in turn, saw a drop in its employment levels at the end of the year in line with the declining employment in rural areas, a domain in which this type of occupational position has the largest share. The labor force participation rate (LFPR) in the urban domain and the other municipalities showed a performance unlike what was seen in the rural area. On one hand, the LFPR in the urban area grew 1 pp in 2023 and this put it at 66% at the end of the

year. In contrast, the LFPR in the rural domain decreased 0.4 pp and stood at 61.4% at the end of the year. This was due to the lower employment in the non-salaried segment mentioned above. Moreover, migration from Venezuela, which had been a source of the increased labor supply, has stabilized since 2021.

The technical staff expects the unemployment rate to rise in 2024. Forecasts on the trend of the unemployment rate for the current year suggest that urban unemployment will average between 9.0% and 12.1% with 10.5% as the most likely value. The national unemployment rate, in turn, could range between 9.3% and 12.4% with 10.8% as the most likely value. The projected unemployment rate increases for 2024 are consistent with a forecast of moderate growth to the extent that the economy and, particularly the labor market, converge to their long-term levels.

#### 4. Inflation and Monetary Policy

Annual consumer price inflation in Colombia reached a peak of 13.34% in March 2023, and starting in April, it began a downward trend until it reached a level of 9.28% at the end of 2023. Hence, the annual inflation rate returned to single-digit territory after seventeen months of staying above 10%. Inflation continued to decline in January 2024 when it reached 8.35% per annum which was below the technical staff's expectations. This represented a new and important step forward in the process of inflation convergence towards the target. The food basket made a significant contribution to this result since food price inflation went from 5.0% in December to 3.0% in January. The favorable performance of core inflation measurements, which are a good indicator of the lower demand pressure on prices, is also noteworthy. In particular, inflation excluding food and regulated products went from 8.42% in December to 7.81% in January. Within this sub-basket, the largest adjustment occurred with price inflation in the goods segment while inflation in services continued to show downward rigidity. Inflation of regulated prices also began to ease in January in spite of increases in gasoline prices and tolls.

The downward trend in annual inflation that began to be noted as of the second quarter of 2023 took place in an environment of decreasing international inflation as a result of the progressive correction of the global supply shocks that occurred because of the pandemic, and in response to contractionary monetary policies in the majority of developed and emerging countries. Domestically, the BDBR continued to raise the monetary policy rate during the first few months of 2023 until it reached 13.25% at its April session, the level at which it remained until November. In view of the clear signs of lower inflationary pressure, the BDBR proceeded to cut the policy interest rate by 25 bp to position it at 12.75% at its December and January sessions. In its January minutes, the BDBR stated that the conditions were propitious for continuing to reduce the interest rate in future sessions with the pace of reduction depending on the strength of the convergence of inflation to the target and the performance of the factors that determine the country's macroeconomic stability.

While the importance of the progress achieved must not be underestimated, it should be noted that the ongoing adjustment is not over. Inflation remains far from the target and is considerably higher than the inflation rates of countries such as Brazil, Chile, Peru, Uruguay, and Costa Rica which have levels below 5.0%. The deadline the BDBR set for inflation to converge to the 3.0% target was the first half of 2025. This target faces risks associated with the effects of El Niño that

could exceed those envisaged in the projections. These are a higher pass-through of the minimum wage adjustment to other prices and wages in the economy, and a rise in fiscal pressure, etc. Hence the importance of remaining cautious in the management of monetary policy in the near future.

## 5. Balance of Payments

Balance of payments information indicates that the current account deficit during 2023 stood at 2.7% of the GDP, 3.5 pp of the GDP lower than what was registered during the same period in 2022 (6.2% of the GDP). All the components of the current account contributed to this correction. The largest adjustment occurred in the trade balance in goods where the deficit was USD 5,310 million (m) lower than a year ago. This was due to the significant drop in imports (-USD 12,278 m) which exceeded the reduction in the value of exports (-USD 6,968 m).<sup>1</sup> The decline in gross capital formation during 2023, especially in machinery and equipment, was reflected in lower purchases of goods from abroad. Moreover, lower coal and crude oil prices explain the reduction in the value of exports of goods. As for the balance of services, the deficit for that decreased USD 3,058 m owing to the lower imports of cargo transportation services and the increase in exports of travel services due to the larger number of international travelers arriving in the country.

The negative balance of net factor income was also reduced USD 2,682 m as a result of the lower value of the profits remitted abroad by companies with foreign direct investment (FDI) that operate in this country, mainly those engaged in oil drilling and mining activities, financial and business services, and commerce, restaurants, and hotels. This was partially offset by the increase in interest payments on foreign loans due to across-the-board increases in international interest rates and, to a lesser extent, higher foreign debt balances.

The increase in net income from current transfers was another factor that contributed to the reduction of the current deficit. This was largely due to higher workers' remittances that amounted to USD 10,091 m during 2023 and represented an annual increase of 7.0% (USD 662 m). This income, mostly from the United States and Spain, was equivalent to 2.8% of the GDP for September and 11.1% of the current income from the balance of payments.

The financial account registered net capital inflows of 8.880 b, which is equivalent to 2.0% of GDP, in 2023. Among them, the funds received by way of FDI that amounted to USD 17,446 m (4.8% of GDP) are noteworthy. These investments were oriented towards most economic activities, especially mining and quarrying as well as manufacturing. Between loans from abroad and other capital flows, net disbursements received by the private sector (USD 2,216 m) and by the public sector (USD 2,173 m) are notable. Foreign portfolio divestments of USD 1,117 m resulting from the net sales of fixed-income securities in the local market by non-residents, in turn, were registered. These were partially offset by placements of long-term debt securities in the international markets. Finally, there was USD 13,718 m in capital outflows to set up financial assets abroad that corresponded to portfolio investments and other assets abroad made mainly by entities in the financial and real sectors.

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<sup>1</sup> Note that the nominal value of exports in dollars declined in 2023, but their real value in pesos rose based on the national accounts. This apparent contradiction arises from the fall in the nominal value of exports due to a reduction in their sales prices abroad, but the volumes exported did increase.

The technical staff at *Banco de la República* projects a current account deficit of close to 3.0% of the GDP for 2024 in an environment of low economic growth and a moderate recovery of domestic demand. The country is likely to maintain access to foreign financing in a context of international interest rates that will probably remain high during the first half of the year and a Colombian risk premium that is above its historical average.

## 6. Public finances

Based on the Financial Plan for 2024 presented by the Ministry of the Treasury, the general government (GG) deficit went from 6.5% of GDP in 2022 to 2.5% in 2023. This important correction was possible due to the adjustment made in most of the components of this level of government, particularly in the Fuel Price Stabilization Fund (FEPC in Spanish) and in the central national government (CNG). As for the FEPC, which is included in the item *rest of the central level*, the 0.4% surplus of the GDP that this Fund obtained in 2023 compared to the 1.3% deficit registered a year earlier is noteworthy. The correction of this imbalance was achieved as a result of the funds transferred by the nation to settle outstanding obligations with Ecopetrol and other companies in the sector, and the gradual and progressive adjustments in the price of gasoline that the CNG decreed as of the end of 2022 to prevent this deficit from continuing to increase.

The CNG achieved a substantial adjustment in its finances in 2023 as a result of increased tax collections derived from the tax reforms of 2021 and 2022 as well as higher crude oil revenue, higher dividends from Ecopetrol, and increased profits from *Banco de la República*. As a result, the CNG managed to reduce its deficit from 5.3% of the GDP in 2022 to 4.2% in 2023. This was reflected in a reduction of its debt by slightly more than 5 GDP points to stand at 52.8% of the GDP which is below the 55% anchor established by the fiscal rule. Total CNG spending reached 23.0% of the GDP in 2023 and was distributed between interest payments that amounted to 3.9% of the GDP, payments by the nation to cover the FEPC net position that came to 1.7% of the GDP, and primary spending without FEPC that reached 17.4% of the GDP.

The total and primary CNG deficits are projected to widen to levels of 5.3% and 0.9% of the GDP respectively in 2024. The nation's tax revenue is likely to go from 16.6% of the GDP in 2023 to 17.3% in 2024 and reach an all-time high. This could be achieved through increased revenue from the tax reform approved in 2022, the DIAN's control of tax evasion and avoidance, and the arbitration processes in litigation. With respect to the latter, the Autonomous Fiscal Rule Committee (CARF in Spanish) warned about the risks and uncertainty to which they are subject. Total expenditures, in turn, are expected to increase by 1.4 GDP points to a level of 24.4% of the GDP in 2024, and primary expenditures are likely to reach 19.9% of the GDP with a rise of 0.8 GDP points compared to 2023. The higher projected deficit will probably be reflected in an increase in the CNG's net debt which will reach 57.0% of the GDP by the end of 2024.

## 7. Foreign Reserves

The net foreign reserves at the end of 2023 totaled USD 59,608.3 m. This represents an increase of USD 2,339 m during the year. The main factor that explains this increase corresponds to the accrual of interest received on investments. The return

on the foreign reserves during 2023 excluding the foreign exchange component was 4.0% (USD 2,355 m). There was, in turn, an increase in investment prices in the last few months of the year due to the reduction in short and medium-term interest rates in the main markets in which foreign reserves are invested. This appreciation effect occurs because there is an inverse relationship between bond prices and interest rates, i.e., the price of bonds rises as interest rates decrease.

The indicators that evaluate foreign reserves suggest that their level is appropriate. An indicator that is widely used internationally to measure the proper level of foreign reserves is metric proposed by the IMF.<sup>2</sup> This criterion stipulates that the reserves must cover the main risks for the balance of payments during periods of pressure on the foreign exchange market. According to the IMF, this indicator seeks to cover risks associated with a loss of access to foreign financing, a loss of confidence in the local currency, a reversal of capital flows, and a possible collapse of demand from abroad. An economy is believed to be maintaining proper levels of reserves if the ratio of the reserves to an indicator that is called ARA is between 1.0 and 1.5. Based on figures from December 2023, the ratio between the reserves and the IMF ARA as calculated for Colombia stands at 1.25. Other indicators used to evaluate the level of sufficient foreign reserves include the ratios of foreign reserves to imports, monetary aggregates, the total short-term foreign debt, and the current account deficit. In the case of Colombia, all these indicators suggest that the level of reserves was at appropriate levels as of December 2023.

## **8. Banco de la República profits**

The Bank's profit was historically high at the close of 2023 and came to COP 9,226 b as a result of COP 14,798 b in income and COP 5,572 b in expenditures. The all-time record was due to the extraordinary level of the Bank's income even though outflows also reached record highs in 2023. Compared to what was seen in 2022, the profit was COP 7,720 b higher due to the annual increase in revenue that far exceeded the increase in expenses during the year.

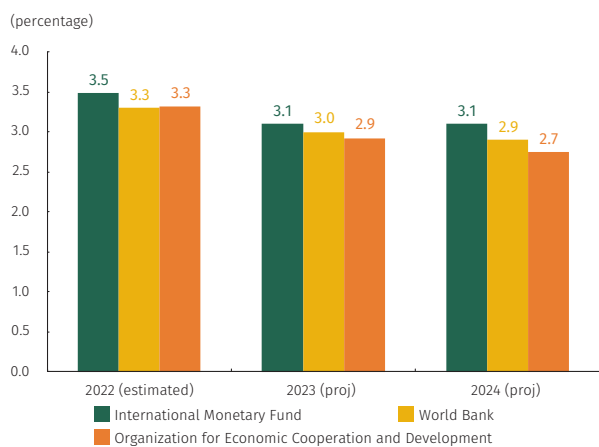
The revenue seen in 2023 was COP 10,350 b higher than it was in 2022, mainly due to the yield of the foreign reserves. The outflows, in turn, were COP 2,630 b higher than those for the previous year, fundamentally due to the increase in the remuneration paid on the national government's deposits in the Bank given the increases in the monetary policy interest rate and higher average balances. A profit of COP 10,345 b is projected for the 2024 fiscal year and will be higher than what was seen during 2023. This outcome was probably the result of COP 15,620 b in revenue and COP 5,275 b in outlays.

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<sup>2</sup> Methodology called Assessing Reserve Adequacy (ARA).

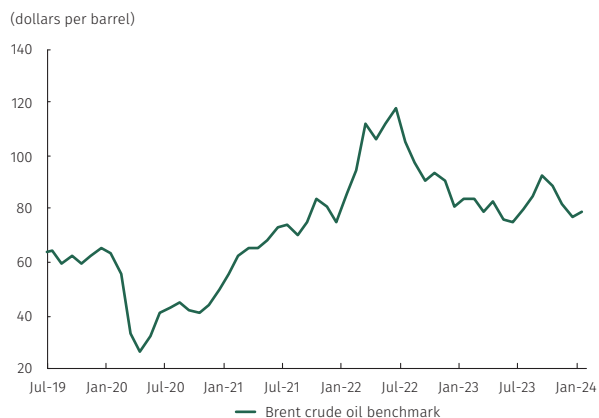
## 02/ Macroeconomic Environment

Graph 2.1  
Global Economic Growth  
(annual change)



proj.: projected.  
Sources: International Monetary Fund (January 2024), World Bank (January 2024), the Organization for Economic Cooperation and Development (November 2023).

Graph 2.2  
International Oil prices



Source: Bloomberg.

### 2.1 Change in and Outlook for the International Macroeconomic Environment

**Global economic activity slowed down in 2023 after a strong rebound during the two years following the pandemic. The lower growth occurred in the midst of a contractionary monetary policy, fiscal adjustments in several countries, moderation in private consumption, and high international uncertainty.** International entities such as the International Monetary Fund (IMF)<sup>1</sup> and the World Bank<sup>2</sup> estimate that global economic growth for 2023 was probably 3.1% and 3.0% respectively (Graph 2.1). These figures represent a slowdown from the 3.5% growth in 2022 (according to IMF estimates) but include an upward revision from projections at the beginning of the year.<sup>3</sup> This occurred in the midst of the resilience of private consumption in the United States in the wake of the tightening of its monetary policy and the removal of covid-19 restrictions in China at the beginning of the year. This was partially offset by the sharp slowdown in Europe following the 2022 energy crisis that led to minor technical recessions in the eurozone and the United Kingdom. Added to this is the persistence of high global uncertainty following Russia’s invasion of Ukraine in 2022, the low growth of international trade, social, and war tensions over the course of the year, and the gradual withdrawal of fiscal support in several economies, particularly in the euro zone following the measures adopted in the context of the pandemic and the increase in the price of fuel and energy in 2022. The slowdown in global growth is expected to continue in 2024 given the lagged and continued impacts of tight monetary policies on global economic performance, continued above-target inflation in some advanced economies, low global trade growth, continued war and trade conflicts, persistent structural problems in the Chinese economy as well as adverse weather events.

**The slowdown in world demand and an increase in the global availability of crude oil contributed to a reduction in its price in 2023. This, however, remained above what was registered prior to the pandemic.** The price for the Brent crude oil benchmark declined nearly 17% compared to 2022 and stood on average around USD 82 per barrel (bl, Graph 2.2). The moderation in the international oil price is due, in part, to the increased production by nations that are not members

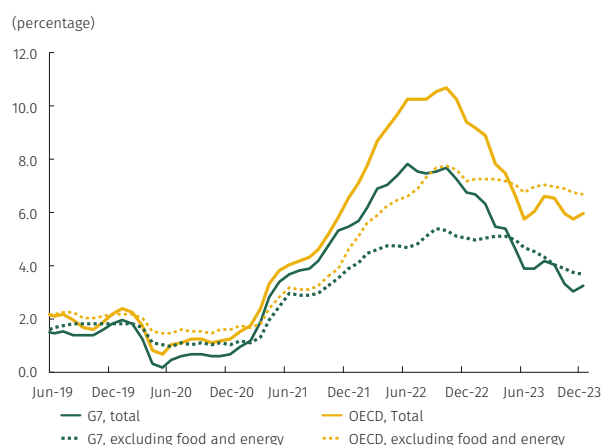
- 1 IMF, *World Economic Outlook Update*, January 2024.
- 2 World Bank. 2024. *Global Economic Prospects*, January, Washington, D. C.
- 3 The IMF was projecting 2.9% growth for 2023 while the World Bank was forecasting 2.2% in January 2023.

of the Organization of the Petroleum Exporting Countries and its allies (OPEC+) among which the United States, Brazil, and Guyana stand out. This was compounded by the increase in Iranian production and the redirection of Russian crude oil to the Asian continent. In addition, higher-than-historic natural gas supplies in Europe, moderation in demand for some petroleum derivatives along with the fears associated with weak economic activity in China contributed to lower prices. This price decline was limited, in part, by cuts in oil production on the part of OPEC+, increased oil consumption in India, and fears associated with the disruption in global oil transportation due to geopolitical tensions in the Middle East and the conflict between Russia and Ukraine. For 2024, the U.S. Energy Information Administration has projected an average price close to USD 82 bl in its February report for 2024 in an environment of high uncertainty.

**Lower international energy and food prices, the slowdown in the global economy, a monetary policy that remained contractionary at the global level, fiscal consolidation in several countries, and the normalization of global supply chains allowed headline and core inflation in the majority of the economies to register moderation throughout 2023.** Headline year-on-year inflation for members of the Organization for Economic Co-operation and Development (OECD) stood at 6.0% in December 2023 after the peak level of 10.7% seen in October 2022. Core inflation, in turn, stood at 6.7% at the close of 2023, which is slightly below the peak of 7.7% seen in October 2022 (Graph 2.3). In several of these countries, the smaller decline in core inflation occurred in an environment of high and persistent increases in service prices, a strong labor market, wage growth in excess of actual inflation, and a shift in consumer demand patterns from goods to services. In the case of Latin America where the monetary policy tightening cycle started earlier than in advanced economies, inflation rates that were close to the target were seen in some countries. Headline inflation in Brazil (4.6%) and Chile (3.9%), in particular, was within the target range for December 2023, whereas in Mexico (4.7%) and Peru (3.2%), it was just below one percentage point of the target,<sup>4</sup> (Graph 2.4, panel B). According to the International Monetary Fund and the OECD, the drop in headline inflation is likely to continue in 2024, but it could remain above the target set by central banks in some advanced economies. Nevertheless, the report emphasizes that uncertainty, associated with geopolitical and trade shocks that could increase the prices of raw materials and generate supply disruptions, continues to be high.

**The process of monetary policy tightening continued throughout 2023 in most of the advanced economies with a cycle of increases culminating in the second half of the year.**

Graph 2.3  
Headline Inflation and Headline Inflation  
Excluding Food and Energy for G7 and OECD

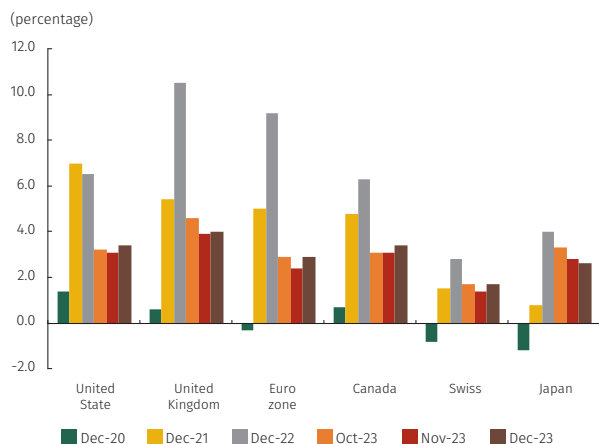


Source: Organization for Economic Cooperation and Development.

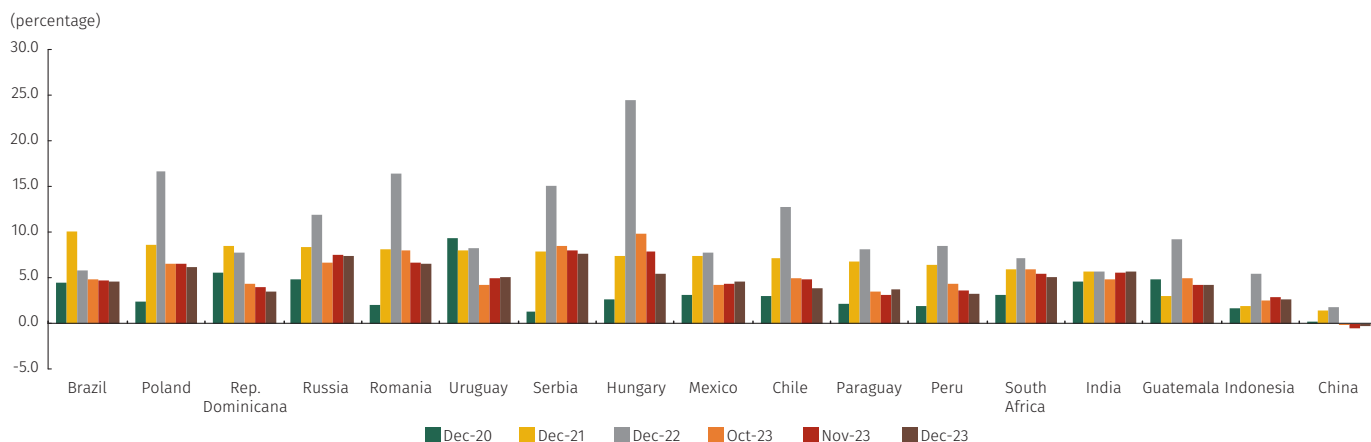
<sup>4</sup> In contrast, other emerging economies such as Argentina (211.4%), Venezuela (189.8%) and Turkey (64.8%) continued to show high levels of inflation as of December 2023.

Graph 2.4  
Headline Consumer Inflation

A. Some Advanced Economies



B. Some of the Main Emerging Economies and in the Region



Source: Bloomberg.

**Interest rates in these countries are likely to remain high in 2024, and reductions will probably begin in the second half of the year.** The U.S. Federal Reserve (Fed) continued the process that began in March 2022 of tightening monetary policy during 2023, and the rate for federal funds went from 4.25% to 4.50% at the end of 2022 to 5.25% to 5.50% in July, the range within which it is currently set. This occurred in a context of strong economic growth, moderate inflation levels, a labor market that remained strong, and some concerns about the country’s fiscal sustainability. Going forward, from the Fed’s outlook, the interest rate will probably remain at high levels until the data indicate that the inflation trajectory is consistent with its 2.0% target. Thus, the most recent projections of the Federal Open Market Committee (FOMC) do not envisage interest rate cuts in the first half of 2024 although the futures market does suggest them. Other central banks in advanced economies also continued to tighten monetary policy during 2023. Thus, the Canadian central bank set their rate at 5.0% at their July

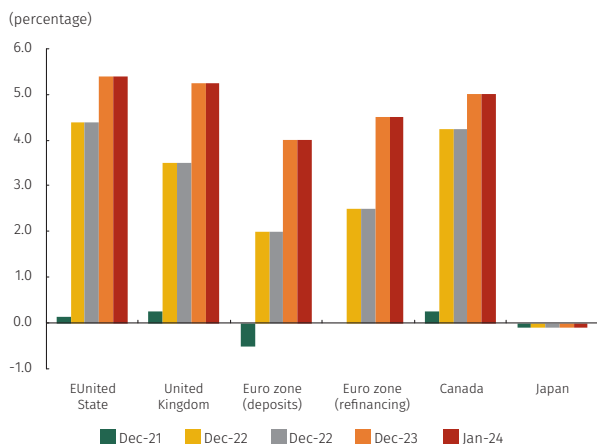
meeting, the Bank of England set it at 5.25% at their August meeting, and the European Central Bank set it at 4.5%<sup>5</sup> at their September meeting (Graph 2.5, panel A). These advanced economies are expected to start lowering their policy interest rates in the second half of 2024 to the extent that their actual and expected inflation levels move closer to their targets.

**Several Latin American countries began to cut their monetary policy interest rates in the second half of 2023 in an environment of a significant decrease in inflation and its expectations (Graph 2.5, panel B).** In countries such as Peru, Paraguay, Brazil, Uruguay, and Chile where inflation has declined significantly, policy interest rates decreased during 2023. Thus, the interest rates in these countries were 125 basis points (bp) lower in Peru, 200 bp in Paraguay and Brazil, 225 bp in Uruguay, and 300 bp in Chile in January 2024 compared to their maximum actual interest rates. This trend was also reported in other emerging economies such as the Dominican

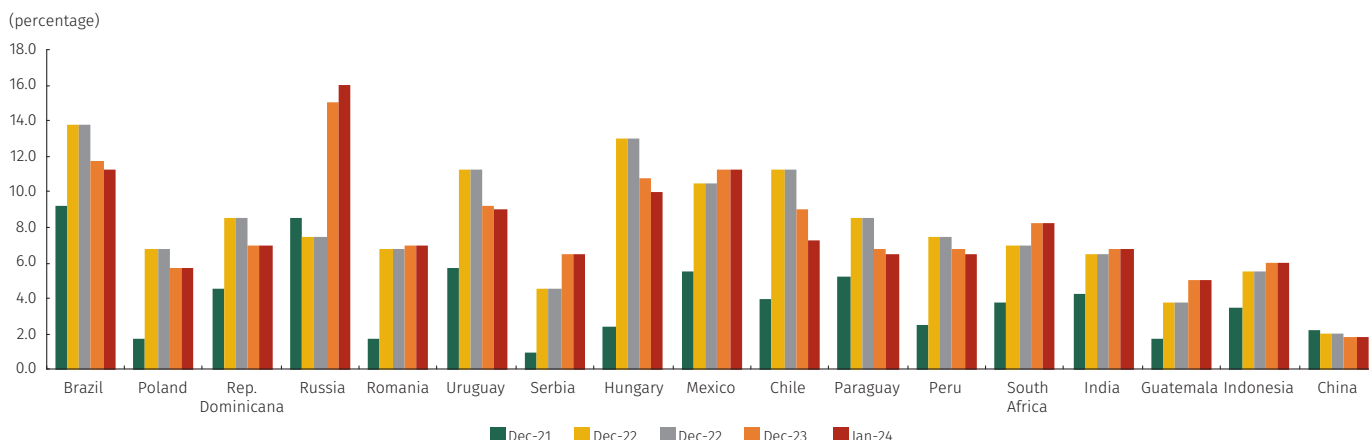
5 This refers to the rate for the main refinancing operations (MRO). The deposit facility rate (DFR), in turn, stood at 4.0% as of January 2024.

Graph 2.5  
Monetary Policy Interest Rates in Some Economies

A. Some Advanced Economies



B. Some Emerging Economies and in the Region



Source: Bloomberg.

Graph 2.6  
Indicators of Risk Perception in International Financial Markets



Sources: Bloomberg and Data License.

Republic (75 bp), Poland (100 bp), and Hungary (300 bp). In Colombia, the reduction of the policy interest rate began in December 2023 and has been lower (50 bp) than in other countries. This was in an environment of inflation in which, although it declined over the course of the year, remained at double-digit levels until November and well above the 3.0% target. In China, where inflation has been close to zero, in turn, the central bank has relaxed its monetary policy slightly, whereas other emerging economies such as Romania, Serbia, Mexico, South Africa, India, and Guatemala have not started their monetary easing process but are expected to begin in the first half of 2024.

The trends in the international financial markets were marked by a worldwide decline in inflation in an environment of increases in monetary policy interest rates in the advanced economies and a few specific events that affected risk perceptions for the majority of 2023.<sup>6</sup> Central banks in the

major advanced economies undertook policy rate hikes that were higher than analysts had discounted at the beginning of the year. At the beginning of the year, the markets were expecting a recession in the advanced economies which did not materialize. In this context, global risk perception indicators posted a positive performance in spite of a few specific events that reduced the demand for risky assets during the year<sup>7</sup> (Graph 2.6).

**Interest rates on public debt securities were highly volatile at the global level.** These interest rates were under upward pressure in view of a tighter monetary policy than the discounted by the market, and the fiscal uncertainty in the United States for most of 2023. This trend reversed during the last quarter due to the expectation of an end to the cycle of

6 Risky assets refer to, for example, stocks, non-investment grade debt securities, and emerging economies assets.

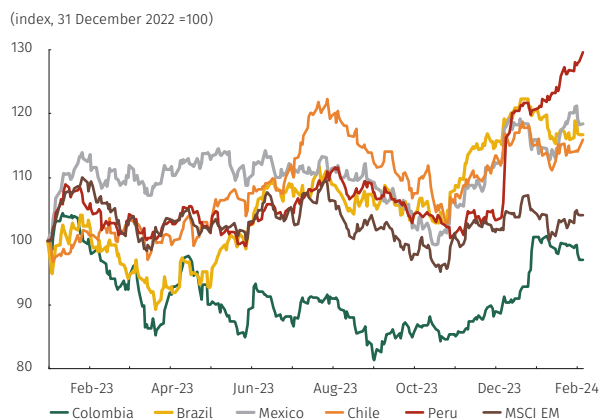
7 These included the crisis of a few regional banks in the United States, the bankruptcy of Credit Suisse in Europe, and the fiscal uncertainty of the United States in the third quarter.

policy interest rate hikes and an early start on potential rate cuts as well as improvements in the U.S. fiscal environment. These securities have depreciated again as the market has become less optimistic during 2024 about the pace of cuts in monetary policy interest rates in these countries.

**Risky international assets such as stocks and assets in emerging economies performed well, especially during the last quarter of 2023, due to the better performance of the global economy compared to what was expected at the beginning of the year.** In line with the favorable demand for risk at the global level, which was evident throughout most of the year, most stock market indices as well as emerging economy assets fared well (Graph 2.7). These include, in addition to stock market indices, fixed-income securities, and exchange rates. Furthermore, fixed income was favored by the downward consolidation of the inflation paths that enabled most of the central banks in these economies to begin a cycle of cutting the monetary policy interest rates.

**At the end of the year, the US dollar weakened due to the expectations of a less restrictive monetary policy in that country. With that, the dollar (as measured by the DXY index<sup>8</sup>) declined 2.1% compared to the close of 2022. So far in 2024, the dollar has strengthened on expectations that the Fed will delay a possible interest rate cut.** The dollar showed slight variations during 2023 without showing a clear trend based on changes in expectations regarding the magnitude of the Fed’s monetary adjustment in the wake of the disclosure of mixed economic figures in the United States, along with some specific events that caused lower demand for risky assets during particular periods. In this context, some of the advanced economies’ currencies appreciated (pound sterling and euro) due to the support of expectations that the central banks in these countries (the United Kingdom and the eurozone) would maintain a contractionary monetary policy for a prolonged period. In turn, the performance of emerging currencies reacted mainly to a few idiosyncratic factors in a context abroad that is more favorable for these economies. However, in some cases, this was offset by concerns about China’s economic recovery.

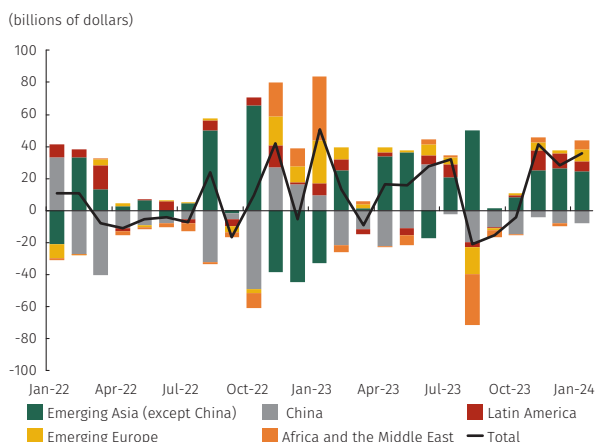
Graph 2.7  
Stock Market Indices in Selected Emerging Economies



Sources: Bloomberg, calculations by Banco de la República.

8 Index that compares the U.S. currency with six major currencies. The euro (EUR) weights 57.6%; Japanese yen (JPY), 13.6%; the British pound (GBP), 11.9%; Canadian dollar (CAD), 9.1%; Swedish krona (SEK), 4.2%, and the Swiss franc (CHF), 3.6%.

Graph 2.8  
Portfolio Flows to Emerging Economies  
from Non-residents



Source: Institute of International Finance (IIF).

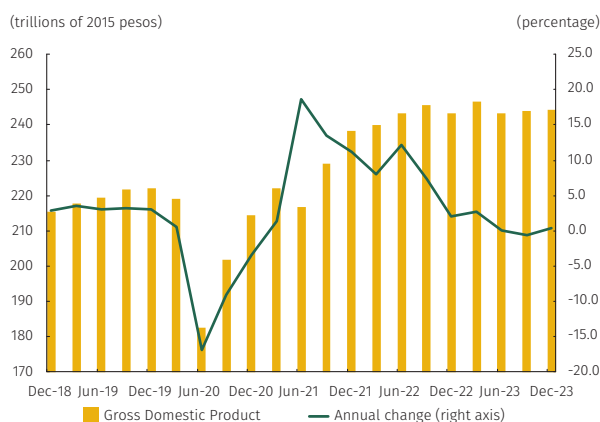
In this context, there was evidence of a tightening of international financial conditions<sup>9</sup> during a large part of 2023, a trend that reversed itself during the last quarter of the year, especially in the United States. In the advanced economies, this trend was in line with increases in interest rates on government bonds. It is notable that financial conditions in the United States turned out to be more favorable at the end of 2023 than they were at the beginning of the year given the sharp correction registered in the last quarter. This correction was in line with the positive performance of fixed-income securities and stock market indexes as well as the weakness of the dollar at the global level.

There have been net inflows into emerging economies of foreign portfolio investment during 2023 for an amount greater than what was seen in 2022. Based on preliminary figures published by the Institute of International Finance (IIF), there were net inflows of USD 177 billion (b)<sup>10</sup> during 2023 of which USD 137 b and USD 40 b went to the debt market and the equity market respectively (Graph 2.8). The general performance was caused by inflows to emerging countries (excluding China) as opposed to persistent outflows from this country. In the case of Latin America, portfolio capital flows showed net inflows totaling USD 42 b in 2023 of which USD 37 b and USD 5 b went to the debt and equity markets respectively

## 2.2 Change in and Outlook for the Economy and Labor Market

### 2.2.1 Economic Activity

Graph 2.9  
Gross Domestic Product (GDP)<sup>a/</sup>  
(quarterly and annual change)



a/ seasonally adjusted series and corrected for calendar effects  
Source: DANE, calculations by Banco de la República.

After the very strong performance of the GDP in 2021 and 2022, the Colombian economy began an adjustment process during 2023 towards more sustainable levels in the long term. This led to a moderation in its growth. The Colombian economy expanded 0.6% over the course of 2023 and, even though annual expansion was low, the GDP remained at relatively high levels in real terms standing at 11% above what had been registered prior to the pandemic in 2019. Quarterly annual growth slowed as the year progressed and even registered a slight annual contraction during the third quarter (Graph 2.9). The slower pace of growth occurred against the backdrop of low levels of consumer and business confidence, high and above-target inflation, and a monetary policy stance that

9 Financial conditions can be interpreted as the mechanism by means of which the monetary policy stance of the central banks is transmitted to financial markets. This indicator is usually estimated as a weighted average of risk-free interest rates, exchange rates, stock market valuations, and credit spreads. The weights correspond to the impact that each variable has on the GDP. Thus, a tightening of financial conditions is associated with an increase in interest rates, an appreciation of the exchange rate, a devaluation of the stock market, an increase in credit spreads, or several of these at the same time.

10 Of these, USD 137 b corresponds to inflows into the fixed-income market and USD 40 b corresponds to inflows into the variable-income market.

remained in contractionary territory all of which resulted in more sluggishness in lending. Note that the moderation in the growth of the Colombian economy in 2023 was necessary to facilitate the gradual decline in inflation seen over the course of that year and its convergence to the target.<sup>11</sup>

**With respect to domestic demand, investment fell the most in real terms, and private consumption slowed down significantly.** After registering a significant expansion in 2022 (10.2%), the total domestic expenditure underwent a significant correction in 2023 (with an annual change of -3.8%) towards levels more compatible with the productive capacity of the economy (Table 2.1). Gross capital formation registered a drop of 24.8% even though fixed investment (which excludes inventory changes and statistical discrepancy) showed a considerably smaller decline (-8.9%). The sharp decline in total investment was due, in part, to a significant reduction in inventory changes, mainly in sectors such as manufacturing and construction that was caused by the completion of work in progress, particularly in the housing

Table 2.1  
Annual Growth of the GDP by Type of Expenditure  
(corrected by seasonal adjustment and calendar effects, base 2015)

	2022	2023				2024
	Full year	Q1	Q2	Q3	Q4	Full year
Final spending on consumption	8.9	2.7	0.8	0.5	0.4	1.1
Final spending on household consumption	10.7	3.4	0.8	0.2	0.2	1.1
Non-durable Goods	8.5	2.9	1.1	1.4	0.3	1.4
Semi-durable Goods	21.0	-4.2	-7.4	-6.7	-4.0	-5.6
Durable Goods	16.8	-8.1	-14.3	-13.7	-4.7	-10.3
Services	10.8	6.3	3.4	1.4	1.4	3.1
Final spending on general government consumption	0.8	-1.1	0.5	2.9	1.5	0.9
Gross Capital Formation	16.0	-9.9	-28.3	-33.7	-28.0	-24.8
Gross Fixed Capital Formation	11.5	-2.7	-6.4	-10.8	-15.6	-8.9
Housing	2.0	11.3	-0.9	-3.7	-10.6	-1.2
Other buildings and structures	-4.2	-4.2	-5.3	-10.6	0.7	-4.9
Machinery and Equipment	30.3	-8.4	-14.4	-16.0	-26.2	-16.2
Cultivated biological resources	-12.5	2.3	6.5	6.4	3.5	4.6
Intellectual property products	8.9	0.6	1.6	-1.0	1.0	0.6
Domestic demand	10.2	-0.1	-4.3	-6.6	-4.2	-3.8
Exports	12.3	3.3	2.7	-0.3	7.0	3.1
Imports	23.6	-7.9	-14.5	-23.1	-12.8	-14.7
GDP	7.3	2.8	0.0	-0.6	0.3	0.6

Source: DANE, calculations by Banco de la República.

11 In the July 2022 Monetary Policy Report, the technical staff had already projected a slowdown in the economy with an estimated growth of 1.1% for 2023 as a whole. According to Banco de la República's July 2022 Monthly survey of economic expectations (MSEE), the median point for the expectations was 3.1%.

segment.<sup>12</sup> The expansion of private consumption, in turn, moderated to a rate of 1.1%, which is well below what was seen in 2022 (10.7%). This adjustment took place in a context of restrictive monetary and financial conditions and was notably more pronounced in the purchase of goods than in the use of services. Last of all, public consumption grew at a rate of 0.9%. This was lower than what was seen in the years prior to the pandemic but similar to the rate registered in 2022.

**In the years following the pandemic, the different components of the investment have had a mixed performance.** In the case of investment in machinery and equipment, considerable growth was seen in 2022 that drove it to register historical highs well above pre-pandemic levels (around 58.4% above the average reached between 2016 and 2019). Thus, the adjustment seen in 2023 occurred on a very high comparison basis with an annual change of -16.2%. This allowed the level to remain 32.8% above the pre-pandemic level. Housing investment in 2021, in turn, partially recovered from the shock of the pandemic, but in 2023, it showed an annual decline of 1.2%. The worst performance during these years has been on the side of investment in other buildings and structures which mostly consists of public works. In this case, levels have remained very low compared to those registered during the years prior to the pandemic, and a further decline of 4.9% was seen in 2023. This poor performance coincides with the completion of the fourth generation (4G) road projects and a very slow start on the fifth generation (5G) road projects and the projects envisioned by local and regional governments. This explains why this segment of investment in 2023 was 36.3% below the average levels seen prior to the pandemic. The fall in investment, especially in infrastructure, reduces the potential growth of the economy in the medium and long term.

**The correction of domestic demand made the reduction of excess production capacity possible.** An economy that operates above its productive capacity (positive output gap) is characterized by an initial aggregate demand that exceeds supply. This ends up impacting costs and prices, generating inflationary pressure, and diverting the economy from its path of sustainable growth. In this respect, the moderation of economic growth in 2023 that resulted from a needed decline in domestic demand and in an environment of tight domestic and foreign financial conditions made a significant reduction in the large excess demand generated during the previous two years possible. This, in turn, contributed to the reduction in headline and core inflation in the second half of 2023.

**The moderation of domestic demand, both private and public, enabled a correction of the foreign imbalance measured in pesos and dollars.** This slowdown in private consumption was coupled with a reduction in the general government fiscal deficit (as noted in section 2.3 of this Report). This made it possible to reduce the current account deficit as a percentage of GDP and, in particular, the trade balance measured both in dollars (section 5.1 of this Report) and in pesos. For this latter case, the main adjustment came from a 14.7% annual drop in real imports after they had reached historically high levels in 2022. The increase in real exports, which expanded 3.1%, mainly driven by the strength of sales of manufactured goods and services abroad, also contributed to the contraction of the foreign trade imbalance. Thus, the country's foreign trade deficit, measured in constant

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12 Based on DANE's national accounts methodology, housing investment registers mainly the completed residential buildings while works in progress are registered as part of inventories. From the production point of view, the added value of construction includes the entire process of constructing buildings (residential and non-residential) and discounts the intermediate consumption estimate.

pesos, decreased significantly during 2023 compared to what was seen in 2022, the year in which it reached a maximum value in recent history.

**With respect to supply, the performance of primary and tertiary activities in 2023, which grew 2.1% and 1.6% respectively, is notable.** The strong performance seen in primary activities was mainly the result of the increase in oil and coal production as well as the recovery in the harvest of agricultural crops other than coffee. In the case of tertiary activities, the solid growth of the arts and entertainment sector (7.0%), which was driven especially by the boom in online gaming, betting on sports, and large-scale concerts, was notable. Financial and insurance services, together with public administration, health and education services also registered high growth rates (7.9% and 3.9% respectively) that were higher than those seen in 2022 (Table 2.2). In contrast, the secondary branches recorded an annual decline in their levels (-3.7%), given the fall in the manufacturing industry (-3.5%), mainly due to the non-oil refining industries, and the low levels that the construction sector continues to exhibit (-4.2%), explained in particular by the poor performance of public works.

**The Colombian economy is expected to continue to show low growth rates in 2024 but is likely to follow a path to gradual recovery that should be compatible with long-term macroeconomic stability and growth that is close to its potential from 2025 onwards.** The forecasts of *Banco de la República's* technical staff point to

Table 2.2  
Real Annual Growth of the GDP by Branches of Economic Activity  
(corrected by seasonal adjustment and calendar effects, base 2015)

	2022	2023				2024
	Full year	Q1	Q2	Q3	Q4	Full year
Agri-business, Forestry, Hunting, and Fishing	-0.8	0.6	-1.5	2.1	5.9	1.8
Mining and Quarrying	1.3	4.2	2.7	2.9	0.7	2.6
Manufacturing Industry	9.5	0.8	-3.8	-6.3	-4.8	-3.5
Electricity, Gas, and Water	4.6	1.6	1.3	2.3	3.0	2.1
Construction	6.8	-3.2	-3.9	-7.5	-1.8	-4.2
Buildings	12.3	1.9	2.8	-4.7	-0.4	-0.1
Public works	-4.3	-14.8	-16.3	-14.2	-2.6	-12.3
Specialized Construction Work	9.7	-2.4	-2.9	-6.4	-1.6	-3.4
Commerce, Repairs, Transportation, & Accommodations	10.7	0.0	-4.1	-5.0	-2.2	-2.8
Information and Communications	12.4	2.2	0.9	-1.0	3.4	1.4
Financial and Insurance Business	6.6	22.7	3.7	1.9	5.5	7.9
Real estate	1.9	1.9	1.8	1.7	2.0	1.9
Professional, Scientific, and Technical Work	7.2	1.6	-0.4	-0.9	0.4	0.2
Public administration and Defense, Education, Health	1.0	1.6	4.1	5.3	4.6	3.9
Artistic, Entertainment, and Recreational Activities	32.3	17.4	11.5	4.1	-3.1	7.0
Subtotal value added	6.4	2.7	-0.1	-0.5	0.4	0.6
Taxes minus subsidies	15.8	4.2	0.9	-2.5	-0.7	0.4
GDP	7.3	2.8	0.0	-0.6	0.3	0.6

Source: DANE, calculations by Banco de la República.

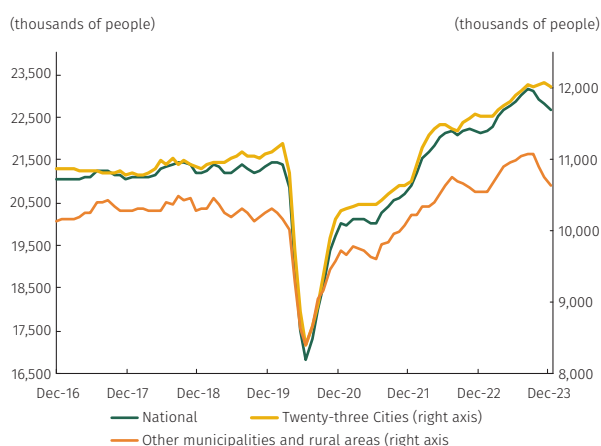
modest growth again for 2024. This would take place in the context of a gradual decrease in foreign interest rates, a monetary policy stance that, despite a foreseeable easing, will probably remain in contractionary territory which is compatible with the convergence of inflation to its target, and consumer and business confidence levels that are likely to remain low. With respect to consumption, more sluggishness is expected due to the solidifying of the recovery in household savings and the limited increase in their real, disposable income caused by the expected rise in some regulated prices and the increase in income tax. With respect to investment, no significant boost is expected given the greater sluggishness projected for housing construction, public works, and public investment in general, especially in the first half of the year. The technical staff believes that the economy will probably return to higher growth rates in 2025 and close that year with an expansion of more than 3.0%. This would be the result of an eventual recovery in foreign demand and a easing of foreign and domestic financing conditions along with other reasons. Thus, the economy will probably return to a more balanced growth path that is compatible with its productive capacity and price stability. These forecasts face a high degree of uncertainty due to foreign (global political tensions and international financial conditions) and domestic factors (uncertainty about the change and impact of the reforms presented to Congress and the response of domestic demand to local financial conditions).

### 2.2.2. Labor Market

**During most of 2023, the employed population grew significantly. However, employment began to show signs of deterioration in the last few months of the year, mainly in the domain of other major cities and the rural area.** Employment in 2023 for the national aggregate showed an upward trend that continued through August according to the Large Integrated Household Survey (GEIH in Spanish) three-month moving average data. Nevertheless, a drop in the employment levels was seen in the last few months of the year (Graph 2.10). This employment performance was due to the disparate dynamics between labor demand in the twenty-three main cities and the rest of the country. Between the third and fourth quarters of 2023, in particular, urban employment remained stable while employment in other municipalities and the rural area declined 3.8%. This represented a loss of about 415,000 jobs in that domain. The job loss in the domain of other municipalities and rural areas is mainly explained by decreases in available jobs in the manufacturing, commerce, and transportation sectors.

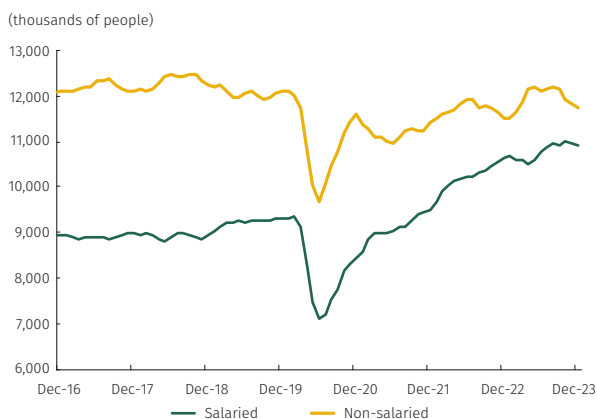
**Salaried and formal employment was the strongest segment over the course of the year, and this implied a decline the rate of informal employment which reached historic lows.** Analysis by job position in 2023 shows annual employment gains that

Graph 2.10  
Employed Population by Geographic Domain



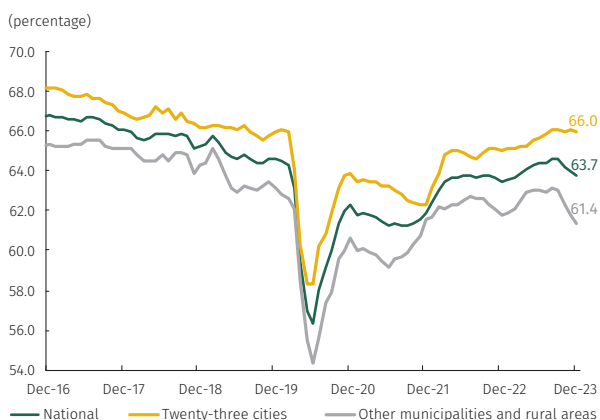
Note: data on a quarterly moving average and seasonally adjusted.  
Source: DANE (GEIH), calculations by Banco de la República.

**Graph 2.11**  
Employment by Occupation (national aggregate)



Note: data on a three-month moving average and seasonally adjusted.  
Source: DANE (GEIH), calculations by Banco de la República.

**Graph 2.12**  
Labor Force Participation Rate by Geographical Domain



Note: data on a three-month moving average and seasonally adjusted.  
Source: DANE (GEIH), calculations by Banco de la República.

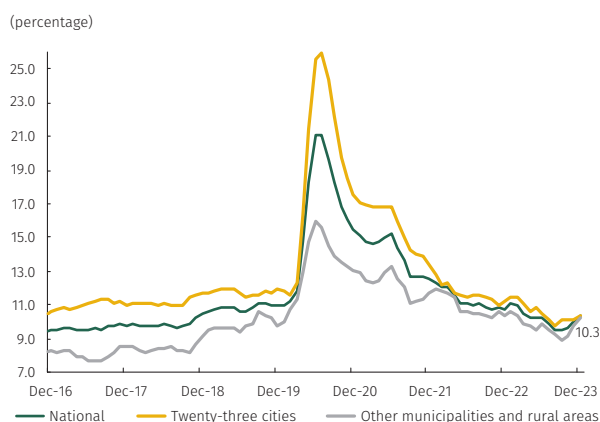
were higher in the salaried and formal segment. Private labor was the main driver of job creation in the national aggregate. Nevertheless, the growth rate for this segment slowed down in the second half of the year and remained relatively stable. Thus, between December 2022 and 2023, the level of salaried employment rose 2.9%. The non-salaried segment, in turn, remained stable in 2023 with a drop in its levels at the end of the year (Graph 2.11). This contraction is in line with the more sluggish employment in rural areas where non-salaried employment is more prevalent. Thus, the higher earnings from salaried employment along with the stagnation and decline in the non-salaried sector seen at the end 2023 explain the downward trend in the informal rate (IR) during 2023. Thus, IR stood at 55.1% in December 2023, a figure that was 2 pp lower than what was registered in December 2022.

**Labor participation increased slightly in the urban area while in the other municipalities and the rural areas, it decreased.**

The labor force participation rate (LFPR) that measures the proportion of working-age population that is employed or unemployed showed a different performance between the urban domain and that of the other municipalities and the rural areas, especially during the second half of the year. For one thing, between December 2022 and 2023 the LFPR in the urban area grew 1 pp and with this, it stood at 66% at the end of the year. The LFPR in rural areas, in turn, decreased 0.4 pp and stood at 61.4%. This performance of labor participation in the other municipalities and the rural areas was due to a greater sluggishness in employment in the non-salaried segment that is characterized by a high degree of transition between employment and inactivity. Thus, in spite of showing positive annual changes, the national aggregate participation rate fell in the last few months and closed the year at 63.7% (Graph 2.12). Note that a large part of the drop in labor participation seen in the last few months of the year was due to women who, between the third and fourth quarters of 2023, decreased their participation by 0.9 pp to stand at 52.1% at the end of the year while men showed a reduction of 0.7 pp and reached 76.4% in December 2023. Migration from Venezuela, in turn, which had been a source of increased labor supply to the extent that migrants increased the working age population, has stabilized since 2021. Currently, there are about 2.5 million migrants from Venezuela, and this represents about 4.6% of the country’s headline population.

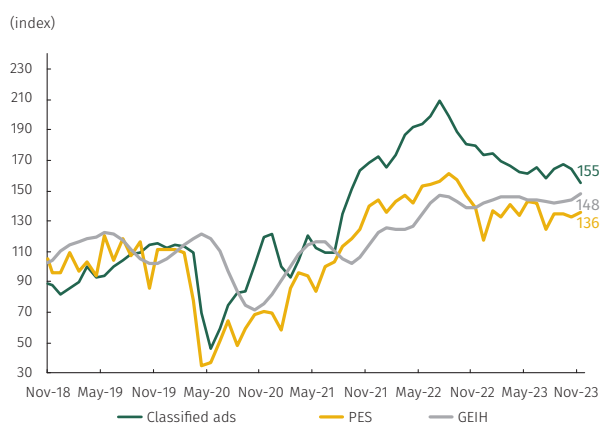
**The national unemployment rate (UR) decreased significantly during 2023. However, it began to grow slightly during the last quarter given the decline in labor demand towards the end of the year.** Smaller increases in participation relative to the increases in employment resulted in reductions in the unemployment rate for most of 2023. Nevertheless, the employment rate fell by more than the labor supply in recent months, and this resulted in an increase in the unemployment

**Graph 2.13**  
Unemployment Rate by Geographical Domain



Note: data on a three-month moving average and seasonally adjusted.  
Source: DANE (GEIH), calculations by Banco de la República.

**Graph 2.14**  
Index of Job Openings from Different Sources



Note: base 100 = 2018. Seasonally adjusted data  
Sources: Arango (2013), Morales, Hermida and Davalos (2019), Public Employment Service (PSE), calculations by Banco de la República.

rate which stood at 10.4% for the national aggregate in December. The increases in unemployment that started in the third quarter were due to rises in other major cities and the rural areas. Thus, the UR for the twenty-three cities stood at 10.4% while the one for the rural areas was at 10.3% as of December 2023 (Graph 2.13). By gender, the gap between women's and men's UR continued to correct itself and closed 2023 at 4.3 pp. Nevertheless, this correction was due to the fact that women's participation in the labor market has declined more than men's participation has in recent months.

**Other demand indicators suggest a labor market that remained tight during 2023. However, the market is expected to become looser over the course of 2024.** Job opening indicators, which are calculated based on different sources of information (such as classified ads, the public employment service, the GEIH and PILA), have stabilized in recent months although at high levels compared to their historical average. Furthermore, as mentioned, successive declines in the unemployment rate were seen throughout most of 2023. This combination of a large number of job openings and relatively low levels of unemployment compared to historical averages suggests a labor market that remained tight and where companies ran into bottlenecks for hiring staff. However, the data from Banco de la República's Quarterly Survey of Economic Expectations (ETE in Spanish) show that indicators such as hiring expectations had deteriorated rapidly in the last few months of 2023. In fact, the balance of hiring expectations, which points to the difference between companies that are planning to increase and those planning to decrease their workforce, was negative for the third and fourth quarters of 2023. This is the first time this has happened since the pandemic crisis. This could indicate a lower labor demand in the near future.

**Labor income grew in real terms during 2023 as it was spurred by minimum wage adjustments and lower inflation.** In the salaried segment, in particular, real wages grew 4.8% in annual terms between December 2022 and one year later. For most of these workers, wage increases in 2023 exceeded accrued inflation plus productivity since most of these increases were equal to the increase in the minimum wage. During the same period, in turn, real labor income in the non-salaried segment grew 6.1%. Real gains in labor income in both market segments were favored by a smaller deterioration in wages on account of inflation that declined significantly throughout the year.

**The technical staff expects the unemployment rate (UR) to register increases in 2024 given the actual and projected slowdown in economic growth.** Forecasts on the trend of the unemployment rate for the current year suggest that the urban UR will probably average between 9.0% and 12.1% with 10.5% as the most likely value. The national UR, in turn, could

range between 9.3% and 12.4% with 10.8% as the most likely value. The projected growth of the UR in 2024 compared to 2023 is in line with a more moderate GDP performance to the extent that the economy and the labor market, in particular, converge to their long-term levels.

### 2.3 Change in and Outlook for Fiscal Situation

**The general government (GG) deficit went through a significant correction in 2023 due to the adjustment made in most of its components including the Fuel Price Stabilization Fund (FEPC in Spanish)<sup>13</sup> and the central national government (CNG).<sup>14</sup>** Based on the figures from the recent Financial Plan 2024 (PF-24 in Spanish) presented by the Ministry of the Treasury, the GG deficit stood at 2.5% of the GDP in 2023. This represents a 4.0 pp decrease with respect to the deficit in 2022.<sup>15</sup> This adjustment was due to an improvement in the balance of the social security subsector (1.6 pp), the rest of the central level (that FEPC belongs to) (1.4 pp), and the CNG (1.1 pp). The FEPC's fiscal surplus was notably 0.4% of the GDP in 2023 in contrast to the 1.3% deficit registered a year ago.<sup>16</sup> The decrease in the FEPC's deficit position has been the result of the gradual and progressive adjustments that the national government has been implementing in the price of gasoline since the end of 2022. This was reflected in the closing of the gap between the international benchmark price and the price of gasoline on the local market at the end of 2023. However, fiscal pressure still persists due to the compensation differential present in the case of ACPM. This reflects the importance of starting to reduce the subsidy granted to this fuel through the FEPC.

**The adjustment of CNG public finances in 2023 was largely underpinned by the boost in tax collection derived from the reforms implemented in 2021 and 2022 as well as the positive performance of oil drilling.** Based on the PF-24, the CNG's fiscal deficit and net debt reached 4.2% and 52.8% of the GDP, respectively, in 2023. This could indicate a decrease in both indicators in comparison to 2022. The fiscal deficit, in particular, saw a 1.1 pp of GDP correction due to the increase in revenue (2.4 pp of the GDP) that more than offset the increase in spending (1.4 pp of the GDP). The tax reforms approved at the end of 2021 and 2022 as well as higher crude oil revenue, the increase in Ecopetrol's dividends, and *Banco de la República's* profits largely accounted for the growth in tax revenue. The CNG's total public expenditure in 2023 (23.0% of the GDP), in turn, reflected an interest expenditure of 3.9% of the GDP, payments by the nation to cover the FEPC's net

13 "The Fuel Price Stabilization Fund was created in 2007 in order to mitigate the impact of fluctuations in international prices of liquid fuel (LF) on the domestic market. Operationally, the Fund prevents the producer's income (benchmark price) from experiencing substantial fluctuations if there are sudden and drastic movements in international LF prices (parity price that results from multiplying the international benchmark price for LF by the exchange rate). The difference between the two prices multiplied by the amount of fuel sold during the period determines the net position of the fund. Thus, when the benchmark price is higher than the parity price, a participation spread (FEPC income) is generated while when this difference is negative, a compensation spread (expenditure) is generated" (Medium-Term Fiscal Framework, 2022: 68).

14 Remember that the GG consists of the CNG, regional and local governments, the social security sector (pensions and health), and the rest of the central level entities among which the FEPC is included.

15 The most recent figures in DANE's institutional economic accounts as of the third quarter of 2023 reveal a GG surplus of 2.5% of the GDP that contrasts with the 1.3% deficit for the same period in 2022.

16 This result is due to the lower deficit registered by the FEPC that was 1.3% of the GDP (COP 20.5 t) as well as funds equivalent to 1.7% of the GDP transferred by the nation (COP 26.3 t) to settle outstanding debts with fuel importers and refiners that had accrued up to December 2022.

position amounting to 1.7% of the GDP, and a primary expenditure excluding FEPC that came to 17.4% of the GDP. In terms of the fiscal rule, the 2023 result would be consistent with an over-achievement of 0.1 pp of the GDP with respect to the target set for the net structural primary balance (NSPB).<sup>17</sup>

**A deterioration in the total and primary CNG balance is projected for 2024 in comparison to the previous year due mainly to a larger increase in expenditures compared to the increase expected in income.** The projections provided in PF-24 indicate that the total and primary deficit of the CNG could reach 5.3% and 0.9% of the GDP respectively. This could mean a decline in said indicators compared to the 4.2% and 0.3% registered in 2023. The 1.0 pp deterioration in the total balance is likely due to the 1.4 pp increase in spending (0.6 pp for interest and 0.8 pp for primary expenditures) that surpassed the 0.4 pp rise in income. As pointed out in PF-24, a large part of the spending increase will probably come from items that are in some way inflexible, whether it be constitutionally, such as the General System of Participations, or legally, such as transfers to Colpensiones and the health system, the ICBF, and SENA, etc. Moreover, the fact that the nation's tax revenue for 2024 could reach a historical maximum of 17.3% of GDP is pertinent. Of this, 1.3 pp could come from the increased revenue from the tax reform approved in 2022, 0.8 pp from the control of tax evasion and avoidance by the National Tax and Customs Agency (DIAN in Spanish), and 0.6 pp from arbitration of litigation corresponding to processes currently underway between taxpayers and the DIAN.

**The depreciation expected at the end of 2024 together with the higher fiscal deficit and lower economic growth could lead to an increase in net debt as a percentage of GDP between 2023 and 2024.** In its PF-24, the Ministry of the Treasury forecasts that the net debt of the CNG is likely to reach 57.0% of the GDP at the close of 2024. This would be after having been reduced 5.1 pp in 2023 and reaching 52.8% of GDP, which is below the anchor level of 55% of the fiscal rule.

**The most recent update of the PF-24 projects a larger primary balance deficit for 2024 than projected in the 2024 general budget of the nation (PGN-24) due mainly to the downward revision of tax collection.** While the PGN-24 anticipated a primary surplus of 0.2% of the GDP for 2024, the PF-24 presented by the government now foresees a primary deficit of 0.9% of the GDP. This revision is mainly the product of lower projected tax collections resulting from lower revenue from the deductibility of royalties (COP 6.5 t) as well as lower collections from arbitration of litigation (COP 5 t), less favorable macroeconomic conditions, and a lower collection base in 2023. This is reflected in a 1.3% of GDP decrease in tax revenue between what was projected in the PGN-24 and what was presented in the PF-24.

**Based on the forecasts presented by the Ministry of the Treasury in the PF-24 and the MFMP-23, the deficit targets of the fiscal rule would be met in the 2024-2034 period thus taking the debt to the anchor level defined in the fiscal rule (55% of the GDP). However, the Autonomous Fiscal Regulation Committee (CARF in Spanish) has pointed out some risks regarding these projections.** The fiscal deficit forecasts in PF-24 and MFMP-23 are consistent with compliance with the fiscal rule which is essential to ensure the country's macroeconomic stability. Nevertheless,

<sup>17</sup> Act 2155/2021 stipulated that the operational targets of the fiscal rule should be defined on the basis of the NSPB. This variable corresponds to the fiscal balance after discounting interest expenses, income from financial yields, one-time transactions, and cyclical components associated with the economic and oil cycle.

as stated by CARF in its evaluation of MFMP-23,<sup>18</sup> there are some risks surrounding the tax collection and expenditure expectations that, if they materialize, could generate a failure to meet the fiscal rule targets, especially in the 2024-2026 period. Among them, the CARF emphasizes the uncertainty regarding the additional funds expected from DIAN's management as well as the collection from the arbitration of litigations handled by the same entity which, if it does not materialize, would be likely to result in lower collection levels. Added to the above, deviations from macroeconomic assumptions towards lower GDP growth rates or higher interest rates on debt are likely to lead to a less favorable fiscal scenario and, therefore, to an additional effort to increase primary surpluses in order to keep debt on a declining path.

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18 The Autonomous Fiscal Regulation Committee (2023). "Statement No. 8 on the Medium-Term Fiscal Framework, 2023-2034" (carf.gov.co).

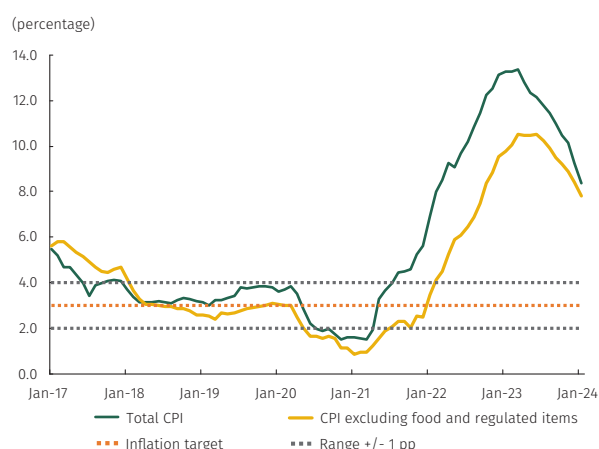
## 03/ Inflation and Monetary Policy Decisions

### 3.1 Change in and Outlook for Inflation

**Inflation slowed significantly in 2023 as a result of monetary policy actions, fiscal adjustment, and a slow undoing of the supply shocks that affected it during and after the pandemic.**

There was a significant decline in annual consumer inflation in Colombia starting in March 2023 that reached 9.28% by the end of the year (Graph 3.1). Compared to the end of 2022, the decline was 3.85 pp. The monetary policy contributed significantly to the reversal of inflation to the degree that it moderated spending growth. Added to this was the decrease in the general government's fiscal deficit (see section 2.3 of this Report). In spite of this significant decline in inflation, the rise in prices was well above the target set by BDBR and the registers seen in other similar economies around the region and in developed countries. The above is largely explained by several idiosyncratic factors among which the required increases in gasoline and energy prices, the indexation of some regulated services and items at high rates, and an increase in the minimum wage well above inflation in 2022 were the most notable.

Graph 3.1  
CPI and CPI (excluding food and regulated items  
(annual change)



Source: DANE, calculations by Banco de la República.

**Food price inflation declined substantially during 2023 and contributed considerably to the drop in headline consumer inflation.**

In their annual variation, food prices declined steadily and very significantly throughout 2023 as they went from levels close to 28% at the end of 2022 to 5.0% at the end of 2023. Within the decline in food price inflation, the fall in the perishables component stands out. The annual change for this item went from 36.4% in December 2022 to -0.47% in December 2023. This could have been due to a strong food supply, partly stemming from the full normalization of some production chains after having overcome the adverse effects caused by the 2021 strike, minor road interruptions in the country, and an *El Niño* that, until the second half of the year, did not have a significant impact on agricultural and livestock production. Processed food prices, albeit to a lesser extent, also contributed to the reduction in food price inflation as it went from a 25.3% rate of increase at the close of 2022 to 6.7% in December 2023.<sup>1</sup> This component, in particular, was favored by the recent contraction in international food and raw material prices, the normalization of logistical and transportation problems that affected the production and

<sup>1</sup> The tax on ultra-processed and high-sugar foods that took effect in November (Act 2277 of 2022) generated some increases in this sub-basket that month and in December and had a small impact on headline inflation. Specifically, its annual change stood at 16.8% in December compared to 14.6% in October before the measure came into effect.

distribution of agricultural and livestock supplies around the world as well as the relatively favorable performance of the exchange rate.

**Core inflation (CPI excluding food and regulated items) also declined during 2023 but more slowly than headline inflation. This decline was mainly because of the correction seen in the prices of goods rather than services which continued to show significant inertia.** Core inflation, which stood at about 9.5% at the end of 2022, remained on an upward trend until mid-2023 when it stood at 10.5%. Thereafter, a downward trend began that ended December at 8.4%. This downward trend was mainly driven by the basket of goods, which went from registering 14.3% growth in its consumer price index (CPI) in June to 7.1% in December. Factors such as the relative stabilization of the exchange rate that has been seen since July and the significant weakening of domestic demand alleviated upward pressure on the CPI for goods. In contrast, inflation of service prices showed significant persistence due to the indexation to past high inflation and the above-inflation adjustments to the minimum wage that have been enacted. Moreover, the demand for various services seems to have suffered less than total aggregate demand and in particular the demand for goods. The main upward pressure on services in 2023 was exerted by rent which saw an annual increase that went from 3.6% in December 2022 to 7.6% a year later. This rise in rental prices was determined by the indexation of the contracts to the inflation at the end of 2022 and, to some extent, by the slowdown in home purchases. Likewise, the indexation of and increase in the minimum wage probably caused other service items such as general medicine, domestic service, education (unregulated), beauty salon, day care, and financial services to also contribute to the increase in the CPI for services in 2023. In contrast, the annual change in eating out (EO) declined in line with the decrease in inflation of food prices that went from 19.1% at the close of 2022 to 13.4% in December 2023.

**Annual inflation of regulated items rose in 2023 mainly as a result of the required adjustment in fuel prices.** The annual change in regulated prices was an increase over the course of 2023 as it went from 11.8% in December 2022 to 17.2% at the close of 2023. The upward trend in this basket was because of the need to make the domestic price of gasoline converge with its international benchmark, and this generated a 44.8% increase in the CPI for fuel this year. The above-mentioned adjustment made the reduction of the deficit of the Fuel Price Stabilization (FEPC) possible. As an additional effect, these increases in gasoline prices put upward pressure on regulated transportation fees. Following the upward trend, regulated education, which is indexed to past annual inflation, presented an adjustment of 11.5% in 2023 compared to 6.4% in 2022. In spite of the increase in electricity rates (20.7% per year in December 2023), in turn, the annual variation in utility rates was a decrease between December 2022 (17.7%) and December 2023 (13.7%) that resulted from reductions in the rate of increase of water service rates.

**Inflation should continue to converge towards the 3.0% target in 2024 as a result of the cumulative effects of monetary policy and as foreign shocks end up fully dissipating.** Indeed, in January there was a significant additional decrease in headline and core inflation that stood at 8.3% and 7.8% respectively. However, given the cumulative pressure in the past and the inertia of inflation in Colombia, it will probably continue to register above-target rates for part of 2024 and converge to 3.0% by mid-2025 at the latest. This is likely to occur in a context where monetary policy continues to be contractionary, and the weakening of domestic demand will probably be reflected in a negative output gap. In addition to the above, lower exchange rate pressure, lower expected food price inflation, and the full dissipation of foreign supply shocks which should translate into lower international costs and prices should be added to the above. With all this

in mind, the inflation rate is expected to continue firmly on a downward trajectory in 2024. Inflation is expected to be around 3.0%, in a range of plus or minus one percentage point, by the first half of 2025. Nevertheless, this forecast faces several risks associated with the possibility of greater effects of *El Niño* than expected on the inflation of food, regulated products and some service prices (CFH), a higher pass-through of the minimum wage adjustment to other wages, and an increase in fiscal pressure, etc. Should inflationary pressure materialize as a result of these risks, indexation mechanisms could be accentuated and generate a higher-than-expected inflation persistence.

**The different measurements of inflation expectations, which are extracted from the local public debt market and surveys, decreased during the year, but their levels still remain above *Banco de la República's* target.** For the one-, five- and ten-year maturities, the estimated measurements based on government bonds (break even inflation: BEI) decreased 139 bp, 151 bp, and 120 bp during the year, and at the end of 2023 they stood at 7.10%, 5.84%, and 5.97% respectively. Likewise, economic analysts' expectations, obtained from *Banco de la República's* monthly survey, declined 181 pb and 69 pb over the course of 2023 for the 12- and 24-month maturities and stood at 5.70% and 3.80% respectively. In spite of this decline, expectations for inflation in Colombia remain above those of other countries in the region.

### 3.2 Monetary Policy Decisions

**The central banks maintained a contractionary monetary policy during 2023.** The decline in international prices for food and energy, supply chains going back to normal, a monetary policy interest rate in contractionary territory, and fiscal adjustments in most countries contributed to lowering global inflation during 2023. The decisions on monetary policy interest rates made by the various central banks depended on deviations from actual inflation and expectations regarding inflation about their targets, the actual and expected performance of the economy, the performance of the labor market, and financial conditions along with other factors. In the case of advanced countries, the context of actual and expected inflation that is declining but still at above-target rates, economic slowdown, and more sluggish employment caused their central banks to stop raising the monetary policy interest rate and instead keep it at high levels. In contrast, in some emerging economies, the central banks began to lower nominal interest rates in 2023 in an environment of significant declines in inflation and expectations for it to levels close to the target, excess productive capacity, and deterioration in the labor market.<sup>2</sup> Despite the differences between countries regarding decisions about policy interest rates, the common factor was to keep them at a sufficiently contractionary real level to ensure that the process of consolidating the convergence of inflation to its target would take place.

**In Colombia, the actions taken by *Banco de la República* are a response to their constitutional mandate “to ensure that the purchasing power of the peso is maintained in coordination with general economic policy.”** In order to comply with the above, the Board of Directors of *Banco de la República* (BDBR) implemented an inflation targeting plan with a floating exchange rate system in which monetary policy moves are focused on making inflation converge to the 3.0% target and a reaching the highest sustainable level of output and employment. This policy

<sup>2</sup> In countries such as Chile, Peru and Brazil, the cycle of soaring prices and rising policy interest rates following the covid-19 pandemic began earlier than in developed countries.

framework has the virtue, along with others, of facilitating countercyclical monetary policy. In this plan, the monetary policy decisions are made based on an analysis of the current situation and the economic outlook and an evaluation of inflation and expectations for it with respect to the targets. For example, if this analysis indicates that inflation may persistently deviate from 3.0% due to excess or shortfalls in spending with respect to the productive capacity of the economy, the monetary policy interest rate (MPR) is modified to bring inflation back towards 3.0%. If the deviations are due to transitory factors (e.g., a climatic condition that affects food prices for a few months or temporary supply shocks) and inflation expectations remain anchored to the target, the MPR remains unchanged. In contrast, if the deviations considered transitory in principle become more accentuated due to more persistent inflation or undesirable price indexation processes, the MPR is modified to anchor expectations and help inflation return to the target. This process of monetary policy transmission is more efficient and less costly if the monetary policy has credibility (see Box 1).

**Annual inflation declined in 2023 although it remained above the target while at the same time economic activity was more sustainable level. The accumulated monetary policy actions contributed to this development, and it was accompanied by a significant reduction in the foreign deficit that had jeopardized the country's macroeconomic sustainability.** Annual inflation since April 2023 and, since July in the case of core inflation has been declining steadily but at rates that still exceed the target of 3.0%. The majority of inflation expectation measurements have fallen and point to a downward trajectory of inflation over time toward values that are more consistent with the target. The economy, which had registered high growth rates in 2021 and 2022, slowed down in 2023 from the high levels seen a year earlier, a trend that began to be reflected in a more sluggish labor market. The easing of domestic demand brought economic activity to a trend level that was more compatible with its productive capacity. The above has contributed to creating the conditions to achieve declining inflation and a more sustainable foreign position. Under these conditions, the BDBR decided to lower the policy interest rate 25 bp at each of their meetings in December 2023 and January 2024 to set it at 12.75%. The BDBR emphasized that the economy will continue the adjustment process necessary for inflation to converge to the target by the first half of 2025 at the latest with the actual and expected reduction in inflation together with the decisions adopted. The Board reiterates that future monetary policy decisions will depend on the soundness of this convergence and developments in the factors that determine the country's macroeconomic stability.

## Box 1

## The Role of Credibility in Central Bank Monetary Policy Actions

Monetary policy plays a fundamental role in the pursuit of economic stability and its effectiveness is closely linked to its credibility. In the context of monetary policy, credibility refers to the degree of confidence that economic agents have that the central bank will achieve its objectives of price stability, support for sustained economic growth, and contribution to financial stability while acting consistently and transparently. Credibility is, therefore, a key ingredient for the success of monetary policy since it influences agents' expectations about the future path of inflation. A transparent and credible monetary policy facilitates predictable decision-making by economic agents.

In Colombia, where an inflation targeting regime is in place, the achievement of the inflation target depends to a large extent on the public's confidence in *Banco de la República's* commitment to the inflation target. Greater credibility allows the central bank to achieve its price stability objective more easily while lower credibility implies higher economic and social costs associated with the implementation of monetary policy. High credibility in monetary policy and in the central bank contributes to a stable economic environment and makes it easier for the public to plan future decisions. As Blinder (2000) points out, the monetary authority is credible when people are confident that it will do what it says it will do.

In this Box, the concept of credibility in monetary policy, its determinants and its macroeconomic effects are analyzed. The trends of credibility in Colombia are also briefly analyzed.

### 1. The credibility of monetary policy and its determinants

There is a broad consensus in the economic literature on the importance of the credibility of monetary policy and, by extension, of the authority that implements it. This credibility of the central bank has gained prominence due to economic modeling based on rational expectations. According to this approach, agents make decisions by considering all available information whether past, present, or future and do not commit systematic biases in their forecasting errors. In this context, the credibility of the central bank becomes a crucial factor. If agents are confident that the monetary authority will systematically achieve its policy objectives, their expectations will align with the monetary authority's actions.<sup>1</sup>

Several factors have been identified that contribute to central bank credibility. These include the following:

- **Independence:** the independence of the monetary authority reduces inflationary bias by allowing it to focus on maintaining price stability without outside interference or short-term pressures (Rogoff 1985).
- **History of compliance:** the credibility of the central bank is based on its track record of delivering on its promise to fight inflation. Keeping inflation within the established limits strengthens its credibility.
- **Transparency:** clear communication of the monetary authority's objectives and strategies allows the private sector to infer its intentions. Transparency influences the expectations of economic agents and makes them more sensitive to the central bank's actions (Faust and Svensson 2001).

<sup>1</sup> Even if the assumption of rational expectations is not met, credibility is still relevant because expectations are still a determining factor in consumption and investment decisions. Although agents may not always be correct in their predictions, their decisions are influenced by what they expect from monetary policy.

- **Predefined policy rules:** following a predefined policy rule, such as inflation targeting, enhances credibility. The central bank's objectives should be clearly and consistently stated.
- **Accountability:** explaining decisions and results through reports to the parliament or congress and the public reinforces the credibility of the monetary authority (Walsh 1995).
- **Fiscal discipline:** the credibility of monetary policy is linked to the government's fiscal discipline. To the extent that fiscal policy affects aggregate demand, it may generate inflationary pressures and make it difficult for the central bank to control inflation (Sargent and Wallace 1981, Woodford 1998, Cochrane 2001). It should be noted that fiscal discipline, while affecting credibility, is outside the direct control of monetary policy and the central bank.

Aware of the theoretical determinants of the credibility of monetary policy, *Banco de la República* understands and has stated that, in order to be effective, monetary policy must be based on certain fundamental principles: 1) the establishment of clear and well-defined objectives; 2) operational independence, so that its decisions are consistent with the results of its analyses and projections without outside interference; 3) the adoption of a clear operational framework and an accountability mechanism to ensure that society is aware of the Bank's actions; 4) a medium-term policy horizon in line with the capacity of its instruments to influence economic variables, and 5) a transparent communication policy.

## 2. Effects of Monetary Policy Credibility

The economic literature has identified several positive macroeconomic effects associated with monetary policy credibility.<sup>2</sup> Some of these effects are discussed below:

- **Reducing the cost of disinflation:** the credibility of monetary policy is crucial for the effective control of inflation. According to the models used by central banks and economic theory, inflation is determined not only by factors such as the output gap or the price of crude oil but also by past inflation and inflation expectations. Therefore, credibility makes it possible to reduce inflation by anchoring its expectations without the need for a negative output gap.<sup>3</sup>
- **Maintaining low inflation:** the credibility of the central bank has a direct effect on inflation expectations. When this institution is credible, inflationary shocks have less impact on expectations. This means that temporary fluctuations in inflation do not significantly alter long-term expectations, which helps to keep inflation low and stable.
- **Role of lender of last resort:** during financial crises, a credible central bank can act as a lender of last resort without altering inflation expectations. Although lending in times of crisis can be seen as expansionary monetary policy, credibility helps to keep inflation expectations stable.
- **Honesty and public support:** central banks credibility is fundamental because central bankers are public servants. Society expects them to act honestly and transparently. Credibility also strengthens public support for an independent and accountable institution.

The credibility of monetary policy is not only a theoretical concept but has also been shown to have positive empirical effects. A study by Cepeda, Taboada-Arango, and Villamizar-Villegas (2023) concludes that increased credibility benefits central banks by significantly improving the effectiveness of monetary policy. Their results indicate that transparency

2 The determinants of credibility are based on Blinder's (2000) survey of central bankers and economists.

3 The New-Keynesian Phillips curve is defined by the function  $\pi_t = \pi_t^e + \alpha z_t$  where  $\pi_t$  represents inflation,  $\pi_t^e$  denotes inflation expectations,  $z_t$  reflects the output gap,  $\alpha$  includes other factors, such as oil prices, that may affect inflation, and  $z_t$  represents shocks to inflation. In this version of the Phillips curve, it is possible for inflation to fall in response to falling inflation expectations without changing either the output gap or the factors included in  $z_t$ .

and anchoring inflation expectations in the medium and long term are the strategies that generate the largest credibility benefits. It is important to keep in mind that increasing or maintaining credibility is not always easy. When credibility is linked to the principles of central bank independence or transparency, in particular, the process of enhancing or maintaining credibility can be costly since it often requires institutional changes that take time to implement. In contrast, the anchoring of expectations can be self-reinforcing. As agents become more confident that the monetary authority will achieve the inflation target, their expectations become anchored to the target and credibility, in turn, increases.

In the Colombian context, González and Hamann (2011) find that a lack of credibility is an important source of inflation persistence. When economic agents doubt the central bank’s ability to maintain price stability, inflation tends to persist.

Finally, it is important to remember that credibility is not a permanent and constant asset. It is earned slowly, through coherent and consistent actions. However, it is also fragile and can evaporate suddenly, as Bordo and Siklos (2015) point out.

### 3. The recent Colombian case<sup>4</sup>

As a qualitative concept, credibility is not directly observable. Nevertheless, in the context of inflation targeting, where the central bank sets a numerically clear, measurable and easily observable inflation target, the literature has come to define the credibility of monetary policy in terms of the deviation of inflation expectations from the target. In other words, any deviation of inflation expectations from the target implies a loss of credibility. Actual inflation also has a significant impact on credibility. When inflation deviates from the established target, it can erode confidence in the central bank’s ability to maintain price stability.

The results presented below follow this definition of credibility in inflation targeting and are based on the analysis of Grajales-Olarte et al. (2024) on the recent drivers of credibility in Colombia.

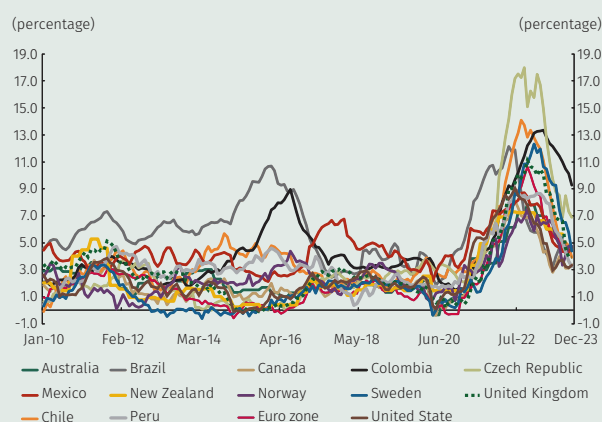
The impact of the covid-19 pandemic on the global economy has renewed interest in the study of the credibility of monetary policy that stems from the notable increase in both actual inflation and inflation expectations around the world in the aftermath of the pandemic. Graph B1.1 shows that, for the group of countries represented, both headline inflation and inflation expectations have reached historically high levels. Although both have increased, inflation expectations have risen less than headline inflation.<sup>5</sup>

Colombia has not been immune to this global trend (Graph B1.2). Inflation in Colombia reached 13.3% in the first quarter of 2023 and above the inflation peaks of 2008 and 2016. Furthermore, both headline inflation and inflation expectations have been above the tolerance band since mid-2021.

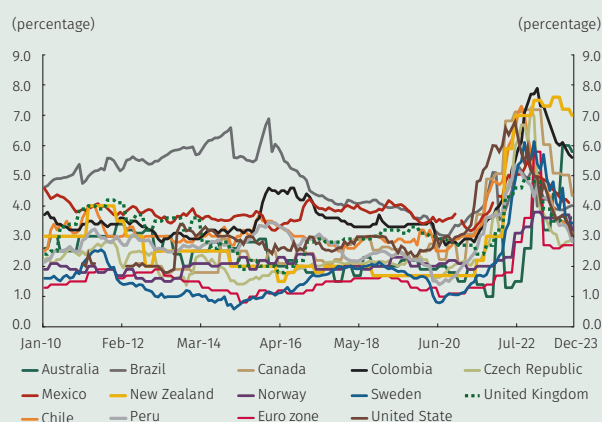
As a result of the monetary policy implemented by *Banco de la República*, both headline inflation and inflation expectations have declined significantly since the first quarter of 2023. However, the

Graph B1.1  
Headline Inflation and Inflation Expectations for a Set of Countries

#### A. Headline Annual Inflation



#### B. Twelve-month total annual inflation expectations

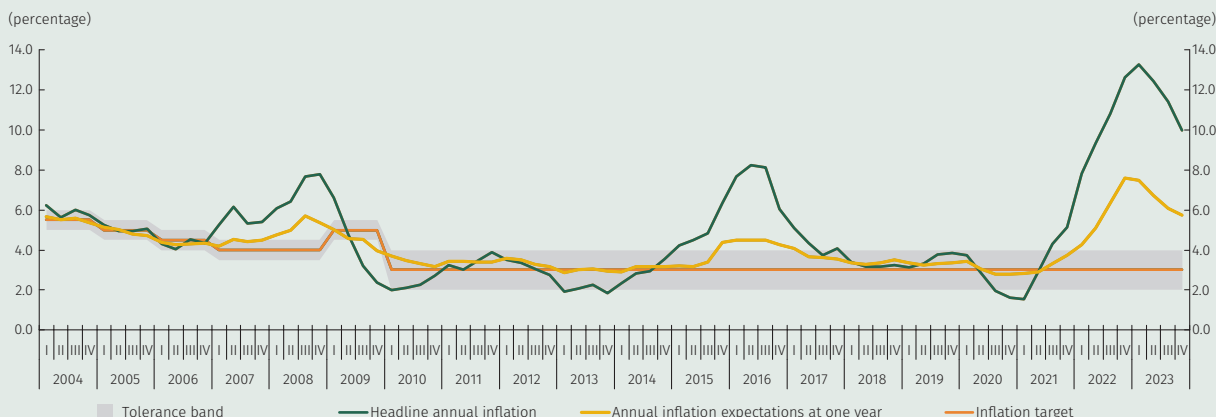


Note: Panel A shows headline annual inflation for the set of countries. Panel B shows annual inflation expectations at twelve months.  
Source: central bank of each country.

4 This section is based on Grajales-Olarte et al. (2024).

5 See, for example, Schmitt-Grohé and Uribe (2022) and Verbrugge and Zaman (2023).

**Graph B1.2**  
Headline inflation, Inflation expectations and Target for Colombia



Note: the green line represents headline annual inflation. The yellow line represents annual inflation expectations at twelve months. The orange line is the inflation target. The gray band represents the tolerance band.  
Sources: Banco de la República and Monthly Survey of Economic Analysts' Expectations.

recent trend in these variables suggests a reduction in credibility. To accurately assess this decline, a formal measure of the level of credibility is required. Grajales-Olarte et al. (2024) present a credibility measure based on the methodology proposed by Bomfim and Rudebusch (2000) in which a time-varying level of credibility is estimated using information on both inflation expectations and actual inflation.<sup>6</sup>

Graph B1.3 shows the results of the credibility estimate for Colombia for the period 2004–2023. In this measure, one represents perfect credibility and zero represents no credibility. The results show that, as Bordo (2015) found in his study of eleven countries, changes in credibility are frequent and significant as they have been in the Colombian context.

**Graph B1.3**  
Estimate of the Stock of Credibility for Colombia



Note: the green line represents the stock of credibility estimate. The gray band represents the forecast horizon.  
Source: Calculations based on Grajales-Olarte (2024).

Throughout the study period, credibility in Colombia remained high. With the exception of the recent covid-19 pandemic episode, there were only two notable declines: in 2008 and 2016. In those years, inflation was high due to international food and crude oil prices and the *El Niño* phenomenon respectively. Despite the covid-19 crisis, credibility remained at a relatively high level, even though actual inflation and inflation expectations peaked. Furthermore, on the basis of the most recent inflation forecasts, credibility is expected to continue recovering at a similar pace to that seen after the declines in 2008 and 2016. At the end of the forecast horizon, in 2025, credibility is expected to be very close to its historical average.<sup>7</sup>

6 Inflation expectations at twelve months from now come from the Monthly Survey of Economic Expectations of economic analysts.

7 It is important to recognize that the credibility measures used in the literature have limitations. Although useful for analysis, they always tell an incomplete story because they do not capture all the nuances and factors that influence the perception of credibility. Moreover, credibility measures can be sensitive to the parameterization and estimation methodology used. Therefore, it is essential to interpret these indicators with caution and to consider their context. Finally, as mentioned above, a central bank's credibility may be affected by events beyond its control. The measurement that assesses credibility by deviations from the target is only an approximation. Reality is more complex and dynamic than this measure alone can capture.

#### 4. Conclusions

The credibility in monetary policy is a valuable asset for *Banco de la República*. It allows the objectives of price stability, economic growth, and financial stability to be achieved efficiently and at lower cost. High monetary policy credibility strengthens the confidence of economic agents in the central bank and facilitates the planning of their future consumption and investment decisions.

Credibility is not constant; it is gained slowly through consistent and coherent actions. However, it can also be lost quickly. Therefore, it is crucial for central banks to maintain clear and effective communication with the public and explain their decisions and results.

In Colombia, the central bank's credibility has remained high despite some episodes of high inflation. Although the covid-19 pandemic and its aftermath have been a challenge, credibility is recovering rapidly and is expected to approach its historical average level by the end of the forecast horizon (2025).

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## 04/ Change in and Outlook for the Financial and Loan Markets

### 4.1 Credit Institutions' Financial Intermediation

**The credit institutions<sup>1</sup> (CI) maintain high levels of capital and a solid liquidity position, which would allow them to face the materialization of various risks.** The CIs maintained their basic, total, and leveraged capital adequacy at levels above those required by regulation during 2023 (Graph 4.1, panel A).<sup>2</sup> In addition, the short-term liquidity (Liquidity Risk Indicator: LRI) and structural funding liquidity (NSFR) indicators also showed slack and even registered an increase in the last months of 2023 (Graph 4.1, panels B and C).<sup>3</sup> In spite of these high aggregate levels, there were short episodes of lower liquidity during the year to which the Financial Superintendency of Colombia (FSC) and *Banco de la República* responded in a timely manner. In the case of the former with regulatory measures, and for the latter, with measures to provide liquidity. In any case, the financial system is resilient and probably able to face adverse shocks that could affect short-term liquidity and individual capital adequacy.<sup>4</sup>

**The level of loan-loss provisions of the CIs allows them to cover the non-performing portfolio, which rose during 2023.** The CIs' total loan-loss provisions<sup>5</sup> rose in 2023 and as of November registered a real growth rate<sup>6</sup> of 1.1% (Graph 4.2). However, the

1 According to Colombian regulation, banks, financial corporations, financial cooperatives, and finance companies are defined as credit institutions (CI).

2 Capital adequacy indicators reflect the capacity of credit institutions to meet their obligations. In general, these ratios link the capital of these financial institutions to the assets on their balance sheet while considering in the calculation how risky the latter are. In that regard, financial entities that hold riskier assets should, under local regulations, cover their position with more capital while institutions with less appetite for risk may hold lower levels of equity. For more information, see Basel Committee on Banking Supervision: *Definition of Capital*, available at [https://www.bis.org/basel\\_framework/standard/CAP.htm](https://www.bis.org/basel_framework/standard/CAP.htm)

3 Liquidity risk indicators are designed to ensure that credit institutions have sufficient reserves of high-quality liquidity reserves to meet their short-term and medium-term funding requirements. The liquidity risk indicator (LRI) links the holdings of high-quality liquid assets to short-term liquidity requirements while the net stable funding ratio (NSFR) structurally links the institution's funding and its assets considering the liabilities' level of stability and how stable the assets need to be. For more information, see *Basel III: the Net Stable Funding Ratio*, available at <https://www.bis.org/bcbs/publ/d295.htm>, and *Basel III: The Liquidity Coverage Ratio and Liquidity Risk Monitoring Tools*, available at <https://www.bis.org/publ/bcbs238.htm>.

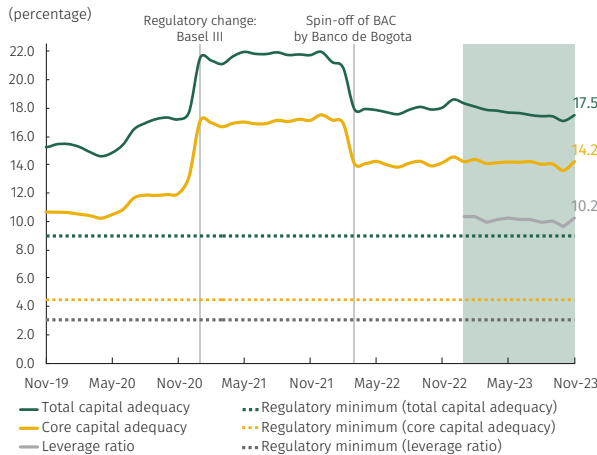
4 The CIs, in particular, are likely to be in a strong position to handle shocks like those faced by some regional banks in the United States during the first half of 2023. For more information, see Box 3: "Financial Stress in the U.S. Banking System and a Stress Test of Credit Institution Capital Adequacy, in the Financial Stability Report for the first half of 2023, available at <https://www.banrep.gov.co/es/publicaciones-investigaciones/reporte-estabilidad-financiera/recuadro-3-estres-financiero-sistema>

5 "Loan-loss provisions" refers to the reserves the financial entities have to set aside to cover possible losses they may face due to debtors' default on what they owe.

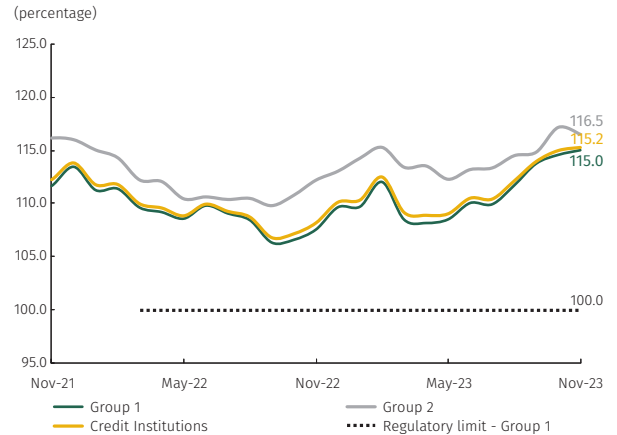
6 The real rate growth in this section was calculated using the consumer price index excluding food.

Graph 4.1  
CIs' Capital Adequacy and Liquidity Indicators

A. Capital adequacy and leverage indicators



C. NSFR



Note 1: the capital adequacy and core capital adequacy figures reported since January 2021 are not comparable to the historical series due to the regulatory change that required entities to start converging to the guidelines established by Basel III.

Note 2: the regulatory limits for total and core capital adequacy are 9% and 4.5% respectively. In 2023 (2024) the limits, including the conservation cushion are 10.125% (10.5%), 6.75% (7.5%), and 5.625% (6.0%) for the total, additional core, and core capital adequacy respectively. For systemically important institutions, an additional 50 bp (75pb) is required. In practice, failure to comply with capital buffers does not imply non-compliance with regulatory limits and, therefore, does not constitute a situation of insolvency.

Note 3: with the issuance of Decrees 1477/2018 and 1421/2019 entities had to start complying with the regulatory leverage ratio requirement as of January 2021. This ratio is defined as the sum of the value of Ordinary Basic Equity net of deductions and Additional Basic Equity, divided by the leverage value defined as the sum of assets net of loan-loss provisions, net exposures in repurchase/resell agreements, sell/buy backs and TTS, credit exposures in derivatives and contingency exposures. The regulatory limit for the leverage ratio is 3%.

Source: Financial Superintendency of Colombia; calculations by Banco de la República.

Note 1: group 1 entities consist of banks whose assets represent at least 2% of the total assets of the banks as of December 31 of the immediately preceding year. Group 2 includes CIs that are not part of Group 1 and for which the loan portfolio and leasing operations correspond to a significant asset. Group 3 includes the CIs that are not a part of the previous groups and that have investments and derivative transactions as significant assets.

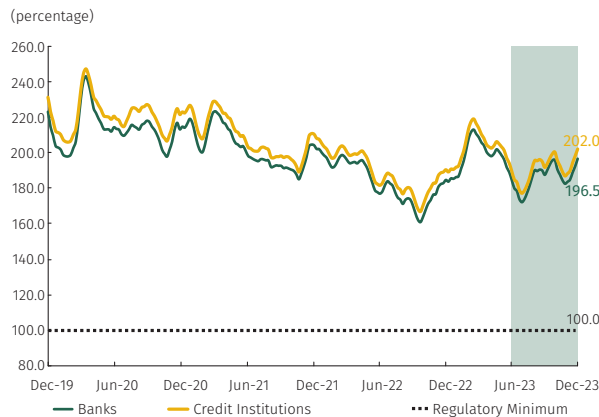
Note 2: the NSFR of the CIs is calculated on the basis of the information pertaining to the entities in groups 1 and 2. Group 3 entities are not included since they do not have to comply with a regulatory limit, so the reporting of their NSFR is informative in nature.

Note 3: In calculating the NSFR for group 2 and the CIs' total, the Special Official Institutions (SOIs) are included

Note 4: only the regulatory limit corresponding to group 1 is shown since this limit is the highest. For groups 1 (2) regulatory limits were set at 80% (60%) as of March 2020, at 90% (70%) as of March 2021, and 100% (80%) since March 2022.

Source: Financial Superintendency of Colombia; calculations by Banco de la República.

B. LRI

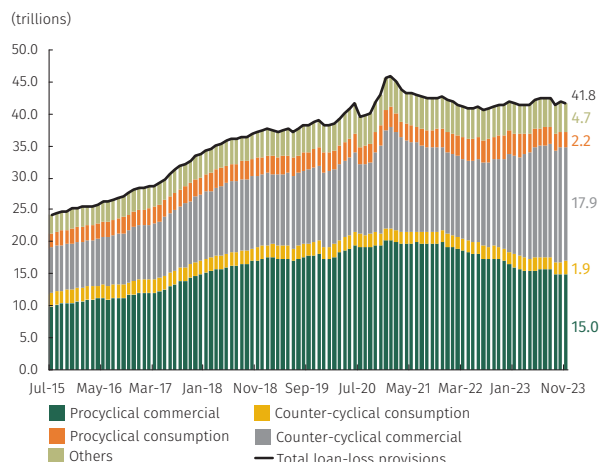


Note: The average LRI is calculated as the ratio between the average of the last four weeks of the month of liquid assets adjusted for market liquidity and foreign exchange risk (LAM) with respect to the average of the last four weeks of the month of net liquidity requirements (NLR) for a horizon of 30 days.

Source: Financial Superintendency of Colombia; calculations by Banco de la República.

analysis of components suggests that the CIs have de-accumulated countercyclical provisions (real growth of -39.3% in consumer and -6.8% in commercial), designed to address scenarios of deteriorating credit quality. In spite of the increase in loan-loss provisions, the provisioning coverage indicator (ratio between loan-loss provisions and the non-performing portfolio) for all portfolios declined in

**Graph 4.2**  
Changes in Loan-loss Provisions

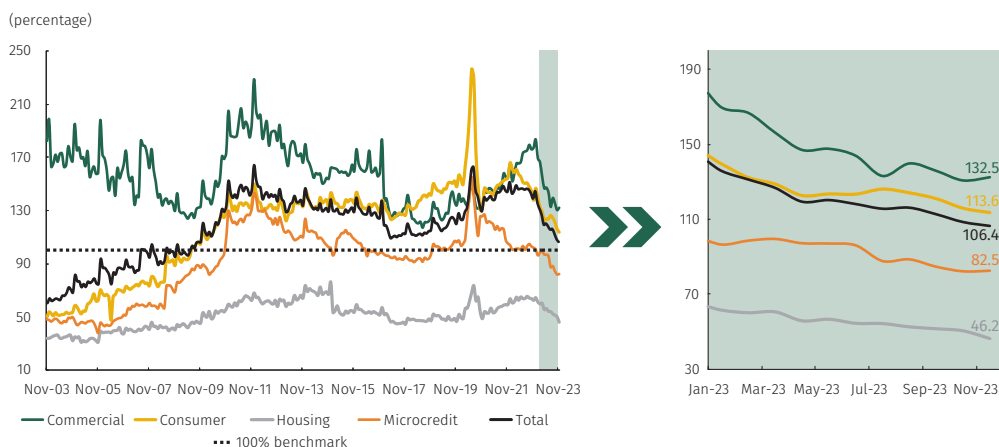


Notes: the pro-cyclical component corresponds to the loan-loss provisions made for each debtor based on their risk rating. The counter-cyclical component corresponds to the loan-loss provisions that are accumulated per debtor in order to be used in times of high portfolio deterioration. Other corresponds to housing, microcredit, and others. Additional general loan-loss provisions are not included in the calculation. Source: Financial Superintendency of Colombia; calculations by Banco de la República.

2023 due to the more than proportional increase in the non-performing portfolio, defined as the balance of loans that are more than thirty days past due. Nevertheless, coverage levels are high: for the total, consumer and commercial portfolios, the indicator was above 100% while for the microcredit and housing portfolios it was around 82% and 46%, respectively (Graph 4.3).<sup>7</sup>

**The non-performing and risky loan portfolios increased during 2023 for all types of loans consistent with the adjustment process of the economy, the higher risk-taking in the credit market seen in 2022 and, according to some intermediaries, less available information in the credit bureaus due to the Clean Slate Law (Act 2157/2021<sup>8</sup>).** The real annual growth of the CIs' loan portfolio that was more than 30 days past due at the close of November 2023 was 31.0% as a result of the contribution of all types of loans (Graph 4.4). Nevertheless, the non-performing loan portfolio has shown smaller increases since July 2023, a trend that is aligned with the lower growth rates of the non-performing loan portfolio in the consumer segment. In line with these trends, the traditional indicators of credit risk, the non-performing loan indicator (NPL),<sup>9</sup> and the quality indicator by risk (QID)<sup>10</sup> were 5.8% and 9.6%, respectively, after reaching 4.1% and 7.9% at the end of 2022.

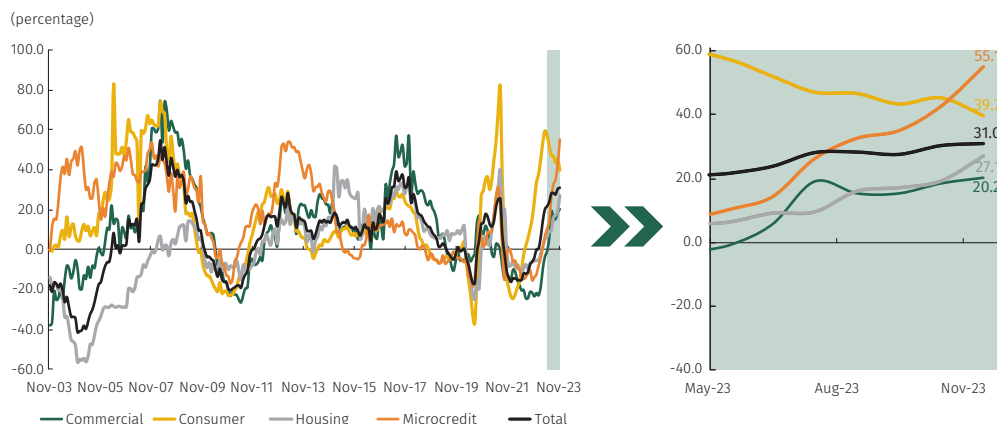
**Graph 4.3**  
Provisioning coverage indicator



Source: Financial Superintendency of Colombia; calculations by Banco de la República.

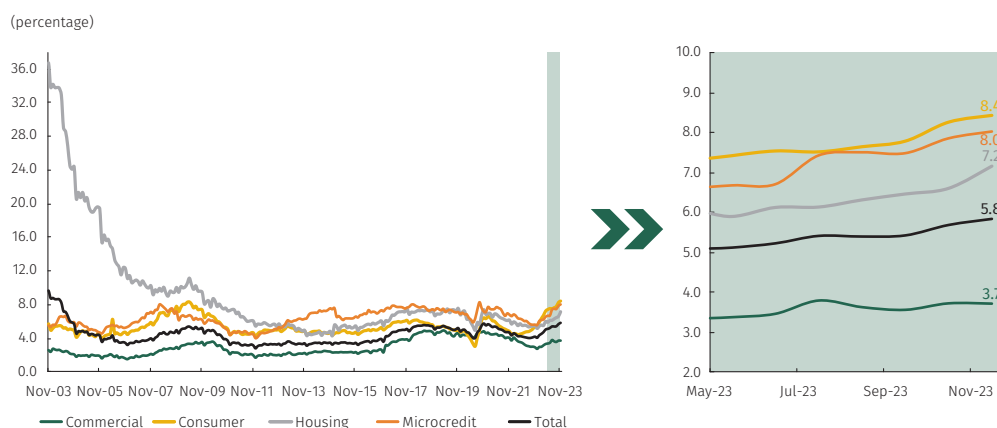
- 7 The calculation of loan-loss provisions is done on the portion of the loan not covered by the guarantee. Given that in the housing category the guarantee is the property, the loan-loss provisions are lower than those for the other categories.
- 8 In addition, the “Stop Hassling” Act (Act 2300/2023), which limited the hours, days and channels through which CIs can contact their clients to recover their receivables, entered into effect in October 2023. This law, according to some intermediaries, also has an impact on the non performing portfolio.
- 9 This is calculated as the ratio between the non-performing and the total gross loan portfolio (the non-performing portfolio includes the balance of the loans that have been in arrears for a period of more than 30 days).
- 10 This is calculated as the ratio between the risky loan portfolio and the total gross loan portfolio.

**Graph 4.4**  
Real Annual Growth of Past-due Loan Portfolio



Notes: the real growth shown in this graph was calculated by using the consumer price index excluding food. Data with preliminary balances for November 2023.  
Source: Financial Superintendency of Colombia; calculations by Banco de la República.

**Graph 4.5**  
Quality Indicator by Default (NPL)

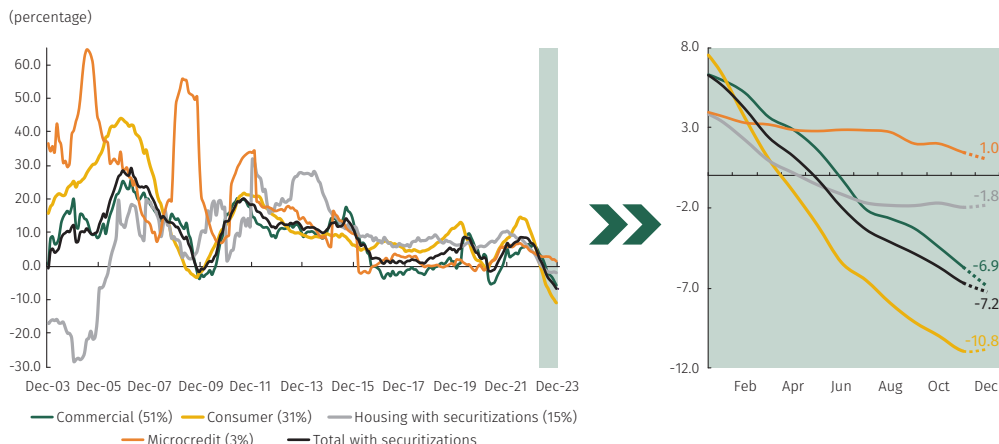


Source: Financial Superintendency of Colombia; calculations by Banco de la República.

In both cases, the impairments in the consumer and microcredit portfolios are highlighted (Graph 4.5).

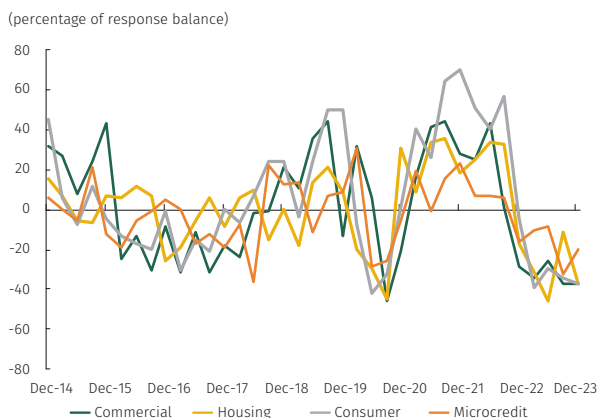
**The increase in the non-performing and risky loan portfolios and loan-loss provisions for the system took place in a context of credit slowdown, with real growth rates decreases since mid-2023.** This credit performance was in line with the process of economic activity adjusting to more sustainable levels in the medium term. In a context of lower risk-taking by the CIs and a lower demand from borrowers, the total portfolio has slowed down and, as of December 2023, registered a real growth rate of -7.2% standing at around COP 676.7 t (43.6% of the GDP; Graph 4.6). This performance was explained by the lower dynamism of the various types of credit, especially of the consumer and commercial loan portfolios that represent around 31% and 61% of the total gross CI loan portfolio, respectively. At the end of 2023, the real growth rate for the consumer category was -10.8% and for the commercial category was -6.9%. In contrast, the microcredit loan portfolio has shown positive rates since March 2021 in spite of the fact that its growth has slowed down.

**Graph 4.6**  
Real Annual Growth of Credit Institutions' Gross Loan Portfolio



Notes: the dotted lines correspond to preliminary data from December 2023 gathered from format 281 of the Financial Superintendency of Colombia which has weekly information on selected accounts of the balance sheets of credit institutions. The real growth shown in this graph was calculated by using the consumer price index excluding food.  
Source: Financial Superintendency of Colombia; calculations by Banco de la República.

**Graph 4.7**  
Credit Institutions' Perception of the Demand for Loans



Note: a positive (negative) result in the balance of responses is interpreted as a general perception of an increase (decrease) in the demand for credit as perceived by the CIs.  
Source: Report on the loan situation in Colombia, December 2023, calculations by Banco de la República.

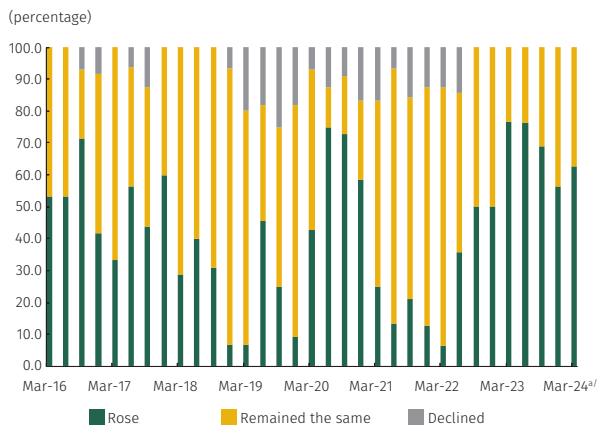
The correction in credit growth has been orderly and has been driven, in part, by the tightening of the monetary policy rate and higher requirements for new loans by lending institutions. The perception of both the supply of and demand for credit, measured by a survey of banks, adjusted downwards during 2023.<sup>11</sup> The results of the Survey of the Loan Situation in Colombia carried out by Banco de la República with a cut-off date of December 2023 show that the CIs' perception regarding the demand for credit of all types remains in negative territory which suggests sluggish demand.<sup>12</sup> Nevertheless, this perception stabilized for all portfolios during 2023 after a downward trend started in mid-2022 (Graph 4.7). During the same period, a higher percentage of banks raised their requirements for granting new loans compared to 2022, especially for consumer, commercial, and housing loan portfolios (Graph 4.8). This tightening of lending requirements is an addition to the tightening that occurred during 2022 and contributed, together with the weakness of the demand for credit, to the drop in portfolio growth. According to the survey, a larger proportion of banks are expected to increase the requirements for granting new loans in all loan categories, with the exception of consumer loans in the first quarter of 2024. Moreover, the CIs perceived that the supply of credit for all types of loans, with the exception

11 The perception of credit supply and demand referred to here comes from the Survey on the credit situation in Colombia that is applied to local credit institutions, available at: <https://www.banrep.gov.co/es/publicaciones-investigaciones/reporte-situacion-credito-colombia>

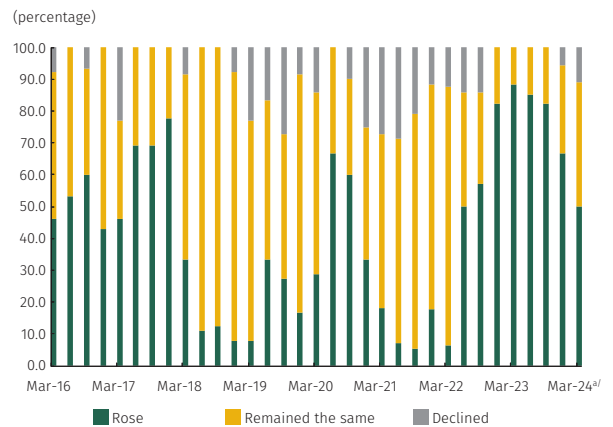
12 The credit institutions were asked how the demand for new loans has changed during the last three months (1 = lower; 2 = slightly lower; 3 = the same; 4 = slightly higher; and 5 = higher). The balance is the difference between the percentage of those surveyed who answered with 4 and 5 and the percentage of those who answered 1 and 2. A positive result in the balance is interpreted as a general perception of an increase in demand.

Graph 4.8  
Change in Requirements for Allocating New Loans (banks)

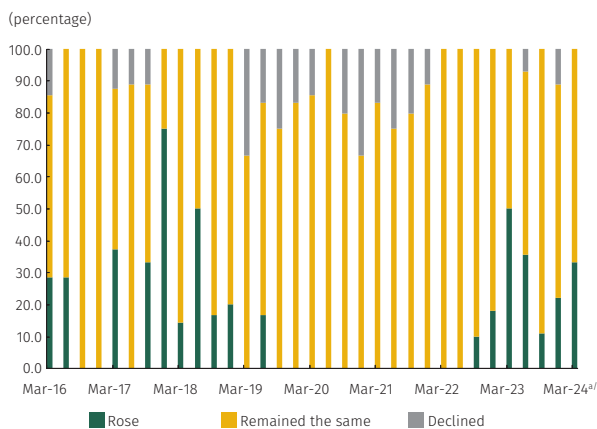
A. Commercial



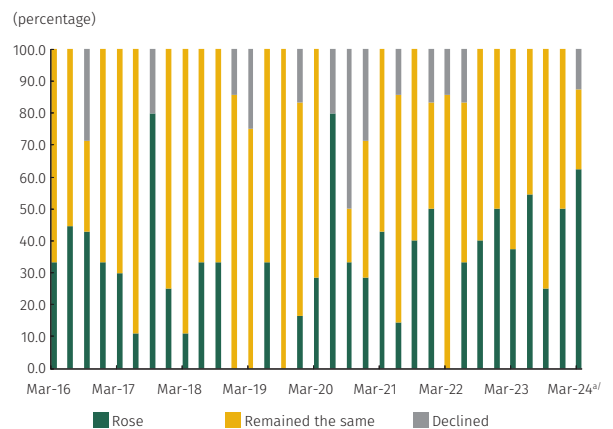
B. Consumer



C. Housing



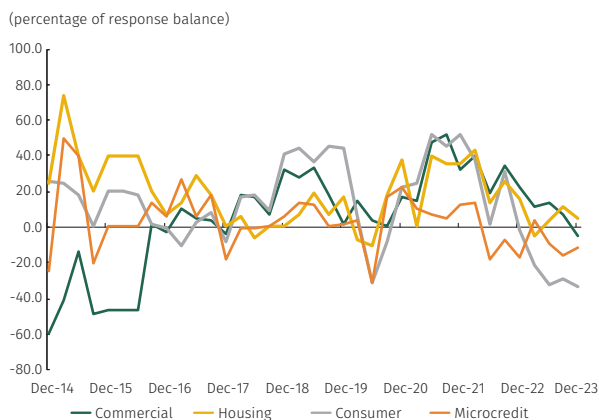
D. Microcredit



a/ Expectations for next quarter.

Source: Report on the loan situation in Colombia, December 2023, calculations by Banco de la República.

Graph 4.9  
Credit Establishments' Perception of the Supply of New Loans

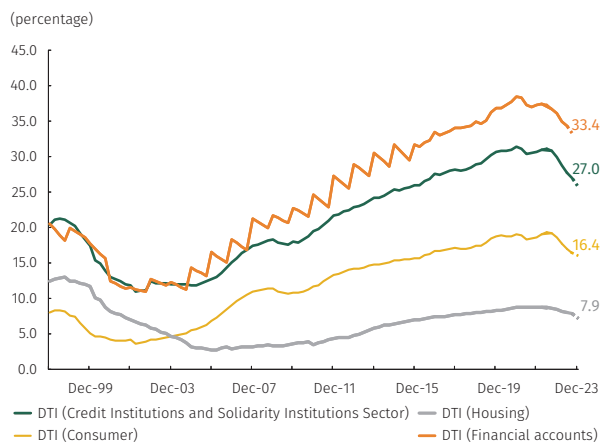


Note: a positive (negative) result in the balance of responses is interpreted as a general perception of an increase (decrease) in the supply of credit.  
Source: Report on the loan situation in Colombia, December 2023, calculations by Banco de la República.

of housing loans, had declined during 2023 (Graph 4.9). Given these results, credit conditions for granting loans may be expected to remain restrictive during the first quarter of 2024.

**The very positive development is related to the fact that household debt-to-income ratio is continuing to decline from the historically high values seen in 2022 and reaching levels similar to those seen in 2017. Likewise, the level of savings continues to recover, and the financial burden is decreasing.** Based on information from September 2023, household leverage as measured by the ratio of debt to disposable income (DTI) completed five consecutive quarters of decline and is expected to continue to adjust in an orderly fashion to lower levels by the end of 2023 (Graph 4.10). This trend is mainly due to the fact that household debt has been steadily slowing down over the past year. Household savings, in turn, continues to recover and for the first time in the last two years it is above pre-pandemic levels (Graph 4.11) as a result of

**Graph 4.10**  
Debt to Available Household Income (DTI)



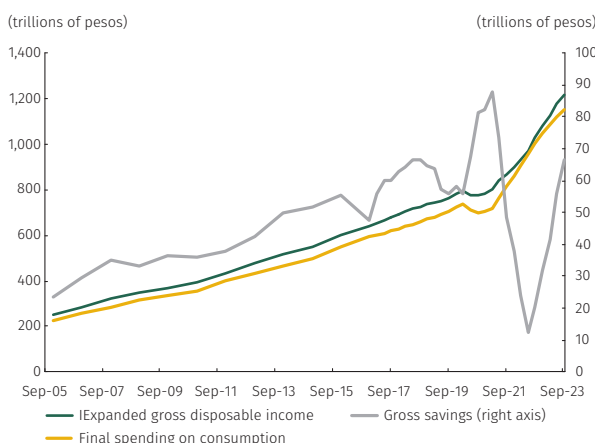
Note: the graph presents the debt-to-income indicator (DTI). The gross adjusted disposable income of households from the national accounts by institutional sector is used for this. The dotted segments correspond to forecasts for the indicators based on the baseline macroeconomic scenarios of the technical staff at *Banco de la República* and a path of low portfolio growth for the loan portfolio of credit institutions and the solidarity institutions sector. For the consumer and housing DTI it is assumed that the share of these portfolios in the total remains constant over the forecast horizon. Due to insufficient information, an estimate of the DTI forecast (financial accounts) has not been made. Four measures of indebtedness are presented in the graph:

1. Green line: household debt with credit institutions supervised by the Financial Superintendency of Colombia, savings and credit cooperatives, employee funds, and the Colombian Securitization Company.
  2. Orange line: household debt derived from the financial account balances published by *Banco de la República*. In addition to what is included on the green line, microcredits and commercial loans to individuals are included as are obligations with other financial institutions.
  3. Yellow line: consumer loans from credit institutions
  4. Grey line: housing loans from credit institutions
- Sources: Financial Superintendency of Colombia, Superintendency of Economic Solidarity, *Titularizadora de Colombia*, *Banco de la República* and DANE, calculations by *Banco de la República*.

household spending having decreased while their income has grown. Finally, the financial burden of households receiving new loans, as reported by banks at the end of 2023 in the Survey on the Credit Situation in Colombia<sup>13</sup>, and defined as the share of disposable income allocated to the payment of financial obligations, remained relatively stable with respect to the previous quarter and consolidated the improvements presented throughout the year (Graph 4.12)

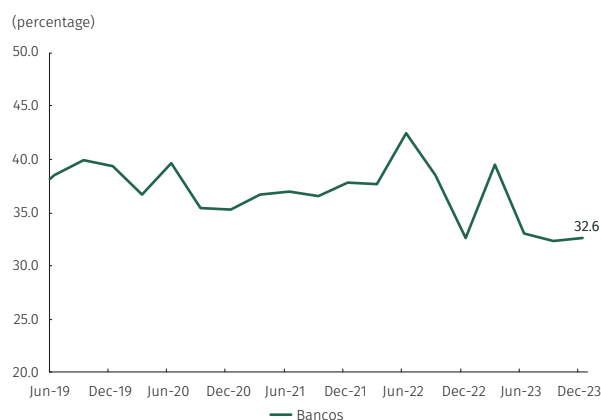
**Corporate sector indebtedness as a share of the GDP declined in 2023 in a context of an appreciating Colombian peso, a slowdown in economic activity, and a contraction of the real portfolio.** Private corporate sector debt represented 49.5% of the annualized GDP as of September 2023 having accumulated a decrease of 4.3 pp compared to December 2022 (Graph 4.13). This decrease was mainly due to the appreciation of the peso and its effect on debt denominated in dollars and the lower growth of the commercial loan portfolio in a context of lower investment. Furthermore, the percentage of debt in foreign currency with some mechanism to mitigate foreign exchange risk (export companies, companies with financial hedging operations, or companies with foreign direct investment, FDI) has remained relatively stable and continues to account for most of the debt denominated in foreign currency (73.3%). The downward trend in the private corporate sector debt-to-GDP ratio indicator may have continued during the fourth quarter of 2023 given the stability of the local exchange rate and the downturn in the commercial loan portfolio.

**Graph 4.11**  
Gross Household Savings and their Components



Note: expanded gross disposable income corresponds to gross disposable income including the adjustment for the change in the net participation of households in pension funds.  
Source: DANE, calculations by *Banco de la República*.

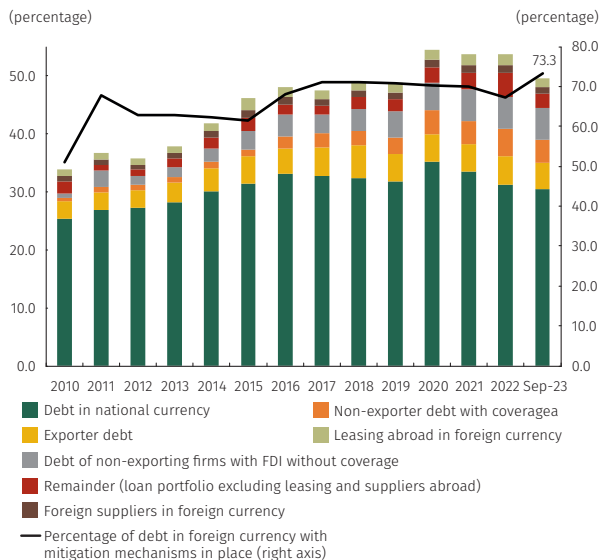
**Graph 4.12**  
Weighted Average Financial Burden of Households that Took out New Loans



Source: Survey of the loan situation in Colombia, December 2023, calculations by *Banco de la República*.

13 The financial burden corresponds to the average weighted by the portfolio for households (consumer and housing) of the indicator reported by the banks in the Survey of the Loan Situation in Colombia.

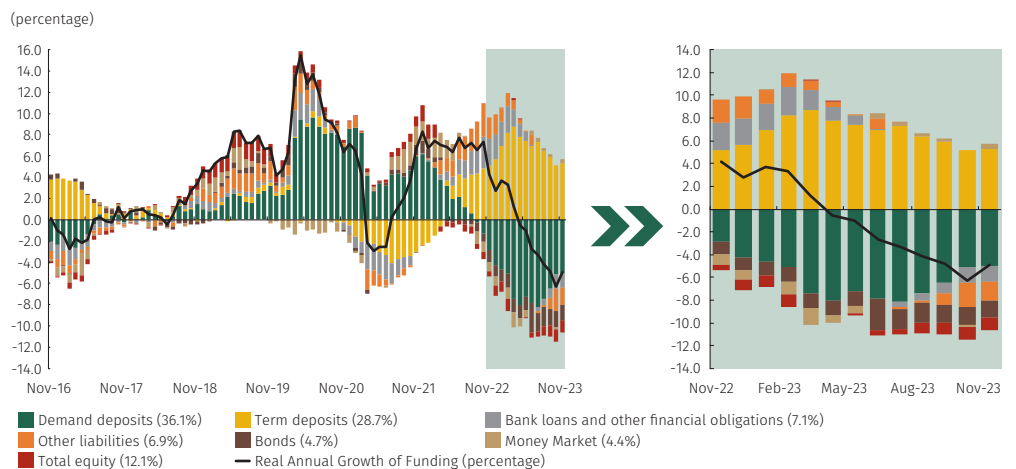
**Graph 4.13**  
Indebtedness of the Private Corporate Sector by Foreign Exchange Hedging, Foreign Direct Investment (FDI), and Debtor Foreign Trade (percentage of the GDP)



Note: the debt of suppliers in foreign currency and leasing with entities abroad is not available by TIN and, therefore, it is not possible to identify whether or not this debt belongs to hedged companies.  
Sources: Financial Superintendency of Colombia, DANE, and Banco de la República, calculations by Banco de la República.

The lower growth of the loan portfolio during 2023 was accompanied by a lower rate of increase in the CI's funding. The recomposition of funding sources towards certificates of deposit (CD) continued but eased a little towards the end of the year. CI funding, understood as the sum of liabilities and equity, also experienced a slowdown during 2023 and has contracted in real annual terms since April (Graph 4.14). Customer deposits, which are the main source of funds for CIs showed a tendency to slow down over the course of the year. This was the result of declines in the spread on the balance of demand deposits (such as savings and checking accounts) through the third quarter of the year, and the slowdown in the rate of growth in the balance of CDs. For the latter, in spite of the fact that the annual growth rates were high throughout the year (14.6% in real terms), the balance showed stability in the second half of the year and, as a result, the CDs contributed positively to the growth of financing but at an increasingly lower rate<sup>14</sup>. Note that the shift from demand deposits to CDs started in 2022, in line with the requirements of the net stable funding ratio (NSFR), the reversal of the shock of the preference for liquid assets during the pandemic, and a greater public demand for these securities given high interest and inflation rates (Graph 4.15). In the fourth quarter, the balance of savings accounts increased at the margin<sup>15</sup> and this recomposition slowed temporarily although CD deposits remained high

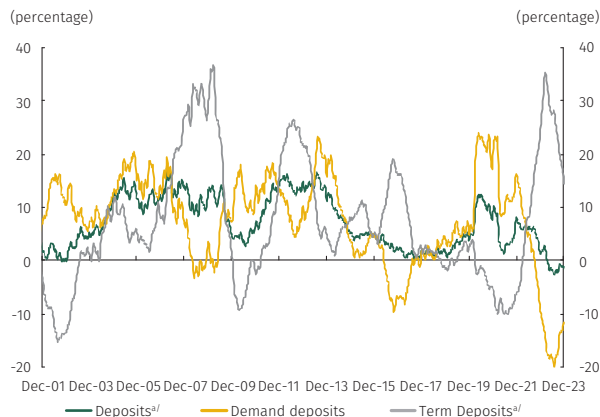
**Graph 4.14**  
Real, Annual Growth of Funding and Contribution to Growth of their Components



Note 1: the share each item has in funding is in parenthesis (liability + equity) with November 2023 as a cut-off date.  
Note 2: Term deposits include CDs and CDATs.  
Note 3: Other liabilities include other deposits and payables, accounts payable, and BOCAS and BOCEAS  
Note 4: the real annual growth of funding was calculated using the consumer price index excluding food.  
Source: Financial Superintendency of Colombia; calculations by Banco de la República.

- 14 The average monthly amount raised in CDTs in the fourth quarter of 2023 was 22.9% higher than what had been seen in 2022 although it was 5.5% lower than in 2023.
- 15 The increase was mainly in private sector accounts. The increase in October and November was concentrated in companies and financial institutions (other than credit institutions) while there was also a rise in the balances of individuals in December.

**Graph 4.15**  
Balance of Deposits by Maturity  
(real annual change)<sup>a/</sup>



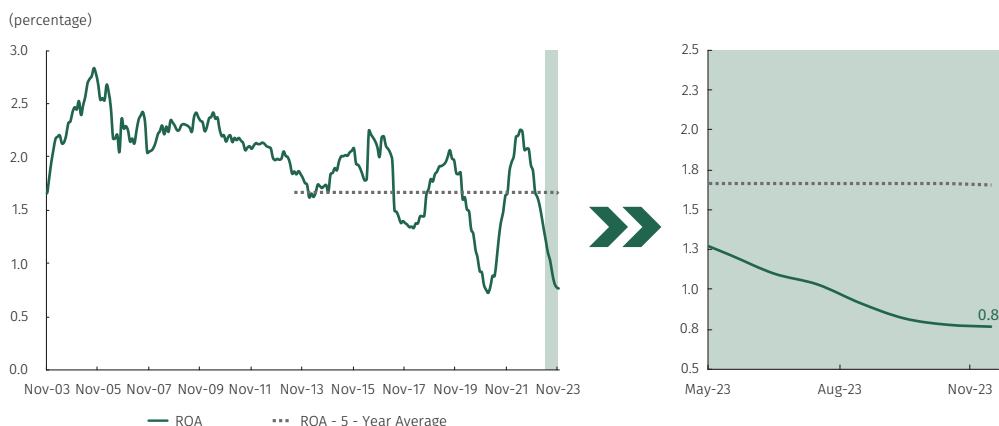
a/ Deflated using the CPI excluding food.  
Source: Financial Superintendency of Colombia; calculations by Banco de la República.

compared to the 2022 average. The above is consistent with NSFR regulations which encourages more stable funding for the CIs.

**The profitability indicator for CIs decreased in 2023 because of the higher expenditure on loan loss provisions and lower net interest income after the high levels achieved in 2022.** The return on assets (ROA) indicator<sup>16</sup> fell below the average for the last five years and stood at 0.8% as of November 2023 after the historically high levels seen in 2022 (Graph 4.16). This performance varies from one entity to another. The number of CIs that register negative returns has increased. Specifically, eleven entities, which accounted for 1.9% of assets and 2.3% of the total CI portfolio, were identified as having negative profitability as of January 2023. As of November, twenty-four CI showed this trend which accounted for 12.5% of assets and 13.8% of the portfolio.

**The performance of the money market and deposit interest rates was influenced by the funding needs of the CIs, the regulations implemented by the FSC, and the measures taken by Banco de la República.** A modification to how available funding is calculated that reduced the levels of the NSFR went into effect in March 2023.<sup>17</sup> At the same time, there was a significant maturity of public debt which provided financial institutions with abundant liquidity between March and April. During the months that followed, Government deposits at the central Bank rose significantly and withdrew liquidity from the economy. This coincided with a peak in CD maturities going into the third quarter, especially for maturities greater than

**Graph 4.16**  
Profitability of Credit Institutions' Assets

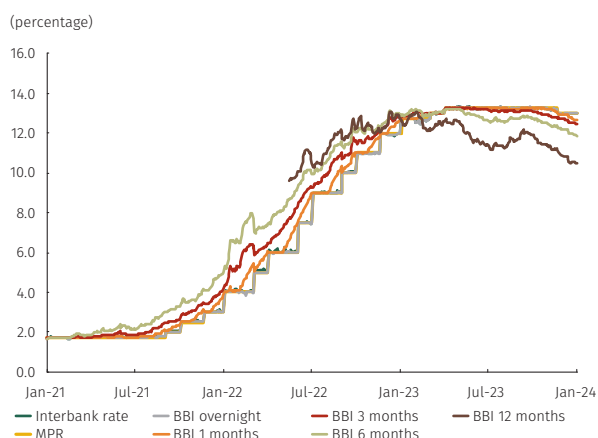


Source: Financial Superintendency of Colombia; calculations by Banco de la República.

16 ROA is calculated as the ratio of the CI's annualized profit to the value of its total assets.

17 Specifically, the weighting of the demand deposit balance of supervised financial entities and of open-ended collective investment funds (Ficasp in Spanish) went from 25% to 0% in the calculation of available stable funding as of March 2023. Thus, the funds that the institutions have from these counterparties are no longer accounted for within the liquidity of structural funding.

Graph 4.17  
Monetary Policy Rate, Interbank Rate, and BBI  
(overnight, at 1, 3, 6, and 12 months)



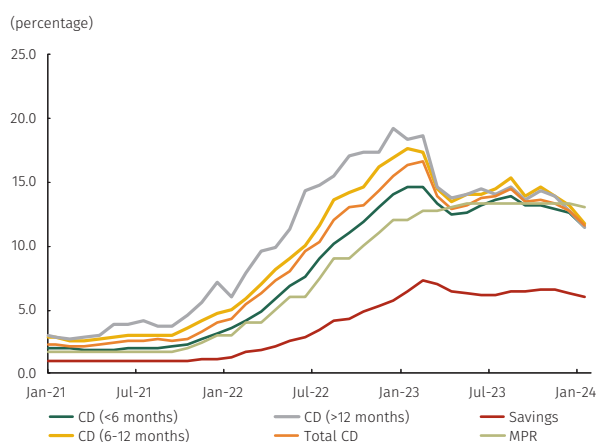
Source: Banco de la República, Financial Superintendency (format 414), calculations by Banco de la República.

a year.<sup>18</sup> This situation was compounded by the uncertainty generated by the temporary administration of Fonpet's portfolio by the General Office of Public Credit and National Treasury since April given the size of the fund and its CD portfolio.<sup>19</sup> As mentioned above, CDs play a preponderant role in the structural funding of CIs since they are the main source of medium and long-term financing with their clients, especially when financial institutions have been reducing their participation as bond issuers.<sup>20</sup> Therefore, the situation described above was reflected in an increase in deposit interest rates in both absolute terms and the spread vs TES rates and overnight indexed swap (OIS) rates for similar periods (Graph 4.17).

**The Bank arranged auctions of 90 and 180-day repos<sup>21</sup> in which it awarded a total of COP 2.1 trillion (t) in order to reduce funding pressure during August and September.** These auctions complemented the TES purchases that the Bank had been making since May as part of the transactions intended to offset the effect of higher government deposits at *Banco de la República* on primary liquidity.<sup>22</sup> The FSC, in turn, introduced modifications to regulations on the NSFR calculation at the end of August in line with the process of convergence towards Basel III international standards which were implemented in September. Thus, they temporarily relaxed the calculation of available funding for the CIs, and this led to an overall increase in the NSFR.<sup>23</sup>

- 
- 18 According to Deceval data, CD maturities were 42% higher in August than those seen on average in the first half of the year, and if those originally issued for a period of one year or more are considered, maturities were more than twice as high as in previous months.
- 19 Based on information from the General Accounting Office of the Nation, Fonpet had assets of approximately COP 57 t as of March 2023 of which approximately COP 10.5 t were CDs. Allocating the administration of 25% of the fund to the Prag Consortium, which was established by Fiduprevi-sora and Fiduagraria in September, helped to demonstrate the government's commitment to continue searching for an administrator for these resources.
- 20 The only bonds issued in 2023 were those issued by Bancoldex (COP 600 b) in October, and by Serfinanza (COP 25 b) in November. The amount issued was less than 30% of what was registered in 2022 (COP 2,177 b) and 10% of what was seen in 2021 (COP 6,335 b).
- 21 The 90-day auctions were held daily while the 180-day auctions were held once a week. The last 90-day auction was held on September 29 and the 180-day one was on September 28. See <https://www.banrep.gov.co/es/noticias/oferta-repos-deuda-publica-agosto-2023> y <https://www.banrep.gov.co/es/noticias/oferta-repos-deuda-publica-septiembre-2023>
- 22 The Bank acquired COP 10 trillion TES in the secondary market between May and August. See the shaded section Monetary Base and M3.
- 23 Specifically, the FSC's regulatory change temporarily raised the weightings in the available stable funding (ASF) of demand deposits of open-ended collective investment funds and supervised financial institutions from 0% to 25% until August 2025. These weightings are those that had been modified in March 2023. In addition, in line with Basel III, segmentation of operating deposits was introduced. This change had a positive effect on the institutions' ASF and as a consequence, on the NSFR.

Graph 4.18  
Deposit Rates



Note: the policy rate is the one set by the BDBR at the corresponding monthly meeting. The remaining rates correspond to the average for the month (weighted by amount). Source: Financial Superintendency (form 441), calculations by the Banco de la República.

**Deposit interest rates reached their highest level during the first months of 2023, and subsequently declined and fluctuated around a lower level.** Up until February, deposit rates (for new CDs and savings deposits) continued to rise sharply, as they had done the previous year, and remained concentrated in maturities of more than six months (Graph 4.18). Following the maturity of public debt at the end of February and the modifications to the NSFR in March, there were significant reductions in the rates of all CD maturities in the subsequent months. This reduced the gap between the latter and the MPR and concentrated new fundraising in periods of up to six months. Although part of the decline seen in the second quarter was reversed in the third quarter as a result of the conditions explained above, CD rates declined again towards the end of the year. The level of the CD rate as of December was 266 bp lower than it was in December 2022. The interest rate for savings accounts, in turn, also showed a significant decline between March and April and remained relatively stable for the rest of the year. However, in comparison to the level in December 2022, this rate had risen 58 bp by the end of the year. The deposit interest rates continued to fall in January 2024, though more sharply for CDs than for savings deposits.

**Interest rates on loan allocations peaked in the first quarter of 2023 and since then most of them have been on a downward trend.** As in the case of deposit rates, in the first quarter of the year, interest rates for the different types of loans continued to rise and then began to fall. Thus, as of December, they presented a significant reduction with respect to their levels a year earlier<sup>24</sup> (Graph 4.19). This decline occurred in an environment of economic slowdown and deteriorating default and portfolio quality indicators. This suggested that the new loans were granted to customers with a lower level of risk than what had been seen a year earlier (especially in consumer loans), due to the decrease in the cost of funding, and expectations of lower inflation and monetary policy interest rates. The downward trend continued in January 2024 for the majority of lending rates.<sup>25</sup>

## 4.2 Local Financial Markets

### 4.2.1. Foreign Exchange Market

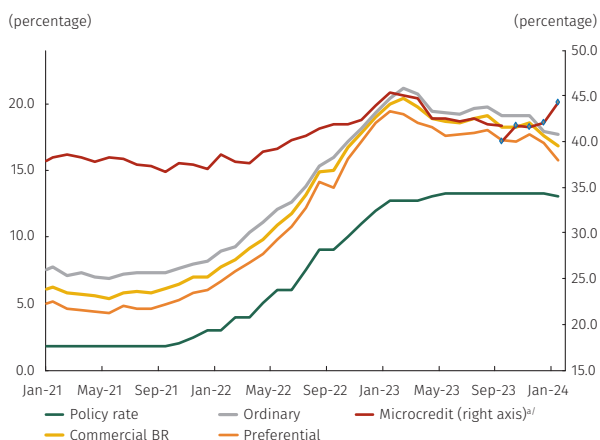
**To maintain a low and stable inflation rate and reach the maximum sustainable level of output and employment,**

24 In particular, the aggregate commercial rate was down 138 bp, microcredit was down 333 pb, consumer credit was down 263 bp (but loans covered by automatic payroll deductions rose 29 bp) credit cards were down 431 bp, LIH acquisition was down 156 bp, and non-LIH was down 21 bp as of December 2023 compared to December 2022.

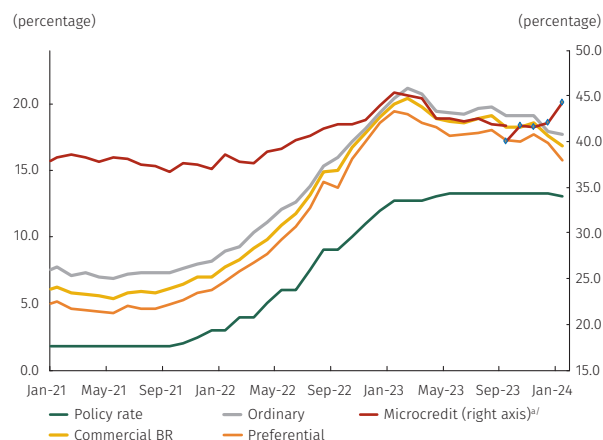
25 The exception is microcredit (also known as productive credits starting in March 2023) which saw its rate rise.

Graph 4.19  
Nominal Lending Rates

A. Loans to Businesses



B. Loans to households



Note: the policy rate is the one set by the BDBR at the corresponding monthly meeting. The remaining rates correspond to the average for the month (weighted by amount).  
a/ The microcredit rate (productive loans) does not include rediscunts and as of September 2023 it corresponds to the aggregate rate of the new productive loan categories.  
Source: Financial Superintendency of Colombia; calculations by *Banco de la República*.

**Banco de la República follows an inflation-targeting model<sup>26</sup> with a floating exchange rate system.** The exchange rate flexibility is considered a fundamental element for achieving these goals because: 1) a major part of the adjustment to foreign shocks is made by the exchange rate,<sup>27</sup> 2) the authorities of a small, open economy with a flexible exchange rate have greater autonomy in their monetary policy which makes it easier for them to achieve their inflation targets and react to their economic cycles,<sup>28</sup> 3) it reduces incentives for excessive foreign exchange risk-taking,<sup>29</sup> 4) the volatility inherent to the float stimulates the development of the hedging market which is important for maintaining financial stability and encouraging market development.<sup>30</sup>

**The Colombian peso showed the highest appreciation among its peers in the region during 2023, thus correcting the depreciation seen in the previous year. This reinforcement reflected greater demand for risky assets at the global level and the favorable performance of some local factors. The Colombian peso has weakened marginally throughout 2024 in line with the performance of most of**

26 Under this approach, monetary policy actions are intended to ensure that future inflation is within the target set in the policy horizon.

27 The domestic market interest rate is more stable in a flexible regime than in a fixed exchange rate regime.

28 Otherwise, when there is a fixed exchange rate against the currency of a developed country, monetary policy is subject to the decisions of the foreign monetary authority. Thus, if the economic cycles are not synchronized, the monetary actions of the developed country could have adverse effects on output and employment in the emerging country

29 Foreign exchange mismatches arise when an agent receives his income in local currency and part of his liabilities in another currency without any type of hedging. In a flexible regime, agents are induced to internalize and limit exposure to foreign exchange risk. Although there is strong regulation of foreign exchange mismatches of financial intermediaries in Colombia, the volatility of the exchange rate generates incentives for real sector agents to take actions to mitigate their exposure to this risk.

30 The existence of these instruments allows agents to obtain foreign exchange risk hedging at competitive prices.

**Graph 4.20**  
Performance of the Foreign Exchange Market in the Region

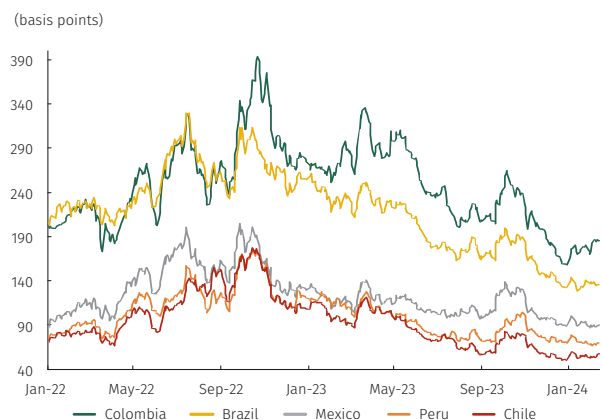


Note: Data as of 12 February 2024  
Source: Bloomberg, Data License.

**its regional and emerging peers as the dollar strengthened.** The Colombian peso appreciated 20.6% in 2023 (Graph 4.20). According to market agents, some local factors that supported this performance were the higher flows of foreign currency supply in the spot market,<sup>31</sup> a wider interest rate differential compared to the region, and a decrease in CDS. The latter is associated with a positive perception of the strength of local institutions and a favorable adjustment of some macroeconomic variables (Graph 4.21).

**There was a slight reduction in liquidity conditions<sup>32</sup> in the foreign exchange market in 2023 and a marginal decrease in the average volatility of the currency.** The decline in liquidity was reflected in an increase in transaction costs and a decrease in the depth of the spot market.

**Graph 4.21**  
Risk Premium (5-year CDS) for some Economies in the Region



Source: Bloomberg, Data License.

#### 4.2.2 Debt and Stock Markets

**There has been a significant appreciation in local sovereign debt securities during 2023 and so far in 2024, better than others in the region, together with an improvement in the indicators of liquidity and volatility of this market.** This performance was, in part, in line with the performance of emerging economies' government debt securities (Graph 4.22). Nevertheless, this positive performance compared to their peers is a result of the improvement in the perception of local risk due to the decrease in the current account deficit as well as the stronger market consensus of appropriate institutional strength (Graph 4.23).

**With respect to participants in the public debt market, pension and severance funds were the largest purchasers in 2023 (Graph 4.24) and consolidated their position as the main holders of local currency securities.** These agents made purchases of COP 26.4 t in public debt securities in local currency in 2023 that were concentrated in long-term

**Graph 4.22**  
Interest Rate Index in Some Economies in the Region

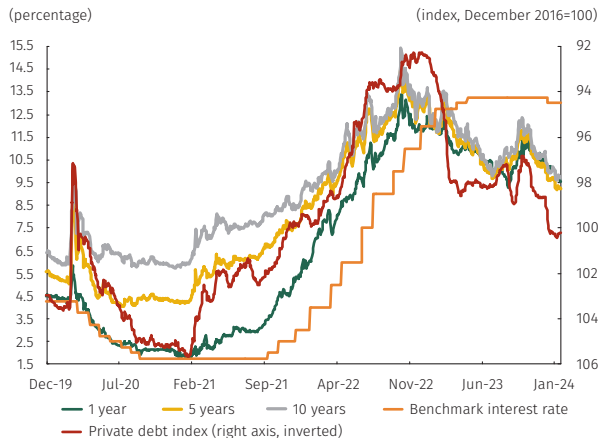


Sources: Bloomberg, SEN (electronic trading system) and MasterTrader, calculations by Banco de la República.

31 These higher foreign exchange inflows were associated with FDI inflows due to the payment of taxes by large taxpayers. Thus, FDI reached USD 13,068 million in 2023, the highest inflow since 2014 (USD 15,109 million).

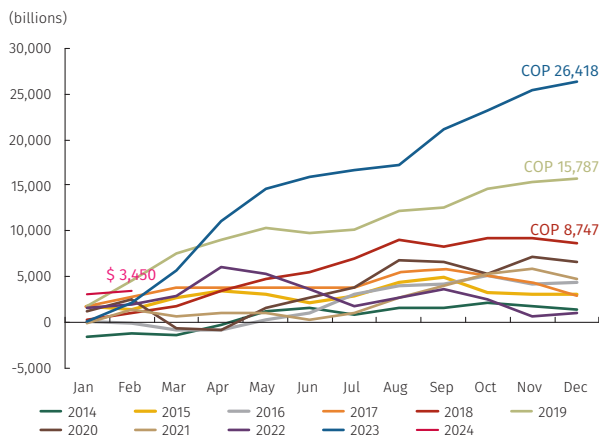
32 This is measured by the *bid-ask spread* (BAS) and market depth measurements. The BAS is calculated as the average of the difference between the best purchase point and best-selling point in the Set-FX spot session for each second between 8:30 am and 1:00 pm each day divided by the average daily rate of Set-FX. An increase in the indicator reflects lower liquidity. The depth measurements, in turn, correspond to the average of the sum of the amount of the buy quotes and the sum of the amount of the sell quotes for the peso/dollar which are extracted from Set-FX every five minutes between 8:30 a.m. and 1:00 p.m. for the best bids within a range of +/- \$5 and +/- \$10, and the market total. A decrease in the indicator reflects lower liquidity. In 2023, the average BAS stood at 0.064% while in 2022, it stood at 0.060%. The depth measurements at \$5, \$10, and total, in turn, stood at an average of USD 6.1 million (m), USD 11.6 m, and USD 42.9 m respectively in 2023 while they were USD 7.1 m, USD 13.5 m, and USD 46.3 m respectively in 2022.

**Graph 4.23**  
Zero-coupon TES Rate in Pesos by Term, Private Debt Index, and Monetary Policy Rate



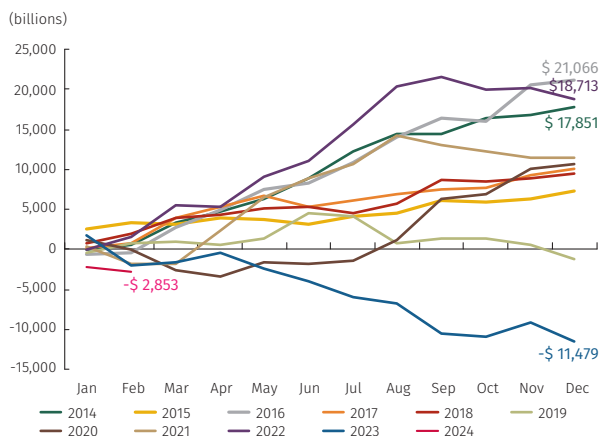
Sources: SEN (electronic trading system) and Master Trader, calculations by Banco de la República.

**Graph 4.24**  
Cumulative Net Purchases per Year of Pension and Severance Funds in the TES Spot Market



Source: DCV, calculations by Banco de la República.

**Graph 4.25**  
Cumulative Net Purchases per Year by Foreign Investors in the TES Spot Market



Source: DCV, calculations by Banco de la República.

securities.<sup>33</sup> Thus, the share of pension and severance funds in total public debt in local currency rose 4 pp, going from 26.5% to 31.1% between December 2022 and December 2023.

**Foreign investors made significant sales of public debt securities in local currency in 2023 (Graph 4.25) in line with their investment policies that were influenced by the strong performance of Colombian securities and the appreciation of the peso during the year.** In spite of the outflows in the aggregate, these were concentrated in short- and medium-term securities. The foreign investors made net purchases of long-term securities in 2023 which indicates that the appetite these agents have for the Colombian public debt market has continued.<sup>34</sup> In the aggregate, they sold COP 9.1 t and COP 2.4 t TES in pesos and UVR during 2023 respectively. Thus, the position of foreigners among TES holders declined and they remained the second largest holders after pension and severance funds.

**Funding via the placement of corporate debt securities recovered slightly in 2023 with respect to what was seen in 2022, mainly due to high placements by the non-financial sector in the second half of the year.** In line with this, COP 3.2 t in placements were made through the BVC in 2023, the highest seen since 2021. In addition, non-financial sector placements of debt securities rose with respect to the previous year and accounted for the highest annual share (70%) since information is available.

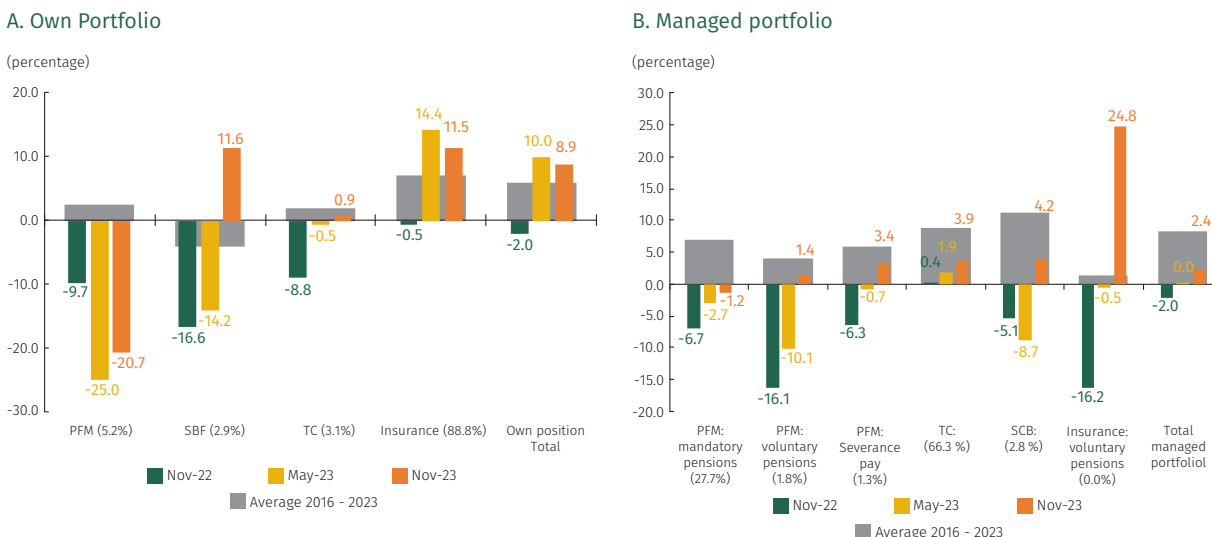
**The MSCI Colcap index<sup>35</sup> decreased over the course of the year in contrast to the average increase registered in the region.<sup>36</sup> In this respect, the stock market performance continued to lag behind its peers in the region while, at the same time, its liquidity deteriorated.** The performance of the local stock market was explained by the negative results of the financial sector in a context of deteriorating liquidity and discussions about the possibility of a market reclassification from emerging market to frontier market.<sup>37</sup>

- 33 Pension and severance funds made net purchases of COP 31.7 t in TES in the long tranche of the curve with purchases of COP 28.0 t and COP 3.8 t in TES in pesos and UVR respectively.
- 34 Foreign investors made COP 4.9 t and COP 11.5 t in net sales in the short and medium tranches of the TES curve in pesos and UVR. In contrast, they purchased COP 7.3 t in long-tranche TES.
- 35 This is an index that is calculated by the index provider MSCI and corresponds to the main benchmark of the Colombian stock market. It consists of the 20 most liquid issuers and 25 most liquid stocks in the market with shares weighted by adjusted market capitalization with no participation limit.
- 36 The MSCI Colcap index depreciated 7.1% in 2023 while the main stock market indices of Mexico, Peru, Brazil, and Chile appreciated on average 20%.
- 37 Colombia is currently classified as an emerging market by MSCI, the world's leading stock index provider, since it meets the requirements established in the provider's methodology. In contrast, a country classified as a frontier market is one that is characterized by a small stock market, low liquidity, barriers to access for international investors, and political and financial instability.

### 4.3 The Financial System’s Exposure to Market Risk and the Evolution of the Portfolio of Non-Banking Financial Institutions

**In 2023, non-banking financial institutions (NBFI) registered growth in both their own portfolio and their managed portfolios.** Their own registered a real, annual growth of 8.9% in November 2023<sup>38</sup> that was above the average for the last few years (Graph 4.26, panel A). This performance was mainly due to the favorable performance of investments that positively impacted the assets of the insurance sector and brokerage firms that together represent more than 90% of the sector’s assets. As for the portfolio managed by NBFIs, the real annual growth was 2.4%, which was lower than its historical average (Graph 4.26, panel B). This occurred because the only business that grew more than the average was the voluntary pensions administered by the insurance sector.

Graph 4.26  
Real Annual Growth of Non-Bank Financial Institutions' Assets



Note: the graph includes information from pension fund managers (PFM); stock brokerage firms (SBF), trust companies (TC) and insurance companies. The series are deflated using the CPI excluding food.  
Source: Financial Superintendency of Colombia; calculations by Banco de la República.

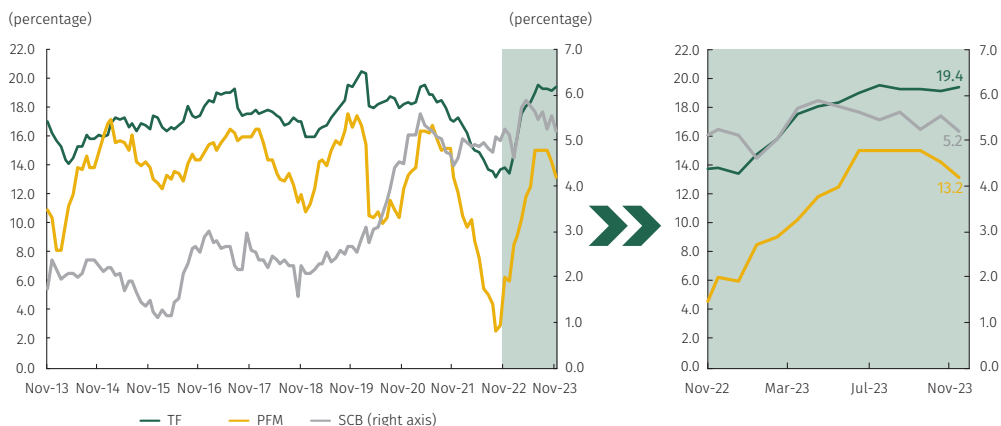
**The profitability of the NBFIs continued to recover from lows reached in 2022 and is returning to pre-pandemic levels.** There was an upward trend in the ROA of all NBFIs during the first half of 2023 which stagnated during the second half of the year and was negative for insurance companies (life and general, Graph 4.27). However, the ROA levels remained close to pre-pandemic ones at the end of the year and above those shown in December 2022 for all NBFIs. The positive performance of the TC and PFM profitability is mainly due to the increase in net income from valuation. For insurers, there was higher premium income, which was overshadowed by higher net reinsurance expenses and higher reserves for general and life insurance.

**The assets managed by the open-ended collective investment funds OECIFs showed high volatility that was characterized by periods of high capital deposits**

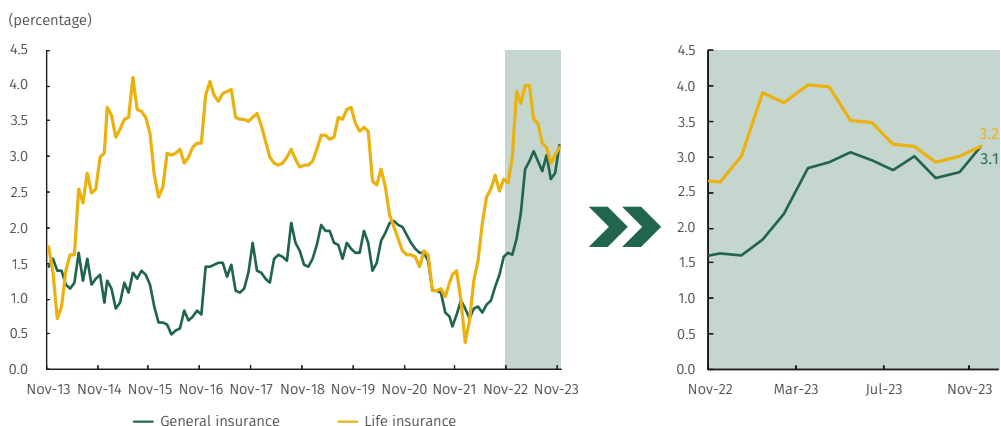
38 The real annual growth was calculated by using CPI excluding food.

Graph 4.27  
ROA

A. TC, PFM, and SBF

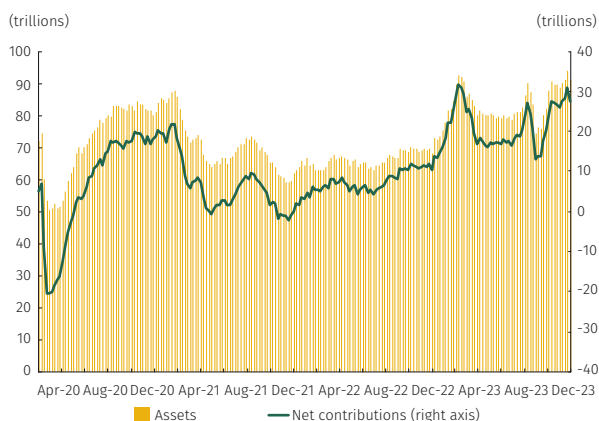


B. General and Life Insurance



Source: Financial Superintendency of Colombia, calculations by Banco de la República.

Graph 4.28  
Assets and Net Contributions of Open-ended Collective Investment Funds



Note: net accumulated contributions correspond to total contributions minus total accumulated withdrawals.  
Source: Financial Superintendency of Colombia; calculations by Banco de la República.

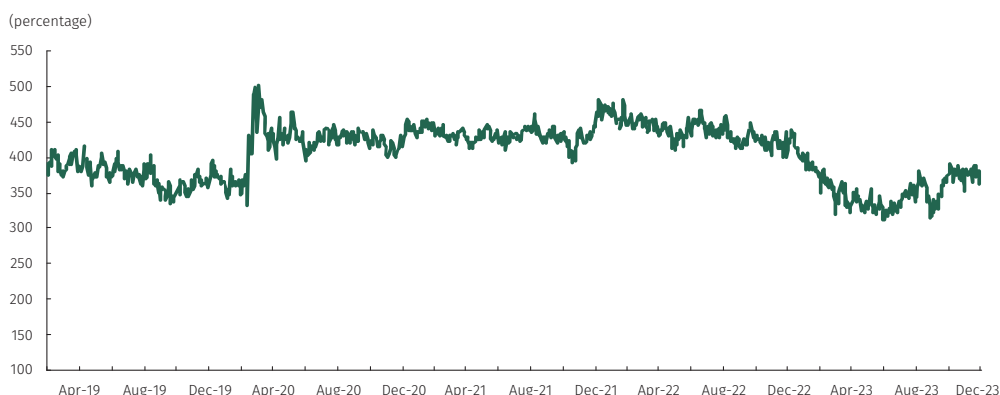
**followed by redemptions of investors.** The total assets of OECIF<sup>39</sup> were highly volatile in 2023 as a result of the behavior of the net contributions of its members (Graph 4.28). These trends coincided with the price performance of CDs which represent 69.2% of the total assets of these funds. The drop in net contributions in March and September 2023 was due to a decrease in profitability given the decline in the valuation

39 Collective investment funds (CIFs) are financial savings and investment vehicles managed by specialized companies in which funds from the contributions of several investors are invested in a portfolio of assets. In particular, the open-ended CIFs (OECIFs) provide investors with liquidity, profitability, and capital stability through investments in high quality short-term securities. Given their nature, they are susceptible to withdrawals which, in normal times, they back with resources in demand accounts and the maturity of their securities. However, in the face of massive withdrawals by their investors, funds are likely to resort to early liquidation of their securities, and this could generate greater price pressure and market volatility.

of the CDs.<sup>40</sup> The assets managed by the OECIFs rose again as of November 2023 and reached an all-time high of COP 94.0 t, before decreasing slightly to COP 90.9 t in December 2023.

**OECIFs liquidity declined from the levels registered during the previous two years but remained well above regulatory minimums.** OECIF’ LRI declined during 2023, especially in September when the liquidity indicator reached its lowest level registered since March 2020. These low levels were caused by the reduction in funds available in demand deposits to meet the increase in withdrawals. Nevertheless, the aggregate liquidity remained at suitable levels and well above the regulatory minimum (100%)<sup>41</sup> (Graph 4.29).

Graph 4.29  
LRI of Open-ended Collective Investment Funds



Source: Financial Superintendency of Colombia; calculations by Banco de la República.

40 For more details, see section 2.1.3.1 of the *Financial Stability Report* for the second quarter of 2023, available at: <https://www.banrep.gov.co/es/publicaciones-investigaciones/reporte-estabilidad-financiera/segundo-semester-2023>

41 For more details on the liquidity of the OECIFs, see section 2.1.3.1 of the *Financial Stability Report* for the second quarter of 2023, available at: <https://www.banrep.gov.co/es/publicaciones-investigaciones/reporte-estabilidad-financiera/segundo-semester-2023>

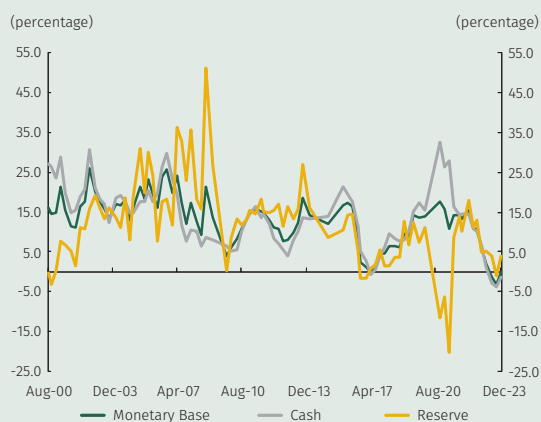
## Shaded section 1: Monetary base and M33

During most of 2023, monetary aggregates continued the downward trend they had been following since 2022 and, in real terms, the lowest growth rates in the last 22 years were reached in the third quarter of 2023 (Graphs S1.1 and S1.4). This occurred in an environment of a more sluggish economy compared to what had been registered in the two previous years and high interest and inflation rates. Note that interest rates and inflation are opportunity costs for those who hold money, especially the most liquid means of payment such as cash and checking and savings accounts. This largely reversed the sharp increase in demand for liquidity seen during the pandemic.

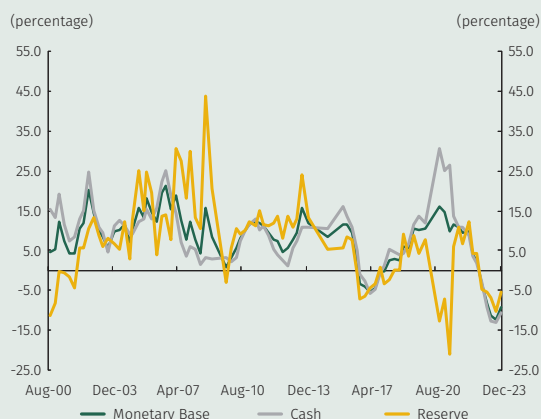
The balance of the monetary base (in nominal terms) stood at COP 154,778 billion (b) at the end of 2023. This was similar to what has been registered a year earlier (an increase of COP 34 b, 0.02%) which resulted from the COP 1,062 b (2.7%) growth in the bank reserve offset by the COP 1,028 b (-0.9%) decrease in cash held by the public. On average, the real annual change was -9.9%<sup>1</sup> and the third quarter saw the largest real annual drop of this century. This was due to both the performance of cash held by the public, the main component of the monetary base,<sup>2</sup> and the trend of the bank reserves (Graph S1.1). In the case of cash, its demand had increased substantially during 2020 and 2021 due to the uncertainty surrounding the pandemic and the measures to control it, but it has been correcting itself since then, a trend that has also occurred in other countries.<sup>3</sup> In the case of the bank reserve, its slowdown mainly reflected the lower growth of deposits and the shift from demand deposits (which are the liabilities with the highest reserve requirement ratio) to term deposits (liabilities with a lower or zero reserve requirement ratio).<sup>4</sup> With this, the monetary base returned to levels relative to GDP that were similar to those seen between 2017 and 2019 (around 9.0%, Graph S1.2) while cash is still slightly above pre-pandemic levels (6.7% vs. 6.1% in 2019, Graph S1.2).

Graph S1.1  
Monetary Base, Cash, and Reserves  
percentage variation

### A. Annual Nominal Changes



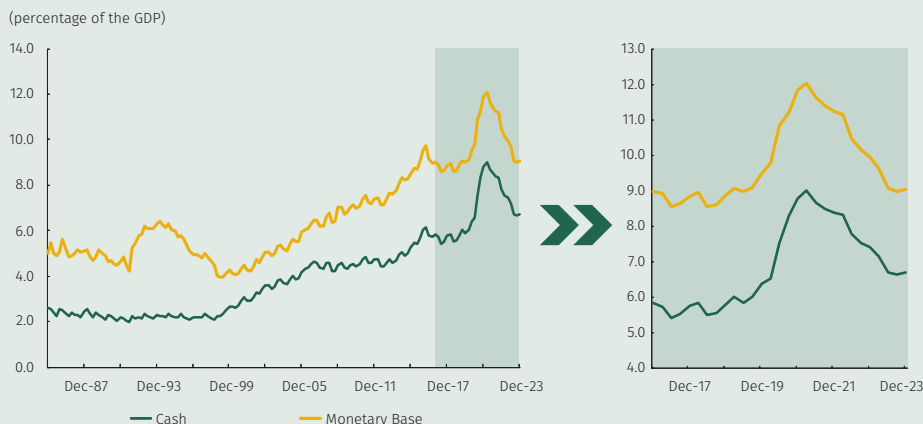
### B. Real Annual Changes<sup>a/</sup>



a/ Deflated using the CPI excluding food.  
Source: Banco de la República.

- 1 Deflated using the CPI excluding food.
- 2 The share of cash held by the public in the monetary base averaged 74% in 2023. Its annual growth in real terms went from an average of 4.5% in 2022 to -10.5% in 2023.
- 3 For example, in Canada, the real annual change in cash went from 8.6% on average during 2020 and 2021 to -2.6% in 2023, in Chile from 40.7% to -24.8%, in Mexico from 12.5% to 2.7%, in Peru from 23.9% to -10.7%, in the United Kingdom from 5.2% to -8.3%, and in the United States from 8.4% to -1.5%.
- 4 The share of demand deposits (the reserve requirement for which is 8.0%) such as checking and savings accounts went from 63.9% on average in 2022 to 54.3% in 2023. Liabilities subject to reserve requirements for terms of eighteen months or less, in turn, which are mainly CDTs and have a reserve requirement ratio of 3.5%, had an average participation of 26.2% (vs. 18.4% in 2022). Finally, those with a maturity of more than eighteen months (with a reserve requirement coefficient of 0%) went from an average of 17.7% in 2022 to 19.5% in 2023.

**Graph S1.2**  
**Monetary Base and Cash as a Percentage of GDP**



Source: *Banco de la República*.

During the year, *Banco de la República* carried out the pertinent operations to guarantee an appropriate supply of primary liquidity in an effort to ensure that the differences between supply and demand of liquidity would not generate significant pressure on the money market.<sup>5</sup> In particular:

- From late February to mid-April, the Bank held auctions of contraction deposits (with a maturity of seven and fourteen days) which, together with the final sales of TES made in March (for COP 1,454 b), offset the sharp expansion generated by the maturity of UVR TES on February 23 and the payments and maturities of short-term TES and coupons in early March (Graph S1.3).
- Subsequently, from May to August, TES purchases were made (COP 10,000 b in total) that supplemented the increased expansion repo operations which were also progressively offered at longer periods, even up to 180 days<sup>6</sup> (Graph S1.3). During this period, government deposits in the Bank rose and, especially since mid-July, they have surpassed COP 35 t (in September they reached historical highs in nominal terms, close to COP 50 t). This situation also coincided with significant maturities of CDs.<sup>7</sup>
- The Bank once again sold TES in the last quarter (for COP 6,000 b) in anticipation of the expansionary effect that the year-end reduction in government deposits would have on the monetary base given that a large part of its payments are concentrated at that time of the year. These sales were supplemented by auctions for contraction deposits (with a maturity of seven- and fourteen-day) as of mid-December (Graph S1.3).

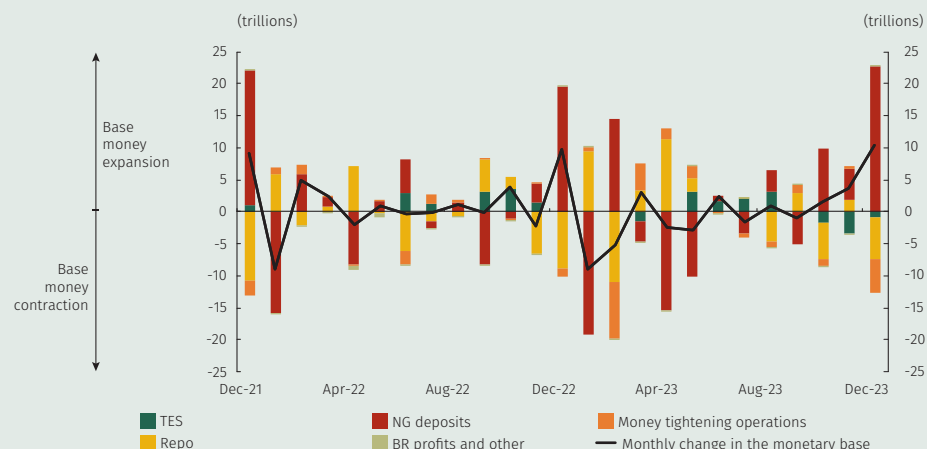
As a result, net purchases of TES during the year totaled COP 2,546 b.

5 On average, the overnight benchmark banking indicator (BBI) was 1.1 bp below the monetary policy rate.

6 Specifically, the 14- and 30-day maturities have been included in the daily repo auctions since May, and, in August, the 90-day maturity was included also. In mid-October the Bank returned to the usual seven-day and overnight periods.

7 See Chapter 4 of this Report.

**Graph S1.3**  
Monthly Change in the Monetary Base by Sources

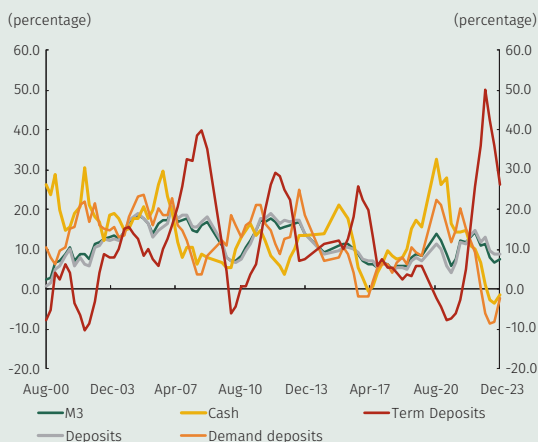


Source: Banco de la República

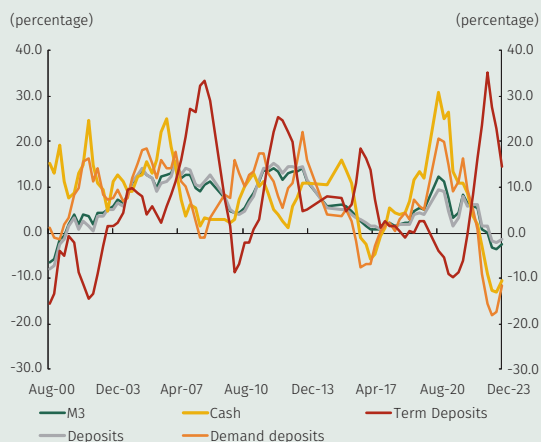
The M3 and deposits at the close of the year<sup>8</sup> in turn, registered an annual change of 7.4% and 8.9% respectively (vs. 11% and 11.7% a year ago). On average, there were declines in real terms (-2% and -0.5% respectively), something that had not occurred since 2001 (Graph S1.4). Note that public sector deposits slowed down more than private sector deposits during the year,<sup>9</sup> especially demand deposits (checking and savings accounts).

**Graph S1.4**  
M3 and its Components (annual percentage change, data as of Friday)

**A. Annual Nominal Changes**



**B. Real Annual Changes<sup>a/</sup>**



a/ Deflated with CPI excluding food base 100 in December 2023.  
Source: Banco de la República.

This slower growth in deposits is mainly attributable to the sharp decrease in the balance of demand deposits, which, like cash, have been declining since 2022. Note

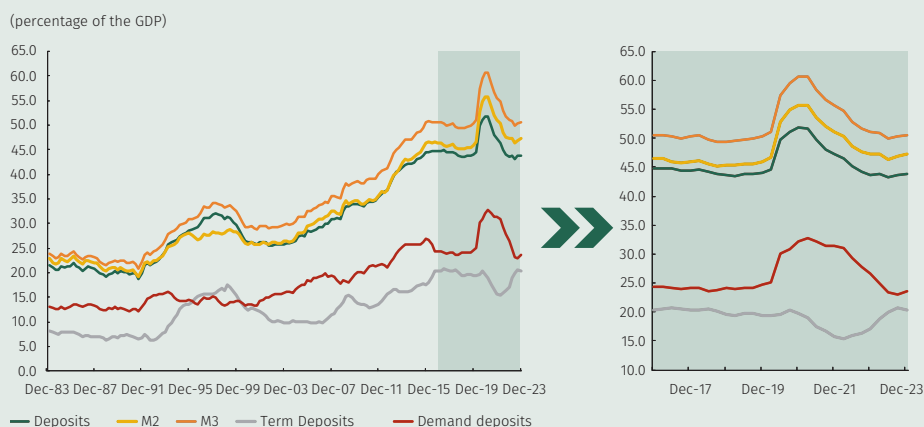
8 Does not include the CDs nor bonds held by Banco de la República.

9 t the time this report was written, sectorized data were available as of November 2023.

that during the pandemic, the preference for liquid assets, including checking and savings accounts, had risen in the environment of high uncertainty that characterized 2020 and 2021 due to which part of the greater sluggishness seen in the last two years can be explained by the reversal of that shock. The reduction in demand for demand deposits was coupled with a slower pace of growth in term deposits. Although CDs maintained annual changes above 20% throughout the year, favored by high interest and inflation rates, these were lower than in 2022, and their balance tended to stabilize in the second half of the year. Regarding bonds issued by credit institutions, their balance continued to fall as had been seen since the previous year due to the low number of issues made by credit institutions.<sup>10</sup>

After the demand for money seen in the last two years that was characterized by a shift from demand deposits to time deposits, particularly CDs, and low growth in the monetary base and M3, especially in 2023, the balances of various monetary aggregates relative to GDP returned, in general, to the levels that had been seen between 2016 and 2019 (Graph S1.5).

**Graph S1.5**  
Deposits and Monetary Aggregates as a percentage of GDP

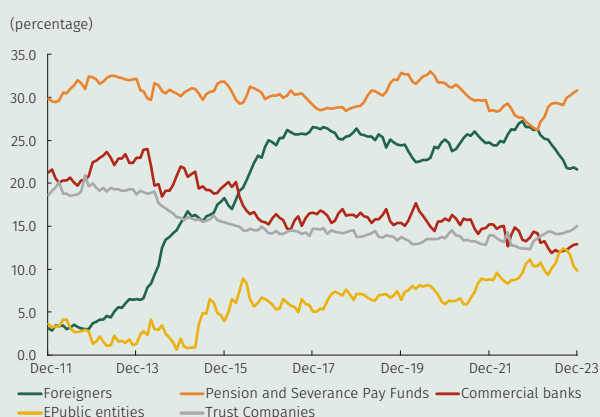


Source: Financial Superintendency of Colombia (form 281), calculations by the *Banco de la República*.

<sup>10</sup> Specifically, in 2023, only Bancolombia issued bonds (COP 600 b) in October, and Serfinanza (COP 25 b) in November. Thus, the amount issued was less than 30% of what was registered in 2022 (COP 2,177 b) and 10% of what was seen in 2021 (COP 6,335 b).

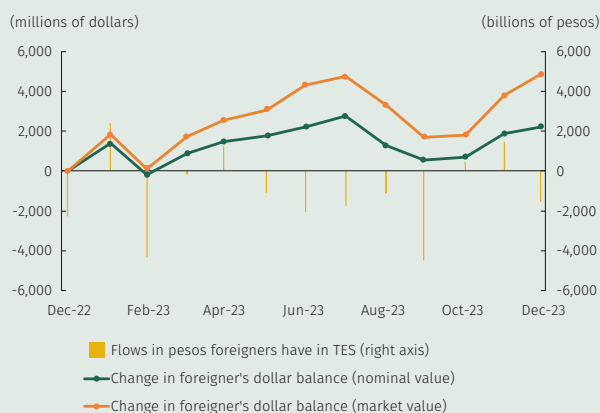
## Box 2 Development of Foreign Investors' Trends in the Local Public Debt Market and the Role of Pension Funds as Stabilizing Agents in this Market during 2023

Graph B2.1  
Participation by Type of Agent in the Total Circulating TES in Pesos and UVR (without Fonpet transfer)



Note: this excludes the transfer of the Fonpet portfolio made by local pension funds and trust companies to the Ministry of the Treasury and Public Credit (public entities) in April 2023. In order to approximate what the change in the portfolio would be if the effect generated by the transfer of the TES to Fonpet is excluded, an exercise was done in which it is assumed that this does not occur and that these balances remained in the local pension funds and in the trust companies. Source: Banco de la República.

Graph B2.2  
Change in the Balance Foreigners Hold in the TES Market Expressed in Dollars<sup>a/</sup> vs. Flows in Pesos Foreigners Have in TES



a/ Corresponds to the difference in the TES balance held by foreign investors in nominal value expressed in dollars as of December 2022 (the nominal value excludes the effect of the appreciation of securities and allows the exchange rate effect to be seen).

Notes: 1) For conversion to dollars, the exchange rate for the day prior to each cutoff is used.

2) This graph seeks to approximate the position of foreign investors in a currency such as the dollar, and shows that, although sales in Colombian pesos have occurred, the dollar position of foreign investors has not been reduced.

Source: Banco de la República.

Foreign investors made significant sales of their holdings of local public debt securities during 2023. Specifically, they sold COP 9.1 t in peso-denominated TES and COP 2.4 t in UVR-denominated TES respectively. This represented a 11.7% decrease in their balance in pesos compared to what was seen at the end of December 2022.<sup>1</sup>

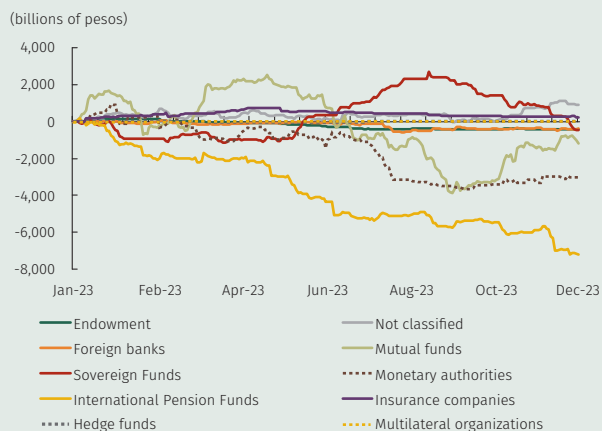
Nevertheless, foreign investors remain the second largest holders of local public debt securities<sup>2</sup> (Graph B2.1). They have been the second largest holders of these securities after pension and severance funds since 2016. They have maintained this position even in stressful events such as the covid-19 pandemic.

According to some of the agents consulted, the sales by foreign investors were due to profit taking and the investment policies of some of these agents, but not to a greater perception of risk towards Colombia (Graph B2.2). In particular, they have highlighted the fact that the profit taking is related to the appreciation accumulated by Colombian securities in 2023. As for the appreciation of the peso vis-a-vis the US dollar so far this year, which increases the value of Colombian assets, this has led some investors who have a stable exposure strategy to sell securities. With respect to this second idea, when the change in the TES balance held by foreign investors expressed in dollars, which is presumably the currency in which most of these agents measure the exposure of their portfolio, is analyzed, this change was even found to be positive during 2023 (Graph B2.2). The perception of Colombia's sovereign risk, in turn, declined more than that of its regional peers did during the same period (see Section 4.2.1).

When the flows are broken down by the maturity of the securities traded, it is clear that foreign agents registered net inflows in long term bonds<sup>3</sup> during 2023. These purchases partially offset their sales in short and medium-term securities and indicate that these agents maintain their appetite for the Colombian market. In addition, this trend could be related to the strong performance of longer-term securities during the year and to the fact that the high levels of interest rates on these securities allowed foreign investors to obtain profitability for a prolonged period of time.

- 1 Foreign investors closed 2023 with a balance of COP 107.5 trillion in peso- and UVR-denominated TES.
- 2 The share of outstanding peso-denominated TES held by foreign investors went from 37.2% to 30.4% while in UVR-denominated TES, it went from 5.7% to 4.7% during 2023. Within the total TES balance, their share went from 26.3% to 21.6%.
- 3 The long tranche of the curve includes those securities with a maturity greater than or equal to five years. The short tranche, those with a maturity of less than two years. The medium tranche, in turn, groups the remaining references.

Graph B2.3  
Cumulative Flows in 2023 by Type of Foreign Investor in the TES Market



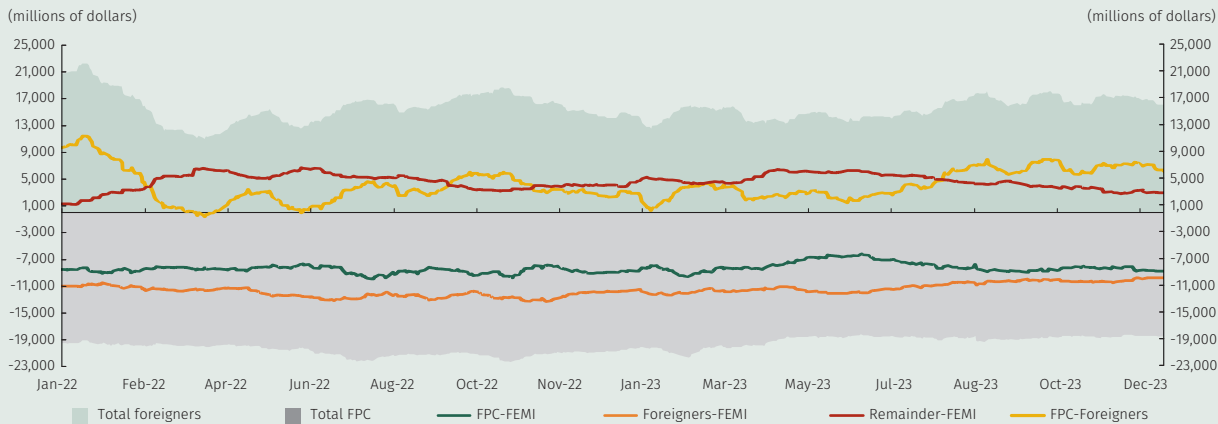
Source: Banco de la República.

Based on the type of foreign investor, there was a shift towards mutual funds and sovereign wealth funds throughout the year as international pension funds and monetary authorities presented an ongoing trend of sales. International pension funds were the main sellers during 2023, with COP7.2 t in sales followed by monetary authorities with net sales of COP3.0 t (Graph B2.3). In contrast, mutual funds accumulated the lowest sales with COP 335 b during 2023, followed by sovereign wealth funds with COP 544 b.

The sales by foreign investors were more than offset by purchases made by the pension and severance funds in the local public debt market. The latter registered record purchases of TES during 2023 (COP 26.4 t) and consolidated their position as the main holders of these securities with a 31% share.

Regarding their participation in the foreign exchange derivatives market, pension and severance funds maintain a net selling balance against foreign investors and market intermediaries (FEMI) in peso-dollar derivative contracts<sup>4</sup> to hedge part of the foreign exchange exposure of their investments abroad. This, in part, has allowed the development of the foreign exchange hedging market.<sup>5</sup> The pension and severance funds reduced their position by USD 2,236 million<sup>6</sup> in 2023 while their share in the amounts agreed on in this market remained stable at around 11% (Graph B2.4).

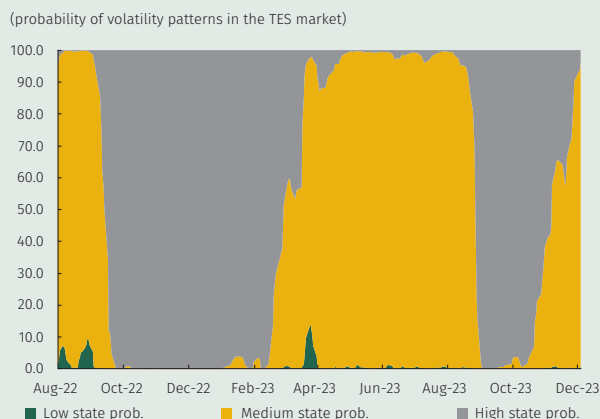
Graph B2.4  
Net Purchase-Sale Balances (purchases-sales) Forwards, and Peso-Dollar Swaps



Note: total foreigners includes net balances of foreigners with FEMI and foreigners with FPC and total FPC includes net balances of FPC with FEMI and FPC with foreigners. Source: Banco de la República. Information updated as of 29 December 2023.

- 4 Derivative contracts in the peso-dollar market are mainly forwards and swaps.
- 5 The average daily amounts traded in the peso-dollar forward market have risen 168% over the last ten years and gone from USD 1,370 million in 2013 to USD 3,672 million in 2023.
- 6 This was lowered USD 220 million against FEMIs and USD 2,016 million against foreigners.

Graph B2.5  
Probability of Volatility States in the TES Market



Source: Banco de la República.

**In addition to the flows of its participants, the volatility of TES rates is a key element in the analysis of this market since it is related to lower liquidity<sup>7</sup> that can lead to higher transaction costs and may discourage agents from trading in the market.** Using methodological approaches, volatility can be characterized as low, medium and high.<sup>8</sup> Thus, it is clear that the TES market would have been more likely to be in a state of medium or high volatility during most of 2023 (Graph B2.5).

**Considering the above, the flows from the different agents may have an impact on the volatility of the TES market.** Thus, Botero and Orozco (2023) find that pension and severance fund purchases appear to be associated with decreases in the volatility of TES yields. Furthermore, the results obtained by these authors indicate that foreign investors' sales are likely to be associated with increases in market volatility when the market is in a state of high volatility.

**In this context, pension and severance funds are considered to have served as stabilizers in the public debt spot market during 2023.** This is due to the fact that they absorbed the magnitude of foreign sales and because of the evidence that suggests that they had an impact on lower volatility in that market.

## Reference

Botero, Oscar y Camilo Orozco. 2023. "Análisis de los flujos de inversionistas extranjeros en la volatilidad del mercado de contado de TES", *Reporte de Mercados Financieros* (technical report), third quarter, Banco de la República..

7 The lower liquidity in the TES market can be measured through higher transaction costs.

8 The methodology used is a Markov chain that makes it possible to identify the moments in time when the volatility of the TES market rates is within certain values. These ranges, called states, correspond to low, medium, and high volatility scenarios. This methodology has the advantage of modeling the TES rates and at the same time identifying whether or not the volatility is within any of the above-mentioned states.

## 05/ Foreign Balance and Foreign Reserves

### 5.1 Change in and Outlook for Colombia's Balance of Payments

**In 2023, the current deficit fell to 2.7% of the GDP compared to the 6.2% for 2022.** The current account registered a deficit of USD 9,715 million (m) in 2023 that corresponded to 2.7% of the GDP and represented a USD 11,652 m decrease with respect to the foreign imbalance registered the previous year (6.2% of the GDP) (Table 5.1). This contraction in the foreign imbalance occurred in an environment characterized by low economic growth, a more sluggish domestic demand, and a reduction in the prices of imported merchandise. This was reflected in the lower remittance of profits abroad by foreign companies and a sharp decrease in imports of products. Furthermore, the value exported in terms of dollars decreased, mainly due to lower sales prices of raw materials, and this partially limited the reduction in the trade deficit.

**All the components of the balance of payments contributed to the correction of the foreign trade imbalance, but the lower deficit of foreign trade in goods was the largest contributor given a significant reduction in the value of imports (Table 5.1).** The trade deficit in goods dropped USD 5,310 m compared to a year ago and was generated by a smaller decrease in the value of exports (USD 6,968 m) compared to the value of imports (USD 12,278 m). On one hand, lower coal and crude oil prices explain the decline in exports. On the other, the decrease in gross capital formation (-24.8%), particularly in machinery and equipment, contributed to the lower purchases of goods abroad. The deficit in the services trade balance decreased (USD 3,058 m) as a result of lower outflows from imports of cargo transportation services and an increase in exports of travel services due to the greater number of international travelers entering the country.

**Net factor income outflows decreased (USD 2,682 m) in spite of the increase in interest payments on foreign loans, thus contributing to the lower foreign imbalance (Table 5.1).** This result was mainly associated with the downturn in the profits of companies that have foreign direct investment (FDI) (USD 3,894 m). The slowdown in the country's economic activity and the lower price of crude oil and coal resulted in these companies' lower performance and, therefore, a lower value of profits remitted abroad with a notable decrease in this item in companies operating in oil and mining activities, financial and business services, and trade, restaurants, and hotels. The above was partially offset by the increase in interest payments on foreign loans (USD 2,689 m), and this was due to increases in international interest rates, and, to a lesser extent, higher foreign debt balances.

**The increase in current net transfer revenue also contributed to the reduction in the current deficit.** This increase (USD 602 m) is mainly due to higher workers' remittances (USD 662 m) sent from the United States and Spain in an environment of decreasing unemployment in these countries and an increase in the migratory flow of Colombians to other countries. Revenue from workers' remittances amounted to USD 10,091 m in 2023 with an annual increase of 7.0%. This income is equivalent to 2.8% of the annual GDP and 11.1% of the current income from the balance of payments.

Table 5.1  
Colombia's Balance of Payments

Current Account (millions of dollars)	2022 (p)	2023 (p)	Change (millions of dollars)
Current Account (A + B + C)	-21,367	-9,715	11,652
<b>Percentage of the GDP</b>	<b>-6.2%</b>	<b>-2.7%</b>	
<b>A. Goods and Services</b>	<b>-16,588</b>	<b>-8,220</b>	<b>8,368</b>
1. Goods	-12,178	-6,867	5,310
Exports FOB	59,474	52,506	-6,968
Imports FOB	71,652	59,373	-12,278
2. Services	-4,411	-1,353	3,058
Exports	13,586	15,256	1,670
Imports	17,997	16,609	-1,388
<b>B. Factor Income</b>	<b>-17,087</b>	<b>-14,405</b>	<b>2,682</b>
Income	6,974	8,813	1,839
Outlays	24,061	23,218	-844
<b>C. Current Transfers</b>	<b>12,308</b>	<b>12,910</b>	<b>602</b>
Income	13,681	14,380	698
Outlays	1,373	1,470	97
Financial Account Annual flows (millions of dollars)	2022 (p)	2023 (p)	Change (millions of dollars)
Financial account with change in foreign reserves (A + B + C + D)	-20,466	-8,880	11,587
<b>Percentage of the GDP</b>	<b>-5.9%</b>	<b>-2.4%</b>	
<b>A. Direct Investment (ii - i)</b>	<b>-13,799</b>	<b>-16,235</b>	<b>-2,436</b>
i. Foreign in Colombia (FDI)	17,183	17,446	264
<b>Percentage of the GDP (FDI)</b>	<b>5,0%</b>	<b>4,8%</b>	
ii. Colombian abroad	3,383	1,211	-2,172
<b>B. Portfolio Investment (1+2)</b>	<b>427</b>	<b>8,657</b>	<b>8,230</b>
1. Public Sector (ii - i)	-4,183	-671	3,512
i. Foreign Portfolio Investment (a + b)	4,852	2,117	
a. international markets (bonds)	542	4,371	
b. Local Market (TES)	4,311	-2,253	
ii. Portfolio Investment Abroad	670	1,446	
2. Private Sector (ii - i)	4,610	9,328	4,718
i. Foreign Portfolio Investment (a + b)	-1,973	-1,000	
a. international markets (bonds)	-1,422	-1,020	
b. Local markets	-551	20	
ii. Portfolio Investment Abroad	2,637	8,327	
<b>C. Other Capital Flows public sector + private sector</b>	<b>-7,665</b>	<b>-3,020</b>	<b>4,645</b>
<b>D. Reserve Assets</b>	<b>571</b>	<b>1,718</b>	<b>1,147</b>
Errors and Omissions (E and O)	901	836	-65
Memo items			
Financial account excluding change in foreign reserves	-21,037	-10,598	10,439
Change in International Reserve	571	1,718	

(p): provisional  
(pr): preliminary  
Source: Banco de la República.

**FDI became the main source of financing from abroad during 2023.** During this period, the financial account registered USD 8,880 m in net capital inflows (2.4% of the GDP) which were lower than those seen a year ago when they totaled USD 20,466 m (5.9% of the GDP) (Table 5.1). Funds received through FDI (USD 17,446 m), net disbursements from foreign loans and other capital flows (USD 3,020 m), and income from portfolio investment (USD 8,657 m) are noteworthy. In 2023, USD 17,446 m was received through FDI (4.8% of the GDP), an amount that is USD 264 m (1.5%) higher than what had been received the year before. This FDI influence was seen in the majority of economic areas, especially mining and quarrying and manufacturing.

**The foreign deficit was also financed in 2023 by net proceeds from foreign loans (USD 4,389 m).** These resources are broken down into USD 2,216 m in net disbursements received by the private sector and USD 2,173 m by the public sector. During that period, USD 1,117 m in foreign portfolio investments, in turn, was received as a result of placements in long-term debt securities in international markets (USD 3,350 m) and partially offset by net sales of fixed income securities in the local market by non-residents (USD 2,234 m). Note also that capital outflows to constitute financial assets abroad were estimated at USD 13,718 m, corresponding to portfolio investments abroad (USD 9,774 m) and other assets (USD 3,944 m). These transactions were mainly carried out by entities in the financial and real sectors.

**The technical staff at *Banco de la República* projects a current account deficit of close to 3.0% of the GDP for 2024 in an environment of low economic growth and a moderate recovery of domestic demand.** The annual increase in the deficit for this year compared to what was registered in 2023 could be explained by the higher trade imbalance in goods. Specifically, lower export income is expected due to the probable continued decline in international prices of exported raw materials.<sup>1</sup> However, lower deficits in the services and factor income accounts as well as a high surplus in current transfers are expected. This is likely to limit a further widening of the foreign imbalance. With respect to the smaller deficit in services, the favorable performance of tourism exports is expected to persist this year. In terms of factor income, revenue will probably increase due to higher yields on foreign reserves, and outflows could decrease due to lower profits remitted abroad (particularly from companies with FDI in the mining-energy sector). Thus, both factors would offset the higher interest payments on the foreign debt. Finally, current transfers are likely to remain at high levels driven mainly by higher income from workers' remittances.

**The country is expected to maintain access to foreign financing in 2024 in a context of international interest rates that will probably remain high during the first half of the year and a Colombian risk premium that is above its historical average.** FDI is expected to continue to be the main source of financing this year although FDI flows will probably be lower than those obtained in 2023 in line with moderate economic growth and lower international coal and crude oil prices. Furthermore, both the public and private sectors are expected to register capital inflows that will probably contribute to the financing of the foreign deficit. Last of all, based on the technical staff's projections, in turn, foreign financing costs are likely to remain high in 2024 to the degree that international interest rates are relatively high during the first half of the year and the local risk premium stands above its historical averages.

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<sup>1</sup> In addition, the trade deficit in goods will probably also widen because there will be no repetition of the one-off aircraft re-export operations that occurred in 2023.

## 5.2 Foreign Reserves

**In compliance with Act 31/1992, Banco de la República manages the foreign reserves in accordance with the public interest, to the benefit of the national economy, and to facilitate the country's payments abroad. Consequently, the law requires that the investment of reserve assets shall be subject to the criteria of security, liquidity, and profitability.** The security criterion under which the foreign reserves are managed in Colombia implies proper control of the risks to which the investments are exposed. In order to manage them within the acceptable parameters and levels, the Foreign Reserves Committee of *Banco de la República*<sup>2</sup> defines strict limits on the exposure of the reserves to each of the different risks they face. In order to comply with the liquidity criterion, the Bank invests the foreign reserves in financial assets that are easy to liquidate in the event that it is necessary or in assets that will mature within a few months and defines investment tranches according to the liquidity and profitability objectives. Once the criteria to ensure that the foreign reserves portfolio is invested at a low risk are defined, the management policy seeks to achieve a suitable return since this criterion is part of the mandate given to *Banco de la República* by law. An explanation of the policies that guide the reserves' investment and some relevant definitions are provided in the appendix.

**The main purpose of the foreign reserves is to protect the country from external shocks that may affect both trade and financial flows and, depending on their magnitude, may jeopardize the macroeconomic stability.** Trade flows may be affected, for example, by a drastic reduction in exports or an unusual increase in imports that tightens the foreign liquidity situation. Financial flows, in turn, may be affected by difficulties in accessing external financing such as less access to international loans, or higher capital outflows from both foreign investors and residents. A country's foreign reserves are also a determining factor in the perceived ability of domestic borrowers to pay insofar as credit rating agencies and foreign lenders believe that a suitable level of reserves would allow residents to meet their obligations in foreign currency, such as paying for imports and servicing the foreign debt at a time when the country faces difficulty in accessing external financing. Thus, an appropriate level of reserves contributes to improving the risk perception of the country and its residents, and this enables the government and private sector to get access to international capital markets.

***Banco de la República* holds foreign liquidity buffers in amounts it considers sufficient to meet the aforementioned objective.** To this extent, *Banco de la República* recognizes the importance of having an appropriate level of liquidity in foreign currency to prevent and face foreign shocks is recognized and different international metrics are taken into account. For example, it is desirable for the level of foreign liquidity managed by *Banco de la República* to be greater than the sum of the current account deficit and the projected foreign debt payments.

**As of December 31, 2023, the net foreign reserves<sup>3</sup> totaled USD 59,608.3 million (m) which corresponds to an increase of USD 2,339 million (m) in 2023. The main factor that explains this increase corresponds to the positive profitability obtained**

2 The Foreign Reserves Committee is composed of the Minister of the Treasury and Public Credit or his delegate, the full-time members of the Board of Directors and the Governor.

3 The net foreign reserves are equal to the total foreign reserves, or gross reserves, minus *Banco de la República's* short-term foreign liabilities. The latter consist of demand obligations to non-resident agents in foreign currency. The gross foreign reserves amounted to USD 59,639 m and the short-term foreign liabilities added up to USD 31 m.

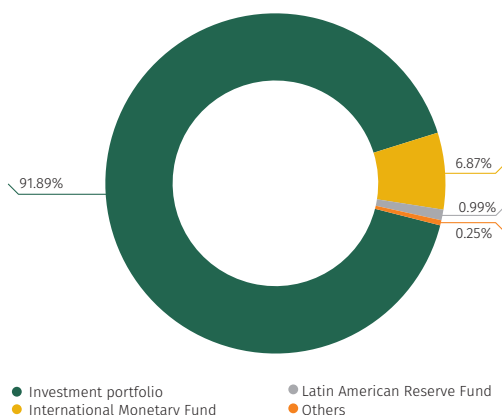
**during the year as a result of higher interests received on investments.** The return on the foreign reserves during 2023 excluding the foreign exchange component was 4.03% (USD 2,355 m). This performance is mainly due to the higher interest rates that have had a positive impact on the profitability of the foreign reserves through the higher interest received on the investments. There was, in turn, an increase in the investments' prices during the last months of the year due to the reduction of short and medium-term interest rates in the main markets in which the foreign reserves are invested. This appreciation effect occurs because there is an inverse relationship between bond prices and interest rates, i.e., the price of bonds rises as interest rates decrease.

**The main component of the foreign reserves is the investment portfolio.** This corresponds to investments in financial instruments on international markets and to certified physical gold (91.37% and 0.52% of the reserves, respectively). The breakdown of the foreign reserves as of 31 December 2023 is presented in Graph 5.1.

#### 5.2.1 Reserves Indicators<sup>4</sup>

**The indicators that evaluate the level of the foreign reserves, including those of the International Monetary Fund (IMF), suggest that their level is adequate.** An indicator that is widely used internationally to measure the adequate level of foreign reserves is the Assessing Reserve Adequacy (ARA) methodology. This metric is proposed by the IMF and stipulates that reserves must cover the main risks of the balance of payments during periods of pressure on the foreign exchange market. According to the IMF, this indicator seeks to cover risks associated with a loss of access to external financing, a loss of confidence in the local currency, a reversal of capital flows, and a possible collapse of foreign demand.<sup>5</sup> It is considered that an economy maintains adequate levels of reserves if the ratio of the reserves to an indicator that is called ARA is between 1.0 and 1.5. Based on figures as of December 2023, the ratio of reserves to the IMF ARA calculated for Colombia stood at 1.25. Among other indicators used to evaluate the level of sufficiency of the foreign reserves are the ratios of foreign reserves to imports, to monetary aggregates, to the sum of short-term foreign debt and current account deficit. In the case of Colombia, all these indicators suggest that the level of reserves was at adequate levels as of December 2023.

Graph 5.1  
Breakdown of the Foreign Reserves  
(Information as of December 31, 2023)



Note: gold is included in the investment portfolio (see section 3.1 of the Board of Directors' March 2021 Report to Congress). The item *others* includes international agreements, cash on hand, and demand deposits.  
Source: Banco de la República.

4 More information on the foreign reserves can be found in the 2023 Foreign Reserves Management report, published on the Bank's website at the following link: <https://www.banrep.gov.co/es/publicaciones-investigaciones/informe-reservas-internacionales/2023>

5 IMF (2015). "Assessing Reserve Adequacy: Specific Proposals."

Even though the level of foreign reserves has risen in line with higher yields, higher debt repayments and high levels of financing needs are also expected. This is reflected in the reduction of some metrics of the level of sufficiency of the foreign reserves. Since foreign reserves are mainly invested in bonds of developed countries that currently have historically high interest rates, they showed a positive return over the course of 2023. Some components of the ARA, including projected short-term debt payments and monetary aggregates (M3), in turn, increased during the year. Because these components increased more than the foreign reserves, the ARA ratio decreased from 1.29 to 1.25 between December 2022 and 2023.

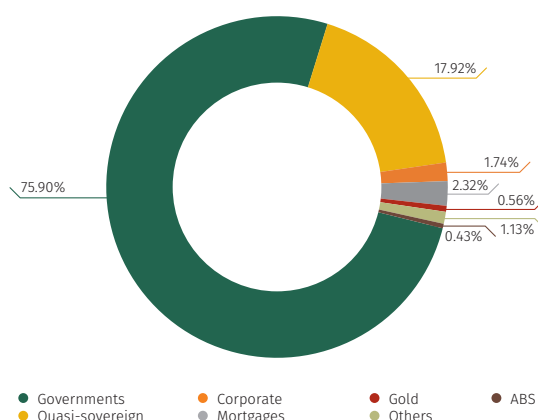
A reduction in the amount of the flexible credit line (FCL) with the IMF is foreseen, and it was considered relevant to reinforce Colombia's foreign liquidity in a macroeconomic and financial environment that remains uncertain both abroad and domestically. In January 2024, it was decided to initiate a program to accumulate foreign reserves of up to USD 1.5 billion. This program seeks to maintain adequate levels of reserves on the expected reduction in the amount of access to the IMF's FCL in 2024, in line with the commitment to continue reducing access to this facility. Consequently, it was considered appropriate to strengthen the foreign liquidity buffers in order to contribute to the country's stability and ability to respond to possible foreign and domestic shocks, and to facilitate the economy's financing capacity in international markets. Other aspects of the reserves accumulation program are developed in Shaded section 2: *Considerations Regarding the Accumulation of Foreign Reserves*.

### 5.2.2 Breakdown of the Investment Portfolio<sup>6</sup>

As of December 2023, the investment portfolio was mainly composed of securities issued by governments and government-related entities. Graph 5.2 shows the breakdown of the investment portfolio as of December 2023, when about 93.82% was invested in securities issued by these entities.

The breakdown of the portfolio by rating is evidence of the high credit quality of the assets the portfolio is invested in. Graph 5.3 shows that 27.45% of the portfolio was invested in instruments rated AAA and 70.09% in AA. The Bank uses the lowest investment grade rating granted by at least two of the three main rating agencies (S&P, Moody's, and Fitch Ratings) as a benchmark. In addition to credit ratings, the Bank incorporates the monitoring of environmental, social, and governance risk factors (ESG) into its foreign reserves risk management process.

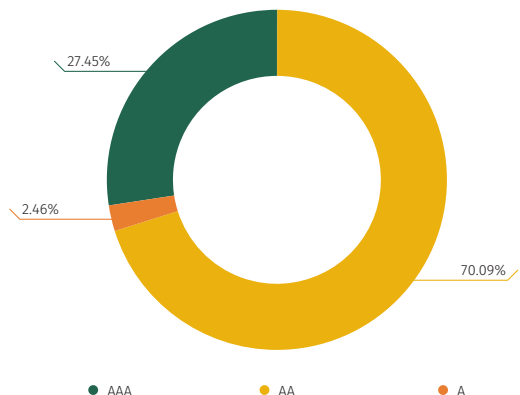
Graph 5.2  
Breakdown of Investment Portfolio by Sector  
(information as of December 31, 2023)



Source: Banco de la República.

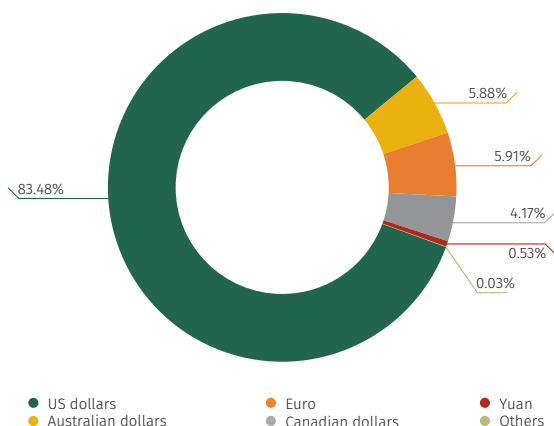
<sup>6</sup> The graphs of the breakdown of the portfolio by currency and credit rating were calculated based on the amount in the investment portfolio excluding the gold.

Graph 5.3  
Distribution of Investments by Credit Rating  
(information as of December 31, 2023)



Source: Banco de la República.

Graph 5.4  
Foreign Exchange Breakdown of the Investment Portfolio  
(Information as of December 31, 2023)



Source: Banco de la República.

Graph 5.5  
Duration of the Investment Portfolio



Source: Banco de la República.

**The investment portfolio is comprised of currencies that are characterized by their high daily trading volumes and the fact that they belong to countries with high credit ratings, with the United States dollar being the currency with the highest share.** Graph 5.4 shows the currency composition of the investment portfolio as of December 31, 2023. Considering that one of the objectives of the foreign reserves is to be able to meet the country's foreign payments in times when external financing sources are reduced, the currency breakdown of Colombia's foreign reserves seeks to replicate the behavior of the country's balance of payments outflows. Thus, the reserves attempt to cover the volatility of the country's payments abroad that is derived from exchange rate movements. The largest share of Colombia's foreign reserves is in US dollars since the majority of the country's commercial and financial transactions with the rest of the world are carried out in this currency. Investments in the following currencies are also permitted: Canadian, Australian and New Zealand dollars; Swedish krona, pound sterling, Swiss franc, euros, yuan, yen, Norwegian krone, renminbi, Hong Kong and Singapore dollars, and Korean won.

**Banco de la República gradually increased the duration of the investment portfolio during 2023,<sup>7</sup> which allowed to have a portfolio with a higher level of expected return per unit of risk assumed.** The evolution of the duration of the investment portfolio can be seen in Graph 5.5. As of December 31, 2023, the investment portfolio had a duration of 2.46 which means that the value of the portfolio could increase 2.46% in the event of a 1.0% reduction in the rates of all the bonds in the portfolio.

### 5.2.3 Profitability of the Reserves

**The profitability of the reserves depends primarily on two factors: interest and capital appreciation.** The former corresponds to the interests received from the instruments invested in, and the capital appreciation factor, to the change in the prices of the securities due to movements in the interest rate. This second factor occurs because there is an inverse relationship between bond prices and interest rates, i.e., the price of bonds declines as interest rates increase, and vice versa.

**As of December 31, 2023, the foreign reserves had a positive return, mainly due to the interest received on the investments of the investment portfolio (interest factor).** The

<sup>7</sup> Duration is a risk measurement defined as the percentage decrease (increase) in the value of the portfolio with respect to a 1% increase (decrease) in all of the interest rates.

foreign reserves presented a 4.03% profitability<sup>8</sup> during 2023. The increases in benchmark rates by central banks in response to the rise in inflation levels above the targets defined in several countries, made it possible to have interest rates in the relevant markets for the foreign reserves at high levels in 2023 compared to those observed in recent years. Furthermore, to the extent that global inflation levels began to fall, interest rates on sovereign debt securities declined in the last few months of the year and generated investment appreciation (capital appreciation factor).

**The outlook for the return on foreign reserves is favorable for 2024. With interest rates in international markets at relatively high levels compared to those seen in the last few years, the reserves investments are expected to continue to generate high interests (interest factor) over the course of the year. Furthermore, to the extent that global inflation levels continue to decline, interest rates on sovereign debt securities would tend to fall and thus generate investment appreciation.** The outlook for the profitability of the foreign reserves is favorable given the higher level of interest that the portfolio's assets are receiving. Moreover, it is possible that interest rate cuts occur over the course of the year considering that the monetary authorities have shown signs of having finalized the hiking cycle of their monetary policy rates and are projecting interest rate reductions for the year 2024. In the medium term, the interest rates on sovereign debt securities will be lowered, which would generate appreciation of investments and lower interest accrual.

#### 5.2.4 Measures to Reinforce International Liquidity

**Currently, the country has USD 9,800 million in FCL from the IMF, which is equivalent to 350% of Colombia's quota in the organization.** This instrument supplements the country's sources of external financing, constitutes insurance against foreign risks, preserves agents' confidence in the Colombian economy at the same time that it facilitates the country's access to international financial markets under favorable conditions. The risks associated with a high level of uncertainty due to geopolitical factors underscore the importance of maintaining sufficient levels of foreign liquidity.

**The FCL is a credit line designed to provide early and flexible financing to member countries with very strong macroeconomic policy frameworks and a favorable performance record.** In particular, member countries with a highly credible inflation targeting system, a flexible exchange rate, the existence of a fiscal policy framework anchored on public debt sustainability, and the presence of effective financial supervision and regulation.<sup>9</sup>

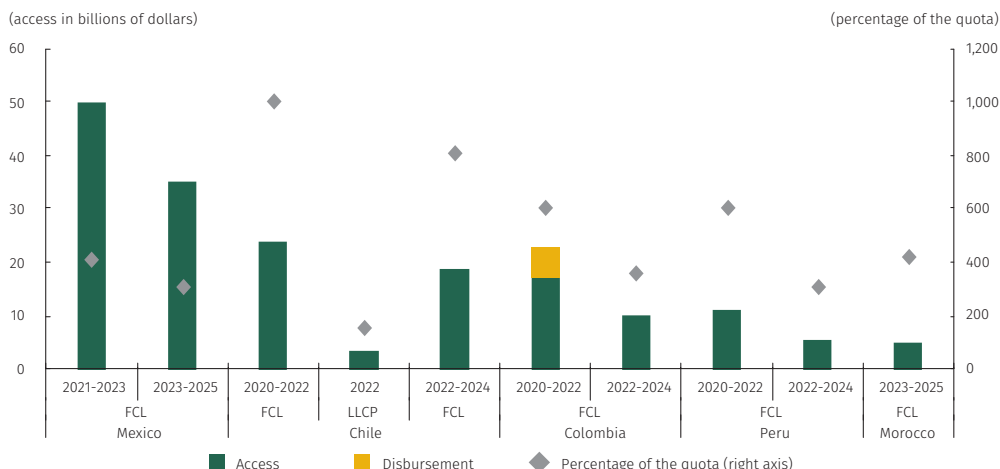
**The access to this instrument constitutes a source of foreign liquidity that supplements the foreign reserves.** Colombia has benefited from consecutive

8 This profitability is obtained by dividing the observed return by the average value of the net reserves on 31 December 2022 and on 31 December 2023. Since 2015, the impact of the exchange rate effect on the profitability of the reserves has been excluded.

9 These criteria are explicitly: 1) a sustainable external position; 2) a capital account in which private flows predominate; 3) a history of access to the international capital markets under favorable terms; 4) a relatively large level of reserves when requesting FCL for precautionary reasons; 5) sound public finances (including sustainable public debt conditions); 6) low and stable inflation in a context of a sound monetary and exchange rate policy framework; 7) a sound financial system and the absence of bank solvency issues that pose a systemic threat to the stability of the banking system; 8) effective oversight of the financial sector; and 9) integrity and transparency of information.

agreements that had been maintained since 2009 due to the country's sound macroeconomic policy framework which has allowed it to meet the above-mentioned required access criteria. Currently, five countries have FCL agreements in effect: Mexico, Colombia, Peru, Chile, and recently, Morocco<sup>10</sup> (Graph 5.6).

Graph 5.6  
Recent FCL Agreements



Sources: FMI and Banco de la República.

**Given that the term of the current agreement expires this year, the renewal process for the LCF will take place in April at the Fund's Board of Directors meeting.** The Colombian authorities think that keeping access to this credit line is important because of the positive message it sends on macroeconomic management to the markets and because it supplements the foreign liquidity position that the foreign reserves provide.

**In line with the process of gradually phasing out this instrument given its temporary nature, it is expected that access below the current level will be requested, provided that the trend in foreign risks allows it.** Two years after the most recent renewal of the agreement, the necessary macroeconomic adjustments have been made, external shocks have been easing, and international financial conditions have improved in an environment of falling global inflation and a slower-than-projected slowdown in the world's economy. Nevertheless, the outlook, especially abroad, continues to be surrounded by a high level of uncertainty and there are upside risks, the most relevant of which are greater geopolitical tensions, the fragmentation of international trade, and the possible increase in the cost of foreign financing. Therefore, it is desirable for the country to have the FCL as a complement to the foreign position, which is mainly made up of foreign reserves.

**Banco de la República also has access to the Federal Reserve's repo facility (FIMA), which is an instrument that facilitates access to immediate liquidity in case it is required under extreme circumstances.** In these transactions, FIMA account holders (central banks and other international monetary authorities with accounts at the Federal Reserve Bank of New York) exchange their US Treasury bonds held in custody at the Fed for US dollars with the commitment to repurchase the securities the next day and pay the interest. The primary benefit that access to the FIMA repo facility has for *Banco de la República* is to have liquidity in US dollars without

<sup>10</sup> In April 2023, the IMF Executive Board approved Morocco's request for access to a two-year FCL arrangement for an amount equivalent to USD 5,000 million.

having to sell the assets of the foreign reserves portfolios permanently, which mitigates liquidity and market risk. *Banco de la República* is likely to make use of this repo facility only in the event that, having decided to sell dollars on the spot market, the market for making transactions with Treasury bonds turns out to have very illiquid.

**Lastly, *Banco de la República* has had access to liquidity facilities from the Bank for International Settlements (BIS) to supplement the availability of foreign liquidity for the foreign reserves.** With these facilities, the investments held by central banks with this institution serve as collateral for the provision of liquidity from the BIS. In this respect, *Banco de la República* could have contingent and immediate liquidity without having to sell the assets of the foreign reserve portfolios invested in BIS instruments. This could be useful, especially in extreme circumstances of low liquidity in global fixed income markets or periods of high-risk aversion. Specifically, the BIS provided *Banco de la República* with two uncommitted liquidity facilities<sup>11</sup> in 2023 for a total amount of USD 1,000 million to be used only as an exception in the event of extreme market conditions. In this respect, *Banco de la República* considers these facilities to be precautionary lines that supplement the availability of foreign liquidity for the foreign reserves.

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11 This entity reserves the right to approve or deny requests to get access to the instrument and to make disbursements under it. The BIS studies each central bank's request for access to the line and with respect to the possibility that a disbursement may be requested.

## Shaded section 2: Considerations Regarding the Accumulation of Foreign Reserves

In order to maintain appropriate levels of foreign liquidity and prepare for a gradual reduction in the amount of access to the flexible credit line (FCL) that Colombia has with the International Monetary Fund (IMF), as announced in the last renewal of the instrument, and considering the uncertainty that persists about the global environment, the Board of Directors of *Banco de la República* (BDBR) decided to initiate a program for the gradual accumulation of foreign reserves of up to USD 1,500 million (m) in December 2023. The mechanism considered for this accumulation is that of put options<sup>1</sup> with a monthly quota of up to USD 200 m.

This put option mechanism for *Banco de la República's* (Banrep) accumulation of foreign reserves may be exercised only when the representative market rate (MER) is below its average for the last twenty working days. In the past, this same mechanism has been used for similar purposes. To clarify, the program does not pursue any exchange rate objective and does not seek to alter the level or volatility of this variable. Furthermore, it does not interfere with the monetary policy stance insofar as Banrep uses the instruments required to ensure that the short-term interest rate for the economy is consistent with the benchmark interest rate set by the BDBR.

This shaded area addresses some of the considerations that show the advisability of the decision to accumulate foreign reserves and provides insights for a better understanding of its scope.

### 1. Advisability of accumulating reserves in the current situation

**The different metrics indicate that Colombia currently has an appropriate level of foreign reserves.** The reserve ratio based on the ARA metric proposed by the IMF<sup>2</sup> stood at a level of 1.25 in December 2023 compared to a recommended range of 1 to 1.5. In line with the reduction in the amount of access to FCL, the ratio of foreign reserves plus future FCL will fall in the coming months based on ARA metrics (Graph S2.1). Furthermore, this metric, which takes the level of reserves compared to the economy's payments and debt repayments as a benchmark, has declined in recent months, mainly because the trend of high yields on foreign reserves has not been able to compensate for the presence of higher repayments and foreign financing needs.

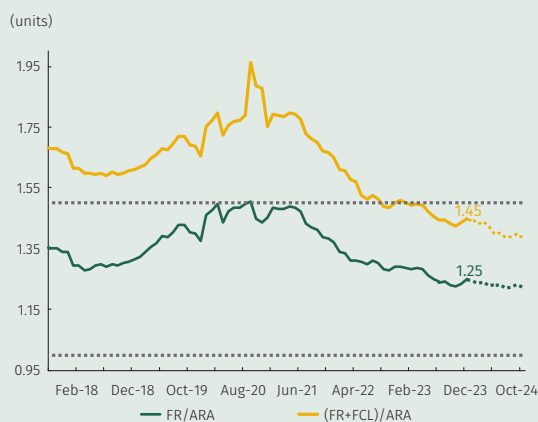
**With regard to the foreign context, the current global economic environment is characterized by high uncertainty and high levels of inflation.** In spite of a decline in global inflation since the beginning of 2023, this variable still remains above the

1 Put options allow their buyer the option (but not the obligation) to sell an asset at a future date at a previously agreed upon price. These financial instruments may also incorporate a condition that determines under what scenarios the option acquired may be used. In this case, the purchaser may sell U.S. dollars to Banrep in accordance with the MER of any day in the month when the options were auctioned if the condition that the MER is below the twenty-day moving average is met and for up to the amount indicated in the auction.

2 The ARA metric for Colombia is calculated:  $ARA \text{ metric} = 5.0\% \times \text{exports} + 5.0\% \times \text{Broad Money} + 30\% \times \text{Short-term Debt} + 15\% \times \text{other liabilities}$ .

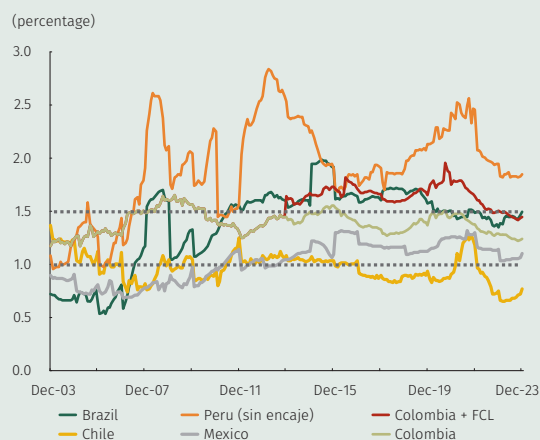
Graph S2.1  
Foreign Reserves/ARA Ratio

A. Foreign reserves/ARA for Colombia Ratio



Note: The dotted bands at 1 and 1.5 indicate the IMF recommended range for this metric.  
Source: BanRep (DII, UAI) Actual Inflation updated as of December 2023, whereas the ARA projection corresponds to what was calculated using information as of October 2023. The dotted lines include projections regarding the reserves in the absence of intervention and, for the FCL, assumptions on the potential reduction in the amount of access are incorporated

B. Foreign reserves/ARA international comparison ratio



Note: Peru's foreign reserves data exclude reserve requirements. The reserve information for the "Chile CF" line includes the sovereign wealth funds and the "Colombia+FCL" line includes the IMF flexible credit line.  
Source: BanRep (DII) Information updated as of October 2023.

targets set by the central banks of the main developed economies and has led most of these monetary authorities to maintain contractionary policies for a longer period of time than initially projected.

**Even though the prospect of a “hard landing” of the world economy or problems in the financial system of advanced economies has receded, some risks persist.** Fiscal risks in the United States emerged in the wake of debt ceiling discussions, heightened geopolitical tensions, and the high volatility seen in commodity prices in an environment in which debt levels and financing needs in many countries remain elevated.

**With respect to the local exchange market, the Colombian peso performed better than its peers in the region and other emerging countries during 2023 and corrected a large part of the depreciation seen during 2022. Moreover, exchange market liquidity indicators have shown a trend similar to what has been seen since the beginning of 2022 with no serious disturbances in the market** (see section 4.2). Consequently, a sustained trend of peso depreciation that reflects an adverse context for the purchase of foreign reserves in the market was not identified.

**Taking the aforementioned factors into account, it was thought that a higher level of foreign reserves could increase the economy’s ability to cope with the risks and challenges that may arise in an uncertain global economic environment.** In this scenario of persistent uncertainty, having an appropriate foreign liquidity buffer contributes to the country’s stability and capacity to respond to possible foreign and domestic shocks and facilitates the economy’s financing ability in the international markets.

## 2. Considerations on the magnitude of the amount of foreign reserves to be accumulated and the instrument employed

**The decision was made to initiate a program to accumulate up to USD 1.5 billion (b) in foreign reserves considering the expected decrease in the FCL<sup>3</sup> in 2024 and the scenario of rising external risks.** It was determined that the target amount should cover the reduction in the FCL and keep reserves at appropriate levels in view of a challenging foreign environment.

**Banrep is aware of the benefits of exchange rate flexibility as a mechanism for absorbing foreign and domestic shocks, and therefore seeks to ensure that an accumulation program does not affect either the level or the volatility of the exchange rate.** In this respect, the decision was made to accumulate reserves at relatively small monthly amounts compared to the size of the foreign exchange market. A value of up to USD 200 m per month compared to an average daily traded value of USD 1,500 m means that the demand for options and its exercise have a limited impact on the foreign exchange market.

**Put option auctions are held monthly and participants pay a premium that is fixed each month through a uniform price auction mechanism.**<sup>4</sup> The auction premium is determined by the agents' bids and will depend on the market's expectations regarding the trend of the exchange rate. There was a demand for USD 911 m in January and USD 997 m in February which suggests a high level of market interest.

**Experience with the chosen instrument shows that it facilitates the accumulation of reserves in line with the changing market conditions in periods when there is no significant upward pressure on the exchange rate.**<sup>5</sup> Specifically, the condition for the exercise of these instruments is triggered when the exchange rate is below its twenty-day moving average. The entities, in turn, have the power to exercise the options at the time when the conditions for their exercise are met.

## 3. Final Considerations

**The accumulation of foreign reserves contributes to strengthening the country's foreign liquidity buffers.** Although, in view of some metrics, the current levels of foreign reserves are appropriate, a reduction in the amount of the FCL with the IMF is expected. It is therefore considered relevant to reinforce Colombia's foreign liquidity in a macroeconomic and financial environment that remains uncertain both abroad and domestically. This reinforces the positive perception of the country's macroeconomic soundness and facilitates access to foreign financing.

3 This renewable credit line with the IMF is a tool for addressing situations of high current or potential pressures on the balance of payments without imposing conditions on the country's macroeconomic policies and thus supplementing the foreign reserves managed by Banrep (with respect to this, see section 5.2.4).

4 In a uniform price auction, a fixed number of a homogeneous commodity is sold for the same price. In Banrep's auctions each participant may submit one or more bids and designate the amount requested and the price or rate he/she is willing to pay or receive. In this type of auction all bidders whose bids were approved pay the same price or cut-off rate.

5 Due to the fact that the exercise rate of the options is the MER, the put options for Banrep's foreign reserves accumulation have been exercised for 94 days since April 2000. Of these, a depreciation of the exchange rate against the previous day was only seen on six days.

## Shaded section 3: Share of the Bank for International Settlements Held by *Banco de la República*

In compliance with Act 1484/December 12, 2011, which authorized *Banco de la República*'s incorporation as a shareholder of the Bank for International Settlements (BIS),<sup>1</sup> this shaded section presents a report on the most relevant activities carried out before that entity in recent months. Based on the authorization conferred on it, the Bank acquired 3,000 shares of the BIS for a price of 65,712,000 in special drawing rights (SDR), which is equivalent to USD 100,978,710 that are registered on the books at their acquisition cost in SDR under “contributions to international organizations and entities.”

In recent months, the directors of *Banco de la República* have participated actively in the periodic meetings that the organization holds and in which recent events and the outlook for the global economy and financial markets are examined. Recent discussions at meetings of BIS member country governors have focused on various topics such as the changing dynamics of growth and inflation, the risks of climate change, foreign exchange intervention in emerging economies, labor market dynamics, the risks of services price persistence, the implications and risks of artificial intelligence in central banking, and recent developments in the exchange rate and global financial conditions.

Within the framework of the work coordinated by the BIS Consultative Council for the Americas (CCA), the Bank actively participates in research projects, groups, and conferences on various areas relevant to central banks. For example, within the framework of the Scientific Committee, the BIS organized the Annual Research Conference in October 2023 which focused on growth, productivity and macroeconomic modeling in the region. The annual meeting on monetary policy in Latin America, which brings together the head economists of the region's central banks, was also held at the end of last year. The international environment and contagion effects, the outlook on growth and inflation in Latin America, and the policy response were discussed.

In the area of BIS consultative groups that do research and analysis in areas such as financial stability and banking operations that *Banco de la República* is a part of, the publication in December 2023 of the report *High-Level Technical Requirements for A Functional Central Bank Digital Currency (CBDC) Architecture*<sup>2</sup> by the Consultative Group on Innovation and the Digital Economy (CGIDE) is notable. Another noteworthy event was the publication of the *Financial Stability Risks from Cryptoassets in Emerging Market Economies*<sup>3</sup> report by the Consultative Group of Directors of Financial Stability (CGDFS) in August 2023, in which *Banco de la República* led the analysis of cryptoassets without backing from a financial and regulatory stability perspective.

1 This international institution was created in 1930 and currently includes 63 central banks. Its mission is to serve such entities in their quest for monetary and financial stability by fostering international cooperation in these areas as well as to serve as a bank for member central banks. The headquarters are located in Basel, Switzerland, and it has two representative offices: one in Hong Kong and another in Mexico City.

2 The report is available at: <https://www.bis.org/publ/othp82.pdf>

3 The report is available at: <https://www.bis.org/publ/bppdf/bispap138.pdf>

Finally, the publication of the *Central Bank Digital Currency (CBDC) Information Security and Operational Risks to Central Banks*<sup>4</sup> report by the Consultative Group on Risk Management (CGRM) in November 2023 is worth noting. The topics that the CGRM will work on in 2024 were shortlisted at the end of last year and will focus on artificial intelligence, governance and structure of risk management functions, sustainability, the role and effects of negative capital.

Finally, Bank representatives had the opportunity to attend the following meetings organized by the BIS: 1) the BIS Annual Meeting of Emerging Market Deputy Governors which focused on inflation and the labor market in the aftermath of pandemic; the third annual *BIS Innovation Summit* which focused on issues related to technological innovation in payment systems, climate-related risks, economic uncertainty, market integration, and 3) the third annual *Green Swan Conference* which focused on the macroeconomic implications and the development of new technologies in the climate transition.

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4 The report is available at: <https://www.bis.org/publ/othp81.pdf>

## 06/ Financial Situation of *Banco de la República*

### 6.1 Financial Position of Banco de la República (balance sheet)

**The Bank's assets amounted to COP 297,205 billion (b), liabilities came to COP 193,809 b and equity to COP 103,396 b at the close of 2023.** The Bank's balance sheet shrank compared to the balances registered at the end of 2022 as a result of the appreciation of the Colombian peso vis-à-vis the currencies in which the foreign reserves are invested. This generated a lower value in pesos for this asset and had its counterpart in the equity in the exchange adjustment account. This effect was partially offset by the performance of other items, particularly the increase in the balance of TES held by the Bank as assets, and an increase in interest-bearing deposits not constituting reserve requirements as liabilities.

**Compared to the end of 2022, assets decreased COP 34,505 b (-10.4%) due to the strengthening of the peso which resulted in the foreign reserves having a lower value in pesos.** The foreign exchange reserves are the main asset of *Banco de la República*, so fluctuations in the exchange rate have a significant impact on the balance sheet. The dollar balance of gross foreign reserves rose USD 2,349 m during 2023 as a result of their yield (USD 2,355 m) since the Bank did not intervene in the foreign exchange market during the year. Nevertheless, once expressed in pesos, their balance dropped COP 47,633 b (-17.3%) compared to the close of 2022 as a result of the appreciation of the Colombian peso with respect to the reserve currencies.<sup>1</sup> The reduction in the foreign reserves in pesos was partially offset by the performance of the other asset items. It was noted in particular that: 1) a COP 7,978 b (22.2%) increase in the balance of TES held by the Bank (second most important component of assets) due to the COP 10,105 b appreciation of the portfolio and COP 2,546 b in net purchases of these securities on the secondary market that was partially offset by the payment of coupons for COP 3,064 b and by the delivery of COP 1,609 b in TES at market prices to the National Government as part of the payment of the 2022 profits,<sup>2</sup> and 2) a COP 3,583 b increase in the balance of repos.

**The annual growth of COP 4,200 b (2.2%) in liabilities resulted from the rise in the balance of interest-bearing deposits not constituting reserve requirements (COP 6,374 b).** These deposits are one of the instruments available to the Bank for regulating the liquidity in the economy, so that the surpluses that some agents<sup>3</sup> may eventually have can be returned to the Bank. Given its nature, its balance could be volatile and, in particular, it was significantly higher at the end of 2023 than the amount registered a year earlier. The monetary base, the main component of liabilities, in turn, was similar to what was registered at the end of 2022 (it

1 The annual appreciation of the Colombian peso against the U.S. dollar was 21%, against the Australian dollar 20%, against the euro 18%, and against the Canadian dollar 18%. Together, assets denominated in these currencies represented 98.5% of the foreign reserves balance at the end of 2023.

2 Pursuant to the provisions of Act 2276/2022 article 27, See <https://www.banrep.gov.co/es/noticias/junta-directiva-banrep-aprueba-trasladar>

3 The entities authorized for these operations correspond to the placement agents of open market operations (OMO) which include credit institutions, brokerage firms, trust companies, IMC, pension and severance fund management companies, insurance companies, capitalization companies, Sifces, securitization companies, Fogafin, Finagro, Findeter, FDN, FNA, Icetex, Bancoldex, central counterparty risk clearing houses, and Sedpes.

increased COP 34 b, 0.02%)<sup>4</sup> while obligations with international organizations decreased COP 2,036 b as a result of the variation in the exchange rate.

**Last of all, the equity declined COP 38,705 b (-27.2%) due to the negative change generated in the exchange adjustment account of the foreign reserves.** Compared to the end of 2022, the currency exchange adjustment had a negative variation of COP 54,044 b<sup>5</sup> due to fluctuations in the exchange rate. This decrease was partially offset by the account called other comprehensive income (OCI), the balance of which rose COP 7,722 b<sup>6</sup> (Table 6.1).

## 6.2 Income Statement (P&L)

### 6.2.1 Close of December 2023

**The Bank's profits were historically high at the close of 2023 and came to COP 9,226 b as a result of COP 14,798 b in income and COP 5,572 b in expenditures (Table 6.2).** The all-time record was due to the extraordinary level of the Bank's income even though outflows also reached record highs in 2023. Profits were COP 7,720 b higher compared to what was seen in 2022 due to the annual increase in income that far exceeded the increase in outlays during the year.

**The revenue observed in 2023 was COP 10,350 b higher than it was in 2022, mainly due to the return on the foreign reserves.** Specifically, the yield on the foreign reserves registered in the P&L<sup>7</sup> amounted to COP 8,708 b<sup>8</sup> in 2023 with an annual increase of COP 9,040 b that resulted from the high interest rates in the foreign capital markets. Interest and yields on TES held by the Bank and on expansion repos, in turn, amounted to COP 3,881 b and COP 1,661 b, respectively, with annual increases of COP 884 b and COP 657 b. In the case of TES, the increase in income was mainly due to the higher average balance and, to a lesser extent, to higher average interest rates (purchase IRR). For repos, the growth in yields was in response to higher remuneration rates given the increases in the monetary policy interest rate defined by the BDBR since the average daily volume of these operations was

4 See the shaded section "Monetary Base and M3. on pg. 59."

5 Explained by the COP 57,500 b reduction in the peso balance of the foreign reserves in assets, and by the positive effect of COP 3,456 b resulting from the decrease in liabilities with the IMF (SDR allocations) and with the FLAR (Andean pesos).

6 Due to the unrealized valuation resulting from changes in market prices and the realization of accumulated losses from previous years which amounted to COP 6,223 b in the case of TES and COP 1,496 b in the case of foreign reserves.

7 Unrealized returns resulting from changes in the market prices of the securities in the portfolio under the passive management mandate (passive portfolio) are registered in the OCI account under the Bank's equity with no impact on the P&L as of 2022. When they are realized, these yields (profits or losses) are transferred from the OCI to the P&L. This is in accordance with the provisions of Decree 2443/December 12, 2022. Furthermore, the P&L does not include the exchange rate adjustment resulting from changes in the exchange rate of the peso against the currencies that the foreign reserves are invested in. This effect is registered in the Bank's surplus account for exchange rate adjustment in the Bank's equity.

8 The return on the foreign reserves posted in the P&L (COP 8,708 b) is obtained by deducting from their total return (COP 10,204 b) the net transfers from the P&L to the OCI (COP 1,496 b). This last figure only considers the reserve portfolio under the passive management mandate and is explained by 1) realized valuation losses of COP 720 b, transferred from the OCI to the P&L, and 2) unrealized gains of COP 776 b, excluded from the P&L and registered in the OCI. Note that the total return on the foreign reserves in pesos does not include changes in their balance arising from fluctuations in the exchange rate of the peso against the currencies in which these reserves are invested. As mentioned above, these changes are registered in the exchange rate adjustment account in the Bank's equity.

Table 6.1  
Financial Position of Banco de la República Classified by Economic Criteria  
(billions of pesos)

Accounts	December, 2022		December, 2023		Change	
	Balance	Percentage share	Balance	Percentage share	Absolute	Percentage
<b>Assets</b>	331,710	100.0	297,205	100.0	-34,505	-10.4
Gross Foreign Reserves	275,577	83.1	227,944	76.7	-47,633	-17.3
Share in international entities and organizations	8,722	2.6	10,052	3.4	1,330	15.3
Investments	36,107	10.9	43,887	14.8	7,780	21.5
TES	35,909	10.8	43,887	14.8	7,978	22.2
Private debt securities	198	0.1	0	-	-198	-100.0
Repo transactions	5,297	1.6	8,880	3.0	3,583	67.6
Other net assets	6,007	1.8	6,441	2.2	435	7.2
<b>Liabilities and equity</b>	331,710	100.0	297,205	100.0	-34,505	-10.4
<b>Liabilities</b>	189,609	57.2	193,809	65.2	4,200	2.2
Foreign-currency liabilities that affect foreign reserves	26	0.0	22	0.0	-4	-14.2
Monetary Base	154,744	46.7	154,778	52.1	34	0.0
Cash	115,898	34.9	114,870	38.6	-1,028	-0.9
Reserve	38,847	11.7	39,909	13.4	1,062	2.7
Interest-bearing deposits not constituting reserve requirements	2,020	0.6	8,393	2.8	6,374	315.6
Other deposits	59	0.0	135	0.0	76	129.8
National Government (National Treasury Office L/C)	7,068	2.1	6,824	2.3	-244	-3.5
Obligations to international organizations	25,693	7.7	23,657	8.0	-2,036	-7.9
<b>Total equity</b>	142,101	42.8	103,396	34.8	-38,705	-27.2
Capital	13	0.0	13	0.0	0	0.0
Reserve	744	0.2	744	0.3	0	0.0
Surplus	149,765	45.1	95,737	32.2	-54,028	-36.1
Foreign exchange adjustment <sup>a/</sup>	150,832	45.5	96,787	32.6	-54,044	-35.8
Special foreign-exchange account settlement	453	0.1	453	0.2	0	0.0
Investment in assets for cultural activities	356	0.1	373	0.1	17	4.7
Transfer to international organizations	-1,943	-0.6	-1,943	-0.7	0	0.0
Cumulative effect of accounting change	67	0.0	67	0.0	0	0.0
Other comprehensive income (OCI)	-10,047	-3.0	-2,325	-0.8	7,722	-76.9
<b>Results</b>	1,771	0.5	9,226	3.1	7,455	420.8
Fiscal year result	1,506	0.5	9,226	3.1	7,720	512.5
Cumulative earnings from Prior Years due to Change in the Accounting Treatment of Foreign Reserves	265	0.1	0	-	-265	-100.0
Cumulative results (effect of change in accounting policies)	-145	-0.0	0	-	145	-100.0

a/ Includes the exchange rate adjustment of the net international reserves, of the liabilities with the IMF (SDR allocations) and of the liabilities with FLAR (Andean pesos).

Note: in this table, the line items are presented by economic and not accounting criteria. With respect to the financial statements presented to the Financial Superintendency of Colombia and the National General Accounting Office, the differences are: First, the assets discount the value of the liabilities associated with purchase transactions for the foreign reserves portfolio for which payment has not yet been made (this is registered as a higher value of the asset in the Bank's financial statements and as a requirement of the foreign reserves under liabilities); second, the coins in circulation, which are not part of the accounting information on the Bank's balance sheet, are included in the assets and liabilities in this section; third, other reclassifications of lower value accounts. In this respect, the asset and liability values presented in this Report (COP 297,205 t and COP 193,809 t respectively) differ from those registered in the financial statements as of December 31, 2023 (COP 300,208 t and COP 196,813 t).

Source: Banco de la República.

Table 6.2  
Income Statement for 2023, Banco de la República  
(billions of pesos)

	Implemented		Change	
	2022	2023	Absolute	Percentage
<b>I. Total Income (A+B+C)</b>	<b>4,448</b>	<b>14,798</b>	<b>10,350</b>	<b>232.7</b>
A. Monetary income	3,850	14,271	10,421	270.7
1. Interest and returns	3,710	14,252	10,543	284.2
Foreign Reserves	-332	8,708	9,040	n. a.
Monetary Regulation Investment Portfolio (TES)	2,997	3,881	884	29.5
Active Monetary Regulation Operations (Repos)	1,005	1,661	657	65.4
Transactions in other private debt securities	40	2	-39	-95.5
2. Foreign exchange differences	135	13	-122	-90.1
3. Other monetary income	5	5	0	2.0
B. Income from coins issued	316	230	-86	-27.2
C. Corporate income	282	297	15	5.3
1. Commissions	241	265	24	10.0
Banking services	75	82	7	9.2
Fiduciary operations	166	183	17	10.3
2. Other corporate income	41	32	-9	-22.5
<b>II. Total expenditures</b>	<b>2,942</b>	<b>5,572</b>	<b>2,630</b>	<b>89.4</b>
A. Monetary expenditures	1,805	4,333	2,528	140.0
1. Interest and returns	1,643	4,093	2,450	149.1
National Government Deposits	1,586	3,739	2,153	135.7
Liability Transaction Deposits for Monetary Regulation	57	354	297	520.7
2. Costs of Management and Handling of Funds Abroad	48	47	-1	-2.3
3. Commitment fee for IMF flexible credit	103	107	4	3.6
4. Foreign exchange differences	10	85	75	777.7
5. Other monetary expenditures	1	1	-0	-19.2
B. Spending on banknotes and coins	334	344	11	3.2
C. Corporate expenditures	801	890	89	11.1
1. Personnel costs	517	553	36	7.0
2. Overhead	155	189	34	21.9
3. Other Corporative	129	148	19	14.8
D. Pension payments	2	4	2	119.7
<b>III. Operating results (I - II)</b>	<b>1,506</b>	<b>9,226</b>	<b>7,720</b>	<b>512.5</b>

n.a. Not applicable

Source: Banco de la República.

lower.<sup>9</sup> In addition, there was a COP 122 b reduction in foreign exchange differences due to the effect of the appreciation of the peso on the balance of assets and liabilities in foreign currency other than foreign reserves. These trends explained the increase in monetary income during the year (COP 10,421 b) which, in turn, determined the higher value of the Bank's total income. Finally, income from the face value of the coins issued and corporate income of COP 230 b and COP 297 b, respectively, were seen in 2023 with a COP 86 b decrease in the first case and a COP 15 b rise in the second.

**The outlays, in turn, were COP 2,630 b higher than those from the previous year, primarily because of the increase in the remuneration paid on the national government's deposits in the Bank.** Monetary expenses were COP 2,528 b higher compared to 2022 due, mostly, to the COP 2,153 b in greater remuneration for government deposits at the Bank and COP 297 b in contraction deposits. In both cases, the annual rise in outflows was linked to the higher rate of remuneration given the increases in the monetary policy interest rate and to higher average volumes.<sup>10</sup> In 2023, corporate expenses amounted to COP 890 b, COP 89 b higher than those for the previous year due to the COP 36 b increase in personnel expenses, COP 34 b increase in overhead, and COP 19 b increase in other corporate expenses.<sup>11</sup> With respect to personnel expenses, note that in 2023 their annual percentage change (7.0%) was lower than the salary adjustment determined by the Collective Bargaining Agreement (14.1%) due, in part, to the one-time implementation of a retirement plan on the occasion of the transformation of six branches into cultural agencies in 2022.<sup>12</sup> Expenses for the issuance and circulation of banknotes and coins, in turn, totaled COP 344 b and represented an annual increase of COP 11 b.

#### 6.2.2 Outlook for 2024

**The budget for 2024 was approved by the BDBR in December 2023 with the previous concept of the Fiscal Policy Board (Consejo Superior de Política Fiscal) (Confis) with regard to the implications for public finances.** The Bank's budget has two main components: monetary and corporate. The former includes the results of monetary, foreign exchange, and credit authority responsibilities, manager of the foreign reserves, banker and lender of last resort for credit institutions, and issuing bank. The corporate results include the administrative management of the Bank such as, for example, income from commissions and cultural activities, personnel costs, operating expenses, and pensioner expenses.

**A profit of COP 10,345 b is anticipated for 2024 and will be higher than what was seen during 2023.** This outcome would be the result of COP 15,620 b in revenue and COP 5,275 b in outlays. Higher annual profits are expected in the Bank's monetary result in 2024 which would be partially offset by higher net expenses in the corporate budget and in the issuance of bills and coins (Table 6.3).

<sup>9</sup> The rate of remuneration and the daily volume of expansion repos was, on average, 13.18% and COP 13,419 b in 2023 compared to 7.25% and COP 14,343 b during 2022.

<sup>10</sup> With regard to government deposits, the average volume was COP 30,254 b in 2023 and its remuneration rate was 13.15%, which was higher than what was seen in 2022 when they reached COP 22,262 b and 7.38%, respectively. As for the contraction deposits, their remuneration rate and daily volume were, on average, 12.32% and COP 3,047 b compared to 6.06% and COP 970 b in 2022.

<sup>11</sup> Annual growth in corporate expenses amounted to 11.1% (-0.5% in real terms). By component, these increases were 7.0% (-4.2% in real terms) for personnel expenses, 21.9% (9.1% in real terms) for overhead, and 14.8% (2.8% in real terms) for other corporate expenses.

<sup>12</sup> The transformed branches were Ibagué, Montería, Pasto, Riohacha, Quibdó, and Leticia.

**Note that the estimated result has a high degree of uncertainty and assumes an extraordinary nature in the expected level of profits.** Therefore, note that the risks in this projection are associated with unforeseen changes in the economic assumptions used to estimate earnings. In particular, note the risks linked to the yield of international reserves, given the uncertainty in the path of external interest rates, and to the net income of monetary policy, insofar as the assumption of growth of the monetary base could not materialize or as it may be observed a

Table 6.3  
Budget of Banco de la República, 2024  
(billions of pesos)

	Approved Budget		Change	
	2023 <sup>a/</sup> (A)	2024 (B)	Absolute	Percentage
I. Total Income (A+B+C)	13,754	15,620	1,866	13.6
A. Monetary income	13,124	15,081	1,957	14.9
1. Interest and returns	13,106	15,068	1,961	15.0
Foreign Reserves	7,410	9,711	2,301	31.0
Monetary Regulation Investment Portfolio (TES)	3,990	4,090	99	2.5
Active Monetary Regulation Operations (Repos)	1,704	1,267	-437	-25.7
Transactions in other private debt securities	2	0	-2	-100.0
2. Foreign exchange differences	12	8	-4	-31.0
3. Other monetary income	5	5	-0	-3.8
B. Income from coins issued	337	338	0	0.1
C. Corporate income	294	202	-92	-31.3
1. Commissions	253	167	-86	-34.1
Banking services	76	76	0	0.7
Fiduciary operations	177	90	-87	-48.9
2. Other corporate income	41	35	-6	-14.1
II. Total expenditures (A+B+C+D)	5,882	5,275	-607	-10.3
A. Monetary expenditures	4,421	3,651	-770	-17.4
1. Interest and returns	4,163	3,458	-705	-16.9
National Government Deposits	3,828	3,180	-648	-16.9
Liability Transaction Deposits for Monetary Regulation	334	277	-57	-17.1
2. Costs of Management and Handling of Funds Abroad	85	78	-7	-8.1
3. Commitment fee for IMF flexible credit	105	105	1	0.6
4. Foreign exchange differences	63	8	-54	-86.5
5. Other monetary expenditures	6	2	-4	-66.1
B. Spending on banknotes and coins	490	527	37	7.5
C. Corporate expenditures	966	1,081	115	11.9
1. Personnel costs	584	650	65	11.2
2. Overhead	219	248	29	13.1
3. Other Corporative	158	178	20	13.0
4. Flexible budget availability	5	5	1	11.9
D. Pensioners' expenses	5	16	11	214.2
III. Fiscal year result (I - II)	7,872	10,345	2,473	31.4

a/ The budget for 2023 refers to the budget approved on 16 December 2022 and revised on 31 August 2023 by the Board of Directors.  
Source: Banco de la República.

different policy interest rate path from the one considered in this estimation. For example, the volatility in foreign economic conditions seen in 2023, particularly in the yield rates of the securities in which the foreign reserves are invested, and the lower growth of the monetary base, meant significant changes in the assumptions used to project the Bank's earnings and, consequently, in the results expected for 2023 over the course of the year.<sup>13</sup>

**The Bank's income would rise in 2024, mainly due to the higher yield of the foreign reserves.** The budget approved for 2024 includes an annual COP 1,957 b increase in monetary revenues compared to the budget approved for 2023,<sup>14</sup> largely due to the COP 2,301 b increase in the yield of the foreign reserves recorded in the P&L and, to a lesser extent, due to the COP 99 b in higher yields of TES held by the Bank. Specifically, the international financial conditions are likely to remain favorable for the accrual of interest and yields and for the appreciation of the foreign reserves investment portfolio while TES revenue will probably grow due to the higher average balance that could be maintained during the year given the net purchases made throughout 2023. In contrast, other monetary income would decrease in 2024, and this is likely to partially offset the expansion described above. The COP 437 b decrease in interest from expansion repo operations that resulted from both the reduced remuneration rate and a lower average daily balance is noteworthy. Likewise, in the 2024 budget, it is estimated that corporate income will decrease COP 92 b, mainly due to commissions, and that the income from the face value of coins will not change significantly compared to what was approved for 2023.

**Moreover, a reduction in expenses is anticipated due mainly to the smaller remuneration of the national government's deposits in the Bank.** The budget for 2024 incorporates a COP 607 b reduction in total expenditures determined by a COP 770 b decrease in monetary expenditures. Within these, the remuneration on national government deposits in the Bank and the contraction deposits would fall COP 648 b and COP 57 b, respectively, compared to the approved budget for 2023. This would account for most of the annual decrease in monetary expenditures. The lower outflows from the yield on these deposits would be due to the decrease in the rate of return on these deposits.<sup>15</sup> However, corporate expenses, bills and coins, and pensioners' expenses are expected to rise COP 115 b, COP 37 b, and COP 11 b respectively, and this would partially offset the reduction in monetary expenditures.

### 6.3 Reserve Accumulation and Profit Distribution

**According to the Bank's legal framework contained in the Constitution, Act 31/1992, and the by-laws, once the net investment in assets for cultural activity is discounted and the statutory reserves are appropriated, the remainder of the profits will belong to the nation.** Based on the above, the project for transferring profits to the government that was submitted to the BDBR in February 2024 considered the following:

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- 13 Specifically, in the projection of profits for 2023 presented in the March 2023 Report to Congress, profits were estimated at COP 11,004 b, while in the July 2023 Report this figure was updated to COP 8,408 b, after which the final result was COP 9,226 b.
  - 14 Throughout this section, the budget for 2023 refers to the budget approved on 16 December 2022 and revised on 31 August 2023 by the Board of Directors.
  - 15 The policy interest rate assumption in this projection corresponds to the median of the monthly survey of economic analysts' expectations done by the Bank in November 2023 and does not correspond to a position of the BDBR.

1. The result for fiscal year 2023 was COP 9,226 b.
2. Not using or creating equity reserves in accordance with Act 31/1992 and the Bank's Bylaws.<sup>16</sup>
3. The net investment in cultural assets was COP 10 b in 2023, which should be deducted from the profit to be transferred to the national government in accordance with the paragraph of Article 62 of the Bank's bylaws.<sup>17</sup>

**Taking the above into account, the BDBR approved the profit distribution project on 29 February 2024 due to which, at the end of March, the Bank will transfer COP 9,217 b to the national government (Table 6.4).**

Table 6.4  
Distribution of Profits  
(billions of pesos)

	Distribution of Profits in 2024
A. Results 2023	9,226
Results for fiscal year 2023	9,226
B. Plus Use of Equity Reserves	0
C. Minus the Allocation of Equity Reserves	0
D. Minus Other Deductions	10
Net Investment in Cultural Activity Goods	10
Net Result in favor of the national government: A + B - C - D	9,217

Source: *Banco de la República*.

<sup>16</sup> Issued by means of Decree 2520/1993.

<sup>17</sup> In accordance with this article, the profit to be transferred or the loss to be borne by the government is defined as the result of subtracting the expenses, including depreciation, and the expenses destined to meet the Bank's operation and investment for the fulfillment of its cultural and scientific functions from the Bank's income.

## 07 Climate Change and *Banco de la República*

***Banco de la República* incorporated climate change<sup>1</sup> into its 2022-2025 Strategic Plan.** In compliance with the strategic plan, the Bank has developed two work fronts. The first concentrates on actions inherent to the duties of the central bank and custodian of cultural heritage, and the second includes a series of actions that contribute to the understanding of, adaptation to, and mitigation of climate change.

Some of the progress achieved on each of the two work fronts addressed by the Bank is presented below:

### 7.1 Actions inherent to the duties of the central bank and custodian of cultural heritage

**The first front focuses on guaranteeing the continuity of the services provided by *Banco de la República* to the country as its central bank and as custodian of an important part of its cultural heritage which are the Bank's mission areas.** On this front, the Bank seeks to: 1) guarantee the fulfillment of central banking functions; 2) improve the understanding and design of monetary and exchange rate policies, and 3) safeguard our archaeological and artistic heritage.

#### 7.1.1 Progress on guaranteeing the fulfillment of central banking functions

***Banco de la República* has been working on developing mechanisms that will allow it, in the event of any climatic or natural disaster, to continue to carry out its duties as a central bank.** These critical services include the continuity of the payment systems, management of foreign reserves, and the supply of cash. Furthermore, underlying all this are the efforts to maintain all the services necessary to continue to be the government's banker and the 'bank of banks'.

#### *Operational continuity*

**One way to cover all these functions comprehensively is to ensure that *Banco de la República* is able to react as quickly as possible and restore the necessary facilities in the event of any disruption.** To this end, the Bank has developed a strategy called continuity of service. This is designed to enable the Bank's management, starting from the highest levels, to take the necessary steps to reestablish operations almost immediately. In the development of this service continuity plan, the Bank has designed special procedures that activate all the affected areas and enable them to respond in a concerted and coordinated fashion. This plan is regularly reviewed to implement adjustments, if necessary, to ensure its proper functioning. Within the plan there are clearly defined responsibilities and lines of

1 Climate change: variation in the identifiable (e.g., by statistical evidence) state of the climate in changes in the mean value and/or in the variability of its properties that persist over long periods of time, usually decades or longer. Climate change is more than global warming: we are experiencing changes in the atmosphere, land surface, ocean, and ice sheets. Global warming has already caused widespread, rapid, and intensified changes. Source: Intergovernmental Panel on Climate Change (IPCC).

command that are designed to ensure that the different areas of the Bank react in a coordinated manner and always seek to re-establish and maintain continuity of services. Many of these services operate continuously every day of the week and all hours of the day (24/7) and require constant monitoring to keep them flowing with the quality of service expected from *Banco de la República*.

**Another comprehensive element of the Bank's efforts has been the creation of digital copies of its historical memory.** This effort is aimed at preserving the institution's documentary history by digitalization of the entire archive. Although this backup copy has some relative risks associated with it, it is important to do it in order to have an alternative way of getting access to the Bank's historical information in the event of an emergency. In this respect, *Banco de la República* is making digital copies of its Central Archive and its Historical Archive. The latter has documents from before 1923. The digitalized copies are provided as an addition to the physical archive, which is located in technically qualified facilities equipped with modern security systems that guarantee that the information is protected. In addition, the most valuable information has a duly secured micrographic or digital copy. The most recent documentation (21st century) is 100% digitalized. The historical collection (19th and 20th centuries), the organization of which was completed last year, will undergo digitalization starting this year with a view to completion by 2030 at the latest. In April 2024, a reference catalog will be made available to the public through the Bank's web portal and cultural portal.

**A cornerstone of the service continuity and digital copy plan is the proper functioning of the Bank's computer systems.** These include three nodes: the main node, located in Cota; the secondary node, located in the Bogota Cash Center; and the tertiary node, located in Barranquilla. As part of the Bank's recent efforts, the main node was moved from the Main Building in Bogota to a new site in Cota. In addition to being less exposed to climatic risks, this location has state-of-the-art technology which makes it significantly more resilient to the effects of any weather event or disaster. With this change, the distance from the computer center located in the cash center was increased, and this reduces the likelihood of the two being affected at the same time thus increasing coverage in the event of a disaster. Moreover, this new center complies with high international standards (known as TIER III) that seek to guarantee its security, access control, and power supply and backup in order to improve the availability of services.

**An additional overarching issue is the management of the challenge posed by increased seismic activity.** Apart from having moved the computer centers to less exposed locations, the Bank has made progress on the seismic-resistance diagnoses of its buildings nationwide in order to draw up action plans to safeguard the integrity of its employees and visitors. The design of these plans incorporates the use of high-performance technology for managing information, energy, and water, and seeks buildings with sustainable criteria, which is part of the objectives of the 2022-2025 Strategic Plan.

### *Payment systems*

**Continuity in the Payment Systems.** The critical services provided by *Banco de la República* in the payment systems include: 1) the check clearing system (Cedec-CCSD) in which payment instruments are cleared; 2) the national interbank electronic clearing system (Cenit) in which the National Government's transfer orders, in particular, are cleared; 3) the Central Securities Depository (CSD) which registers the holdings of public debt securities; 4) the deposit account

system (CUD in Spanish) in which high-value payments operate; 5) the electronic trading system for public debt securities (SEN in Spanish), and 6) the soon-to-be-introduced system of immediate low-value payments. Furthermore, the Bank oversees the operation of the Central Counterparty Risk Clearinghouse in which various financial and foreign exchange market transactions are carried out while intraday liquidity is provided for authorized financial institutions that request it. All these systems are highly dependent on the Bank's computational resources which is why both security and reliability deserve the Bank's closest attention. The Bank has done an exercise to observe the risks that climate change poses to these functions and is taking the measures they consider relevant to mitigate them. These measures include the modernization of some of the systems in use, as well as the aforementioned actions to ensure that the Bank's systems are resilient to any extreme event.

### *Management of the Foreign reserves*

**The Bank faces the risk that some of its reserve investments may lose value due to climate change.** This is what has come to be known as “stranded assets”, i.e., assets where the value deteriorates as a result of movements in international markets due to climate change. The typical case is when assets that have as their issuer or backing an entity engaged in “brown” activities, i.e., those that are generally perceived as significantly damaging and contributing to global warming or the destruction of biodiversity lose value. The international expectation is that these assets will lose value as preferences in international markets become “greener” and less willing to take such risks. To manage this, *Banco de la República* regularly classifies the assets in which the foreign reserves have been invested, either through direct investments or through investments made by means of the management firms they have retained to manage the reserves. These ratings are based on international criteria from the balance sheets and reports of those issuing the assets. By observing the weightings of all these assets, the Bank rates its own portfolio, and identifies those assets that are “brown” or have any possibility of being so, monitors their performance, and informs the Bank's Reserves Committee. This allows them to identify the degree of exposure to these types of assets in the portfolios they manage and to closely monitor them. Moreover, international green assets are eligible investments for foreign reserves, and portfolio managers may acquire them depending on their perspectives on the liquidity, safety, and profitability of their investments.

### *The supply of cash*

***Banco de la República* has developed measures to cope with climate events that are likely to enable the fulfillment of its obligations as an issuing bank.** The Bank is responsible for making the banknotes and coins (cash) demanded by the public, i.e., the Colombian economy, available to the public through the banking system. This obligation is fulfilled by producing a large part of the banknotes and coins used by Colombians while importing only a small portion of the demand. In addition to production and importation, the Bank is also required to deliver cash to the different regions around the country. To do this, there are several agencies with a treasury from which cash is delivered to the banks that request it and that have the necessary resources in the CUD. In those places where the Bank does not have a treasury, the required cash is sent through cash-in-transit companies. This shipping activity, either to the treasury or to locations served by the carriers, involves security and potential risks. In the specific case of potential

risks, the Bank has a strategy and a network of contracts that allow them to use alternative ways to send cash. Thus, in the event of a landslide, they can choose to use alternative land routes or other means of transportation such as air or sea shipping. These contracts have been revised to address climate risks, especially the effects of landslides, which are the most challenging risk. It is worth noting that this cash supply obligation continues even when there are circumstances that severely affect the conditions for providing public services.

### 7.1.2 Progress in improving the understanding and design of monetary and exchange rate policies

**Climate change represents a major challenge to the traditional paradigms that have been used in the design and implementation of monetary and exchange rate policies.** For one thing, the supply shocks brought about by climate change mean that models based solely on aggregate demand are not exactly applicable. These shocks may come, for example, from climate impact on agricultural production. They may also affect key aspects such as capital goods, migration, transportation and its routes, and public spending and its financing, particularly investment. Furthermore, external phenomena may arise that reflect the adaptation of other economies to risk such as a lower demand for fossil fuels or commodities from deforestation zones. This implies complex transitions in export markets and production patterns of goods and services with complex macroeconomic effects. Among them are the effects of transitioning our exports from a fossil fuel base to more diversified exports that seek to exploit our natural wealth in ways that complement green technologies and to use our human talent more intensively by making a greater value-added contribution.

**Within this spirit of change, Banco de la República is working prospectively to adapt its policy tools to the challenges posed by this environmental phenomenon. In this respect, they designed a research agenda focused on contributing to the understanding of the effects of climate change on the Colombian economy.** This agenda includes two lines of research. The first focuses on the analysis of the physical risks of climate change. Specifically, this agenda studies the effects of climate shocks on variables that economic activity is characterized by. For example, price levels, food production, energy generation, availability of physical capital, investment in natural disaster prevention, and international trade, etc. In addition, methodologies for incorporating these climate shocks into macroeconomic forecasting models are proposed. The second line of research focuses on the study of transition risks. One of these studies, in particular, focuses on the impact of the decarbonization of the global economy on the country's fiscal, trade, and exchange rate performance.

**To this end, the Bank is working with multilateral entities that support our country such as the World Bank, the International Monetary Fund (IMF), the Bank for International Settlements (BIS), the Development Bank of Latin America and the Caribbean (CAF) and the Center for Latin American Monetary Studies (Cemla), etc.** For example, the Bank prepared a policy document with the support of Cemla and other central banks in the region. Using a dynamic stochastic general equilibrium (DSGE) model with monetary policy, it evaluates the effect of climate change and carbon tax increases on potential GDP, the natural rate of interest, the real equilibrium exchange rate, inflation, and the monetary policy reaction. The Bank is also part of the Climate Finance Risk Center<sup>2</sup> and the network organized by

<sup>2</sup> This center is managed by Cemla, UNEP, and Euroclima.

the Bank for International Settlements on the macro-financial impact of climate change and environmental degradation. In this context, Bank staff members have participated in training, conferences, and working groups. The Bank has also invested in training its staff to develop macroeconomic models that quantify the effects of climate change and transition policies on macroeconomic variables.<sup>3</sup>

**The Bank has established a particular relationship with the Network for Greening the Financial System (NGFS<sup>4</sup>) that brings together a number of central banks and financial supervisory and regulatory authorities.** Their members, who are aware of the challenges posed by climate change, have created different working groups that study a variety of aspects in which central banks and regulators can act to mitigate or prevent the negative effects of climate change. One of the most active and relevant groups in designing a new paradigm for the management of monetary and exchange rate policies is the Models Group which *Banco de la República* has actively participated in. This participation includes some notes to be included in a forthcoming document by the transition risk subgroup in which the challenge that emerging economies such as Colombia's face in addressing a transition in the demand for their exports and fiscal revenues is outlined. Along with these contributions, the Bank has participated in all of the virtual meetings held by this group as well as in the recent in-person meeting that took place in London in November 2023.

### 7.1.3 Progress on Safeguarding our Archaeological and Artistic Heritage

***Banco de la República* recognizes the enormous heritage value that the bibliographical, archaeological, ethnographic, art, numismatic, philatelic, and musical instrument collections they house and manage have for Colombians.** Although this is a function that is not typical of central banks, it has taken on a central role in *Banco de la República* as a Colombian institution since the 1930s. That is why they have established strategies to preserve this cultural heritage in view of the risks that could arise from climate change.

**The digital preservation project of the cultural area of *Banco de la República* has established technical guidelines for digitalizing collections (Table 7.1).** The purpose for this is to facilitate their dissemination and their availability to different types of audiences as well as their preventive conservation. Therefore, the analog material is being transferred to digital in order to preserve the original and guarantee access to its content in case of damage. These technical processes include making digital copies, microfilming, and transferring analog sound and audiovisual formats to digital. Some digital collections that preserve the digital heritage copies and digital copies of native heritage from regions with high climate vulnerability are highlighted: the sound collection of the Oral Memory Center with stories recorded in San Andres, Providencia, and Santa Catalina as well as the musical pieces created by young people in the music practice room in Buenaventura. Likewise, the Orlando Fals Borda archive: history of the Atlantic Coast, available in physical format at the cultural center in Monteria that could also be sent out as digital copies for consultation in other cities. The collection of digital archives created in recent years that are physically preserved in Bogotá can be consulted digitally from any city in the network. It includes: the accounting books of Rafael del Castillo & Co. (1861-1909), *La Crónica*, the Quindío newspaper,

<sup>3</sup> These training sessions have been held at Cemfi, Cemla, and IMF.

<sup>4</sup> Network Central Banks and Supervisors for Greening the Financial System (NGFS).

Table 7.1  
Digitalization by type of collection

Collection	Number	Progress in digitalization	
		Number	Percentage
Archaeological	53,928	53,928	100.0
Fine arts	6,627	6,627	100.0
Ethnographic	290	290	100.0
Philately	Banks	35,155	100.0
	In commodatum	435,218	88.76
Musical instruments	85	85	100.0
Numismatic	18,383	12,069	65.65
			Number
	Digitalization		2,872,004
	Microfilming and reprocessing		14,348
Bibliographical	Analog-to-digital transfer and/or duplication of sound recordings		14,645
	Analog-to-digital transfer and/or duplication of audiovisual recordings		10,980

Source: Banco de la República.

the negatives of the Alberto Lenis Burchkardt photographic archive, and *La Patria*, the Manizales newspaper, etc. Regarding the archaeological, ethnographic, art, numismatic, philatelic, and musical instrument collections, users can explore part of the collections through the [banrepultural.org](http://banrepultural.org) portal.

**Collection Rescue Plan.** Faced with the risk of loss or deterioration in the event of an emergency, the Bank has a Collections Rescue Plan (CRP) that categorizes the different types of emergencies within the framework of three scenarios: earthquake, fire, and water. Based on these scenarios, the CRP determines what, when, who, how, and where the collections of the Gold Museum, the Arts and Other Collections Unit, and the Library Network Department will be safeguarded, and defines a recovery plan to return to normality.

The CRP establishes four categories by means of which pieces from the associated collections have been identified:

- **Top priority:** identifies the main objects and masterpieces in each collection, the loss or damage of which would have a high impact on the institution and the national heritage.
- **High priority:** identifies objects and masterpieces that, because of their historical, heritage, documentary, artistic, or economic value, should be saved or protected as a priority.
- **Medium priority:** details the objects and masterpieces that are of great importance to the collection, but their damage or loss would not have such a serious impact on the collection in comparison to the first two categories.
- **Difficulty:** objects and masterpieces of importance to the collection, but which, due to their size, weight, type of mounting or volume, can only be removed

from the place where they are located with mechanical aids, by specialized personnel or if there is sufficient time for their rescue.

**Ancestral Knowledge and Natural Heritage.** The Bank values the ancestral and contemporary knowledge of Colombia's ethnic communities for keeping biodiversity alive, improving our understanding of how to interact with nature, and protecting the territories. As part of these efforts, *Banco de la República* has several initiatives. The Ethnographic Museum of Leticia, renovated in 2015, has an indigenous "chagra" and a medicinal plant garden where knowledge associated with planting and harvesting cycles is shared as well as the role of women in the management of Amazonian plants. The Archaeobotanical Garden of the Quimbaya Gold Museum in Armenia, which opened in 2022, was designed based on archaeobotanical research that reveals the relationship between the ancient populations that inhabited this region and the plant world. This project seeks to contribute to the knowledge, recovery, and reassessment of knowledge about ancestral seeds of food and medicinal plants as well as to the reinforcement of food sovereignty of the rural populations in the Middle Cauca region. The Cultural Center of Ipiales has been leading a project on seeds, plants, cultivation, and food care since 2023. The purpose behind the project is to develop an understanding of their interconnections and how traditional medicine, spirituality, food autonomy, climate change, and the communities are committed to the healing of our territories. The project will be strengthened in 2024 with programming for disseminating it to thirteen cities in the cultural network.

## 7.2 Actions to Contribute to Understanding, adapting to, and Mitigating Climate Change

**In addition to those aimed at guaranteeing compliance with their mission duties, the Bank is also carrying out other tasks that seek to contribute to reducing its environmental impact and improving the understanding of the effects of climate change on the country.** With this contribution, the Bank wants to help in the search for adaptation solutions that minimize negative impacts and allow Colombians to successfully face this new climate reality. On this front, the Bank seeks to: 1) reduce the environmental impact of its operations; 2) contribute to a better understanding of the consequences of climate change on the economy, and 3) develop awareness raising activities on climate change and environmental preservation through its cultural agenda.

### 7.2.1 Progress in the Environmental Management of *Banco de la República's* Operations

**In an effort to contribute to reducing the risks of climate change derived from their management as an entity, *Banco de la República* has developed various projects.** These include an effort to reduce their carbon footprint as well as obtaining and maintaining their carbon neutral certification following international standards.

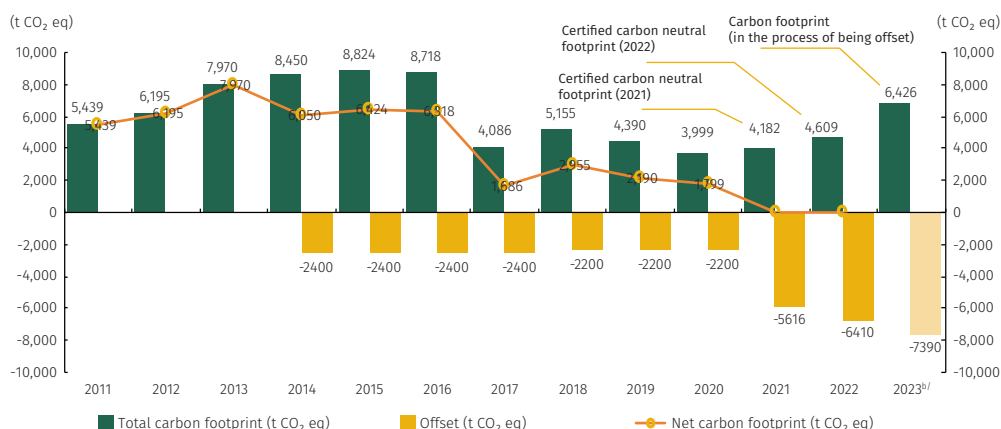
***Banco de la República* was certified as a carbon neutral organization in 2023 due to their management in reducing greenhouse gas (GHG<sup>5</sup>) emissions and the removal of GHGs emitted into the atmosphere.** In line with the Bank's definition of being

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5 GHG is defined as the gaseous component of the atmosphere, both natural and anthropogenic, that absorbs and emits radiation at specific wavelengths within the infrared radiation spectrum emitted by the Earth's surface, atmosphere, and clouds.

a sustainable and low-carbon organization and after continuous work, the Bank received carbon neutral certifications for 2021 and 2022 under the requirements of the international standard PAS 2060:2014.<sup>6</sup> This is evidence that the Bank established GHG emission reduction objectives, managed them, and achieved the proposed goals, and that they removed GHGs from the atmosphere in quantities greater than the GHGs generated. The Bank’s GHG emissions inventory was verified and found compliant based on ISO 14064-1:2018.<sup>7</sup> Graph 7.1 presents the performance of the carbon footprint and its offset.

Graph 7.1  
Total carbon footprint: *Banco de la República*<sup>a/</sup>  
Tons (t) of equivalent CO<sub>2</sub> per year



a/ Reaching all the Bank’s facilities in the country where it has operational control.  
b/ Carbon footprint for 2023 that is calculated with energy factor values raised by the generation of electricity at thermoelectric power plants due to the decrease in water in reservoirs because of the presence of *El Niño*.  
Source: *Banco de la República*.

**To remove GHGs from the atmosphere, the Bank employs nature-based solutions by planting and maintaining individual native plant species on government-owned land of ecological interest.** These species plantations, such as mangroves starting in 2025, will, in addition to absorbing carbon dioxide (CO<sub>2</sub>), contribute to the protection of water sources that will give rise to rivers and supply reservoirs, help protect and recover the soil, and feed wildlife.

**The Bank’s Environmental Management System (EMS) was recertified under ISO 14001:2015 in 2023.**<sup>8</sup> This was due to the Bank having demonstrated that the EMS was consistent, adequate, applied, and has allowed, through the development of its programs, compliance with the environmental objectives. The energy and water efficiency programs in which efficiency has been reinforced through a combination of management, automation, and the use of specialized software are noteworthy.

6 PAS 2060:2014, called “Carbon Neutrality Standard and Certification,” is the standard set by the British Standard Institute that has an internationally recognized methodology for assessing the carbon footprint generated and offset by an organization.  
7 ISO 14064-1:2018, entitled “Greenhouse gases, Part 1: Specification with guidance, at the organization level, for quantifying and reporting greenhouse gas emissions and removals,” details the principles and requirements for the design, development, and management of GHG inventories for organizations and for reporting on these inventories.  
8 ISO 14001:2015, entitled “Environmental Management Systems: requirements with guidance for use,” is intended to provide organizations with a framework for protecting the environment and responding to changing environmental conditions while being in equilibrium with socio-economic needs.

The Bank has been implementing different projects that incorporate sustainability criteria and are focused on reducing energy and water consumption. This reduces the Bank's carbon footprint while improving the energy efficiency of the Bank's infrastructure. Among the projects implemented in the entity during the 2022 and 2023 period are the following:

- Replacement of air conditioning (AC): The goal of this project is to guarantee comfortable temperature conditions by applying AC only in the areas where employees work and users avail themselves of the services while bioclimatic architecture has been implemented in the circulation areas.
- Rainwater harvesting projects: is focused on reducing water consumption in buildings by collecting rainwater from roofs and storing it for use in sanitary services and irrigation of green areas.
- Replacement of lighting: This project is intended to improve the lighting conditions in the Bank's buildings, reduce energy consumption and maintenance costs by using LED fixtures that are more efficient and have a longer useful life.
- Replacement of emergency power plants: replacement of equipment that had reached the end of its useful life was replaced with generators with higher efficiency, lower fuel consumption, and lower CO<sub>2</sub> emissions.
- Photovoltaic generation system: a project to generate electricity by installing solar panels in thirteen installations, strategically sizing the total load of the installed panels to ensure that all the photovoltaic energy is consumed by the building.
- Smart metering: the first and second phases of the project have been completed, and this will enable the installation of a national network for real-time monitoring of energy and water consumption as well as create the capacity to act remotely and in real time to optimize consumption.

### 7.2.2 Advances in the Understanding of the Effects of Climate Change on the Country

**Banco de la República designed a research agenda focused on contributing to the understanding of the effects of climate change on the Colombian economy.** As part of the development of this agenda, eleven research projects were published in 2022 and 2023, and another thirteen are currently underway. The research includes four published in international academic journals that publish studies on topics such as the impact of natural disasters on municipal public finances<sup>9</sup> and the effect of weather shocks on the price level and inflation expectations.<sup>10</sup> It also includes an issue of the journal *Ensayos sobre Política Económica* (ESPE) on

9 See Ayala-García, J.; Dall'erba, S.; Ridley, W. C. (2022). "El impacto y las externalidades de los desastres naturales sobre el recaudo tributario local en Colombia." *Regional Economics*; and Ayala-García, J.; Dall'erba, S. (2022). "El impacto de la inversión en prevención sobre los desastres naturales," *Papers in Regional Science*, 101(5), pp. 1087-1103.

10 See Parra-Amado, D.; Melo-Velandia, L. F. (2022). "Extreme Weather Events and High Colombian Food Prices: A Non-stationary Extreme Value Approach." *Agricultural Economics*, 53(S1), pp. 21-40 and Romero-Chamorro, J. V. (2023). "Weather Shocks and Inflation Expectations in Semi-structural Models." *Latin American Journal of Central Banking*, no. 100112.

the macroeconomic impact of climate change<sup>11</sup> and another six research papers published as working papers in *Banco de la República's* series *Borradores de Economía* (Working Papers on Economics) and Working Papers on Regional and Urban Economics (Working Papers on Regional and Urban Economics), etc. These include, for example, two studies that analyze the relationship between economic growth, GHG emissions, and forest reserves;<sup>12</sup> two studies with regional analyses of natural disasters, and the need for infrastructure that is adapted to their effects;<sup>13</sup> a study on the effects of climate change on Colombia's current account and another one on the inclusion of climate shocks in macroeconomic forecasting models.<sup>14</sup>

### 7.2.3 Advances in Cultural Outreach on Climate Change

#### **The Bank strengthens the outreach component of Colombia's environmental heritage in order to contribute to a transition in the approach to climate change.**

The project, *The River: Possible Territories*, which was launched in 2021, continued during 2023. The goal was to raise awareness of the rivers as a fundamental resource for the country's sustainable development. Through this project, cultural ties in relation to rivers and their preservation are being fostered. As part of the project, the *El Magdalena, una cuenca posible* exhibition was inaugurated in 2023 at the Luis Ángel Arango Library (BLAA in Spanish). This exhibition will be shown in several cities in *Banco de la República's* cultural network.

**Since the project began, nearly 950 events to foster an understanding of watersheds and their ecosystems have been held in the 29 cities belonging to the cultural network with more than 7,000 attendees.** In collaboration with "Se lo explico con plastilina ("Let me explain it with play dough")," animated videos entitled "*Los saberes de la gente del río*" (*The Knowledge of the River People*) were created about the Magdalena, Amazon, and Orinoco river basins. These videos have more than one million views and are designed for different audiences, including the deaf population since they have been translated into Colombian sign language and given subtitles.

**Furthermore, temporary exhibitions such as *Tiempos de curación (Healing Times)* have been generated. Renewing the world starting from the Amazon.** This explores ways of understanding the global climate crisis based on the cosmologies of the indigenous peoples of the Colombian Amazon, where the communities work to maintain an equilibrium in the relationships between the living beings in the world, based on practices that heal the planet and include the care of the individual and

11 Bernal-Ramírez, J.; Ojeda-Joya, et al. (2022). "Impacto macroeconómico del cambio climático en Colombia." *Revista Ensayos sobre Política Económica*, no. 102, July, pp. 1-62.

12 See Alonso-Sanabria, J. D.; Melo-Velandia, L. F.; Parra-Amado, D. (2023). "Revelando el papel crítico de las áreas forestales en medio del cambio climático: el caso latinoamericano." *Borradores de Economía*, no. 1254 and Alonso-Sanabria, J. D.; Melo-Velandia, L. F.; Parra-Amado, D. (2023). "Conectando los puntos: energía renovable, crecimiento económico, reforestación y emisiones de gases de efecto invernadero en Colombia," *Borradores de Economía*, no. 1252.

13 See Ayala-García, J.; Ospino-Ramos, K. (2023). "Desastres naturales en Colombia: un análisis regional," *Documento sobre Economía Regional y Urbana*, no. 317, and Bonet-Morón, J.; Aguilera-Díaz, M.; Reina-Aranza, Y. (2023). "Infraestructura para el desarrollo y la transformación social en Córdoba y Sucre," *Documento sobre Economía Regional y Urbana*, no. 322.

14 See Romero, J. V.; Naranjo-Saldarriaga, S.; Muñoz, J. A. (2023). "Assessing the Macroeconomic Impact of Weather Shocks in Colombia", no. 14-2023, Economics Section, *The Graduate Institute of International Studies*, and Agudelo-Rivera, C.; Granger-Castaño, C.; Sánchez-Jabba, A. (2022). "Los efectos esperados del cambio climático sobre la cuenta corriente en Colombia," *Borradores de Economía*, no. 1214.

collective body as well as of the territory and memory. The exhibition will be on display at the Gold Museum until 04 August 2024 and will begin its tour in 2025.

**The exhibition *Sowing Doubt. Signs of indigenous representations in Colombia* reflects on the material and immaterial creation of the country's indigenous communities with a focus on the sacred value of nature.** The museography was produced with organic, non-toxic, and reusable materials together with the *Organismo* Foundation, which is dedicated to rescuing the traditional architecture of the country's indigenous peoples.

## Appendix:

# Management Policy for the Foreign Reserves Investment Portfolio

According to best practices recommendations, the management of foreign reserves should be based on liquidity, security, and profitability criteria. In that sense, care must be taken to 1) have enough liquidity in foreign currency, 2) have strict policies regarding the management of the different risks that the transactions face, and 3) generate reasonable, risk-adjusted returns subject to liquidity and other risk restrictions. How these rules are applied in Colombia's foreign reserves management is explained below.

### 1. Risk Management Policy

*Banco de la República* has a framework for risk management that identifies and assesses the risks to which its transactions are exposed in order to keep them in low levels. Some of the main policies for risk management are as follows:

**Liquidity Risk:** investments are made in financial assets that are in permanent demand on the secondary market, and the portfolio is divided into tranches. This is done in order to have the ability to convert reserve assets into cash rapidly and at a low cost, and so that some of the defined tranches can be liquidated faster.

**Market Risk:** investments are made into a limited group of eligible assets with strict investment limits on duration, spread duration, foreign exchange composition, and sector. The goal is for the value of the portfolio to be moderately sensitive to interest rate movements in the market.

**Credit risk:** investments are only made in assets with high credit ratings given that these investments have a low probability of defaulting on their payments. The minimum credit rating for governments and government-related entities is A-. With respect to private issuers, the minimum rating is A+ for exposure to individual issuers, and BBB- (investment grade) when the investment is done through funds. Historically, the percentage of issuers with these ratings that have defaulted on their payments the year after is close to 0%. If the rating of an issuer that the portfolio has invested in directly drops below the minimum allowed, the exposure is liquidated within a short period of time. In addition, the maximum exposure is limited by sector and issuer in order to limit the impact of credit events on the value of the portfolio.

**Foreign exchange risk:** the impact of the foreign exchange risk is mitigated by the "foreign exchange adjustment" equity account that is dealt with under Decree 2520/1993 number 4 of article 62 (Statutes of *Banco de la República*). This account rises during those years when reserve currencies become stronger with respect to the Colombian peso and decline in those years when they weaken. Therefore, the variations in the currencies do not have any impact on the consolidated profit or loss statement. *Banco de la República*, like the majority of the central banks around the world, has currencies other than the US dollar as part of its currency components in order to cover the country's payments abroad since these are made in many currencies. It is important to consider the fact that the prices of the currencies are highly volatile and do not often have defined long-term trends. This makes it very difficult to reliably predict their behavior.

**Counterparty risk:** to mitigate counterparty risk, transactions are settled through delivery vs payment mechanisms. For this, fixed income trading counterparties are required to be market makers, and the currency trading counterparties are required to have high credit ratings. The purpose of delivery vs payment mechanisms is to make the exchange of securities for cash or the exchange of payments in a foreign exchange transaction a simultaneous one in order to eliminate the possibility of a default by one of the parties to the trade. The

foreign exchange counterparties must have a minimum credit rating of A- if they have an ISDA agreement.<sup>1</sup> If they do not have such agreement, the minimum rating is A+.

**Risks associated with environmental, social, and governance (ESG) factors:** ESG factors are those associated with environmental, social and governance issues that may affect the environment and an issuer's ability to operate successfully. The consideration of these factors in the investment of the foreign reserves is important since if an issuer does not manage them properly, they can affect their ability to generate returns in the long term and/or manifest themselves in market, credit, legal or reputational risks, etc. To this extent, *Banco de la República* incorporates ESG factors into its investment processes and risk monitoring of the foreign reserves through strategies that are compatible with the security, liquidity, and profitability criteria defined in the legal mandate assigned to *Banco de la República* for the management of foreign reserves.

## 2. Tranche of the Investment Portfolio

The investment portfolio is made up of three tranches: the short term, the medium term and the gold tranche.

The purpose of the short-term tranche is to cover potential liquidity needs from the reserves in twelve months. Currently, this tranche consists of a working capital and a passively managed portfolio. The working capital is the portfolio into which the funds that come from intervention in the foreign exchange market are placed and their investments are concentrated in very short-term assets denominated in dollars. Given that the objective of this tranche is to provide immediate liquidity for intervention in the foreign exchange market, the working capital is concentrated in deposits and investments that can be liquidated in one day at a very low cost. As of December 2023, the value of the short-term tranche was USD 30,765.9 m, of which USD 1,084.2 m corresponded to working capital and USD 29,681.8 m to the passively managed portfolio.

The passively managed portfolio is the main component in the short-term tranche. This portfolio is characterized by an investment horizon and a profile of expected profitability that are higher than those of the working capital, a foreign exchange breakdown that is intended to replicate the performance of the country's balance of payments outflow, and a profitability that is similar to that of its benchmark.<sup>2</sup> The passively managed portfolio is invested in multiple currencies and instruments that are in line with those in a benchmark defined under the restrictions that the expected return on the portfolio, excluding the foreign exchange component, must be positive in 12 months with a confidence level of 95% and that the expected value of a possible loss must not exceed 1.0%.

The medium-term tranche is intended to increase the expected profitability of the foreign reserves in the long term while preserving a conservative portfolio with a profile of expected profitability that is higher than the short-term tranche and the benchmark. Its goal is to maximize the risk-adjusted return in US dollars, the currency in which the foreign reserves are valued, for the portion of the portfolio that is less likely to be used within a twelve-month period. Thus, the maximum return is sought subject to the restriction that the expected return in US dollars for this tranche be positive with a 95% probability, and that the expected value from a possible loss does not surpass 1.0% over a horizon of three years. Currently, the majority of the medium-term tranche consists of actively managed portfolios that seek to generate a return that is higher than the benchmark.<sup>3</sup> As of December 2023, the value of the medium-term tranche amounted to USD 23,976.4 m.

<sup>1</sup> The purpose of the ISDA Master Agreement established by the International Swaps and Derivatives Association (ISDA) is to determine the terms and conditions that govern over-the-counter derivatives traded between entities.

<sup>2</sup> The concept and components of the benchmark will be explained in the next section.

<sup>3</sup> The section External Management Program explains that one of the eight active portfolios is managed directly by *Banco de la República* and the rest by external managers. An explanation on how this program functions can also be found there.

The last tranche corresponds to investments of foreign reserves in gold. This metal makes it possible to diversify the investment portfolio since its price behaves differently than the prices of the securities which the short- and medium-term tranches are invested in. As of December 2023, the market value of the gold tranche in the reserves amounted to USD 309.9 m.

### 3. Benchmark indices

To manage the reserves investment portfolio, *Banco de la República* has defined theoretical portfolios or benchmark indices<sup>4</sup> for short- and medium-term tranches. Different indices are built for each one of these tranches in order to reflect their investment goals. The indices serve as a reference to measure the management of each one of the portfolios. The way the two benchmark indices are built is explained below.

In order to build the short-term tranche index,<sup>5</sup> first of all, a target foreign exchange breakdown is determined. Once the foreign exchange breakdown is defined, a portfolio is sought that maximizes risk-adjusted return<sup>6</sup> and complies with the loss restrictions defined for this tranche. The foreign exchange breakdown for this index is intended to replicate the trend of the outflows from the country's balance of payments.<sup>7</sup> The goal is for the currencies other than the US dollar to appreciate during periods in which the dollar value of the country's payments abroad increases which, in turn, would mean that the value of these foreign currencies could decline with respect to the US dollar during periods in which the dollar value of the foreign payments decreases. The foreign exchange breakdown of the short-term tranche index was 81% US dollars, 8.0% Australian dollars, 7.0% Canadian dollars, and 4.0% euros as of December 2023. The loss restrictions defined for the short-term tranche are: 1) having positive returns over a horizon of twelve months with a 95% level of confidence while excluding the exchange rate effect and 2) that the expected value of a possible loss over a horizon of twelve months does not exceed 1.0% of the value of the tranche.

A similar procedure is followed for the construction of the medium-term tranche index with two fundamental differences: an exchange rate composition restriction is not imposed, and the loss restrictions are defined over a longer investment horizon. First of all, no currency exchange breakdown restriction is imposed given that the goal of this tranche is to maximize the risk-adjusted return in US dollars. Secondly, the restriction of having positive returns at a 95% confidence level and that the expected value of a possible loss does not exceed 1.0% of the value of the tranche is defined for a horizon of three years to reflect the lower probability of using the funds in this tranche in the short term. When building a portfolio that maximizes risk-adjusted profitability in dollars, investments in currencies other than the dollar are allowed.

As of December 2023, the benchmarks defined for the two tranches have a moderate level of market risk with an effective duration of 2.15 for the short-term tranche index and of 2.90 for the medium-term tranche. Graph A1.1 shows the benchmark indices approved for the short- and medium-term tranches.<sup>8</sup>

4 In the capital markets, a benchmark alludes to a basket of assets with predetermined weights in accordance with certain rules that define their components. In general, a benchmark tries to comprehensively replicate the trend of a financial asset market and serves as an indicator of the performance of other investment portfolios in the same market. For example, some of the best-known benchmarks on the stock markets are the MSCI ColCap in Colombia, or the S&P500 and the Dow Jones in the United States (the Bank uses fixed income market indices only).

5 This benchmark does not apply to working capital since there are no reference portfolios that make it possible to properly measure the instruments allowed in this portfolio.

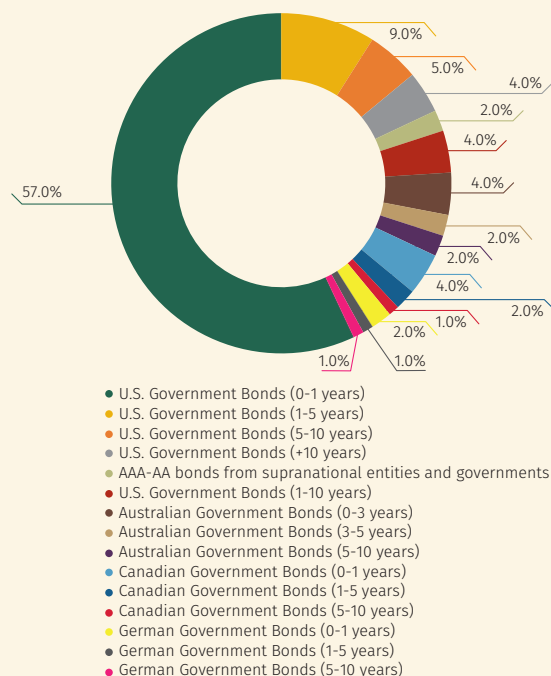
6 A detailed description of the methodology for building the benchmark is located in the boxes entitled "Technical Explanation of the Methodology for Building the Benchmark" and "Market Risk Restrictions on the Optimization Process" in the 2013 and 2019 *Management Reports on the Foreign Reserves*.

7 See Box "International Reserve Portfolio's New Foreign Exchange Components" in the *Board of Directors' March 2012 Report to the Congress of the Republic* for a detailed explanation of the methodology for the foreign exchange breakdown of the reserves.

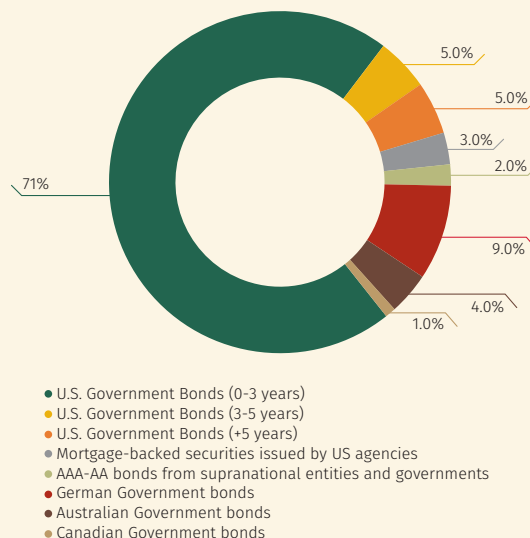
8 For the different sectors that the benchmark is made up of, the indices published by ICE data indices are used.

**Graph A1.1**  
**Breakdown of the Benchmark Indices for the Short- and Medium-term Tranches.**  
 (information as of December 31, 2023)

**A. Short-term Tranche**



**B. Medium-term Tranche**



Source: Banco de la República.

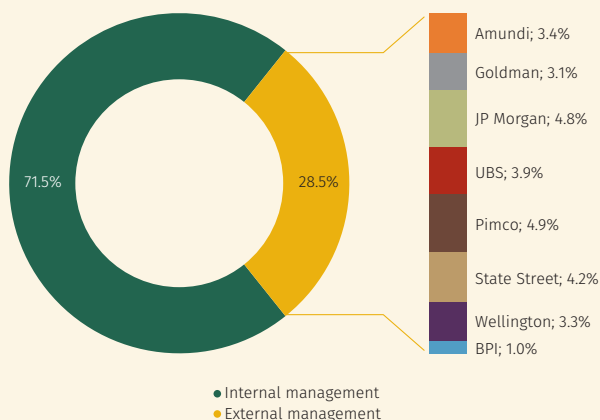
**4. External Management Program**

Banco de la República manages the short-term tranche, a portion of the medium-term tranche, and the gold tranche directly. The remaining medium-term tranche funds are managed by external portfolio managers. The portion of the investment portfolio that is managed internally corresponded to USD 39,345.2 m (71.47% of the investment portfolio) at the end of December 2023 while the external management program amounted to USD 15,707.1 m (28.53% of the investment portfolio).

The main reasons for using external managers are to generate returns that are higher than the benchmark and to improve the diversification of the portfolio. In this respect, the companies chosen to participate in the program are highly capable in the analysis of financial markets and have a sophisticated infrastructure that can be taken advantage of to define investment strategies and to train Bank officials in the management of international investments. The latter is another objective that the external management program has.

The private firms that participate in the program are chosen through a competitive selection process and continuously evaluated. Based on the results each administrator obtains from the starting date of their contract, the amount managed may be modified or their continuity in the program could be reviewed. The private companies that participate in the external management program currently are: Amundi Asset Management, Goldman Sachs Asset Management, L.P., JP Morgan Asset Management (UK) Limited, Pacific Investment Management Company LLC, State Street Global Advisors Trust Company, UBS Asset Management (Americas) Inc., Wellington Management Company LLP (Graph A1.2). The funds that these

**Graph A1.2**  
**Management of the Investment Portfolio**  
 (Information as of December 31, 2023)



Source: Banco de la República.

companies manage are in *Banco de la República's* custody accounts, and the managers' contracts can be canceled whenever considered necessary. The investments in funds managed by the Bank for International Settlements (BIS) are also considered part of the external management program. Only central banks and multilateral entities have access to these funds, and their purpose is to invest in assets that are appropriate for global foreign reserves in a cooperative effort among different countries.<sup>9</sup>

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<sup>9</sup> Investments are currently made in a fund of securities issued by the Chinese government (USD 289.86 m) and a fund of securities issued by non-financial corporations (USD 279.04 m).

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