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

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

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

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Bogotá, 03 August 2023

Gentlemen
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,

L Villar.

Leonardo Villar Gomez
Governor

Contents

Graphs

Tables

Introduction

The Colombian economy continued to make progress in the adjustment process required to correct macroeconomic imbalances and control the inflationary pressure that had accumulated during the first half of 2023 from the various supply shocks and rapid expansion of demand during 2021 and 2022, which exceeded the economy's potential growth.

The ongoing economic adjustment has been made possible by the moderation of domestic demand growth and the gradual unwinding of the supply shocks that raised production costs. Domestic demand began to slow down in the last few months of 2022 and contracted -0.2% in the first quarter of this year due to slower growth in household consumption and a fall in gross capital formation. Lower international prices for raw materials, the gradual normalization of supply chains, and the appreciation of the exchange rate, in turn, have contributed to dissipate supply shocks. This has been reflected in a decrease in annual producer price inflation from a level of 19.2% at the end of 2022 to 4.7% in June 2023.[1]

The sluggishness of domestic demand has been reflected in a progressive slowdown in economic activity. Thus, the GDP registered an annual growth of 3.0% in the first quarter of 2023, a rate equivalent to one third of the average annual growth noted during the first three quarters of 2022 (9.1%). According to the economic monitoring indicator (EMI) prepared by DANE, this loss of strength continued in April and May as variations in this indicator of -0.8% and 0.6%, respectively, were registered compared to the same months in 2022. These results were lower than those seen in March (1.4%) in the seasonally and calendar-adjusted EMI series. This suggests that GDP growth will continue to decline in the second quarter and is consistent with the technical staff's forecast that GDP growth will be slightly below 1.0% for 2023. In spite of the ongoing economic slowdown, the labor market continues to show strength as can be deduced from the continuous decline in the unemployment rate in the national aggregate up to the moving quarter ended in May (10.4%). This is its lowest value since the beginning of the covid-19 pandemic.[2]

The slowdown in economic activity was, in part, expected to result from the restrictive monetary policy adopted by *Banco de la República* to control inflationary pressure. A less expansionary fiscal policy than in 2022 may also be contributing to the lower economic activity based on the forecasts presented in the 2023 *Medium-Term Fiscal Framework (MTPF-23)*. Added to this was a slowdown in foreign demand that was relevant for the country due to the lower growth of our trading partners in an international context of high monetary policy interest rates, inflation rates that exceeded their targets, and high uncertainty generated by the prolongation of Russia's invasion of Ukraine.

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1 This corresponds to the annual change in the domestic supply PPI.

2 At the close of this Report, data was released from the General Integrated Household Survey for June in which the unemployment rate remained stable in its seasonally adjusted measurement of the national aggregate for the quarterly moving average (10.3%) although there was a reduction in the June data.

The Board of Directors of *Banco de la República* (BDBR) has been reiterating the need to proceed with this adjustment process in its various communications in order to achieve a gradual return of inflation to the 3.0% target, correct macroeconomic imbalances, and ensure the sustainability of economic growth in the long term. The constitutional responsibility that falls on *Banco de la República*, which was emphasized in the last Report to Congress, requires maintaining low and stable inflation in line with economic policy in general so as to support sustainable economic growth and a bankable foreign balance. Monetary policy decisions have been adopted with the support of the solid institutional and technical basis that supports the inflation targeting regime based on the experience accumulated over more than two decades by the Central Bank.

The specific motives that the BDBR has had for undertaking a monetary tightening process and the strongest ones since *Banco de la República* adopted the inflation targeting strategy have been complex and diverse in nature. Inflationary pressure initially came from foreign and domestic supply shocks that pushed the costs and prices of food and other consumer products up. Added to this was pressure from the exchange rate. These shocks led to an increase in inflation expectations, and this triggered a process of price indexation which was exacerbated by the excess demand that emerged in 2022. The monetary policy response sought to reduce excess demand, contain the rise in expectations, and limit the effects of price indexing by increasing interest rates. All of this creates the right conditions to allow inflation to begin to decline as the supply shocks subside and thereby alleviate cost pressure. This is a process that is being accomplished albeit with some delay, but which, given the time that the monetary policy has been in place, has already begun to produce results as shown by the recent decline in the inflation rate and the downward revision of expectations for it at different periods.

In accordance with the constitutional mandate to ensure coordination of monetary policy with the general economic policy in addition to mitigating inflationary pressure, the monetary adjustment has been fulfilling the purpose of correcting macroeconomic imbalances that jeopardize the stability of the Colombian economy. With respect to this, there is no doubt that the 7.3% GDP growth in 2022 was outstanding since it was more than double the global growth (3.5%) and far exceeded the expansion of Latin America and the Caribbean (3.9%) based on IMF figures. Such high economic strength brings important gains in well-being, particularly when it reduces unemployment rates as has been the case in Colombia. However, this growth is unsustainable because it is based on a fiscal situation that is largely in deficit and a worrying increase in household indebtedness. This generated an excess of aggregate demand that not only put upward pressure on inflation and expectations for it but also expanded the current account deficit of the balance of payments to historically high levels for several years.

The current account deficit went from an already high level of 5.6% of the GDP in 2021 to one of 6.2% of the GDP in 2022 and was one of the highest seen in Colombia. The increase in the foreign imbalance in 2022 occurred in a year in which international crude oil, coal, and coffee prices remained at favorable levels. This contributed to the positive performance of exports. Nevertheless, in order to cover supply shortages, the economy significantly increased its demand for imports thus preventing a reduction in the foreign imbalance. As a result, the Colombian economy resorted to greater foreign indebtedness either as portfolio investment inflows or as direct indebtedness. All this shows how vulnerable the economy is when it maintains a level of spending that significantly exceeds its income.

The restrictive monetary policy, together with the increase in the tax burden, has been inducing a progressive adjustment of these imbalances. The slowdown in domestic demand that began in the fourth quarter of 2022 was accompanied by a moderation in household consumption that had grown 3.0% in the first quarter of 2023 compared to a 9.5% increase in 2022. The latter has been reflected in a slowdown in consumer credit which went from growing at a close to 23% rate per annum at the end of the third quarter of the previous year to just under 7.0% per annum in mid-June 2023. If such a rapid expansion of consumer credit had continued, it could have generated an unsustainable situation in terms of households' creditworthiness. Likewise, gross capital formation, which performed outstandingly well in 2022, began to show adjustments in its main components. The main source of this correction has been investment in machinery and equipment which, in the first quarter of the year, showed declines in both quarterly and annual terms, mainly in the transportation equipment sector.

Along with the progress in correcting the macroeconomic imbalances, total inflation broke off the upward trend it had maintained until March 2023. Indeed, after reaching a level of 13.1% at the end of the previous year, total inflation remained stable at around 13.3% during the first three months of 2023, then began to decline as of April and reached 12.1% in June. Food was the item that contributed most to this change in trend since its annual variation went from 27.8% last December to 14.3% in June. This variation has been offset to some extent by the increase in inflation of regulated products due to successive increases in gasoline prices.

Core inflation (excluding food and regulated products), in turn, continues to show rigidity as it stood at 10.5% in June and thus reflected price indexation processes. The services sub-basket has been particularly affected by the indexing which has been compounded by labor cost pressures, rising food prices that have put upward pressure on eating out and the high demand for entertainment services. This behavior should gradually diminish as the effects of monetary policy are eventually passed through to the economy, and the downward trend in inflation is reflected in a downward revision in the public's expectations of price changes. This is in line with the technical staff's forecasts and the market's expectations that anticipate declining inflation over the next two years.

1. Executive Summary

International Macroeconomic Environment

The world economy expanded at a rate of close to 2.6% per annum in the first quarter of 2023 according to estimates by the Organization for Economic Cooperation and Development (OECD) in response to India, Indonesia, and Brazil's dynamic, large, emerging economies. China's economy is also part of this group even though its performance so far in 2023 has been below its historical average and below what the Chinese authorities expected after abandoning the "zero-Covid" policy in December. Persistent growth in the United States has also contributed to global growth. In the international context, the progressive improvement in consumer confidence, the normalization of global supply chains, and the upturn in service operations are the most noteworthy. For the remainder of the year, global growth is expected to slow down in the midst of an uncertain economic climate characterized by geopolitical tensions, risks to financial stability, high indebtedness in many economies, and the effects of restrictive monetary policies in many countries whose inflation rates continue to exceed their targets in spite of the reductions achieved so far. The loss of growth is likely to be concentrated in the advanced economies for which the International Monetary Fund (IMF) forecasts growth of 1.5% in 2023 compared to the expansion of 2.7% in 2022. Emerging and developing economies will probably achieve 4.0% growth this year just as they did the previous year (4.0%). However, for Latin America and the Caribbean, the IMF projects that growth will decline and go from 3.9% in 2022 to 1.9% in 2023.[3]

Global inflation has been easing as it is pressured downward by the effects of tight monetary policies, the slowdown in global economic activity, the normalization of global supply chains, and the declining prices for raw materials during the first half of 2023. The decline in international food prices has also contributed to the easing of inflationary pressure, especially the moderation in the prices of vegetable oil and cereal such as wheat and corn.[4] Likewise, there have been reductions in fertilizer prices and in the price of natural gas in Europe. In addition, petroleum prices have fallen from an average of close to USD 100 per barrel in 2022 to prices that have fluctuated around USD 80 per barrel for the Brent crude benchmark this year. The IMF expects that inflation will continue to moderate in the coming months, and that the average annual global inflation rate will go from 8.7% in 2022 to 6.8% in 2023. Nevertheless, unlike total inflation, core inflation has shown rigidity in many countries. According to the OECD, this is explained by high inflationary pressure in the services sector, tight labor markets, and a shift in demand patterns from goods to services.

The U.S. dollar has been volatile over the course of the year in the middle of changes in expectations regarding the magnitude of monetary tightening by the Federal Reserve (Fed). Increased risk aversion caused by problems at some regional banks

3 International Monetary Fund (2023). *World Economic Outlook*: A Rocky Recovery, Washington, D. C., April.

4 The recent breakdown of the grain export agreement between Ukraine and Russia could again put upward pressure on grain prices.

in the United States, and uncertainty surrounding the U.S. debt ceiling negotiations have also affected it. The recent weakening of the dollar was caused by expectations that, after making a final tightening, the Fed will halt the cycle of interest rate increases considering the fact that annual inflation in the United States slowed to 3.0% in June compared to the 4.0% annual inflation registered in May. At the same time, further interest rate hikes are expected from central banks in other developed economies.

Economic Activity in Colombia

After reaching a high growth rate of 7.3% in 2022, GDP growth moderated in the first quarter of 2023 as it registered an annual rate of 3.0%. This performance was driven by positive net foreign demand due, primarily, to a drop in imports, especially imports of capital goods, which were affected by the slowdown in economic activity. Domestic demand contributed negatively to growth. This was reflected in the sluggishness of household consumption and the contraction of gross capital formation. With respect to the productive sectors, the only one that decreased was construction while agriculture and mining managed to achieve marginal positive growth in contrast to their declines in the fourth quarter of 2022.

In the context of the macroeconomic adjustment that reduced domestic demand, an examination of its main components shows that household consumption declined to 3.0% annual growth in the first quarter compared to an 11.1% annual expansion in the same quarter of 2022. This slowdown reflected the reduction in the consumption of durable goods (-8.1%) and semi-durable goods (-3.2%) due to the high interest rates for consumer credit and credit cards that finance these types of expenses together with a higher tax burden. This result is also explained by the high statistical base associated with the higher consumption of these types of goods induced by the VAT-free days in 2022.[5] Consumption of non-durable goods, in turn, slowed to 1.3% annual growth compared to a 5.1% annual expansion during the same period in 2022 as a result of higher food and fuel prices. Gross capital formation declined 9.6% per annum in the first quarter. This contrasts with an annual expansion that corresponded to 20.6% during the first quarter of the previous year and reflected the sharp drop in investment in machinery and equipment (-7.9%), mainly associated with lower imports of transportation equipment.

With respect to supply, financial and insurance operations, and artistic, entertainment, and recreational endeavors were the ones that were the strongest during the first quarter of the year. The construction sector performed poorly (-2.8%), mainly due to the reduction in public works (-15.2%) as a result of which their levels were substantially below those of the pre-pandemic period.

The technical staff at *Banco de la República* forecasts GDP growth of 0.9% in 2023 which indicates that economic activity will continue to decline during the remainder of the year. In this regard, the above-mentioned EMI results for April and May have already made it possible to anticipate a poor economic performance in the second quarter. The low growth forecast for 2023 may occur in an international environment characterized by tight financial conditions, sluggish growth of our trading partners, and lower terms of trade than those obtained in 2022. On the domestic front, the ongoing transmission of the effects of the contractionary

5 VAT-free days in 2022 were held on March 11, June 17, and December 2.

monetary policy, the less expansionary fiscal policy as outlined by the national government in the MFMP-2023 as well as the low levels of consumer and investor confidence will result in growing economic sluggishness. The lower economic growth expected for this and next year will complete the correction of the remaining excess demand, and this will contribute to consolidating the convergence of inflation towards the target and allow progress to be made in reducing the foreign imbalance. This adjustment will create the right conditions for getting back on a growth path in line with the country's productive capacity in the context of price stability.

Employment

The unemployment rate continued to decrease in annual terms during the first few months of 2023 such that, in the national aggregate, it registered a level of 10.4% in the quarterly moving average ending in May and stood below its historical average. Employment growth has been primarily due to the recovery of employment in rural areas. Specifically, between May 2022 and 2023, rural employment grew 4.0%, a figure that is higher than what is seen in urban areas (2.9%). This behavior is reflected in an increase in the employment rate which, in the national aggregate, stood at 57.6% for the quarterly moving average that ended in May with an annual increase of 1.1 percentage points (pp). By economic sector, the largest contributions to the annual change in employment in the national aggregate were made by trade, lodging, manufacturing, and professional activities.

As of May 2023, the salaried segment, which had been a major driver of job creation during the post-pandemic period, has stabilized. The non-salaried segment, in turn, has registered a significant growth of 6.4% compared to December 2022. This performance reflects the better employment in rural areas, which are characterized by informal occupations. The rise in the informality rate during this period is due to the increase in non-salaried employment and the stagnation of salaried employment. Thus, the informality rate stood at 57.3% in May 2023 and was 0.3 pp higher than in December 2022, when it was at 57%.

Labor participation, measured through the global participation rate, stood at 64.3% during the moving quarter that ended in May for the national aggregate with an annual increase of 0.6 pp. The growth of labor participation was led by its increase in rural areas (0.7 pp) that was higher than what was seen in urban areas (0.5 pp). By gender, the annual rise in this indicator was greater for women (1.2 pp) than for men (0.1 pp). At the same time, the higher labor demand for women was manifested in an annual decline in their unemployment rate (-1.1 pp) that was higher than what had been seen for men (-0.8 pp).

In spite of the currently high levels of job openings and reductions in the unemployment rate, which indicate that the labor market remains tight, a loss of dynamism in this market is foreseeable in the coming months. This could translate into slight increases in the unemployment rate. This is suggested by the results of *Banco de la República*'s *Quarterly Economic Expectations Survey* (ETE in Spanish) for April which showed that the difference between businessmen who plan to increase their staff and those who expect to decrease it over a three-to-six-month horizon was reduced in comparison to what had been registered in January 2023. This result points to more sluggish employment in the salaried segment in the near future.

Inflation and Monetary Policy

Consumer price inflation had maintained an upward trend over the course of the previous year and reached 13.1% at the end of 2022. It had stabilized at around 13.3% per annum during the first quarter of 2023 and from April onwards it began to show a downward trend until it reached 12.1% per annum in June, one percentage point below the level registered in December 2022. The declines in the inflation rate during the second quarter have been explained by the drop in food price inflation; downward adjustments in the international prices of some foodstuffs, raw materials, and transportation costs; the appreciation of the exchange rate; and the decrease in producer price inflation along with other factors. The above, in a context of moderating growth of domestic demand, is due to a higher tax burden and a monetary policy interest rate that is in contractionary territory. The relief from inflationary pressure attributable to these factors has been, in part, offset by the rise in fuel prices.

Among the factors that explain the downward trend in inflation, the significant decrease in the annual change in food prices stands out. After reaching a peak of 27.8% in December 2022, the annual change in food prices gradually declined throughout the first half of the year until it stood at 14.3% in June. Even though inflation of food prices remains higher than the total, the correction registered up to June is beginning to favor household budgets even considering that this item weighs a little more than 15% in the consumer basket. The moderation of food price inflation has been possible thanks to the recovery in the supply of perishable foods and lower cost pressure from abroad. The appreciation of the peso has also contributed to this.

Moreover, the rise in fuel prices has put upward pressure on annual inflation in the category of regulated products in the consumer price index (CPI). That inflation went from 11.8% in December 2022 to 15.6% in June 2023. Fuel price increases by CNG are necessary to reduce the Fuel Price Stabilization Fund (FEPC in Spanish) deficit that jeopardizes the required adjustment of public finances. In addition, increases in some utility and transportation fees have put additional pressure on inflation of regulated products.

Core inflation excluding food and regulated items went from 9.5% to 10.5% between December 2022 and March 2023, and unlike total inflation, it showed downward resistance in the second quarter and remained at about 10.5% through June. This indicates that, with the exception of food and regulated products, significant inflationary pressure persists for the rest of the consumer basket. The resistance of core inflation to a downward trend is largely due to price indexing which has been aggravated by the increase in inflation expectations and minimum wage increases in the last two years. In this regard, expectations for total inflation and inflation excluding food as measured by the June surveys remain elevated and above the target at different maturities in spite of the recent decreases. The credibility of monetary policy and the trend of actual inflation reduction that has been seen over the last three months will lead economic agents to revise their inflation expectations downward. This should help reduce price indexing and facilitate the convergence of inflation towards the 3.0% target.

Monetary policy has reacted to the multiple post-pandemic inflationary shocks that have been described in detail in previous Reports to Congress. The progressive rise in the policy interest rate that went from 1.75% in September 2021 to its current level of 13.25% shifted monetary policy from an expansionary stance as was required to cope with the effects of the pandemic to a contractionary one that the Board of Directors deemed necessary to contain the inflationary spillover and regain the credibility of the inflation target. Monetary policy is working with a lag which explains why its effects have taken about a year to be felt, but they began to show themselves clearly as of the fourth quarter of 2022 through an increased sluggishness in domestic demand. In addition, the change in monetary stance has been reflected in a slowdown in consumer credit growth which was expanding at an unsustainable pace until the third quarter of 2022. All of this is beginning to be reflected in a fall in inflation and a gradual correction of inflation expectations, a process that will be consolidated going forward to the extent that the effects of monetary policy become fully apparent. This is suggested by the expectations of economic agents who anticipate that the downward trend in inflation that began in April will continue in the coming months and that it will continue its convergence to the target in 2024.

Balance of Payments

In the first quarter of 2023, the current account deficit was 4.2% of the GDP. This meant a decrease in the foreign imbalance of two percentage points of GDP compared to what had been registered in the same quarter of 2022. In absolute terms, this adjustment was equivalent to a decrease of USD 1,950 million (m) in the size of the foreign deficit. The reduction of this imbalance took place in an environment of more sluggish domestic demand due to the adjustment of restrictive fiscal and monetary policies.

The fall in the foreign deficit was primarily due to a decline in the trade deficit in goods and a smaller imbalance in the trade in services. Although aggregate exports of goods and services increased marginally due to the higher price of coal and the growing influx of foreign tourists into the country, the decrease in the trade imbalance was basically the result of the sharp fall in imports of goods (USD 1,943 m) that reflected the decline in domestic demand and led to lower purchases from abroad, especially of machinery and equipment. The positive balance of current transfers remained relatively stable as a result of a year-over-year increase in income from workers' remittances. The improvement in the foreign deficit was offset, in part, by higher net factor income outflows. This was mainly due to higher interest payments on foreign loans and increased profit remittances from companies with foreign direct investment in Colombia (FDI), particularly those operating in the petroleum and mining sectors.

The main source of foreign financing came from FDI in spite of the fact that the amount received in the first quarter was lower than a year earlier. This was due to lower investments received in financial and business services, and transportation and communications operations that were, however, partially offset by higher FDI inflows to oil-drilling and mining. These financing resources were supplemented by income from foreigners' portfolio investments and net disbursements from foreign loans and other capital flows.

The technical staff projects a current account deficit of 4.1% of the GDP in 2023 that is lower than the 6.2% deficit seen in 2022. This correction will probably be due mainly to the lower trade deficit in goods and services that is expected to result from a significant reduction in imports in line with the easing of domestic demand and the decline in international prices for raw materials. The correction of the trade deficit is likely to be limited by the lower international prices of the main export products and the low production levels of some of these goods. The lower factor income deficit will probably contribute to the annual adjustment of the current deficit due to the decline in outflows associated with the profits of companies with foreign capital and the increase in the yields of the foreign reserves.

In line with the decrease in the current account deficit, lower net foreign financing needs are expected for 2023. FDI will probably continue to be the main source of financing although possibly at a lower amount than had been registered the previous year given the economic slowdown, lower crude oil and other commodity prices, and the base effect of one-off investment operations carried out in 2022 that will not be repeated this year. Public sector capital flows, in turn, are likely to continue contributing to financing albeit to a lesser extent than in previous years in view of the expected decrease in the fiscal deficit by 2023.

Public finances

The CNG fiscal deficit stood at 5.3% of the GDP in 2022 and thus implied a correction of 1.7 pp compared to the deficit in 2021 (7.0% of the GDP). With this result, the CNG was able to meet the deficit target established for the transition period in the Fiscal Rule (8.3%). This adjustment was made possible by the dynamic Colombian economy that boosted tax revenues, favorable terms of trade, and reduced spending pressure associated with the covid-19 pandemic. The CNG primary balance stood at -1.0% of the GDP in 2022 and thus presented a correction of 2.6 pp with respect to what had been seen in 2021 (-3.6% of the GDP). The CNG net debt went to a level of 57.9% of the GDP in 2022 and thus presented a drop of 2.2 pp of the GDP. High economic growth contributed to this debt reduction while the primary imbalance and the depreciation of the peso limited this correction.[6]

Moreover, between 2021 and 2022, the general government (GG) deficit[7] was reduced by 0.6 pp of the GDP as it went from 7.1% in 2021 to 6.5% of the GDP in 2022. The deterioration in the social security subsector (given the lower yields of FONPET[8] and FGPM[9]) together with the expansion in the FEPC deficit between these two years (due to the higher spread between the international parity price and the producer's income) prevented the improvement seen in the CNG fiscal balance from being fully reflected in a decrease in the GG fiscal deficit.

Based on the forecasts presented in MFMP-23, the CNG fiscal adjustment will probably continue for the current year, and this will reduce the CNG deficit to 4.3% of the GDP by the end of 2023 and achieve a balanced primary balance. Tax reforms in 2021 and 2022, higher crude oil revenue, and the increase in Ecopetrol's dividends and profits and as well as those of *Banco de la República* are likely to contribute to this improvement. The projected adjustment of the CNG deficit could lead to a reduction in its net debt level and take it from 57.9% of the GDP in 2022 to 55.8% by

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6 Based on the classical approach to debt sustainability, the dynamics or variation in public debt as a percentage of the GDP can be divided into four components: economic growth, the real interest rate, the primary balance, and the exchange rate. Public debt becomes more sustainable when economic growth increases and when the primary fiscal balance improves. Debt becomes less sustainable when the real interest rate rises and when the exchange rate depreciates as long as part of the public debt is issued in foreign currency.

7 The GG is made up of the CNG, regional and local governments, the social security sector (pensions and health), and the rest of the entities and funds that are part of the central level (Rest of the Central Level) including the FEPC.

8 National Pension Fund for Territorial Entities.

9 Minimum Pension Guarantee Fund.

the end of 2023. Although this represents an improvement in public finances over previous years, and even though it is in line with compliance with the fiscal rule, MFMP-23 projects a slower adjustment path than what was forecast in the previous Financial Plan presented by the CNG.

The MFMP-23 fiscal strategy presented by the CNG for a ten-year horizon seeks debt and public finance sustainability to ensure compliance with the fiscal rule. This strategy is supported by the tax revenue expected from the tax reform of 2022 (Act 2277/2022) and 2021 (Social Investment Act), and those generated by the expected surge in economic growth. This revenue would be supplemented by revenue from the DIAN's tax evasion and avoidance control programs and from the arbitration of disputes handled by the same entity. In terms of spending, the CNG plans to comply with the reforms and social programs it has proposed. Furthermore, they intend to honor the obligations accrued by the FEPC and gradually move towards the elimination of the price difference between gasoline and diesel with respect to their international prices in order to eliminate the expense burden that this implies for the CNG and focus it on other objectives.

Nevertheless, the forecasts contemplated in MFMP-23 are not without risk. As stated by the Independent Fiscal Rule Committee (CARF in Spanish) in its assessment of MFMP-23, there are some risks with respect to tax collection and expenditure expectations that, if they materialize, could lead to a failure to meet the fiscal rule targets, especially in the 2024-2026 period. These include doubts associated with the materialization of the additional resources expected from DIAN's management as well as those from the arbitration of disputes. These resources are, to a large extent, transitory and uncertain in nature not only because of their effect on forecasts of tax collection but also because of their inclusion in the programming of permanent expenditures. CARF is also concerned about the fiscal impact of the reforms on the health and pension systems.

Foreign Reserves

There has been an increase in the level of foreign reserves so far in 2023. The main factor underlying this increase is the positive profitability obtained during this period as a result of the higher yields received. The appreciation of the investments has also contributed to the rise in the level of reserves. Thus, net foreign reserves totaled USD 57,705.7 m as of 31 May 2023, which is an increase of USD 436.6 m with respect to the amount registered at the end of 2022. The return on the foreign reserves excluding the foreign exchange component was 1.46% (USD 839.3 m) during the first few months of the year. This actual valuation occurred because there is an inverse relationship between bond prices and interest rates, i.e., the price of bonds rises as interest rates decline. These positive impacts on investments have been partially offset by the devaluation of other reserve currencies against the U.S. dollar, which has generated a negative exchange effect on the valuation of the reserves.

The different indicators that evaluate how appropriate the amount of foreign reserves is show that the level is proper for the country. An indicator that is used internationally to measure the proper level of foreign reserves is the methodology known as *assessing reserve adequacy* (ARA). This metric is proposed by the IMF and provides that 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 the appropriate level is between 1.0 and 1.5. Based on figures in May 2023, the IMF ratio of reserves at the appropriate level as calculated for Colombia stood at 1.27. Other indicators used for assessing how appropriate the foreign reserves are could give warning signals regarding the foreign vulnerability of economies. Included among these are the ratios of foreign reserves to monetary aggregates, short-term foreign debt, and the current account deficit. In the case of Colombia, these indicators suggested that the level of reserves was an appropriate one as of June 2023.

Banco de la República's **Profits**

Banco de la República's profit amounted to COP 4,049 b during the first half of 2023 as a result of COP 6,423 b in revenue and COP 2,374 b in expenses. Revenue was mostly driven by the yield on foreign reserves and, to a lesser extent, by the yield on TES held by the Bank and expansion repos.

In particular, the return on foreign reserves registered on the Bank's income statement amounted to COP 3,533 b, explained, to a large extent, by the interest accrued on the reserves' investment portfolio. The income, in turn, generated by the TES portfolio held by *Banco de la República* and by expansion repos amounted to COP 1,927 b and COP 729 b respectively. In both cases, there was an annual increase in accumulated yields up to June.

Expenditures are mostly due to the remuneration on national government deposits at the Bank as well as contraction deposits, and corporate expenses. Monetary expenses from January through June amounted to COP 1,824 b, mostly due to the COP 1,495 b in remuneration for government deposits at the Bank and COP 199 b in contraction deposits. In both cases, the higher remuneration was linked to increases in both the monetary policy interest rate and average volumes in the first half of 2022. Corporate expenses, in turn, totaled COP 424 b since they rose 6.6% on an annual basis.

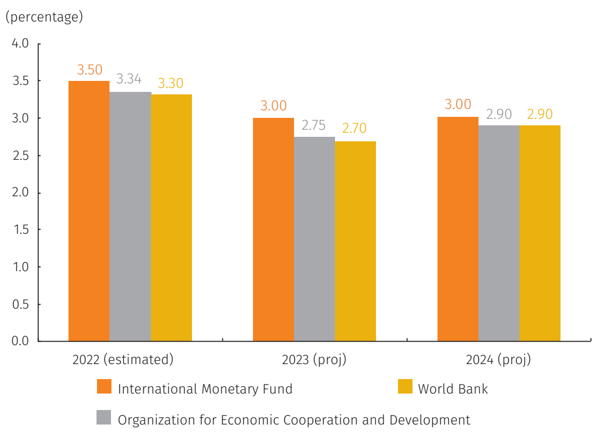
Profit for 2023 is projected to be COP 8,408 b and higher than the profit earned in 2022 (COP 1,506 b) and will probably come mainly from the yield on foreign reserves. The expected return on reserves could be a response to high foreign interest rates. The Bank's revenue in 2023 will probably be COP 9,851 b higher than what had been seen in 2022, and this will largely support the higher expenditures of COP 2,950 b expected for the year. It should be noted that the estimated result assumes that the expected level of earnings will be extraordinary in nature and that this level could be subject to downside risk.

2. Macroeconomic Environment

2.1 Change in and Outlook for the International Macroeconomic Environment

The global economy continued to expand in the first quarter of 2023 although, for the full year, international organizations expect a lower growth rate compared to what had been registered in 2022. According to the Organization for Economic Co-operation and Development (OECD)[10] global GDP grew by about 2.6% in annual terms in the first quarter of 2023. The relatively favorable dynamics of the services sector, the gradual improvement in consumer confidence, and the normalization in global supply chains stand out. In particular, the annual growth of large emerging economies such as China (4.5%), India (6.1%), Indonesia (5.0%), and Brazil (4.0%) as well as the resilience of annual growth in the United States (1.8%) for the first quarter of the year were notable. Going forward, a downturn is expected in global economic growth in a context of high monetary policy interest rates to address inflationary pressure in a broad group of countries as well as some weakness in the manufacturing sector. Thus, international organizations expect global economic growth for the whole of 2023 to be between 2.7% and 3.0%, which is lower than the figure registered in 2022 (Graph 2.1). The largest declines in growth could occur in the group of advanced economies which, according to the International Monetary Fund (IMF),[11] are likely to go from 2.7% growth in 2022 to 1.5% this year. Global growth is expected to improve marginally by 2024 as a result of moderating inflation, the end of monetary policy rate hikes in advanced countries, and improved international financial conditions. In general, international uncertainty remains high due to the risks associated with developments in Russia's invasion of Ukraine, additional geopolitical tensions, the performance of credit in the United States, and the volatility of the international financial markets, etc.

Graph 2.1
Global Economic Growth
(annual change)



proj: projected.
Source: International Monetary Fund (July 2023), Organization for Economic Cooperation and Development (June 2023) World Bank (June 2023).

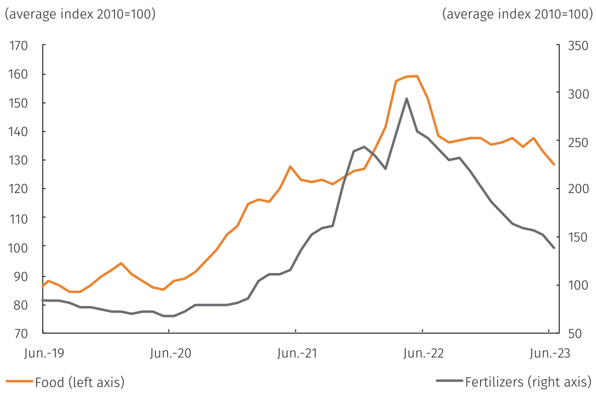
The international price of crude oil showed a downward trend in the first half of 2023 and was lower than it had been during the same period in 2022. The crude oil price for the Brent benchmark averaged close to USD 80 per barrel (bl) in the first half of the year and was down about 24% compared to the same period in 2022 (Graph 2.2, panel B). This occurred in the middle of rising production and a better outlook in

10 OCDE (2023). *OECD Economic Outlook*, vol. 2023, issue 1, no. 113, OECD Publishing, Paris, https://doi.org/10.1787/ce188438-en

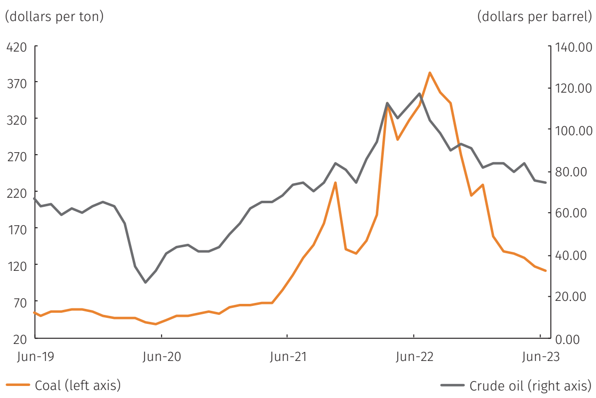
11 FMI (2023). *World Economic Outlook Update*: Near-Term Resilience, Persistent Challenges, Washington, D. C., July.

Graph 2.2
International Prices of Some Raw Materials

A. Price index of agricultural goods



B. International Crude Oil and Coal Prices



Source: World Bank and Bloomberg.

countries outside the Organization of the Petroleum Exporting Countries (OPEC+), ample availability of crude oil from Russia, and increased exports from Iran and Venezuela. Added to the above is the oil price cap on Russian crude oil and the annual increase in inventories of crude oil and other liquid fuel in OECD countries. However, production cuts by OPEC+ have limited the current and expected growth in the global supply of crude oil and provided support for oil prices. Demand factors, in turn, are also putting downward pressure on prices. These include risks to global growth, the weaker recovery of China's economy, an adequate supply of natural gas in Europe, and high monetary policy interest rates in several major advanced economies. In this context, the prices of other commodities, such as coal and copper, have also declined from the highs reached the previous year. Forecasts from the US Energy Information Administration's July report indicate that the average Brent crude oil price will probably stand at USD 79.3 bl in 2023 and USD 83.5 bl in 2024.

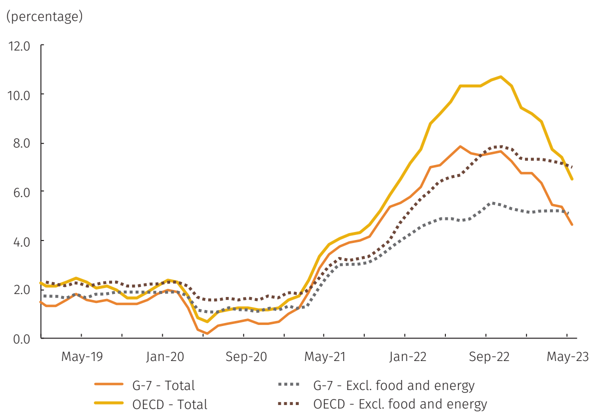
International food prices have declined so far this year as of June compared to a year ago. Nevertheless, they remain elevated and above pre-pandemic values (Graph 2.2, panel A). The World Bank's international food price index declined 15.2% in June 2023 compared to the same month of the previous year. The decrease in the price of vegetable oil and cereal, such as wheat and corn, is noteworthy. According to the Food and Agriculture Organization of the United Nations (FAO), the prices of these foodstuffs declined due to the favorable outlook for their supply[12] and weak demand for some of them. In addition, the price of fertilizer fell 45.3% on an annual basis for the same month in the middle of the decline in the natural gas price in Europe and the improvement in global supply chains. Sugar and rice, in contrast, are noteworthy among the products with annual price increases. According to World Bank projections in its April report,[13] the composite food index is expected to decline 7.9% in 2023 and 2.8% in 2024 although this indicator is still likely to be above the pre-pandemic level. However, there is concern due to Russia's suspension of the grain agreement in mid-July 2023. This affects food exports from Ukraine and could increase the price of some foodstuffs such as wheat.

Global annual headline inflation declined in the first half of 2023 in the midst of monetary policy tightening, economic downturn, lower prices for raw materials, and the normalization of global supply chains. However, core inflation is proving

12 Grain supply benefited from the Black Sea grain agreement that allowed the export of these products from Ukraine until June 2023. In addition to this, some of these crops have better harvest prospects.

13 World Bank Group (2023). Commodity Markets Outlook: Lower Prices, Little Relief, April, World Bank, Washington, D. C.

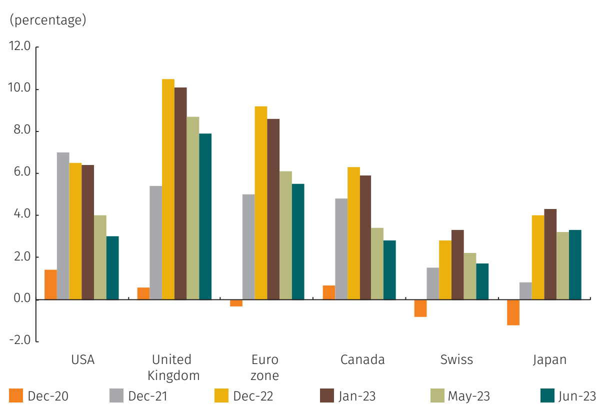
Graph 2.3
Total Consumer Inflation and Consumer Inflation Excluding Food and Energy for G7 and OECD



Source: Organization for Economic Cooperation and Development.

Graph 2.4
Total Consumer Inflation

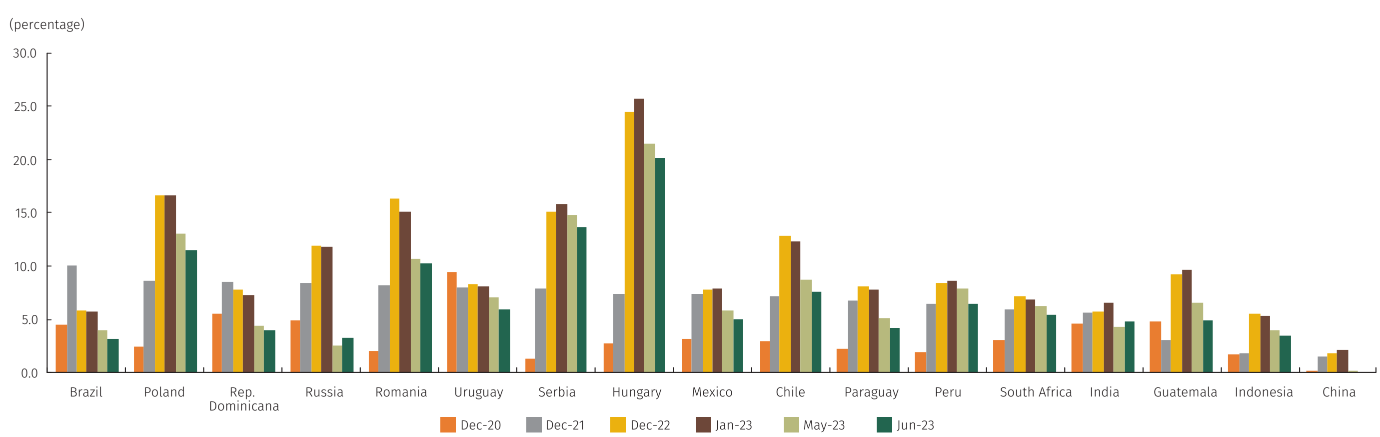
A. Some Advanced Economies



to be more persistent. After the recent peak in October 2022 (10.7%), annual headline inflation for OECD member countries declined and stood at 6.5% in May 2023 (Graph 2.3). The above is occurring in a context of lower fuel, energy, and food prices as well as a certain decrease in the pressure on demand for goods and a reduction in global supply bottlenecks. However, for OECD countries, inflation excluding food and energy remains relatively high and persistent as it stood at 6.9% in May after reaching 7.8% in October 2022. The IMF expects this to continue for the full year and that the average total global inflation will go from 8.7% in 2022 to 6.8% in 2023 and 5.2% in 2024. At the same time, average annual core inflation[14] would only go from 6.5% in 2022 to 6.0% in 2023 and 4.7% in 2024. According to the OECD, the greater persistence of core inflation is due, in part, to elevated inflationary pressure in the services component, tight labor markets, and the normalization of demand patterns from goods to services.

Inflation in a large group of countries will probably be remaining above target as of the end of 2023. Total annual inflation in the advanced economies continued to decline in June 2023 after the high levels registered at the end of 2022 (Graph 2.4, panel A). Total annual inflation in the United States and Canada, in particular, moderated as it reached 3.0% and 2.8%, respectively, in June. However, in some advanced economies, annual core inflation rose with respect to the values seen at the end of 2022. Indeed, annual core inflation for the euro zone stood at 5.5% in June 2023 compared to 5.2% in December 2022. In contrast, there was a widespread reduction in total annual inflation in the majority of emerging economies in June 2023 with respect to the values seen at the end of the previous year. Likewise, for the same month of June, total inflation continued to ease in the main Latin American economies such as Brazil

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



Source: Bloomberg.

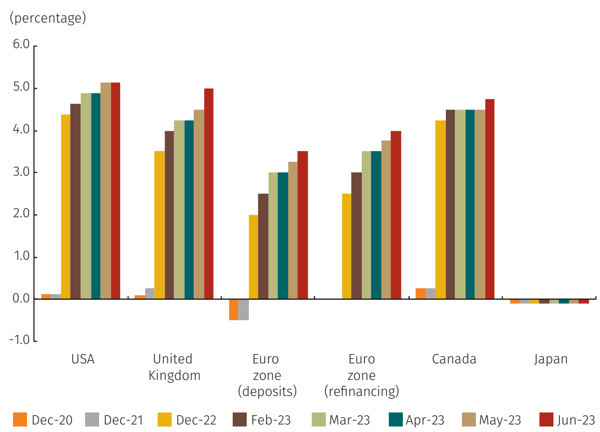
14 This corresponds to the inflation that excludes energy prices and volatile food prices.

(3.2%), Mexico (5.1%), Peru (6.5%), and Chile (7.6%)[15](Graph 2.4, panel B). However, according to the OECD, inflation excluding food and energy has declined in some of these countries at a slower pace than total inflation has.

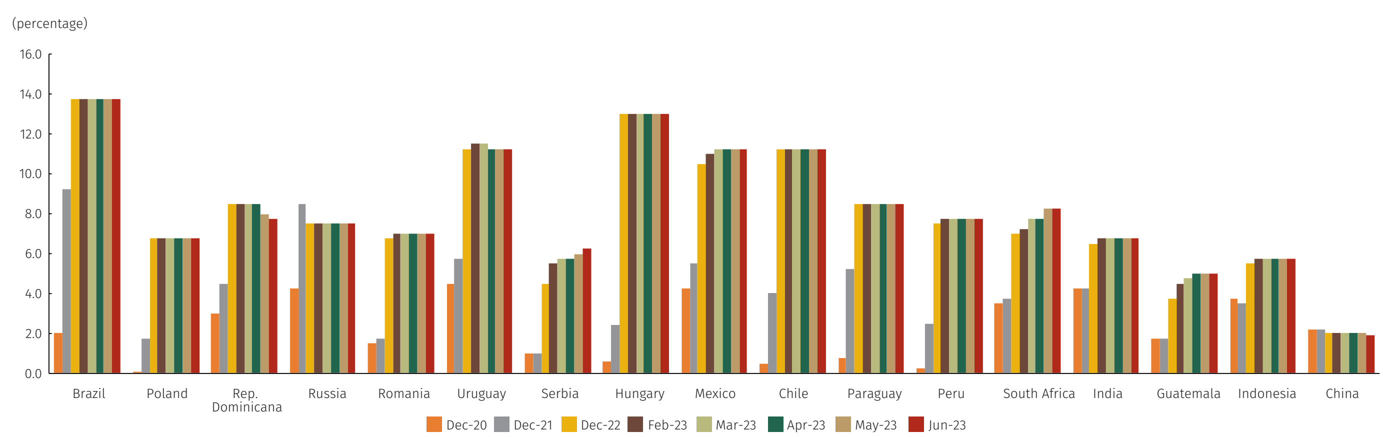
Most central banks in the major advanced economies raised their benchmark interest rates during the first half of 2023. Moreover, in some cases, there could be additional increases during the remainder of the year (Graph 2.5, panel). The U.S. Federal Open Market Committee (FOMC) raised its monetary policy rate 25 basis points (bp) three times in the first half of 2023 and thus placed it in a range between 5.00% and 5.25%. These levels have not been seen since 2007. Subsequently, the FOMC maintained its benchmark rate at its June meeting and noted that the monetary policy tightening cycle had not reached its terminal rate in a tight labor market, high persistence in the core inflation component, and lower stress in the banking system in the wake of the failure of some regional banks a few months earlier. Moving forward, the median of the FOMC projections and the futures associated with the policy rate suggest a higher benchmark rate in the second half of 2023 compared to what was seen earlier in the year.[16] Moreover, the central banks of some of the major advanced economies continued to tighten monetary policy during the first half of the year. Thus, the policy interest rates have registered a 150 bp rise in the euro zone and United Kingdom as well as 50 bp in Canada so far in 2023 compared to the levels seen in December 2022 and stand at 4.0%,[17] 5.0%, and 4.75% respectively. In the second half of the year, additional rate increases

Graph 2.5
Monetary Policy Interest Rate

A. Some Advanced Economies



B. Some Emerging Economies and in the Region



Source: Bloomberg.

15 Total annual inflation in December 2022 for Brazil, Mexico, Peru, and Chile was 5.8%, 7.8%, 8.5%, and 12.8% respectively.

16 FOMC raised its monetary policy rate 25 bp at the July meeting and set it in a range between 5.25% and 5.5%.

17 This refers to the rate for the main refinancing operations (MRO). The deposit facility rate (DFR) will be 3.5% in June 2023, and the marginal lending facility rate (MLF) will be 4.25%.

are expected in the euro area[18] and the United Kingdom and, in general, monetary policy rates in the majority of advanced economies are not likely to decline in 2023.

In several emerging economies, monetary policy rates are expected to remain in contractionary territory in the second half of 2023. There were 25 bp increases in monetary policy rates during the first part of 2023 in Indonesia, India, Romania, and Peru compared to the levels registered in December 2022 that placed their rates at 5.75%, 6.75%, 7.0%, and 7.75% respectively. Moreover, over the course of the first half of the year, the central bank of Mexico raised their rate 75 bp and thus placed it at 11.25% while the Reserve Bank of South Africa raised theirs 125 bp to place it at 8.25%. Countries such as Brazil, Chile, and Poland kept their benchmark rates stable and high from the beginning of the year to June (Graph 2.5, panel B). In contrast to the synchronized cycle of global monetary policy tightening, in the case of China, where inflation has remained low and reached 0.0% as of June of this year, the seven-day repo rate set by the People's Bank of China stood at 1.9% in June and is lower than the 2.0% seen at the end of 2022 and the 2.5% registered before the pandemic.

The dynamics of international financial markets have been influenced by the uncertainty surrounding the future of inflation, economic growth, and global monetary policy, as well as by specific events of risk aversion. So far this year, in turn, there has been a greater global appetite for risky assets. Interest rates in developed economies have been volatile throughout2023.[19] On the one hand, the persistence of inflationary pressure that is keeping inflation above the central banks' target; the strength of the labor market in developed economies and, based on this, comments by several officials in favor of maintaining a contractionary monetary policy stance put upward pressure on interest rates in these economies. On the other hand, the rise in the probability that developed economies will experience a recession during the next twelve months, together with what happened in some regional banks in the United States and what occurred with Credit Suisse in Europe, has generated specific episodes of risk aversion that temporarily put downward pressure on interest rates in advanced economies. However, following these events, risk perception indexes have declined worldwide due to the lower uncertainty regarding international financial stability and the approval of a new U.S. debt ceiling (Graph 2.6). Against this backdrop, stock market indices have become more robust in the main developed economies.

Interest rates on sovereign bonds have declined in most emerging economies. This performance has been associated with market projections of ending the interest rate hike cycle in these economies and, in some cases, with expectations of interest rate cuts in the coming months. This, in addition to the downward trend in inflation and its expectations, contributed to the favorable performance of public debt securities. Moreover, the increased appetite for risky assets around the globe has also contributed to reinforcing sovereign bonds in emerging economies (Graph 2.7).

There have been net inflows of foreign portfolio investment to emerging economies as of May for an amount greater than what was seen in 2022 on the same

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18 The European Central Bank raised its benchmark rates 25 bp at its July meeting.

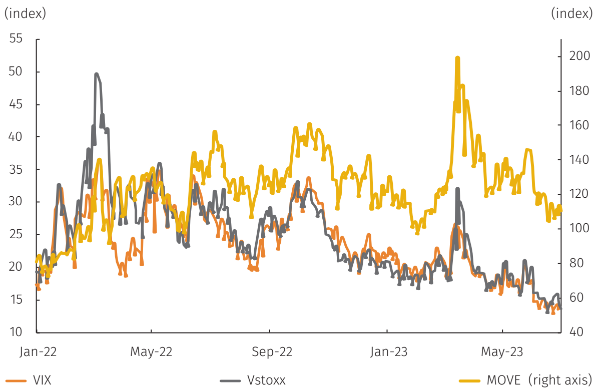
19 The one-month implied volatility indicator for U.S. Treasuries options as the underlying security (Move) reached a level close to 200 in March, which had not been seen since the 2008 financial crisis. Though this has declined considerably since then, it still stands at around 100, above the average level of 63 seen during the year prior to the start of the pandemic.

date. Based on preliminary figures published by the Institute of International Finance (IIF), there have been USD 87.6 billion (b) in net inflows of foreign portfolio investment to emerging markets over the course of 2023. This performance is due to inflows of USD 55.3 b and USD 32.3 b into the debt and stock markets respectively.[20] In spite of the overall positive outlook, May is the fifth consecutive month of outflows from China's debt market and marginal inflows into Chinese stocks (Graph 2.8). According to the IIF, inflows into fixed-income markets have been supported by appreciations in local emerging market bonds that have shown remarkable resilience this year.

In the case of Latin America, portfolio capital flows have shown net inflows, mainly to the fixed-income market. Latin America has had inflows totaling USD 18.5 b so far in 2023, of which USD 10.2 b and USD 8.3 b went to the debt and equity markets respectively.

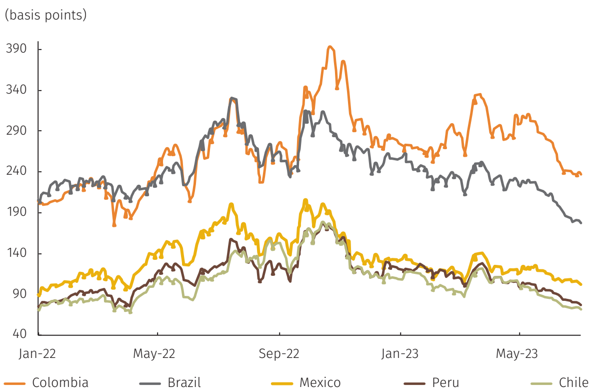
The U.S. dollar has been volatile so far in 2023 amid changes in expectations regarding the magnitude of monetary tightening by the Federal Reserve (Fed) and some specific events that have generated greater risk aversion. Compared to the end of last year and with information as of June 30, the DXY was down 0.6%.[21] The marginal weakening of the dollar is the result of expectations of a pause in the monetary tightening cycle by the Fed and of higher interest rate hikes by central banks in other developed economies. However, the index has been highly volatile so far this year in the wake of the publication of mixed economic data in the United States and various comments by some members of the Fed regarding the direction of monetary policy. Also, some factors that pushed the index up were the risk aversion caused by the problems in some regional banks in the United States and Europe (Credit Suisse), and the uncertainty regarding the U.S. debt ceiling negotiations.

Graph 2.6
Indicators of Risk Perception in International Financial Markets



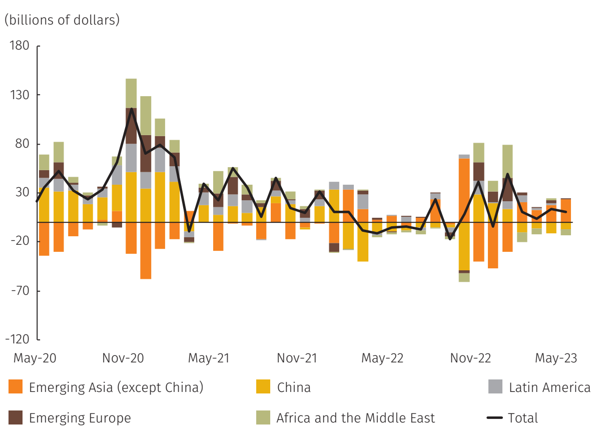
Source: Data License, Bloomberg.

Graph 2.7
Risk Premia (5-year CDS) for some Economies in the Region



Source: Data License, Bloomberg.

Graph 2.8
Portfolio Flows to Emerging Economies from Non-residents



Source: IIF.

2.2 Change in and Outlook for the Economy and Labor Market

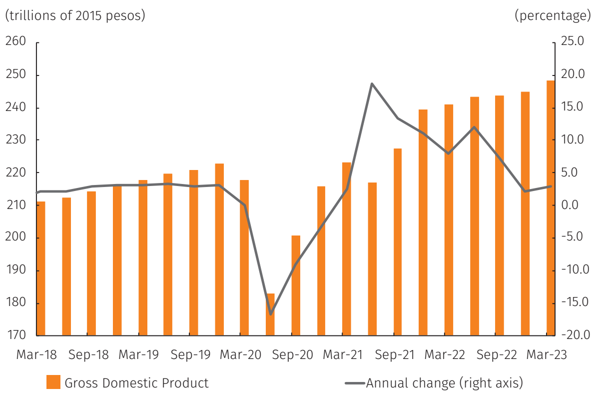
2.2.1 Economic Activity

The pace of expansion of the Colombian economy continued to moderate during the first half of 2023 as it moved towards a more sustainable trajectory compatible with price stability in the long term. According to DANE's most recent publication,

20 There were net outflows of USD 1.8 b in foreign portfolio investment into emerging markets during the January to May 2022 period because of USD 24.7 b in outflows from the equity market and USD 22.8 b in inflows into the debt market.

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

Graph 2.9
Gross Domestic Product (GDP)[a/]
(quarterly and annual change)



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

the GDP registered 7.3% annual growth for all of 2022, one of the highest in the global economy. Nevertheless, this growth began to decline in the third quarter of last year, partly in response to a less relaxed monetary policy stance. The trend towards a slowdown has been expected to continue over the course of 2023 as shown by the first quarter GDP figures released by DANE in May. During this period, the GDP expanded at an annual rate of 3.0% (Graph 2.9), which is lower than the average rate seen during 2022. Information available to date, such as the economic tracking index (ETI) for April and May (which grew at an average annual rate of -0.12%), suggests that this trend continued during the second quarter. In addition to tighter monetary policy, other factors that could explain this trend include less abundant foreign financing, terms of trade that have declined, slower growth of our trading partners, and an uncertainty among consumers and investors that is still high. This more moderate growth could be allowing a downturn in the excess demand faced by the economy last year. This should contribute to a decrease in inflation and its convergence to the target by the end of next year.

The slowdown in the pace of economic growth seen since the second quarter of 2022 has centered on domestic demand, particularly consumption. After showing double-digit annual growth towards the middle of last year, domestic spending began to slow down in the third quarter of that year (Table 2.1), and this trend has continued in the first half of 2023. In fact, based on DANE figures, domestic demand registered negative growth in the first quarter of this year for the first time since the post-pandemic recovery. The indicators available as of the second quarter also point in this direction. Based on components, private consumption, which accounts for the largest share of domestic demand, was the largest contributor to this slowdown in the first quarter, and the same thing probably happened in the second quarter although it may have continued at high levels. The slowdown in the annual growth of household spending has been seen in both the consumption of goods and of services and is likely to have been the result of tighter monetary and financial conditions coupled with an environment of low levels of both consumer confidence and accumulated household savings (which may have already been depleted), partly resulting from government transfers during the health emergency (see Box 1). Moreover, public consumption could have also contributed to the adjustment in domestic demand given that its annual growth in the first quarter was zero and that an annual decline was expected for the second quarter.

Investment, which reached record highs in 2022, began to show adjustments to its main components over the course of 2023. The main source of this correction has been investment in machinery and equipment which, in the first quarter of the year, showed declines in both quarterly and annual terms,

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

	2022				2022	2023
	Q1	Q2	Q3	Q4	Full year	Q1
Final spending on consumption	10.1	13.5	6.8	1.6	7.9	2.4
Final spending on household consumption	11.1	14.9	9.0	3.9	9.5	3.0
Non-durable Goods	5.1	6.7	2.7	1.2	3.9	1.3
Semi-durable Goods	25.8	37.7	5.9	-2.2	14.9	-3.2
Durable Goods	11.0	23.3	3.0	-8.3	6.5	-8.1
Services	13.4	17.7	14.6	8.9	13.5	6.5
Final spending on general government consumption	5.5	6.0	-3.6	-6.3	0.3	0.0
Gross Capital Formation	20.6	10.5	18.2	18.0	16.8	-9.6
Gross Fixed Capital Formation	10.0	12.5	14.7	8.5	11.4	-1.7
Housing	2.0	5.7	10.2	0.6	4.5	11.4
Other buildings and structures	-2.5	4.2	10.9	-8.9	0.4	-2.4
Machinery and Equipment	28.0	24.2	20.5	25.3	24.5	-7.9
Cultivated biological resources	-11.9	-10.7	-4.7	0.9	-6.8	1.5
Intellectual property products	14.5	16.9	15.0	3.6	12.4	0.6
Domestic demand	12.5	13.1	9.0	3.7	9.4	-0.2
Exports	19.7	27.7	16.3	-0.9	14.8	4.9
Imports	38.6	25.0	21.5	7.5	22.3	-7.4
GDP	8.1	12.1	7.2	2.2	7.3	3.0

Source: DANE, calculations by *Banco de la República*.

mainly in transportation equipment, and was a trend that was likely to continue in the second quarter. Investment in other buildings and structures (including public works and non-residential buildings) did not perform favorably in the first half of 2023 either to the extent that its levels continued to stagnate at the beginning of the year and show a negative annual change. Therefore, no relevant changes in this performance are expected in the second quarter. In contrast, investment in housing has registered a better trend as it has managed to remain at relatively high levels and higher than the ones seen pre-pandemic, registering annual increases of more than 10% in the first quarter of the year and probably in the second quarter.

The trade deficit has started adjusting from the historical highs reached in 2022 due, mainly, to the decline in imports. The significant moderation in the value of imports that has been seen since the third quarter of 2022 has been consistent with the weakening of domestic demand, specifically of private consumption and investment in machinery and equipment. Exports, in turn, based on figures for the first quarter of the national accounts and some preliminary ones for the second quarter indicate that they have remained at relatively high levels so far in 2023. Due to the above, the trade deficit declined, during this period, from its historical peak in 2022 and went to levels close to those of mid-2021. It should be noted that the 2021 levels were already high compared to the figures seen before the pandemic.

With respect to supply, the primary and secondary sectors registered the greatest slowdown in annual growth during the first quarter.[22] Tertiary activities declined much less, and this was due primarily to the continued strong performance of the arts and entertainment sector given the boom in online gaming and sports betting as well as to the significant growth in the financial and insurance sector. In primary activities (agriculture and mining), the slowdown was concentrated in the coffee, coal, and crude oil segments which continued to register levels that were much lower than those seen prior to the pandemic. The lower growth of secondary activities, in turn, is the result of the poor performance of the construction sector in both the public works and building sub-branches (Table 2.2) The indicators available for the second quarter suggest that sectoral trends are likely to have continued.

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

	2022				2022	2023
	Q1	Q2	Q3	Q4	Full year	Q1
Agri-business, Forestry, Hunting, and Fishing	-2.6	1.0	-1.4	-4.0	-1.8	0.5
Mining and Quarrying	1.0	2.5	5.5	-2.3	1.6	3.5
Manufacturing Industry	8.5	21.5	7.4	3.4	9.8	0.7
Electricity, Gas, and Water	5.1	7.6	2.9	1.6	4.3	1.4
Construction	5.3	9.3	13.9	-1.6	6.5	-2.8
Buildings	10.4	11.8	21.7	4.9	12.0	2.7
Public works	-6.1	3.0	0.8	-11.9	-3.7	-15.2
Specialized Construction Work	6.2	9.7	14.6	-0.5	7.3	-3.1
Commerce, Repairs, Transportation, & Accommodations	14.4	21.5	10.0	0.4	11.1	0.4
Information and Communications	20.0	17.8	13.8	5.3	13.9	3.0
Financial and Insurance Business	-3.4	11.2	9.4	8.6	6.5	22.6
Real estate	2.2	2.1	2.0	1.7	2.0	1.9
Professional, Scientific, and Technical Work	9.6	12.1	8.2	3.2	8.2	2.1
Public administration and Defense, Education, Health	4.0	6.6	0.4	-2.6	2.1	1.6
Artistic, Entertainment, and Recreational Activities	41.4	37.0	39.3	41.8	39.9	18.5
Subtotal value added	7.7	12.0	6.8	1.8	6.9	2.8
Taxes minus subsidies	11.5	13.1	11.0	5.7	10.2	4.5
GDP	8.1	12.1	7.2	2.2	7.3	3.0

Source: DANE, calculations by *Banco de la República.*

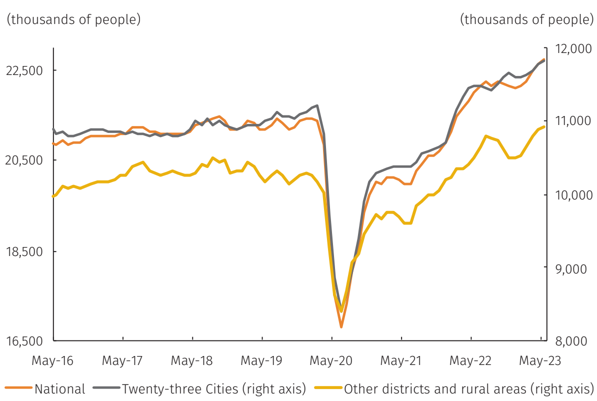
22 The primary branches are agriculture, livestock, fishing, logging, and mining. Secondary sectors are the industrial sector and construction. The tertiary sector consists of services in general such as, for example, financial, transportation, commercial, and professional services.

The GDP is expected to continue to show moderate growth rates for the remainder of the year and through 2024. The forecasts of the technical staff at *Banco de la República* point to a further slowdown in annual GDP growth for the remainder of the year in an international environment that is likely to remain unfavorable given that foreign financial conditions will probably remain tight, the growth of our trading partners could be low, and the terms of trade are likely to stay below those registered in 2022. This is also due to the poor performance of investment, particularly in construction. Contractionary monetary policy will continue to contribute to this adjustment process. Because of the downturn in growth, the excess demand that exceeded the productive capacity of the economy[23] should be zero by the end of this year. This will likely reduce inflationary pressure and facilitate the convergence of inflation to the target. These factors are also expected to enable an additional closing of the current account deficit. With all this, the technical staff at *Banco de la República* is forecasting a figure of GDP growth close to 0.9% for 2023. One percent growth is expected for next year since the economy will have to finish its adjustment, facilitating inflation to complete its convergence to the target. This would allow the economy to move forward on a more balanced growth trajectory that is more compatible with its productive capacity, the resources available in the country, and price stability.

2.2.2. Labor Market

Employment has continued to grow so far in 2023 while performing better in rural areas. Based on the data in the quarterly moving average from the *General Integrated Household Survey* (GEIH),[24] there was a 3.4% annual change in employment in the national aggregate as of May 2023 which represents the creation of 757,000 jobs. By geographic domains, the trend of employment so far in 2023 was largely caused by the recovery of employment in rural areas in contrast to what was seen during the second half of 2022 (Graph 2.10). Rural employment, in particular, grew 4.0% between May 2022 and 2023. This figure is higher than the one seen in urban areas (2.9%). This employment performance is reflected in the employment rate (ER) of the national aggregate which, as of May 2023, had grown 1.1 pp annually and stood at 57.7%. The ER in rural areas, in turn, grew 1.4 pp and 0.9 pp in urban areas in May thus placing the ER at 56.9% and 58.4% respectively. By economic sector, the largest contributions to the annual change in employment in the national aggregate were made by the trade and lodging (1.3 pp), manufacturing (0.6 pp), and professional occupations (0.5 pp).

Graph 2.10
Employed Population by Geographic Domain

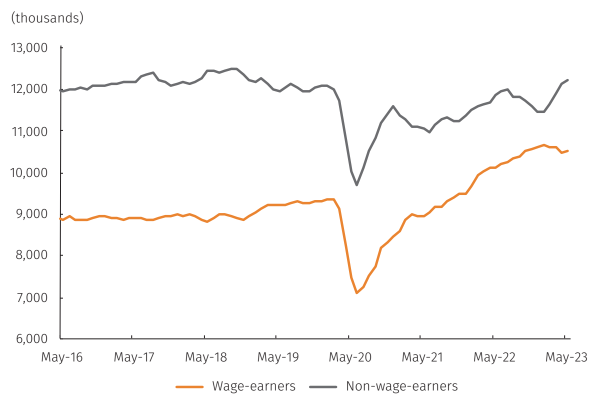


Note: data on a quarterly moving average and seasonally adjusted.
Source: DANE (GEIH), calculations by *Banco de la República*.

23 The historical estimate of the output gap is calculated from the difference between actual GDP and potential (trend) GDP.

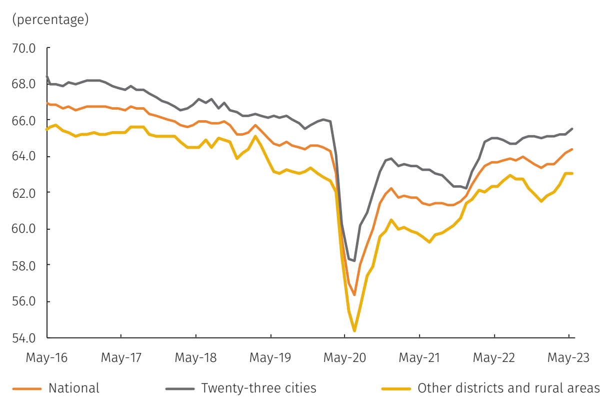
24 The analysis of the labor market presented in this report is based on data from the quarterly moving average and is seasonally adjusted.

Graph 2.11
Employment by Occupation (national aggregate)



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

Graph 2.12
Overall Participation Rate by Geographical Domain



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

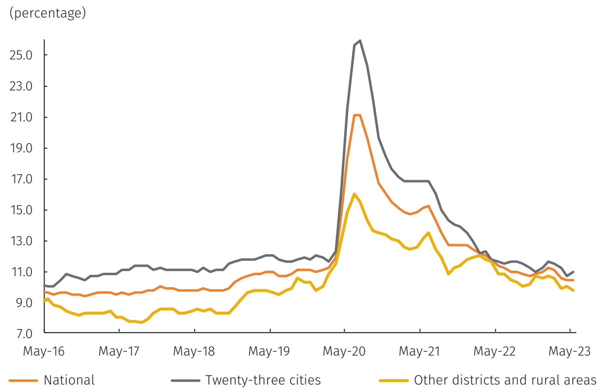
The salaried and formal segment of employment has stabilized, so recent employment gains have been driven by the informal segment. The salaried segment, which had been a major driver of job creation during the post-pandemic period, has shown a tendency to stabilize during 2023. In fact, in May 2023 when the levels are compared to those registered at the end of last year, this segment had contracted slightly and was at 0.8% in December 2022. The non-salaried segment, in turn, had registered a rapid and significant growth on the order of 6.4% during the same period in line with the improved employment in rural areas that is characterized by these types of occupations (Graph 2.11). The slight rise in the informality rate (IR) during 2023 was due to the increase in non-salaried employment and the stagnation of salaried employment. As a result, IR stood at 57.3% in May 2023. This figure is slightly higher (by 0.3 pp) than what had been registered in December 2022 when IR closed the year at 57%.

A modest recovery in labor participation has been registered in the national aggregate primarily due to the rural sector while in the urban domain it remains stable. Labor participation, measured through the overall participation rate (OPR) rose 0.6 pp annually in May 2023 and stood at 64.3% (Graph 2.12). The growth of OPR was driven by the recovery in the rural areas where it grew 0.7 pp between May 2022 and 2023 while the urban area remained relatively stable (0.5 pp) during the same period. By gender, in turn, the rise seen in this indicator was higher for women (1.2 pp) compared to the one for men (0.1 pp).

The unemployment rate continued to fall in all aggregates given the positive employment dynamics. Lower increases in OPR relative to those of employment led to reductions in the UR. Specifically, in the national aggregate, the UR stood at 10.4% in May. In line with what happened with employment, this performance of the national UR was the result of a greater decrease in UR in the rural areas compared to the urban areas. These two stood at 9.7% and 11.0% respectively (Graph 2.13). By gender, the better labor demand for women has resulted in an annual reduction in their UR (-1.1 pp) that is greater than the one seen for men (-0.8 pp). Thus, the gender gap for UR stood at 4.8 pp in May.

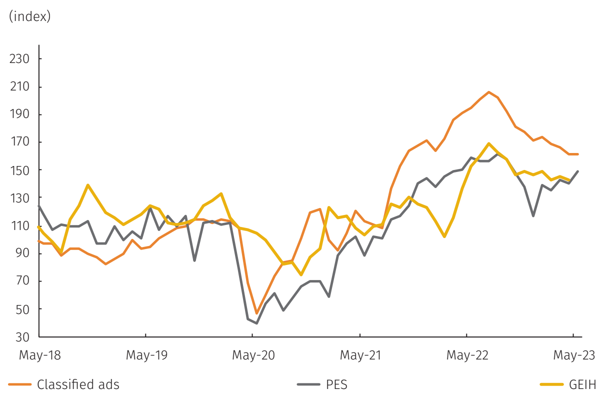
Labor demand indicators such as job openings show mixed signals. Nevertheless, surveys of expectations suggest a lower trend for salaried employment in the near future. The job opening index calculated on the basis of classified ads showed continuous contraction during the first half of 2023. Meanwhile, the indicator calculated on the basis of data from the Public Employment Service (SPE) and the estimate based on the hiring reported in the GEIH suggest a certain stability

Graph 2.13
Unemployment Rate by Geographical Domain



Note: data on a quarterly 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. GEIH data is available up to April 2023. Monthly and seasonally adjusted data.
Sources: Arango (2013), Public Employment Service (SPE), and Morales and Lobo (2021); calculations by *Banco de la República*.

in labor demand, albeit at historically high levels (Graph 2.14). The currently high levels of job openings and reductions in UR suggest that the labor market remains tight. Nevertheless, hiring expectations as of April based on *Banco de la República*'s *Quarterly Survey of Economic Expectations* (ETE) indicate lower employment for the salaried segment in the near future. Thus, the difference between business owners who plan to increase their workforce and those who expect to reduce it over a three-to-six-month horizon is 1.7 pp and is lower than the figure registered in January 2023 (2.7 pp). In line with the above, the projections for UR suggest that this indicator could show slight increases over the remainder of 2023. This forecast, along with lower hiring expectations, indicates that the tightness in the labor market may begin to ease in the second half of the year.

2.3 Change in and Outlook for Fiscal Situation

After the deterioration of the fiscal accounts generated by the covid-19 pandemic, the general government (GG) fiscal deficit decreased in 2022.[25] The GG's fiscal accounts were substantially affected in 2020 and 2021, mainly as a result of the effect of the Covid-19 pandemic on the Central National Government's (CNG) revenue collection and public spending. Indeed, the GG deficit stood at 7.1% of the GDP in 2021 and contrasted with the 2.6% deficit in 2019. The deterioration of the social security sub-sector (given the lower yields of FONPET and FGPM), together with the expansion in the deficit of the Fuel Price Stabilization Fund (FEPC in Spanish)[26] between 2021 and 2022 (due to the higher difference between the international parity price and producer income) led to the fact that the improvements seen in the CNG fiscal accounts in said period were not reflected in a significant correction of the GG fiscal deficit which, in 2021 and 2022, stood at 7.1% and 6.5% of the GDP[27] respectively.

25 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 entities and funds (the remainder of the central level) within which the FEPC is included.

26 "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). This results from considering both the international benchmark price of LF and 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).

27 The most recent figures from DANE's institutional economic accounts reveal a GG deficit of 5.2% of the GDP for 2022, down from 7.7% in 2021.

The CNG public finances registered a significant correction in 2022 that was larger than the one seen in the GG. This was largely supported by the boost in tax collection due to the recovery of economic activity. Starting from the already high levels of indebtedness in 2019, the covid-19 pandemic resulted in a drop in tax collection and an expansion of government spending that led to a deterioration of the CNG's fiscal deficit and debt. This imbalance has not yet been fully reversed. The CNG fiscal deficit was 7.8% of the GDP at the end of 2020 (versus 2.5% in 2019) while the net debt reached 60.7% of the GDP (versus 48.4% in 2019), This reflects the magnitude of the shock faced by the Colombian economy and its effect on the deterioration of the fiscal accounts. Supported by an expansionary monetary and fiscal policy, the process of economic recovery began in 2021. The positive trajectory of economic growth continued in 2022, and this favored tax revenue, which rose 30.7% during that period. This allowed for a decrease in the GNC fiscal deficit, which represented 5.3% of the GDP at the end of 2022 and was equivalent to a 1.7 pp correction compared to the deficit of 2021 (7.0% of the GDP).

The CNG's fiscal adjustment will probably continue in 2023 and reach a balanced primary balance based on figures from the most recent *Medium-Term Fiscal Framework, 2023* (*MFMP-23* in Spanish) presented by the Ministry of the Treasury and Public Credit (MHCP in Spanish). The tax reforms approved at the end of 2021 and 2022, higher crude oil revenue, and the increase in Ecopetrol's dividends and profits as well as those of *Banco de la República* are likely to lead to an improvement in the fiscal accounts in 2023. According to the MFMP-23, the CNG's fiscal deficit and net debt will probably reach 4.3% and 55.8% of the GDP, respectively, in 2023. This is likely to show a decrease and emphasize the 1.0 pp of the GDP correction of the fiscal deficit compared to 2022. The projected adjustment could lead the CNG accounts to register a well-balanced primary balance (0.0% of GDP) that would contrast with the primary deficit seen between 2020 and 2022 (3.2% on average). The *MFMP-23*, in turn, forecasts that total CNG spending will reach 23.6% of the GDP in 2023 and will be higher than what was seen in both 2019 (18.7%) and 2020 and 2021 (23.1%). When the 2023 spending level is broken down, it is made up of an interest expenditure that amounts to 4.3% of the GDP,[28] payments made by the Nation to cover the FEPC net position of 1.6% of the GDP, and a primary expenditure without FEPC that will probably reach 17.6% of the GDP. Among the factors that led to public spending not decreasing after the end of the covid-19 pandemic but, on the contrary, rising between 2020 and 2023, the most important were the higher spending pressure from interest (+1.5 pp of GDP) and from the FEPC (+1.6 pp of GDP) as well as the new Government projects proposed in the *National Development Plan*.

The fiscal deficit adjustment projected for 2023 will probably be accompanied by a reduction in the level of net debt as a percentage of GDP. Based on MFMP-23 figures, the CNG is projected to have a net debt-to-GDP level that is likely to reach 55.8% of the GDP at the close of 2023 and thus lower than the 57.9% of the GDP seen in 2022. Although this represents a decline in the public debt balance, it is likely to still be above the level prior to the pandemic (48.4% of the GDP for 2019) as well as its historical average and the anchor level of the fiscal policy (55% of the GDP).

28 As a percentage of the nation's current revenue, interest expense is estimated at around 22.5% for 2023 and is higher than the 18.2% seen in 2018-2019.

According to the MFMP-23 that was presented recently by the MHCP, the fiscal consolidation process would be supported to a large extent by a considerable increase in tax revenue in the medium term. The projections presented in *MFMP-23* indicate that the nation's tax revenue will probably reach an all-time high of 18.8% of the GDP in 2025 and, thereafter, will be around 18.1% of the GDP through 2034. Note that this level represents a significant recovery compared to what was registered in the 2020-2021 period (13.4% of the GDP) and the 2010-2019 pre-pandemic period (13.8% of the GDP). Of the nearly 5 pp of the GDP increase in tax collection between 2021 and 2025, 1.4 pp will likely come from the increased revenue from the tax reform approved in 2022, 1.3 pp will probably come from the control of tax evasion and avoidance by the DIAN, 0.6 pp from arbitration processes in litigation, and the remainder from other sources such as the tax reform of 2021 (Social Investment Law) and the effect of economic growth on non-oil tax collection.

A lower spending trend is anticipated from 2025 onwards, mainly due to lower FEPC and debt interest payments, which could also contribute to the fiscal adjustment process. The net deficit positions that the FEPC has recurrently had as a consequence of the changes seen in the international prices of liquid fuel (LF) (parity prices) that have been above local prices (producer income: PI), have translated into higher expenses for the nation. Based on MFMP-23 figures, the fund registered a deficit of 1.0% of the GDP (COP 11.4 trillion) and 2.5% of the GDP (COP 36.7 trillion) during 2021 and 2022 respectively, and a net deficit position of 1.1% of the GDP (COP 17.8 trillion) is expected for 2023. Given the above, the CNG has implemented monthly adjustments in LF prices since the end of 2022, thus contributing to gradually and partially closing the gap between parity prices and PI. This could lead to the achievement of a slight net surplus position in the FEPC in 2024 and, therefore, to the nation incurring no FEPC expenditures from 2025 onwards. This contrasts with the 1.6% and 1.0% of GDP payments expected for 2023 and 2024. In addition to the above, interest expense is likely to reach an average of 3.3% of the GDP between 2025 and 2034. This would imply a decrease of 1.2 pp of the GDP compared to the estimate for 2024 (4.5% of the GDP) as a result of the return of inflation to the target and the global normalization of interest rates.

The *MFMP-23* projects a slower process of adjustment of public finances than what was foreseen in the previous Financial Plan presented by the Government. For the 2023-2026 period, the MFMP-23 projects a balanced primary balance for the CNG for the first two years and, thereafter, an average surplus of 0.3% of GDP. This contrasts with what was previously projected in the Financial Plan when an average surplus of 0.5% of the GDP between 2023 and 2024 and 0.4% between 2025 and 2026 was foreseen. Furthermore, the CNG's net debt may have a slower decline and reach 56.9% of the GDP by 2026 based on MFMP-23 figures that are higher than the 56.3% of the GDP foreseen in the Financial Plan.

Based on the *MFMP-23* presented by the MHCP for the 2023-2034 period, the deficit targets of the fiscal rule will probably be met. With respect to this, the Autonomous Fiscal Regulation Committee (CARF in Spanish) has pointed out some risks regarding these projections. *MFMP-23* forecasts of the fiscal deficit are consistent with compliance with the fiscal rule and its transition period, and this is fundamental to ensuring the country's macroeconomic stability. As stated by CARF in its evaluation of MFMP-23,[29] there are some risks surrounding the tax collection and

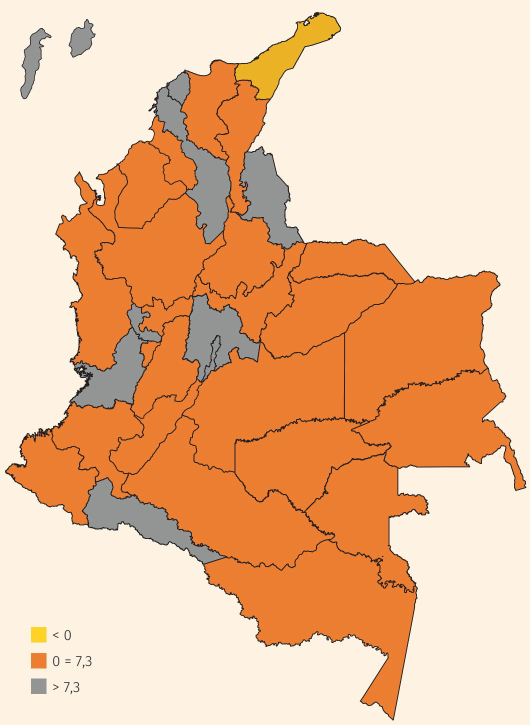
29 The Autonomous Fiscal Regulation Committee (2023).

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 possibility that neither the additional resources expected from DIAN's management nor the collection from the arbitration of litigations in charge of the same entity materialize. This would lead, on the whole, to not only lower collection levels but also a permanent spending schedule with uncertain non-structural revenue. In accordance with compliance with the fiscal rule and given assumptions about the cost of debt financing and the real growth of the economy, reducing public debt to its anchor level of 55% in 2034 will mean reaching permanent positive primary balances of about 0.4% of the GDP as of 2025. However, deviations from these primary balance-sheet assumptions due, for example, to higher interest rates or lower real GDP growth rates will probably require an additional effort to run higher primary surpluses in order to keep debt on a declining path.

Given the interaction with monetary policy, the decisions and credibility of fiscal policy play an essential role in preventing the macroeconomic adjustment from putting too much of the burden on interest rates. As has been stated, fiscal results have improved in comparison to the pandemic years. Nevertheless, in spite of the recent reduction in risk premia for Colombia, they remain high and distant from those of other emerging countries with similar characteristics. In this context, increases in the risk premia and the interest rates that the government must pay are likely to be reflected in increases in the real interest rate that the economy as a whole must pay and in upward pressure on the exchange rate which will limit monetary policy action. Therefore, it is essential to maintain a fiscal deficit trajectory that ensures the sustainability of public accounts and fosters a balanced adjustment among the economy's agents. A fiscal adjustment process that reduces the deficit and public debt gradually and in a timely manner contributes to lower country risk levels and minimizes the impact on private economic activity. Postponing this reduction or reducing it insufficiently in cases where this is necessary may result in over-adjustment by the private sector.

Shaded section 1
Regional Economy

Diagram S1.1
Real Departmental GDP, 2022
(annual change)



Source: DANE, calculations by *Banco de la República*.

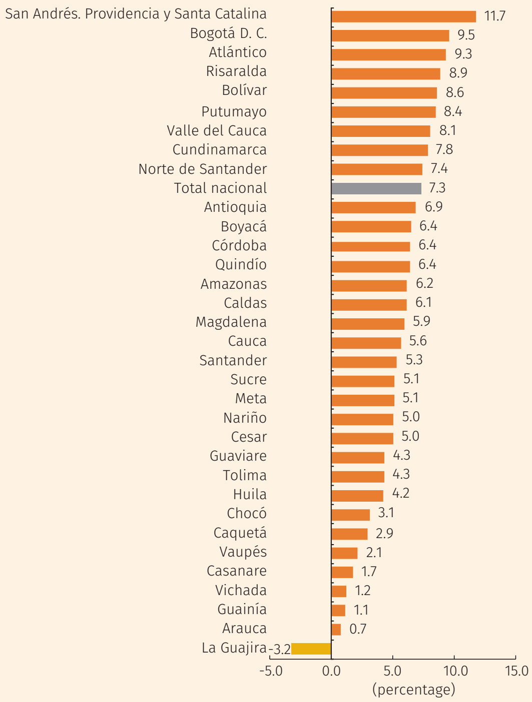
1. Overview of Departmental Economies in 2022

All of the departments in the country and Bogotá grew in 2022 with the exception of La Guajira (Diagram S1.1). Bogotá, Antioquia, Valle del Cauca, Cundinamarca, Atlántico, and Santander contributed 5.1 percentage points (pp) to the national GDP growth (7.3%). Departmental economic recovery in most of the territories was favored by an expansionary fiscal policy and a very slightly restrictive monetary policy that stimulated consumption, which had been held back by the effects of the covid-19 pandemic. The strength of departmental demand was associated with the availability of household savings, the expansion of consumer credit, improvements in labor income, and increase in remittances, in an environment without restrictions to mobility and partial shutdowns in some economic activities that characterized 2021. In spite of the rise in 2022, the pace of growth of regional economies moderated due to the upward trend in prices, higher production costs, and tighter financial conditions. In the case of La Guajira, the decline in mining and quarrying operations that accounted for 60% of its GDP was the main cause of the negative result. The significant drop in coal extraction was caused by the road blockades that affected operations at *El Cerrejón* and by a high base of comparison.

Several departments in the Caribbean region (San Andres and Providencia, Atlántico, and Bolivar), Southwest (Putumayo and Valle del Cauca), Bogotá-Cundinamarca and Risaralda exceeded national growth (Graph S1.1). On the Caribbean Coast, the performance was driven, in particular, by the reestablishment of commerce, transportation, and lodging services associated with tourism among which the arrival of cruise ships stood out. At the national level, San Andres, Providencia, and Santa Catalina was the department with the highest annual growth rate at an outstanding performance in all areas related to tourism and hotel services. In Bogotá-Cundinamarca, in turn, the performance of commerce, entertainment, and bars and restaurants that were driven by multiple mass events stood out. Finally, growth in the Southwest and Risaralda was largely due to the recovery of the productive apparatus after overcoming the plant paralysis, road blockades, and the interruption in the delivery and supply chain of goods due to the national strike in 2021.

The lowest growth rates were seen in some departments on the *Llanos Orientales* (Eastern Plains) (Guainía, Casanare, Vichada, and Vaupes) and in the Northeast (Arauca). The agricultural sector, for the most part, had negative results due to the prolonged climate phenomenon of La Niña and the high costs of supplies that disincentive planting or renovating the crops. These weather conditions affected the rice production in Casanare and oil palm production in Vichada and Casanare.

Graph S1.1
Annual Change of Departmental GDP, 2022



Note: preliminary figures.
Source: DANE, calculations by *Banco de la República*.

Mining in Guainía and Arauca, in turn, declined due to lower gold and crude oil extraction, respectively, while construction declined in Vaupes.

By sector, the largest contribution to departmental GDP growth came from the aggregate of commerce, transportation, warehousing, lodging and food services, except in Meta and Putumayo where the mining sector led, and in Cundinamarca was driven by industry. Notably, Bogotá, Antioquia and Valle del Cauca accounted for half of the national expansion of this sectoral aggregate. The lifting of the travel restrictions and indoor capacity control encouraged the influx of visitors to establishments, the reactivation of tourism, and greater spending on services outside home. Furthermore, artistic, entertainment and recreational activities had the highest annual growth rates in all territories for more than 30%. This sector's growth was characterized by concerts in Bogotá, Antioquia, Atlántico, and Valle del Cauca, while in the other territories stood out the resumption of regional festivities, sporting events and business fairs, especially in Norte de Santander, where more than a quarter of the economic growth was attributed to the performance of this activity.

Industry stood out in Cundinamarca, Atlántico, Antioquia, Valle del Cauca, Cauca, and Risaralda for its contribution to departmental growth. Manufacturing in these economies and Bogotá contributed 8.5 pp to the change in national industry (9.8%). Of the 33 territories, 32 reached production levels higher than those registered in the pre-pandemic period in response to the positive performance of goods consumption. The exception was Tolima which was affected by the sluggishness in milling and non-metallic minerals. In Antioquia and Bogotá in particular, the textile and apparel, and paper and printing groups were noteworthy stimulated by the return to classrooms and offices. In Valle del Cauca, Risaralda, and Cauca, in turn, industry recovery was evident after been the most affected economies with the national strike in 2021. In addition, the production of alcoholic beverages recovered its dynamism in Antioquia, Atlántico, Boyacá, Cundinamarca, and Santander in line with the massive number of events and celebrations. The weakest growth in this sector occurred in Bolivar and Santander due to the base comparison effect, because a year ago the refineries in Barrancabermeja and Cartagena had a high production level due to the high demand for fuel and petrochemical products as a result of the recovery of post-pandemic activities.

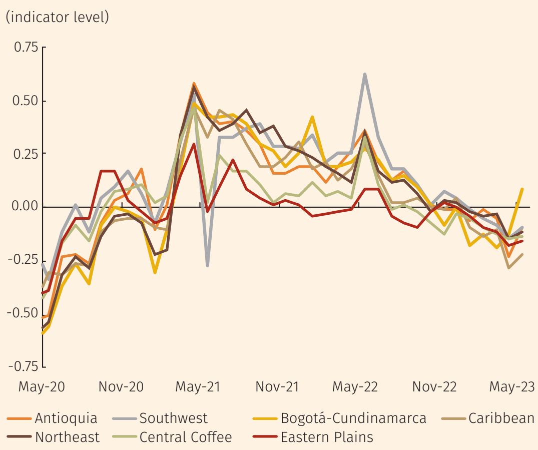
In contrast to the other sectors, agriculture, livestock, hunting, forestry, and fishing contributed negatively to departmental growth in most of the country's territories with more pronounced declines in several departments in the Central Coffee Region (Tolima, Caldas, and Quindío), in the Northeast (Santander, Norte de Santander, Arauca, and Boyacá) and in Antioquia. These regions were heavily affected by the excessive rainfall that deteriorated the flowering and germination of coffee and, with it, the harvests in the coffee growing departments. The prolonged winter also affected yields of other crops while production was discouraged by the rising costs of agricultural supplies and raw materials that were exacerbated by the Russian invasion of Ukraine. In contrast, Valle del Cauca had a positive variation in agricultural activity due to sugar cane milling, and in Huila the positive result was determined by the increase in rice production related to sufficient rainfall for the crop.

2. Change in Regional Economic Activity in 2023

The economy of all regions has slowed down so far this year through May 2023 due to a marked downward trend in demand based on data from the Regional Economic Pulse calculated by *Banco de la República* for seven regions in the country.[1] The Caribbean, Bogotá-Cundinamarca, the Central Coffee Region, and the Eastern Plains showed the largest declines followed by Antioquia, Southwest and Northeast. The drop in household consumption was a determining factor in the lower sales of durable and non-durable goods in all regions in an environment of high prices, high interest rates, and uncertainty regarding the country's economic and political situation. The Caribbean region was also affected by more sluggish tourism. In spite of the above, there was a slight break in the trend in six regions in May (Graph S1.2). This performance was attributed to the improvement in manufacturing production with the results in Bogotá-Cundinamarca being the most notable.

From January to May, domestic trade sales fell in the annual comparison with more pronounced declines in the Caribbean, Northeast, and Southwest regions. The overall contraction reflected lower consumption in a context of high inflation, high financial costs, and lower household confidence due to political and economic uncertainty. In addition, the absence of VAT-free days has further deteriorated the performance of this sector. In the Caribbean region, the low influx of tourists accentuated the lower sales. In the Southwest, the closure of the Panamerican Highway made it difficult to dispatch goods and their availability in stores. And, in the Northeast, the implementation of restrictions on the circulation of Venezuelan vehicles reduced demand after the opening of the border. The smallest reductions in trade, in turn, were seen in the Eastern Plains, Bogotá-Cundinamarca, and the Central Coffee Region, where sales were stimulated by promotional strate-

Graph S1.2
Regional Economic Pulse



Note: The Regional Economic Pulse is built on the basis of monthly surveys of businessmen and executives regarding their perceptions of the results of their economic operations in the annual comparison and explanations of those results described by the same survey sources. The levels of the economic indicator fluctuate between -1 and 1, where values above zero represent annual growth and values below zero represent declines but do not correspond to percentage variations. The indicator does not include monitoring of activities such as mining and quarrying, etc. Regions: Southwest (Valle del Cauca, Cauca, Nariño), Antioquia (Antioquia), Bogota (Bogota and Cundinamarca), Caribbean (Bolívar, Atlántico, Cordoba, Cesar, Magdalena, La Guajira, Sucre, and San Andrés and Providencia), Northeast (Santander, Norte de Santander and Boyacá), Central (Tolima, Huila and Caquetá), Coffee Region or *Eje Cafetero* (Caldas, Quindío and Risaralda), and Eastern Plains (Meta and Casanare). To check on the methodology, see Box 2 in the July 2019 *Report to Congress.*
Source: *Banco de la República.*

1 The Regional Economic Pulse is built on the basis of monthly surveys of businessmen and executives regarding their perceptions of the results of their economic operations in the annual comparison. This report is based on the explanations of the behaviors described by the same survey sources. The levels of the economic indicator fluctuate between -1 and 1, where values above zero represent annual growth and below, declines, but do not correspond to percentage variations. The indicator does not include monitoring of activities such as mining and quarrying, etc. Regions: Antioquia (Antioquia), Southwest (Valle del Cauca, Cauca, Nariño), Bogotá (Bogotá and Cundinamarca), the Caribbean (Bolivar, Atlántico, Córdoba, Cesar, Magdalena, La Guajira, Sucre, and San Andrés and Providencia), Northeast (Santander, Norte de Santander and Boyacá), Central Coffee Region (Caldas, Quindío, Risaralda, Tolima, Huila and Caquetá), and Eastern Plains (Meta and Casanare). To consult the methodology, see Box 2 in the July 2019 *Board of Directors' Report to Congress.*

gies and discounts that helped to mitigate the decline. At a general level, prioritizing the purchase of basic goods by households softened the drop in sales throughout the country. Consistent with this priority, the decline in new vehicle sales was further accentuated due to costly financing, higher prices, and the persistently low inventory of some brands.

Trade sales were accompanied by more sluggishness in consumer loans. The largest annual decreases occurred in the Central Coffee and Antioquia regions due to more rigorous standards for loans and caution on the part of users about borrowing at high interest rates. Caution regarding indebtedness together with high prices and problems with subsidies affected new home sales in all regions with Bogotá-Cundinamarca, Southwest, and Northeast showing the largest reductions. This negative trend was more pronounced in the social home segment which was associated with the delay in the delivery of government subsidies due to the changes in the requirements for their allocation.

Likewise, tourism was characterized by a continuous deterioration in the first five months of the year with a more severe performance in the Caribbean and Central Coffee regions. Hotel occupancy slowed, discouraged by the increase in lodging rates and airfares, largely caused by the elimination of the VAT exemption that the Government decreed after the pandemic. The major deterioration in the Caribbean region was associated with the shutdown of two airlines operations that affected tourist and corporate travels, while the risk of volcanic activity in the Central Coffee Region reduced visits to several of its departments. The transportation sector was also affected by the aviation crisis which led to negative results in air transportation in all regions. The smallest impact was in Bogotá, where international flights eased the slowdown. As for the land segment, inter-municipal passenger traffic showed positive results in Bogotá, Antioquia, and Eastern Plains. In contrast, after the closure of the Panamerican Highway, cargo transportation was responsible for the decrease in the Southwest, and urban passenger transportation was decisive in the Northeast with a sharp drop associated with the smaller mass transit system fleet.

Industry showed positive results in Antioquia while manufacturing output declined in annual terms in other industrialized regions such as the Southwest and Bogotá-Cundinamarca. Antioquia's performance was led by the increase in food and beverage production. This performance was supported by the ready availability of raw materials, new product lines, and the transfer of production from some plants in other regions. The result in Antioquia was partially offset by the weak demand that affected the production of apparel and textiles, and paper, which, in turn, also deteriorated the dynamism in the Southwest and Bogotá-Cundinamarca. Manufacturing supply was limited by high costs, difficulties in procuring raw materials and the increase in finished product inventories due to low demand. In particular, the non-metallic minerals, rubber and plastics industrial groups reduced production in line with the downturn in construction sector. In spite of these limitations, May was positive due mainly to the optimization of operations in some plants, consolidation of new lines in the market and the increased foreign demand.

Finally, agricultural activity declined in most regions, except in the Northeast and Southwest where there were slight annual increases. The lower agricultural production was due to excessive rainfall in some periods in the past, and this limited the development of the crops. In addition, in some territories there were difficulties with the availability of supplies and high production costs. The largest decreases in coffee production were seen in the Central Coffee, Northeastern, and Antioquia regions, due to an excess of rainfall that affected the flowering of the coffee plantations. In the Eastern Plains and the Caribbean, in turn, oil palm cultivation contracted due to weather instability that caused phytosanitary problems and the appearance of pests. In contrast, agriculture activity improved in the Northeast due to a lower rainfall intensity that favored crops such as avocado, rice, rubber, citrus, and onions. The livestock sector reported increases in the Southwest, Northeast, and Antioquia; the first two regions showed increases in chicken and egg production driven by demand while Antioquia's result was led by the positive trend in cattle slaughter and dairy supply. The Eastern Plains presented the opposite case and showed a drop in livestock production as a result of rising costs and high prices, which discouraged consumption. The same situation was seen in the Caribbean, which also registered lower milk production due to the drought in that region.

Box 1
Recent Changes in the Savings-Investment Balance and its Financing

Banco de la República (Banrep) and DANE jointly disclosed the results of the Quarterly National Accounts of Institutional Sectors (CNTSI in Spanish) as of June 2021. This work is the result of a joint effort made by the two entities seeking to generate statistics that meet international quality standards, and thus represents major progress in producing macroeconomic statistics in Colombia. The CNTSI ensures macroeconomic coherence and consistency of real and financial results since it provides a valuable tool for analyzing and monitoring the Colombian economy.

In the CNTSI, DANE registers the production, income, and expenditures of the economy by institutional sectors in a measurement known as “above the line” (non-financial accounts). Banrep, in turn, is in charge of measuring the financing of the economy by institutional sectors through the movement of financial assets and liabilities, a measurement identified as “below the line” (financial accounts). Both measures correspond to the current account balance of the balance of payments and enable analysis of the savings and investment balances and the financing for both the economy and the institutional sectors. Conceptually, these two measurements should be the same, but as is the case in Colombia, discrepancies could be generated related to methodological issues, coverage, sources of information, etc.

This box presents the changes in the savings-investment balance based on the CNTSI in the post-pandemic period starting in the fourth quarter of 2020 up to the latest publication (corresponding to the first quarter of 2023). In order to make comparisons between quarters possible and eliminate their volatility, the values of the different macroeconomic variables and their changes correspond to the moving sum of four quarters and are presented in relative terms with respect to the annual nominal GDP under the same treatment.

In general terms, there was an increase in the foreign imbalance or current account deficit between the fourth quarter of 2020 and the first quarter of 2023. According to Banrep’s Financial Accounts, this imbalance rose 2.4 percentage points (pp) and went from 3.0% to 5.4% of GDP between these two periods. DANE’s measurement using income and expenditures suggests the same trend with an imbalance in the Colombian economy between savings and investment that rose 1.0 pp, going from 4.9% to 5.9% of the GDP.

The analysis by institutional sector suggests that the increase in the foreign deficit between the same periods was mainly due to higher household and non-financial corporate deficits.[1] These went from surpluses of 4.6% and 0.1% of the GDP in the fourth quarter of 2020 to deficits of 1.1% and 0.9% of the GDP in the first quarter of 2023 respectively. These results were partially offset by a significant decrease in the general government deficit[2] that went from 8.8% to 3.6% of the GDP between the same periods (Graph B1.1).

Moreover, the analysis by financial instrument, constructed from Banrep’s Financial Accounts, shows that the financing of the Colombian economy came from funds from the rest of the world. Greater foreign financing through 4.6 pp in equity investments was seen from the fourth quarter of 2020 to the first quarter of 2023 as it went from a 1.0% of GDP net investment by Colombians in the rest of the world to a 3.6% one in the first quarter of 2023. Foreign financing through loans has remained relatively stable at around 3.1% while the preference for financing the Colombian economy through debt securities in the rest of the world has declined 1.6 pp. Finally, there has been a 0.6 pp increase in the net accumulation of Colombian deposits in the rest of the world between the same periods (Graph B1.2).

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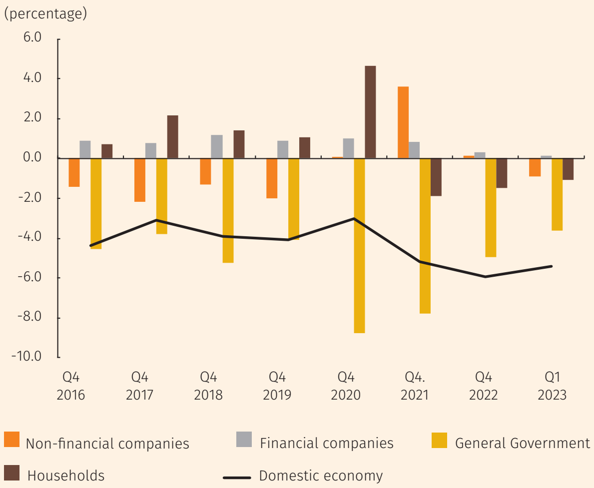
1 This sector includes public and private non-financial companies.

2 This sector includes the central government, regional and local governments, and social security.

Graph B1.1
Colombia's Current Account Deficit and Savings and Investment Balances by Institutional Sector
(percentage of nominal GDP[a/])



a/ Refers to the fourth-order moving sum of quarterly nominal GDP.
Source: calculations by *Banco de la República* (financial accounts).

Graph B1.3 makes it easier to understand the above results. The breakdown of the savings-investment imbalance suggests that the higher current account deficit between late 2020 and early 2023 was mainly due to the increase in investment as a share of the GDP. This went from 19.1% to 20.5% of the GDP (an increase of 1.4 pp). The economy's savings, in turn, showed little change as it went from 14.2% to 14.6% of the GDP. The above was the result of a 1.9 pp decrease in the economy's final consumption that was almost completely offset by a 1.5 pp decrease in disposable income.

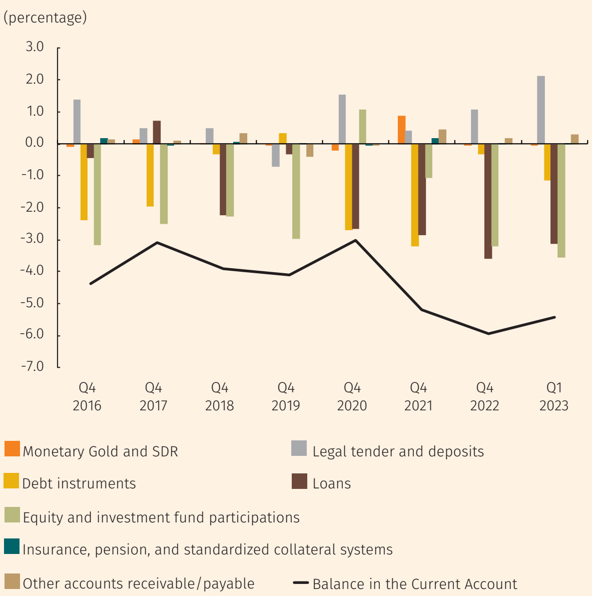
Furthermore, as part of the savings-investment analysis, it is useful to do a detailed study of the behavior of the institutional sectors that have shown the greatest changes in their savings and investment balances between the fourth quarter of 2020 and the first quarter of 2023.

Households

Graph B1.4 shows the changes in the savings-investment balance for Colombian households which dropped significantly between the periods under comparison (-6.4 pp) as it went from a surplus of 4.7% to a deficit of 1.7% of GDP. This change was mainly due to lower disposable income that went from 84.2% to 79.5% of the GDP (-4.7 pp). The levels of final consumption and investment as a percentage of the GDP showed little change (they from 77.1% to 77.2% and from 3.5% to 4.5% respectively).

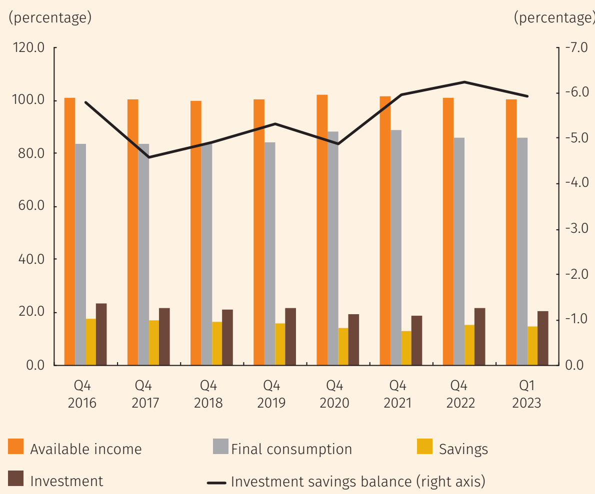
As shown in Graph B1.5, within the period under analysis, households financed the widening of the savings-investment imbalance, mainly, through reduced deposits that went from a net accumulation of 4.0% to -0.4% of the GDP. Another source of financing for households was

Graph B1.2
Financing of Colombia's Current Account Deficit by Financial Instrument
(percentage of nominal GDP[a/])



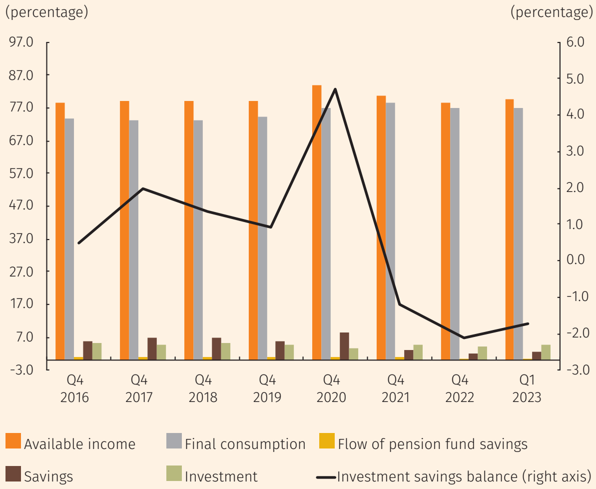
a/ Refers to the fourth-order moving sum of quarterly nominal GDP.
Source: calculations by *Banco de la República* (financial accounts).

Graph B1.3
Colombia's Investment Savings Balance by Income and Expenditure Components (percentage of nominal GDP[a/])



a/ Refers to the fourth-order moving sum of quarterly nominal GDP.
Source: DANE, calculations by *Banco de la República*.

Graph B1.4
Households' Investment Savings Balance by Income and Expenditure Components (percentage of nominal GDP[a/])



a/ Refers to the fourth-order moving sum of quarterly nominal GDP.
Source: DANE, calculations by *Banco de la República*.

the 1.8 pp net reduction of accounts receivable in that period. This trend was partially offset by a 1.6 pp acquisition of debt securities in the portfolio.

Non-financial companies

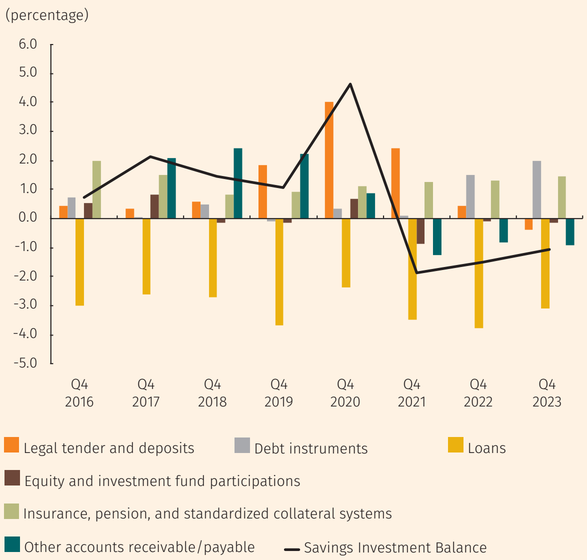
After the increase in the savings-investment surplus in 2021, the non-financial corporations sector showed a 2.1 pp reduction between the fourth quarter of 2021 and the first quarter of 2023 as they went from a surplus of 2.0% to a deficit of 0.1% of the GDP. This performance was mainly explained by an increase in investment that went from 11.4% to 13.8% (2.4 pp). Along the same lines, but to a lesser extent, savings rose 0.4 pp as it went from 13.3% to 13.7% of the GDP (Graph B1.6).

Colombian non-financial corporations went from a savings-investment balance of 3.6% to an imbalance of 0.9% of the GDP (-4.5 pp) during the same period. This decrease was financed by the deaccumulation of 5.1 pp in deposits, and by higher indebtedness through 1.5 and 1.1 pp in loans and accounts payable respectively. Non-financial companies mitigated the above by increasing their debt securities and equity portfolio by 2.2 and 1.1 pp respectively (Graph B1.7).

General Government

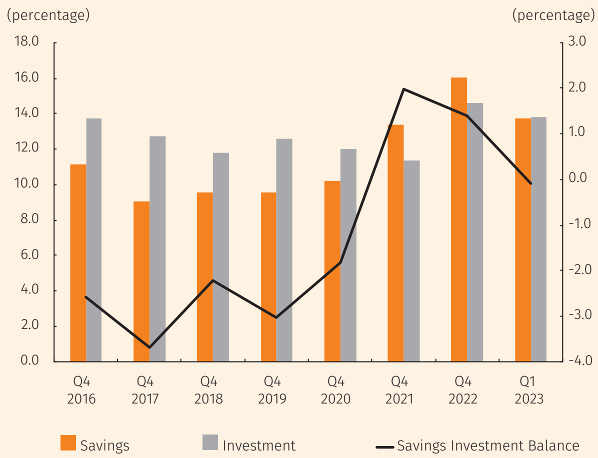
The significant 5.2 pp reduction in the general government deficit between the fourth quarter of 2020 and the first quarter of 2023 was the result of a decrease in total expenditures and an increase in total revenue of 4.1 pp and 1.0 pp respectively. The reduction in expenses,

Graph B1.5
Household Investment Savings Balance by Financial Instrument (percentage of nominal GDP[a/])



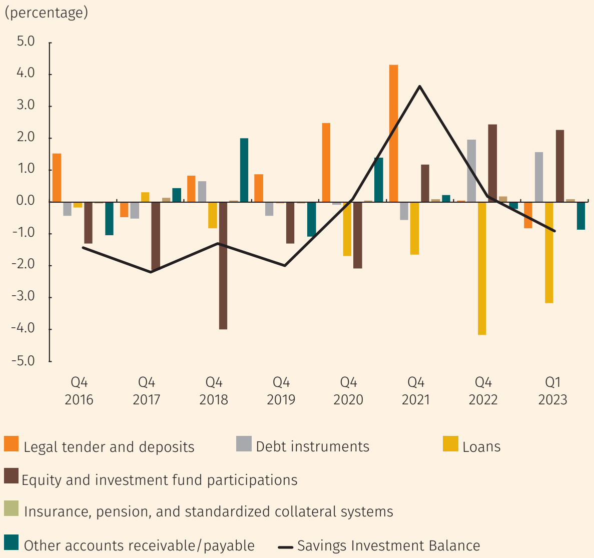
a/ Refers to the fourth-order moving sum of quarterly nominal GDP.
Source: calculations by *Banco de la República* (financial accounts).

Graph B1.6
Non-financial Companies' Investment Savings Balance Sheet by Income and Expenditure Components (percentage of nominal GDP[a/])



a/ Refers to the fourth-order moving sum of quarterly nominal GDP.
Source: DANE, calculations by *Banco de la República*.

Graph B1.7
Non-financial Companies' Investment Savings Balance by Financial Instrument (percentage of nominal GDP[a/])



a/ Refers to the fourth-order moving sum of quarterly nominal GDP.
Source: calculations by *Banco de la República* (financial accounts).

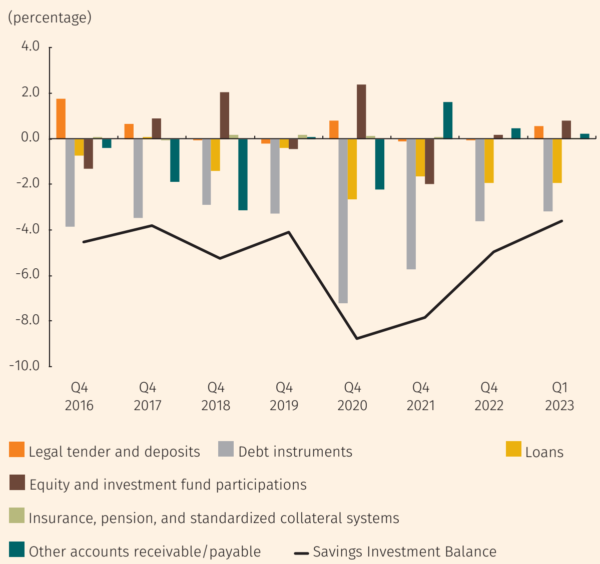
in turn, was made possible by lower social security payments and operational expenses that were partially offset by an increase in other expenses. The higher total revenue as a percentage of GDP, in turn, was due to an increase in tax revenue and a fall in the revenue from social security contributions (Graph B1.8).

The general government's lower financing needs meant a decrease in the issuance of debt securities and other accounts payable of 4.0 and 2.4 pp respectively. This was mitigated by the 1.6 pp decrease in net investments in trusts that went from 2.4% to 0.8% of the GDP (Graph B1.9).

Graph B1.8
General Government's Investment Savings Balance by Nominal Income and Expenditure Components (percentage of nominal GDP[a/])

a/ Refers to the fourth-order moving sum of quarterly nominal GDP.
Source: DANE, calculations by *Banco de la República*.

Graph B1.9
General Government's Investment Savings Balance by Nominal Income and Expenditure Components (percentage of nominal GDP[a/])



a/ Refers to the fourth-order moving sum of quarterly nominal GDP.
Source: calculations by *Banco de la República* (financial accounts).

3. Inflation and Monetary Policy Decisions

3.1 Change in and Outlook for Inflation

There has been strong foreign and domestic pressure since 2021 that led to annual inflation rising to a rate in March of this year not seen in more than two decades. Inflation in Colombia and the world began to rise in 2021 due to international cost pressure and disruptions in global supply chains.[30] This was compounded by Russia's invasion of Ukraine in early 2022, which caused a significant increase in international food and crude oil prices. This, together with the depreciation of the peso against the dollar, led to significant increases in the domestic prices of raw materials, food, and other imported final goods. On the domestic front, demand pressure on prices stemming from the strong recovery of the economy was compounded by lower production of some foodstuffs due to the road blockades in mid-2021[31] and the sustained rise in fuel prices that began in October of the same year. The country's automatic price and wage adjustment mechanisms also contributed to the increase in inflation. These mechanisms, known as indexation (see Box 2), amplified the impact of price increases in some CPI groups by propagating them to the other prices of indexed goods and services.[32] They also generated labor cost pressure[33] on prices, affected inflation expectations, and made high inflation more persistent. In this context, annual inflation has been on an upward trend since mid-2021 and, in March 2023, it stood at 13.3%, a rate that has not been seen since 1999.

Inflation began to decline in the second quarter of 2023 but remains at a high rate. The above is a consequence of the partial or total dissipation of the domestic and foreign shocks that had affected it as well as the accumulated actions of the monetary policy. Inflation stood at 12.1% in June, 1.2 pp lower than what was registered in March but well above the 3.0% target (Graph 3.1). The food group was the largest contributor to this decline in the second quarter, the regulated group continued to put upward pressure on inflation while core inflation (without food or regulated products) stopped increasing.

Annual food price inflation has shown a significant decrease so far this year after the high level it reached last December. The upward pressure that accounted for the rise in these prices since mid-2021 has subsided significantly. The international prices of various food and fertilizers, in particular, that the country imports as well as the freight costs have declined even though they are still at levels that are higher than those registered in mid-2021. Add to this a large supply of perishable food produced within the country, although affected by higher labor costs because of the high significant increases in the minimum wage in the last two years. In this environment, the annual change in the CPI for food stood at 14.3% in June and was

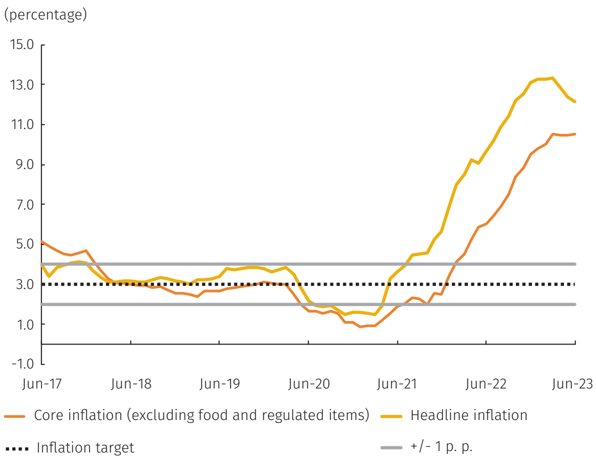
30 Caused by the sanitary measures taken to face the covid-19 pandemic.

31 The 2021 national strike had negative effects on the production of products such as eggs, pork, and other agricultural products, impacts that extended to 2022. See Box 1 "Food price inflation: a comparison with other countries," the October 2022 Monetary Policy Report.

32 For example, rent, education, some utilities, domestic services, etc.

33 The rise in inflation contributed to the sharp increases in the minimum wage seen in 2022 and 2023.

Graph 3.1
Consumer Price Index (CPI)
(annual change)



Source: DANE, calculations by *Banco de la República*.

close to half of what was registered last December (27.8%). In spite of the above, the prices remain at high levels with bigger increases than our peers in the region and with an adjustment pace that still exceeds what is compatible with the 3.0% target.

The annual change in the CPI basket of regulated products surged significantly in the first half of the year due, primarily, to the adjustment in the domestic fuel prices. The annual change in this sub-basket (15.6%) in June was mainly due to significant increases in fuel prices (33.9% year-on-year in June). This upward trend, in particular, is the result of the need to bring domestic fuel prices closer to prices abroad and thus attenuate the deficit of the Fuel Price Stabilization Fund (FEPC in Spanish). This together with the effects of indexing at higher rates of inflation and wages has maintained an upward trend in the annual adjustment of regulated transportation fees. Moreover, as is usual in February, there was an adjustment in regulated education but one that was at an annual rate slightly higher than 9.0% and higher than the one seen in December of last year (6.4%). In contrast, the annual change in utility fees fell during the first half of the year (to 14.1% in June versus 17.7% in December 2022) due to a favorable statistical comparison effect although continued to show significant monthly increases.

The upward trend of core inflation was halted in the second quarter although it remained at a high level. The main indicator for core Inflation (excluding food and regulated items) remained on a growth trend during the first three months of the year and stood at 10.5% in March (compared to 9.5% in December 2022). Nevertheless, these increases eased as a result of the performance of the goods component and made it possible for the annual change in the basket to remain at 10.5%. Some factors such as normalization in global supply chains, the decrease in international costs, and the lower exchange-rate pressure on prices contributed to a decline in this group's annual increases. Added to this are the cumulative monetary policy actions that have reduced demand pressure on prices.

However, the indexing mechanisms that operate in Colombia and affect important items in the family basket such as rent and education (unregulated), etc. have contributed to a growth trend in the group of services.

The cumulative effects of monetary policy, together with the dissipation of foreign and domestic supply shocks that have affected prices, should path a way for inflation to converge to the target. International prices and costs are expected to continue to decline for the remainder of 2023 from the very high levels reached in the second half of 2022. Added to this are the recent lower exchange rate levels that, if they continue, are likely to reduce the costs of raw materials abroad and the inflation associated with imported goods and processed food. This, along with the dissolution of foreign shocks, may continue to attenuate domestic cost pressure as is already being reflected in the marked downturn of the different groups in the producer price index (PPI). Furthermore, the positive trend in the supply of perishable foods is expected to continue to reinforce the downward trend of inflation in food and eating out prices. A monetary policy stance that continues to seek to reduce excess demand and drive output to sustainable levels, to anchor inflation expectations at 3.0%, and achieve the inflation target would contribute to all the above. In the case of fuel, the domestic price is likely to keep rising and limit the decline in inflation for the remainder of 2023. Overall, consumer inflation is expected to decline but to levels that will exceed the target at the end of this year. The downward factors noted above are expected to persist and contribute to the gradual convergence of inflation toward the target at the end of 2024.

The impact of a possible *El Niño* weather pattern, changes in the exchange rate, and foreign factors generate uncertainty about the future trend of inflation. Currently, there is a high probability that an *El Niño* climate pattern will develop. In the past, this weather pattern has had direct effects of varying magnitude on food and energy prices, and indirect ones on consumer prices as a whole through indexation and higher inflation expectations. The magnitude of the impact of *El Niño* has depended, to a large extent, on its intensity and duration. The impact is very low when the intensity is weak or moderate, but significant when it is high or very high as was the case between 2015 and 2016. If there is a strong *El Niño*, it could divert inflation in 2024 by a non-negligible magnitude from the path of convergence to the target described in this *Report*. Furthermore, the volatility exhibited by the exchange rate and the diversity of shocks from abroad that may affect the Colombian economy also generate high uncertainty regarding inflation forecasts.

Inflation expectations declined in the first half of the year although they remain above the 3.0% target at different horizons. Economic analysts' expectations obtained from *Banco de la República*'s monthly survey for July suggest 8.9% total inflation, and 9.3% for inflation excluding food at the end of 2023. According to the survey results, these measurements will probably stand at 5.0% and 4.9% respectively by the end of 2024. Expectations for one-, two-, and five-year total inflation were lower than in the June survey and stood at 6.0% (previously 6.4%), 3.9% (previously 4.0%), and 3.0% (previously 3.3%) respectively. Based on information as of July 17, in turn, the inflation expectations estimated on the basis of public debt bonds (BEI) and adjusted for inflation and liquidity risk premia[34] at two, three, and five years stood at 5.7%, 5.3%, and 4.7% respectively.[35]

34 Inflation expectations net of premiums are calculated as the spread between nominal and real risk-free rates extracted from local government bond markets at different maturities (Abrahams *et al*., 2015; Espinosa *et al*., 2015). In this respect, the so-called "inflationary risk premium" arises from subtracting the term premium of the TES curve in UVR from the term premium of the TES curve in pesos. Spreads in these forward premiums may be reflecting uncertainty about future inflation. However, they may also be influenced by frictions particular to each market such as the preferences of some agents to invest in certain types of securities. Finally, the liquidity component is calculated as the spread between the liquidity premium extracted from peso-denominated TES and UVR-denominated TES. Thus, the total BEI calculated using this methodology can be broken down into inflation expectations, inflation risk premium, and a liquidity component.

35 These figures correspond to the calculation done in June for the April rates.

3.2 Monetary Policy Decisions

Most central banks maintained a contractionary monetary policy in the first half of 2023 in a context of inflation that has been declining but remains high and exceeds their targets. During this period, international food and petroleum prices declined with respect to the high levels seen in 2022 due to partial or total dissipation of some of the supply and cost shocks that had affected them. This contributed to the decline in global inflation but at rates that still exceed the targets in the major developed economies and some emerging ones. Measurements of core inflation (generally excluding food and energy groups) have also decreased but slowly and remain high. At the same time, world economic growth continues its slowdown though at a slower pace than was estimated at the beginning of the year. In the specific case of the United States, its labor market remains strong with historically low unemployment rates and wage cost pressure on prices. In this environment, the central banks of the major developed countries and several of those in the region held to a contractionary stance on monetary policy. This stance is likely to continue, and global financial conditions remain tight for the remainder of 2023.

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 implemented an inflation targeting plan with a floating exchange rate system in 1999 in which monetary policy moves are focused on making inflation converge to the 3.0% target and reaching the highest sustainable level of output and employment. This policy framework has the virtue, along with others, of facilitating countercyclical monetary policy. In this plan, the monetary policy decisions are made on the basis of an analysis of the current situation and the economic outlook as well as on 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 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 or temporary supply shocks) and inflation expectations remain anchored to the target, the MPR remains unchanged. In contrast, if the deviations become persistent to the point where they could generate undesirable price indexation processes, the MPR is modified to anchor expectations and help inflation return to the target. All these processes are faster and smoother if there is credibility in monetary policy.

Annual inflation has fallen and credit and economic activity have become sluggish since the high levels registered in 2022. Nevertheless, inflation and expectations for it remain above the 3.0% target and the output level exceeds the country's productive capacity. Annual inflation reached its highest levels in more than two decades in March and began to decline in the second quarter due, mainly, to the performance of food prices. At the same time, core Inflation (excluding food and regulated items) stopped rising and, like the total, it stood both at a high rate and one that was above 3.0%. Though some foreign and domestic shocks that had affected prices continue to dissipate, the decline of inflation in Colombia has been slower than in other economies as a result of various factors. One of them is the price indexing mechanism used in this country (see Box 3) that causes temporary increases in inflation to have a persistent effect on the prices of several groups of expenditures (e.g., rent) or generate higher labor costs because of their sharp impact on minimum wage adjustments (e.g., the increases seen in 2022 and 2023). Gasoline price increases that were required to bring its domestic price in line with the foreign price and mitigate its negative fiscal effect have also contributed to curbing the decline in inflation. Another factor has been the level of aggregate demand which, despite its lower strength, exceeds the economy's productive capacity and puts upward pressure on prices. This also continues to be reflected in high foreign deficit values although they are lower than those seen in 2022. In this context, the cumulative monetary policy actions have sought to offset upward pressure on prices and drive inflation to its target. However, the effect of monetary policy on prices is not immediate. They involve a certain degree of uncertainty and, therefore, their contribution to the convergence of inflation to the target requires time. Cumulative monetary policy actions have also helped output, credit, and foreign deficit levels begin to converge to more sustainable values in the long term.

The Board of Directors held to a contractionary stance on monetary policy in the first half of 2023 that would allow inflation to be driven toward the 3.0% target in the medium term. The economic activity indicators in the first half of the year showed that the slowdown in the economy had continued. Nevertheless, excess demand persisted and was reflected in a level of output that exceeded the economy's productive capacity and in a current account deficit that remained high despite its reduction. Total and core inflation and expectations for inflation declined but held to high rates that exceeded the target. The foreign and domestic shocks that affected inflation are expected to continue to decline over the remainder of 2023 in an environment of lower exchange-rate pressure on prices but larger increases in fuel prices. In this case, total and core inflation will probably decrease but to levels that exceed the 3.0% target at the end of 2023. Given this, the Board of Directors decided to raise the policy interest rate from 12% in December 2022 to 13.25% in April in their January, March, and April meetings. It remained unchanged in the June and July meetings in a macroeconomic context of declining but high inflation with forecasts and expectations of inflation above 3.0% and in the presence of excess demand in spite of the economic slowdown. This contractionary monetary policy stance is intended to help inflation converge to its target and achieve sustainable output levels. As was mentioned, there are risks that introduce significant uncertainty with respect to the future trend of inflation, such as the effects of *El Niño* on food and energy prices, and high international uncertainty. The existence of these risks requires that the possibility of a monetary policy response in the direction deemed necessary by the Board be left open. The Board of Directors reiterates that future decisions will be taken considering any new information.

Box 2
Economic Effects of Indexation and its Prevalence in Colombia

Automatic price adjustment mechanisms, known as indexing, have mainly been a relatively common practice in developing economies even under different macroeconomic environments. These mechanisms often arise spontaneously in agents' private contracts as a tool to protect themselves from high and unpredictable inflation. However, on other occasions they are the product of regulations resulting from various institutional arrangements. The economic effects of indexing have been a relatively active area of study and a subject of debate. This box presents a brief review of some of the effects of indexing documented in the specialized literature and quantifies the prevalence of its effect on consumer prices in Colombia.

The literature analyzing the economic impact of indexing is extensive[1] and highlights both the benefits and costs associated with it. As for the former, from the microeconomic point of view, when there are high inflation rates, indexing makes it possible to reduce uncertainty in the agents' contractual agreements (Lefort and Schmidt-Hebbel, 2002). In the labor market, this replaces the need for frequent wage renegotiations and reduces the transaction costs associated with such renegotiations (Gray, 1978; Aizenman, 1984, 1987). Furthermore, it enables a transfer of risk between workers and companies. This occurs because workers are more risk averse and are, therefore, willing to earn nominal wages that are temporarily lower than market wages if they know that they can count on a mechanism that will help them keep their purchasing power unchanged in the event of future inflationary shocks (Azariadis, 1978).

Regarding the costs of indexing, the main implications are important at the macroeconomic level, especially in terms of its effects on price stabilization policies. First, when current price adjustments are contingent on past variation, inflation acquires more inertia and becomes more persistent (Edwards and Lefort, 2002). Moreover, indexing amplifies the impact of a price increase that a particular subgroup of goods may suffer and spread it to the other indexed goods or services (Landerretche et al., 2002). For the monetary authorities, the aforementioned effects mean that indexing increases the cost of reducing inflation in terms of output, a conclusion that numerous studies agree on (Ball, 1994; Bonomo and García, 1994; Jadresic, 1996; Herrera, 2002).

That being the case, what is the balance between the benefits and costs of indexing? The consensus in the literature is that for a country that reaches moderate or low inflation rates, the cost-benefit of indexing becomes unfavorable since the benefits of indexing are diluted while its costs increase (Lefort and Schmidt-Hebbel, 2002). In the current context of the Colombian economy, this conclusion is relevant. In Colombia, after having reached a low inflation regime, a combination of foreign and domestic shocks of different natures along with a rapid recovery of demand gave rise to the post-pandemic inflationary outbreak (for a detailed discussion of its determinants see Pulido et al., 2023; or Toro, 2023). Therefore, the process of adjusting inflation to its target that the Colombian economy is currently undergoing could be longer and more costly as indexing becomes more widespread in the economy.

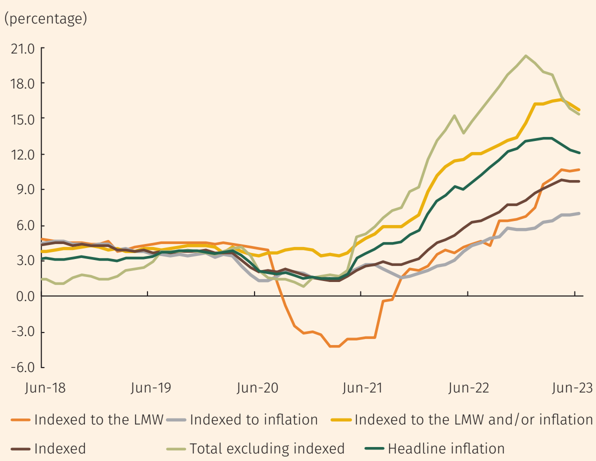
In order to analyze the extent of indexing in the prices of goods and services in Colombia, the Bank's technical staff did an exploratory exercise. This consisted of selecting those items from the consumer price index (CPI) where the prices were strongly influenced by the previous year's inflation (especially the total year-end inflation) and/or by the change in the legal minimum wage (LMW) for the current year which, in turn, is adjusted to at least the total inflation for the end of the previous year by regulation. The selection was made based

1 See, for example, Landerretche's et al summary (2002).

on the cost structure of each item as inferred from the supply-use matrices, the review of the regulations governing price increases for some CPI items, different statistical analyses, the results obtained from specialized literature (Arango et al., 2011; González-Molano et al., 2020) and, finally, the criteria of the technical staff.

Based on the selection of these items, a sub-basket called "indexed CPI" was constructed.[2] This contains 49 of the 188 items that make up the total CPI and account for 59.9% of that CPI. These items include 12 with prices that are adjusted by regulations and are therefore highly rigid. These have a weighting of 13.4% in the total CPI. The high participation of the indexed CPI sub-basket indicates that indexing has a significant impact on Colombian inflation. The selected items were also divided based on the main determinant of the price adjustments (past inflation, the LMW or both factors). The sub-basket of those indexed to past inflation is made up of 17 items with a 39.0% share in the total CPI and contains items such as rent, some utilities, school education, etc. The LMW-indexed sub-basket, in turn, is made up of 16 items including services related to co-ownership (building management), non-school education and personal services, such as beauty salons, day care centers, domestic services, etc. and accounts for 6.5% of the total CPI. Finally, the sub-basket indexed to both past inflation and the LMW includes 16 items such as eating out, some medical and veterinary services, public transportation, etc. and represents 14.4% of the total CPI.[3] Graph B2.1 shows the recent trend in the annual inflation of these CPI sub-baskets. There it can be seen that, as of June, they still do not show clear signs of a break like the CPI that excludes indexed items does. Thus, higher persistence of the first prices was evident in the post-pandemic inflationary outbreak.

Graph B2.1
CPI of Index-linked Sub-baskets
(annual change)



Source: DANE, calculations by *Banco de la República*.

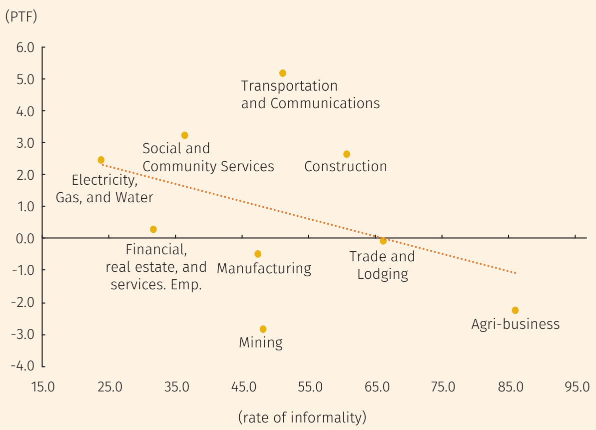
That said, indexing in Colombia affects not only the goods and services markets, but also the labor market in particular. Specifically, the LMW in Colombia has a wide coverage in the distribution of formal sector wages (Arango et al., 2022; Pulido et al., 2023). As was mentioned, annual adjustments to the LMW cannot, by regulation, be less than the total inflation seen at the end of the previous year and generally also consider the growth of the previous year's Total Factor Productivity (TFP). The literature recognizes that this type of wage indexing rule introduces additional inefficiencies since it is based solely on aggregates and neglects heterogeneities in productivity, whether at the sectoral level (Duca and VanHoose, 1991) or among specific groups of workers (Kovanen, 1992). These inefficiencies arise because these rules raise unit labor costs to a greater extent in those sectors or for groups with lower productivity growth. This is counterproductive if, for example, the sectors with the lowest productivity growth coincide with those with the most prevalent informality as was the case in Colombia in 2022 (Graph B2.2). This implies that higher increases in unit labor costs in these sectors generate pressure for further increases in informality.

In conclusion, the literature has documented the fact that, though there are some benefits to indexing, they occur in contexts of high

2 This classification is for internal use at *Banco de la República* and supplements those published by the Bank and DANE but is not intended to replace them.

3 Note that the above exercise does not indicate that the selected items are completely adjusted to the aforementioned benchmark, but rather that the benchmark has a high share in the price formation mechanism of the respective item. Otros factores pueden influenciar los ajustes de precios (choques de demanda, de costos, tipo de cambio, etc.).

Graph B2.2
Growth in Total Factor Productivity (TFP) and Informality Rate in 2022



Note: the informality rate uses the definition of social security contribution.
Source: DANE (GEIH and national accounts), calculations by *Banco de la República*.

inflation and low predictability. In general, once a country has reached a moderate or low inflation regime, the costs of indexing outweigh the benefits. Specifically, a high prevalence of indexing increases the risk that the process of inflation convergence towards the target will be more prolonged and costly after inflationary shocks such as those experienced by the Colombian economy after the pandemic. In Colombia, evidence indicates that indexing has a significant impact on both the goods and services markets and the labor market, so the likelihood of such risks materializing is not negligible.

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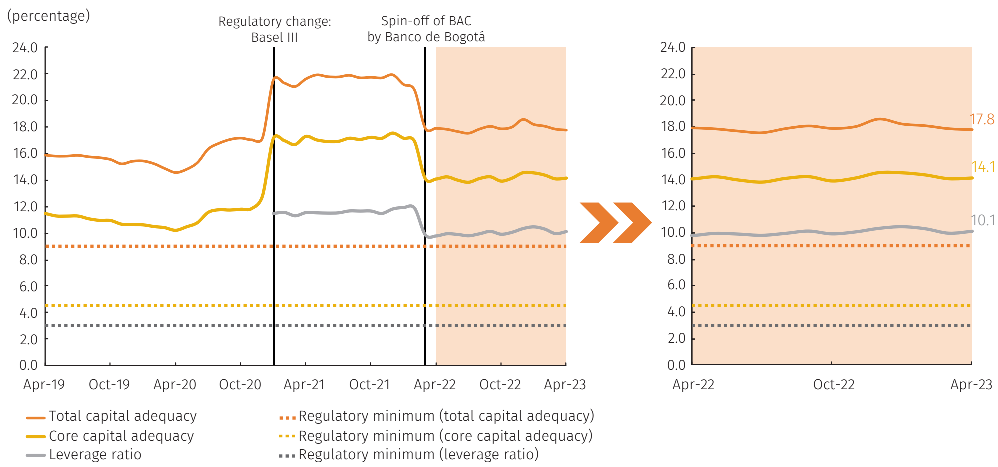
4. Change in and outlook for the Financial and Credit Markets

4.1 Credit Institutions' Financial Intermediation

The credit institutions have maintained high capital levels so far in 2023 as well as a solid liquidity position that will enable them to face the materialization of various risks. The Colombian financial system has high levels of liquidity and capital adequacy in accordance with Basel III international regulations since they are above the minimum levels required locally and has shown the sufficiency to face the materialization of extreme low-probability risks. The aggregate capital adequacy of credit institutions (CI), in particular, has remained relatively stable up to this point in 2023 and stood at 17.8% as of April (Graph 4.1). The liquidity risk indicator (LRI) and the net stable funding ratio (NSFR) of the CIs, in turn, stood at, respectively, 196.9% on June 16 and 108.9% in April, respectively, a position that was above their regulatory minimums (Graphs 4.2 and 4.3).

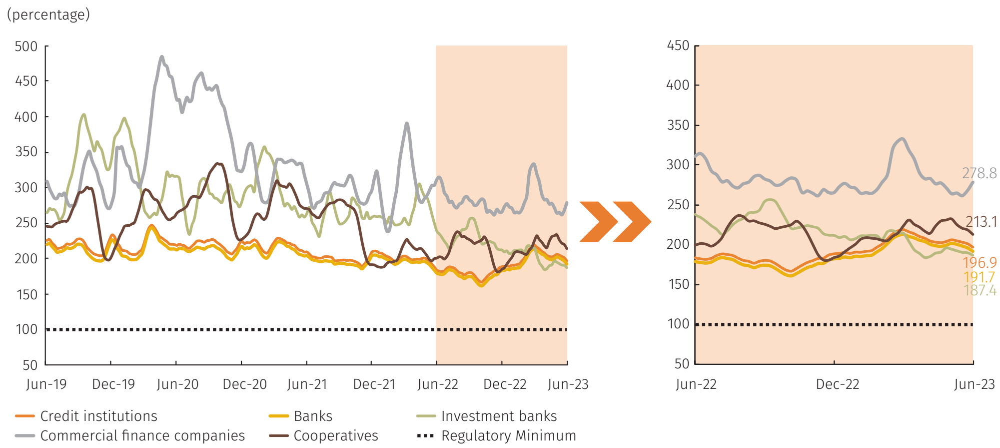
The collapse of some banks abroad did not have a direct impact on local financial institutions. Some specific characteristics that protect the Colombian financial system are: 1) the widespread practice of valuing the investment portfolio at market prices under the incentive of complying with some regulatory indicators 2) the appropriate management of liquidity risk. 3) the low exposure of local institutions to the affected U.S. banks and 4) a conservative balance sheet structure fostered by Colombian regulations. The US financial system experienced a period of stress during March 2023 in which several banks including First Republic Bank and Silicon

Graph 4.1
Credit Institutions' Capital Adequacy Indicators



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 buffer 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 75 bp (100pb) 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*.

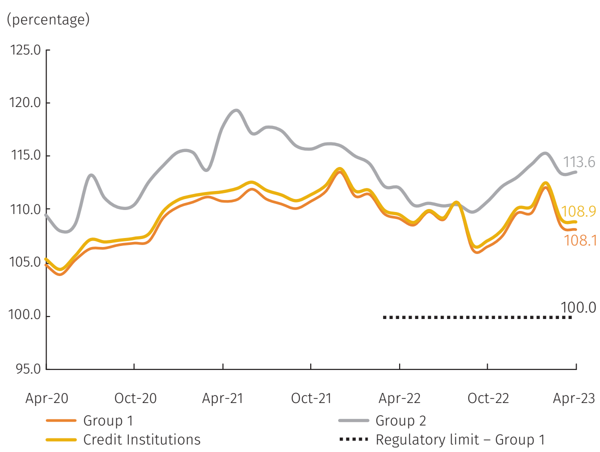
Graph 4.2
Simple Average 30-day Liquidity Risk Indicator (LRI) for Credit Institutions



Note: The LRI presented for the total and each CI is calculated as the ratio of the average of the last four weeks of the month of liquid assets adjusted for market liquidity and foreign exchange risk (LAM) to the average of the last four weeks of the month of net liquidity requirements (NLR). Given the above, higher levels of the indicator are positive since they indicate that the entities are in better liquidity positions or that there is greater liquidity in the system.
Source: Financial Superintendency of Colombia; calculations by *Banco de la República*.

Valley Bank were affected. The collapse of these entities was, in short, a result of the high exposure to Treasury securities that were accounted for as held-to-maturity securities within the assets of these entities, holdings that were mainly funded by demand deposits highly concentrated in U.S. technology companies.[36] This contrasts significantly with the balance sheet structure of the local financial system in which funding is more stable and exposure to held-to-maturity securities is reduced, a behavior that is encouraged by the need to comply with the Net Stable Funding Ratio (Graph 4.4, panels A and B). In order to evaluate the resilience of Colombian CIs, Box 3 of this Report sets up some stress tests that make it possible to conclude that, in the event of a scenario similar to the one seen in the United States, the CIs, in aggregate, would have the necessary resources to meet the requirements of their depositors. In addition, the potential impact of valuing the CI securities at maturity as negotiable securities would be low. This would result in an appropriate level of aggregate capital adequacy radio that would be above the regulatory minimums. Last of all, a decrease has been noted in the indicator that measures the exposure of CIs to the interest rate risk of the trading book in the first half of the year, in line with the regulatory incentives that the entities have to incurring fewer maturity and rate mismatches. In the regulatory area, it should be noted that the local financial system is aligned with the international capital adequacy and liquidity management standards established in Basel III. This regulation includes the implementation of the

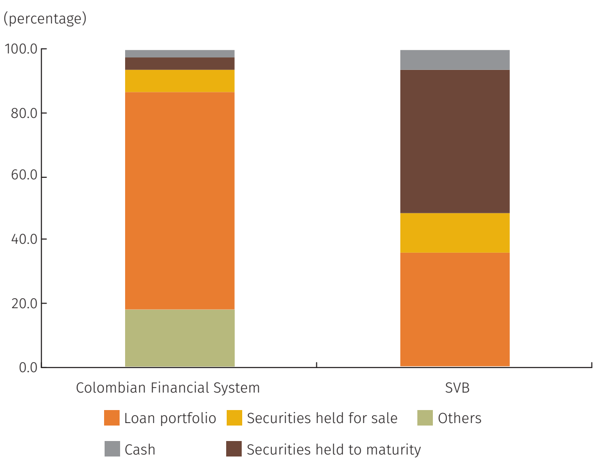
Graph 4.3
Credit Institutions' Net Stable Funding Ratio

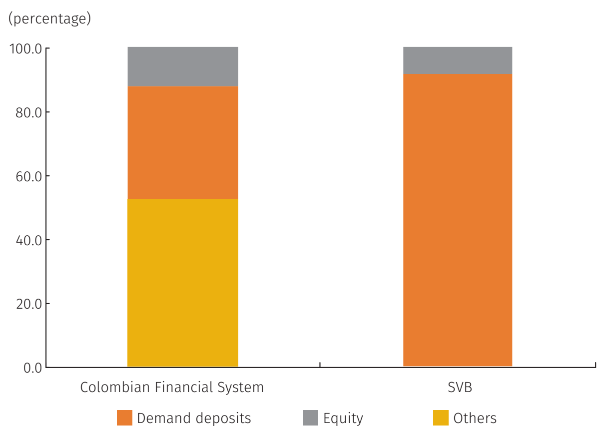


Note 1: the information for building this graph came from the Financial Superintendency of Colombia's form 238.
Note 2: The NSFR of Cis as of March 2022 is calculated using the information corresponding to groups 1, 2, and 3. Prior to this date, in turn, only the information corresponding to groups 1 and 2 was used. This is due to the fact there has been a retransmission of information from the most representative entity of Group 3 since March 2022. The indicator series for this group is not presented in the graph because its component entities do not have to comply with a NSFR regulatory limit. This group had registered a NSFR of 100.9% as March 2023.
Note 3: does not show the regulatory limits for group 2 given that they are lower than the ones for group 1, and the actual aggregate NSFR is higher.
Source: Financial Superintendency of Colombia; calculations by *Banco de la República*.

36 For more information about this episode of banking stress see Box 3 of the *Financial Stability Report* for the first half of 2023, available at: https://www.banrep.gov.co/es/publicaciones-investigaciones/reporte-estabilidad-financiera/primer-semestre-2023

Graph 4.4
Balance Sheet Breakdown of Silicon Valley Bank and the Colombian Banking System[a/]





a/ Includes banks, commercial finance companies, and financial cooperatives.
Note: Colombian banking system data as of April 2023.
Source: Financial Superintendency of Colombia; calculations by *Banco de la República.*

NSFR and the valuation at market prices of all deposits that are subject to compliance with local liquidity risk indicators. These are indicators that some of the regional banks in the United States are not required to comply with.

The pace of credit growth has slowed down during 2023 after showing very high expansion, especially in the consumer modality. After the high growth rates presented during the first half of 2022 and in line with a scenario of higher interest rates and a slowdown in local economic activity, all portfolio modalities have shown a decrease in their real annual expansion rate since the second half of 2022.[37] Said performance has been more notable in consumer and housing loan portfolios that began to register real annual contractions in April and May 2023 respectively (Graph 4.5). The modality of microcredit has slowed down the least, in line with the general perception of a shallower reduction in demand compared to the one registered in the other modalities (Graph 4.6) and in an environment of a general perception of a greater supply in this modality (Graph 4.8). Given the adjustments in the monetary policy stance since September 2021, the effect of the macroprudential measures implemented by the Office of the Financial Superintendent of Colombia (FSC) at the end of last year associated with a higher requirement in terms of loan loss provisions for the consumer loan portfolio,[38] and stricter conditions in the allocation of loans by CIs, the growth rate for loan portfolios is expected to continue declining in the coming months.

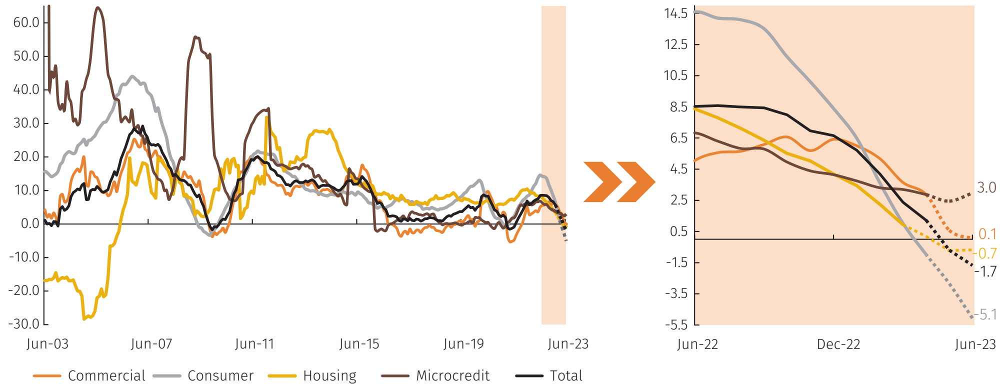
The sluggishness in the loan portfolio growth during the first part of 2023 occurred along with the perception of a lower supply and demand for credit and more strin-

37 In nominal terms, the total portfolio and all the categories maintained positive growth rates: total (9.8%), commercial (11.7%), consumer (6.0%), housing, (10.9%), and microcredit (14.9%).

38 External Circular 026/2022, which provided instructions for the creation of risk provisions for the consumer loan portfolio in order to deal with the eventual materialization of credit risks, was issued on November 29. To this end, the term adjustment factor was modified in the creation of individual loan-loss provisions in this category and the possibility of making additional general provisions was incorporated. For more detail on this standard see chapter 4 of the *Financial Stability Report* for the second half of 2022.

Graph 4.5
Real Annual Growth of Credit Institutions' Gross Loan Portfolio

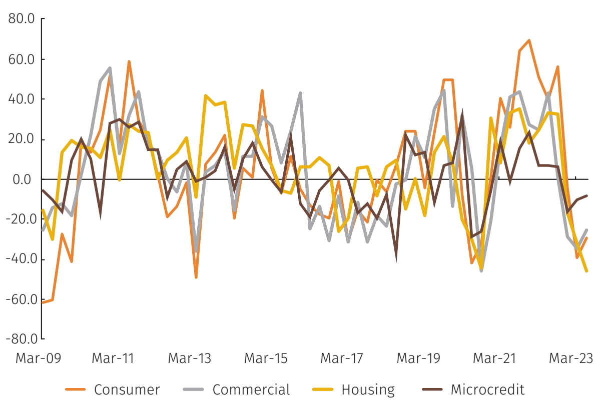
(percentage)



Note 1: the dotted lines correspond to preliminary data from April and May 2023 from format 281 of the Financial Superintendency of Colombia which has weekly information on some accounts of the balance sheets of credit institutions.
Note 2: 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 4.6
Credit Institutions' Perception of the Demand for Loans

(percentage of response balance)



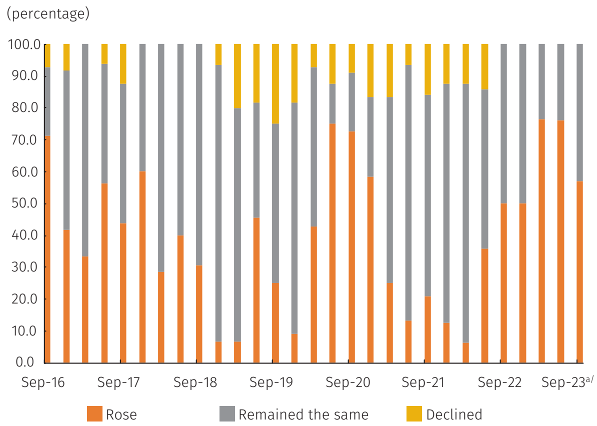
Note: a positive (negative) result in the balance of responses is interpreted as a general perception of an increase (decrease) in the demand for credit in and vice versa.
Source: Survey of the loan situation in Colombia June 2023, calculations by *Banco de la República.*

gent requirements for granting new loans by credit institutions. The results of *Banco de la República*'s Report on the Credit Situation in Colombia as of June 2023 show that the Credit Institutions' perception of credit demand, which had been decreasing for all types of loans since mid-2022, registered a change of trend for the consumer, commercial, and microcredit loan portfolios. However, they are still at low demand levels (Graph 4.6). In terms of granting requirements, the CIs surveyed were found to be more restrictive in the granting of new loans, mainly for consumer and commercial loans (Graph 4.7). For the next quarter, the percentage of institutions that expect to raise their requirements for all types of loans will be lower than what was seen in June 2023, and, only in the case of housing loans, a small proportion of CIs expect to lower their granting requirements. The Credit Institutions' perception of credit supply shrank for the microcredit and consumer loan portfolios, while it rose slightly for the housing and commercial ones (Graph 4.8). Considering the above, if the positive trend in supply and demand indicators continues, a slight recovery in the credit market could be expected over the next few quarters with the exception of consumer loans.

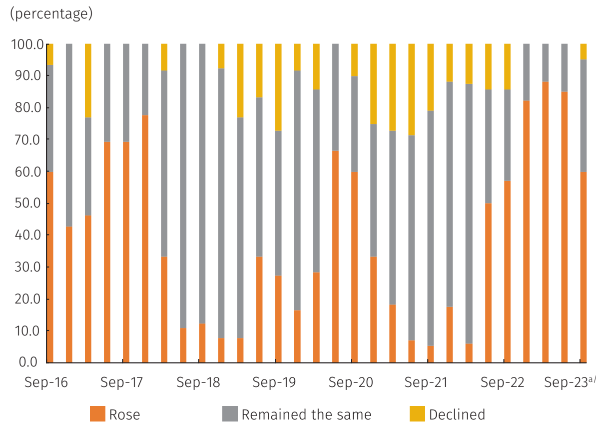
Household indebtedness remains at high levels although it has been declining steadily. Savings, in turn, have recovered but remain below pre-pandemic levels. The positive trend in household disposable income (which had grown 20.8% in annual terms as of March 2023), together with the recent

Graph 4.7
Change in Requirements for Allocating New Loans

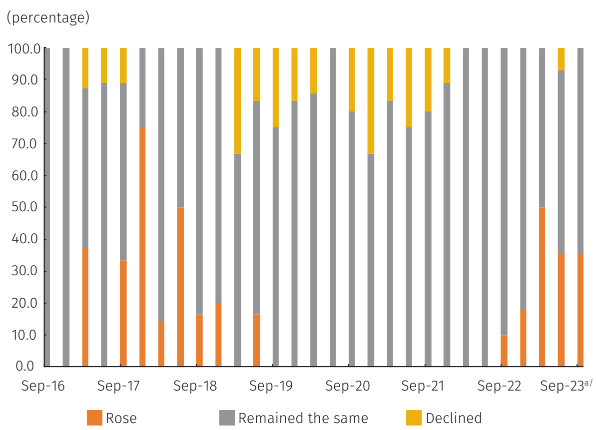
A. Commercial



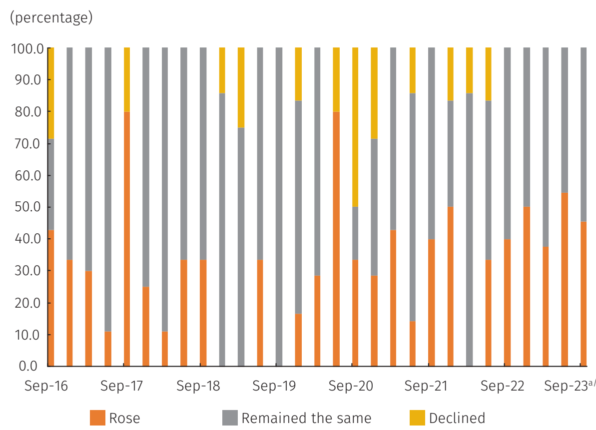
B. Consumer



C. Housing

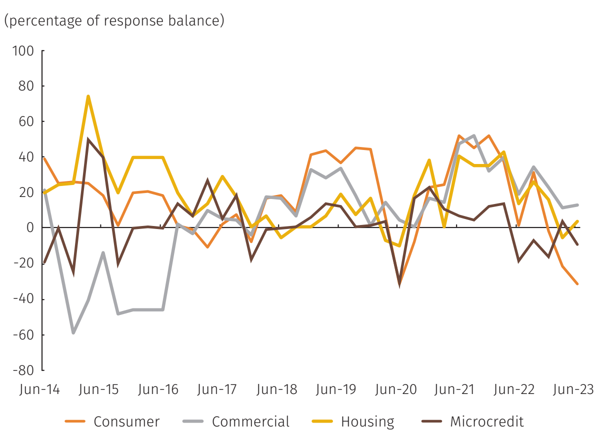


D. Microcredit



a/ Expectations for next quarter.
Source: *Survey of the loan situation in Colombia* June 2023, calculations by *Banco de la República*.

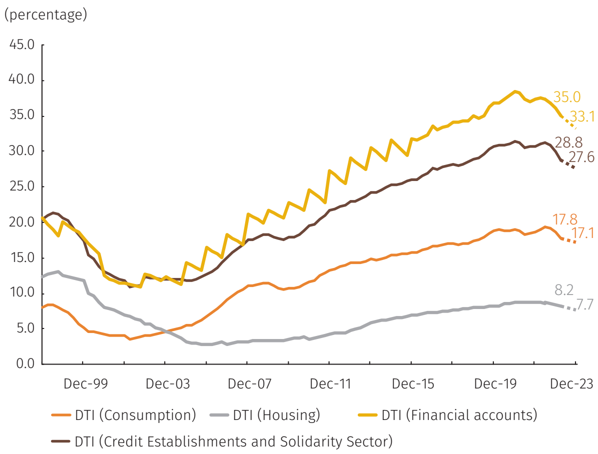
Graph 4.8
Change in Supply of New Loans



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

downturn in their loan portfolios led to a decrease in the debt to disposable income ratio of these agents (Graph 4.9). Therefore, considering *Banco de la República*'s baseline macroeconomic scenarios and a low portfolio growth path that is in line with the most recent data, additional declines in this indicator that could reach levels not seen since 2017 may be expected by the end of 2023. The weighted average financial burden of households with new loans as reported by banks in the *Survey of the Loan Situation in Colombia*, which reflects changes in the ratio of debt amortization and interest payments to available income showed a downturn as it reached an indicator of 33.1% as of June 2023 (Graph 4.10). Finally, Graph 4.11 presents the annualized gross household savings and its components reported in DANE's quarterly national accounts by institutional sector. This evidences the exhaustion of the high levels of savings accumulated by households in the first year of the pandemic and which leveraged the strong consumption dynamic

Graph 4.9
Debt to Disposable Income ratio (DTI)

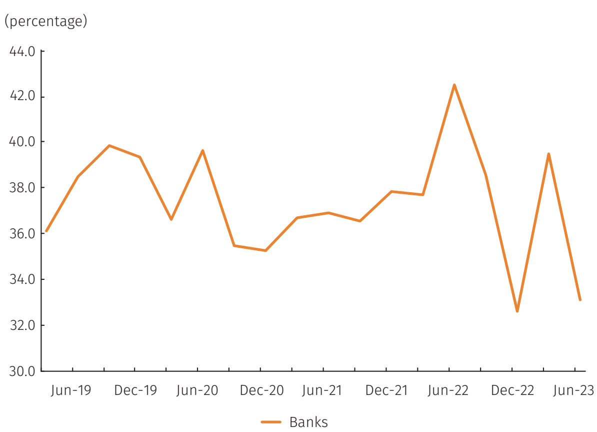


Note: the graphs present the debt to disposable income indicator (DTI). The gross adjusted disposable income of households from the national accounts by institutional sector is used for this. The dotted segments correspond to forecasts of the indicator considering with the baseline macroeconomic scenarios of the technical staff at *Banco de la República* and a low portfolio growth path consistent with recent data. Four measures of indebtedness are presented in the graph:
1. Brown line: household debt with credit institutions, savings and credit cooperatives, employee funds, and the Colombian Securitization Company.
2. Yellow line: household debt derived from the financial account balances published by *Banco de la República*. In addition to what is included on the brown line, microcredits and commercial loans to individuals are included as are obligations with other financial institutions.
3. Grey line (orange): housing loans (consumer) from credit institutions
Sources: Financial Superintendency of Colombia and DANE, calculations by *Banco de la República*.

during 2021 and 2022. Nevertheless, the positive performance of household disposable income and a slight downturn in final consumer spending in the last few quarters have resulted in a rise in savings although this is at levels that remain well below what was seen in 2020 before the impact generated by the lockdown periods.

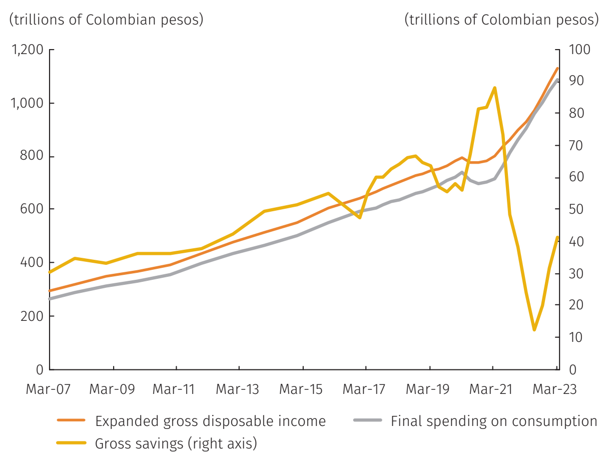
After private corporate sector indebtedness rose at the end of 2022, mainly due to foreign currency operations, this indebtedness was reduced in a context of an appreciating Colombian peso and a slowdown in the portfolio as of March 2023. Most of transactions in foreign currency have foreign exchange risk mitigation mechanisms. The total indebtedness of the corporate sector as a share of annualized GDP stood at 52.6% as of March 2023 and showed a reduction with respect to December 2022 (Graph 4.12). This decrease was mainly due to the appreciation of the peso and its effect on debt denominated in foreign currency (41.4% of the debt and 21.7% of the GDP). Furthermore, the percentage of debt in foreign currency that has some mechanism to mitigate foreign exchange risk (debt to exporters, to firms with financial hedging operations, or to companies with FDI) has remained relatively stable and continues to account for most of the debt in foreign currency (73.1%). The debt reduction trend could consolidate during the first half of 2023 given the stability of the peso and the slowdown in the commercial loan portfolio.

Graph 4.10
Weighted Average Financial Burden of Households that Took out New Loans



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

Graph 4.11
Gross Household Savings and their Components

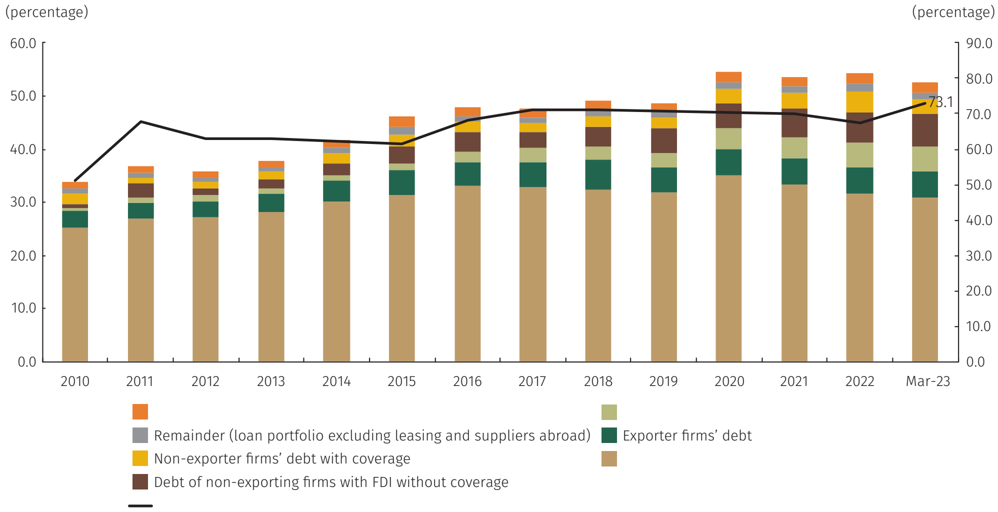


Source: DANE, calculations by *Banco de la República*.

So far this year there has been an increase in non-performing loans driven by consumer loans. However, loan-loss provisions cover a high percentage of the non-performing loan portfolio. The non-performing loan quality indicator (NPL)[39]

39 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 not been for a period of more than 30 days).

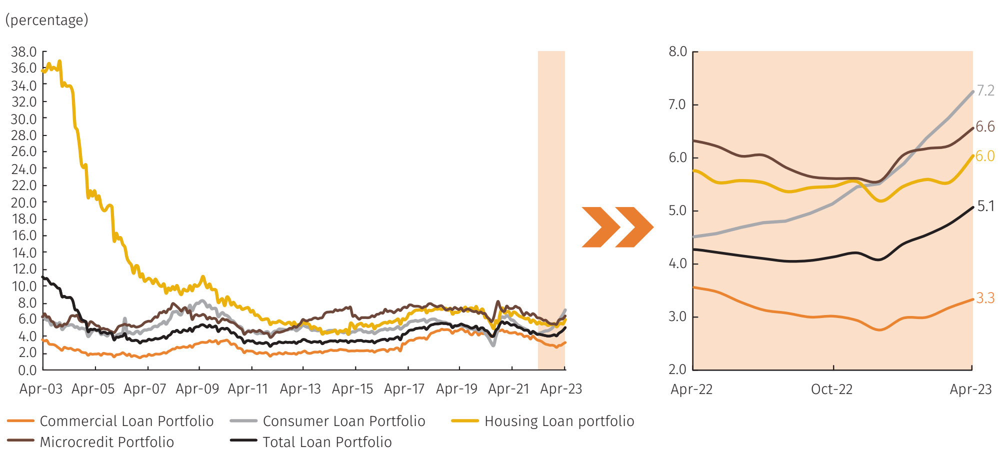
Graph 4.12
Indebtedness of the Private Corporate Sector by Foreign Exchange Hedging, FDI, and Debtor Foreign Trade (percentage of the GDP)



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*.

for the total loan portfolio has deteriorated over the course of 2023 after having shown a declining trend since the end of 2020 and having reached its lowest level since January 2017 (Graph 4.13). This deterioration of the NPL occurred after the high growth rates registered by the loan portfolio in the previous year, particularly the consumer portfolio, and in a context of economic downturn and a high household financial burden. This increase may also be related to the elimination of information from the credit bureaus as a result of the "Clean Slate Law." By type, consumer loans continued to show an upward trend in the deterioration of their NPL while commercial, housing, and microcredit loans have already begun to deteriorate. Note that the NPL portfolio coverage indicators for both the total portfolio and by type are at levels that make it possible to infer that the loan-loss provisions are covering a high percentage of this non-performing portfolio. The constant monitoring of this indicator becomes even more relevant in an environment of economic slowdown, tighter financial conditions, and high inflation levels. It is to be

Graph 4.13
Quality Indicator by Default (NPL)

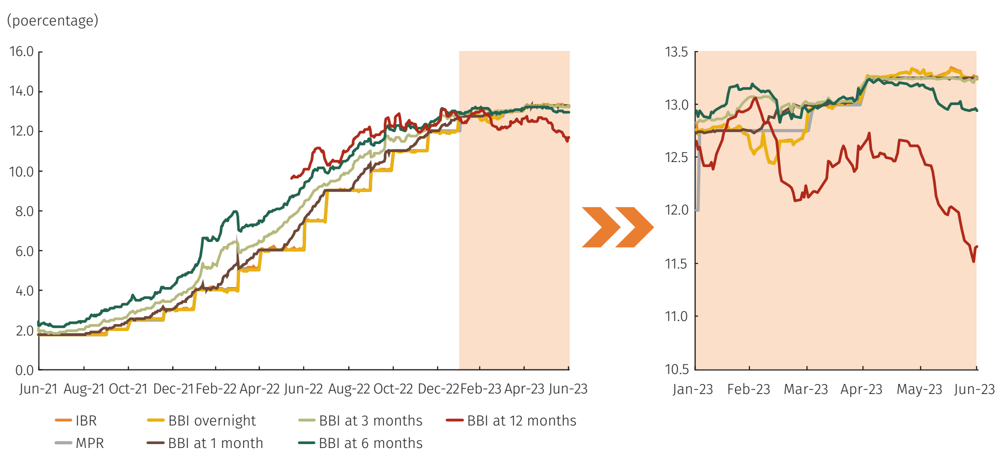


Source: Financial Superintendency of Colombia; calculations by *Banco de la República*.

expected that the measures taken by the FSC through External Circular 026/2022 for the creation of loan-loss provisions to cover the risk for the consumer loan portfolio in order to address the eventual materialization of risks will help to mitigate the negative impacts of the macroeconomic context. Likewise, the measures taken by several CIs up to this point in 2023 to reduce their interest rates in some specific consumer, housing, and microcredit segments may also help to mitigate such negative impacts on some particularly vulnerable households and companies.

The movements of the monetary policy interest rate have continued to be reflected in the money market interest rates. The *overnight* BBI and interbank rates rose in line with the changes in the monetary policy interest rate during the first half of 2023.[40] Although these rates, which are indicators of the financial institutions funding costs for these periods, were close to the MPR (for the BBI, the average spread was -0.96 bp), they showed some temporary deviations during March.[41] This performance occurred after the maturity of UVR-denominated TES and the payment of public debt interest at the end of February which, together with the payments at the beginning of March, implied a close to COP 23 trillion decrease in government's deposits in the Bank and increased the availability of primary liquidity for the economy.[42] For the other maturities of the BBI, the spread between maturities and the MPR was gradually narrowed and, even the six and twelve month maturi-

Graph 4.14
Monetary Policy Rate (MPR), Interbank Rate (IBR), and BBI (overnight, 1, 3, 6, and 12 months)



Source: Financial Superintendency of Colombia, calculations by *Banco de la República* based on information as of 30 June 2023.

ties reached levels below the benchmark rate thus reflecting expectations of a less contractionary stance in the medium term (Graph 4.14).

Interest rates on loans peaked in the first quarter of 2023 and began to decline in the second quarter. The rates for all of the categories of loans rose during the first few months of the year compared to December 2022 although at a slower rate than

40 As of 30 June 2023, in particular, the *overnight* BBI stood at 13.24% and the overnight interbank rate at 13.26% due to increases of 127.40 bp and 130.16 bp compared to the end of 2022 (the MPR rose 125 bp during the same period).

41 The *overnight* BBI stood at -13.72 bp below the MPR on average in March.

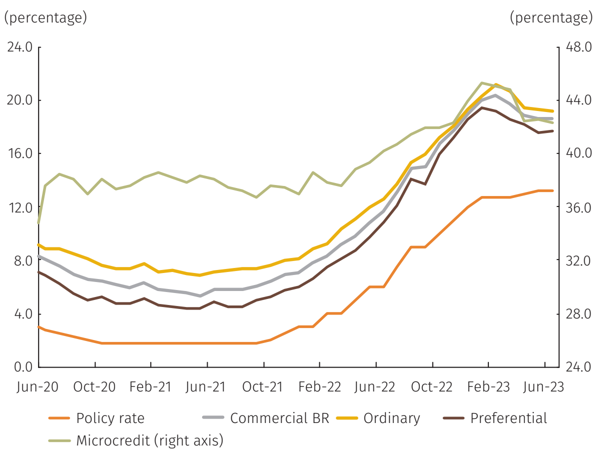
42 See the shaded section on Monetary Base and M3.

the one seen a year ago.[43] However, the rise in loan rates for households (consumption, individual credit cards, and home purchases)[44] remained more pronounced than those for loans to companies for which the magnitude of the changes was similar to those for MPR (75 bp). Subsequently, rates for all categories began to decline, especially in April and May.[45] In the case of microcredit, this category was divided into five subtypes with different interest rates starting in April (with Decree 455/29 March 2023 going into effect). However, the rates were, in all cases, lower than the one in effect up to March.[46] The decline in interest rates on loans in recent months may be a reflection of banks' lending to customers who have a lower level of risk given the deterioration in default indicators that has been seen so far this year (Graph 4.13). They may also be the result of the lower demand for credit that financial entities are facing and the expectation of a change in the monetary policy stance in the future (Graph 4.15).

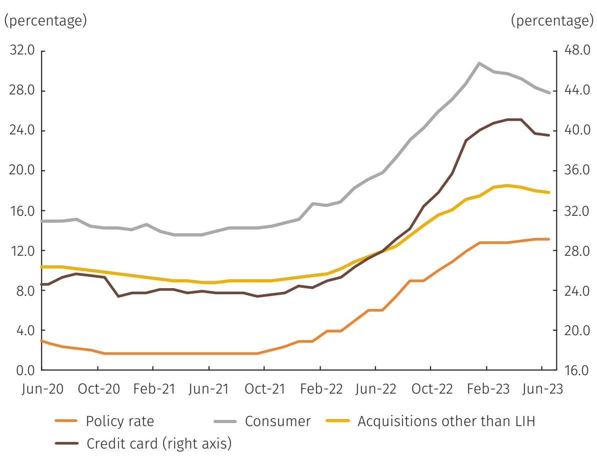
Interest rates on deposits also peaked between February and March 2023 and subsequently declined. Both CD deposit rates and savings deposit rates continued to increase during the first few months of 2023, as they had been doing since 2021.[47] In the case of CDs, the largest increases were seen in rates

Graph 4.15
Lending Rate

A. Loans to Businesses



B. Loans to households



Source: Financial Superintendency of Colombia (form 414), calculations by *Banco de la República* based on information as of 30 June 2023.

43 The aggregate commercial loan rate (Banrep methodology) rose 79 bp (ordinary 141 bp, treasury 39 bp, and preferential down 4 bp); the consumer rate rose 97 bp (loans covered by automatic payroll deductions 36bp and those other than loans covered by automatic payroll deductions 298 bp); those for LIH purchases 18 bp and non-LIH purchases 131 bp; individual credit cards 217 bp; and microcredit 79 bp between December 2022 and March 2023. Note that, starting on 01 July 2022, the information on lending rates comes from FSC format 414 and is not strictly comparable with what was obtained from the previous source (format 088).

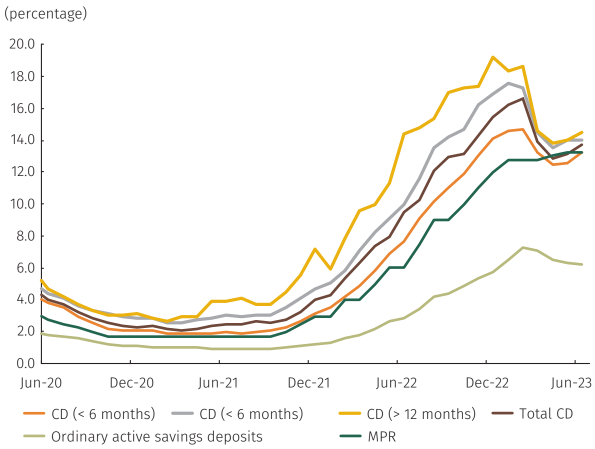
44 The exception was the LIH purchase rate in which the increase during the quarter was lower than the increase in loans to companies.

45 When the rates for June 2023 are compared to March 2023, the aggregate commercial rate fell 121 bp (ordinary 148 bp, preferential 88 bp and treasury 7 bp); microcredit (productive credit) dropped 248 bp; consumer 175 bp (loans covered by automatic payroll deductions 17 bp and loans not covered by automatic payroll deductions 295 bp); purchase of LIH 68 bp and non-LIH purchases 62 bp, and credit cards for individuals 161 bp. Note that for microcredit (productive loans), information is not yet available for each of the sub-types created by Decree 455 in April.

46 The government created the productive loans category that replaces the microcredit category as of April 2023. Within this new category, five (3?) types of loans were created: low-income productive (up to 5 SMMLV), productive (between 5 and 25 SMMLV), and higher-income productive (between 25 and 120 SMMLV). The first 2 differentiate between rural and urban depending on where the productive process for which the loan is requested is carried out. The interest rates in force up to September 2023 for the new categories were defined as 40.67% for higher-income productive, 46.79% for productive, and 52.89% for low-income productive.

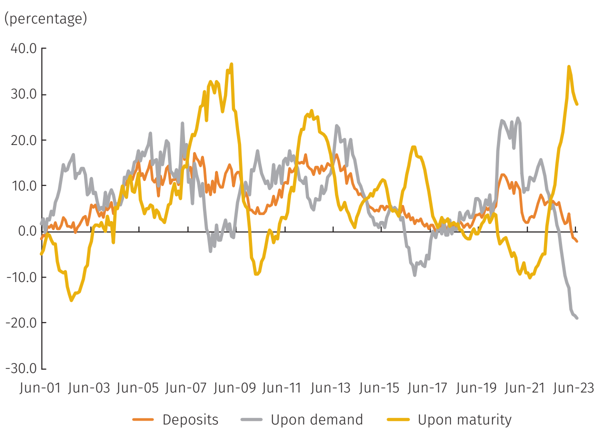
47 The aggregate CD rate registered its historical maximum (in nominal terms) in February 2023. This meant an increase of 119 bp compared to December 2022 (CDs that were for less than six months rose 59 bp, between six and twelve months 44 bp while those greater than twelve months fell 58 bp in the same period because their maximum rate was reached in December 2022). The aggregate rate of ordinary savings deposits (assets) also peaked in nominal terms in February 2023 with an increase of 160 bp compared to December 2022 (legal entities 198 bp, official entities 190 bp, individuals 9 bp).

Graph 4.16
Nominal Deposit Interest Rates



Source: Financial Superintendency of Colombia (form 441), calculations by *Banco de la República* based on information as of 30 June 2023.

Graph 4.17
Balance of Demand and Term Deposits
(real annual percentage change)[a/]



a/ Deflated with CPI excluding food. Monthly information with weekly data corresponding to the last monetary Friday of the month.
Source: Financial Superintendency of Colombia (form 281), calculations by *Banco de la República*. The information from format 281 is preliminary in nature and may differ from the monthly financial statements.

for terms longer than six months. In addition, these periods saw the largest amounts raised since records began to be kept. CD rates began to decline significantly along with the value of deposits, especially in the Treasury segment, starting in March. Similarly, savings rates also fell, driven by deposits of legal entities and official entities. This downward trend was the result of the lower needs for stable funding required by financial institutions in line with the decrease in the portfolio and may also have reflected anticipated future reductions in the MPR. In addition, the decline in CD and savings rates in March was also reinforced by the ample liquidity generated by the maturity of UVR-denominated TES at the end of February. This led to a sharp drop and later (May and June) a part of that drop was reversed[48] (Graph 4.16).

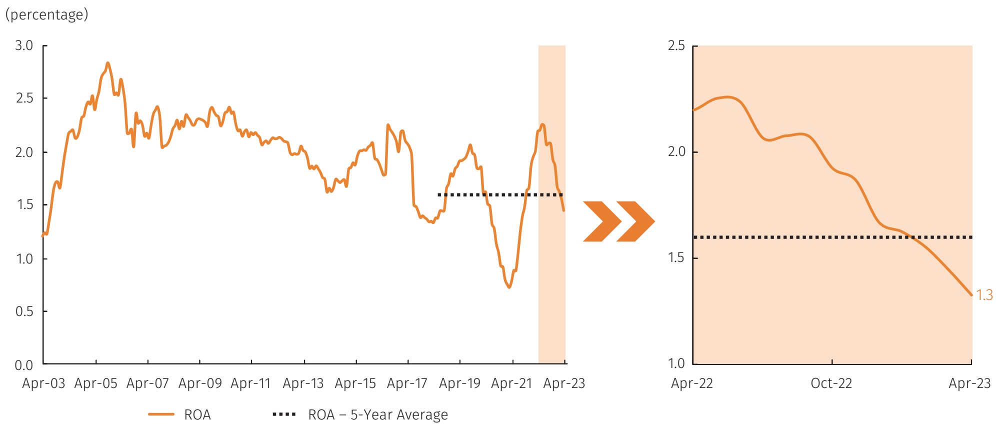
In the first half of 2023, demand deposits continued to decline, and time deposits stopped growing. The balance of savings deposits and current account deposits (along with others) that allow their holders to make payments by debiting their balances fell persistently over the course of 2023. Although it is usual for these deposits to fall in the first few months of the year compared to December, on this occasion, the decrease was more pronounced and the largest drops in annual terms so far this century have been registered.[49] Although annual variations in CDs remained high (more than 35% in real terms), the margin´s increase rate began to slow down starting in March when interest rates for this type of deposit began to fall. Thus, at the margin, the peso funding of credit institutions with their clients presented a lower trend than what was registered in 2022 (Graph 4.17).

The profitability of credit institutions continued the downward trend it has been registering since the beginning of the second half of 2022. The aggregate profitability of CIs maintained the downward trend shown since the second half of 2022 and stood at levels below the average of the last five years (Graph 4.18). The decrease in profitability resulted mainly from higher interest expenditures on deposits and an increase in loan-loss provisions due to the sharp build-up of the risky and non-performing loan portfolios for the total loan portfolio. By entity, broad variations were seen in this indicator (Graph 4.19). Nevertheless, this expansion has been seen at various points in time, where some CIs have lower returns due

48 Between February 2023 and June 2023, the aggregate CD rate dropped 288 bp (the rate for CDs for less than six months declined 142 bp, the one for CDs between six and twelve months 328 bp, and for CDs for more than twelve months 413 bp). However, CD rates reached their lowest level for the six-month period in April. The rate on ordinary savings deposits declined every month between February and June and fell a total of 109 bp.

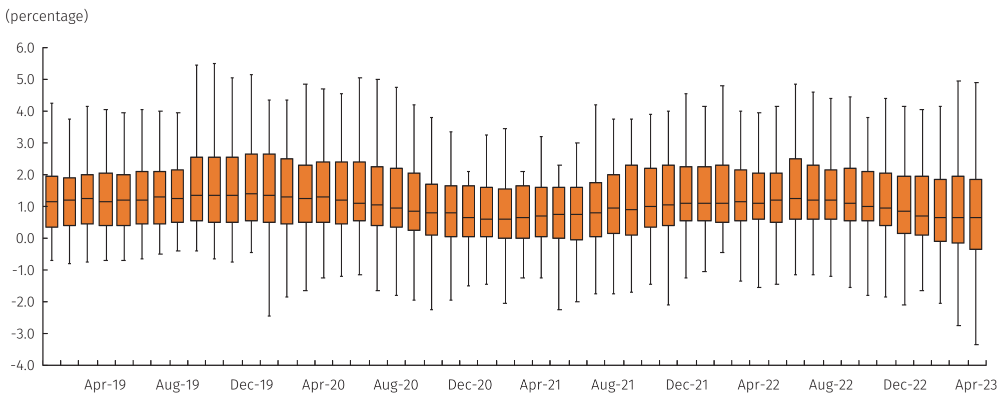
49 The balances of savings deposits and checking accounts showed annual decreases, on average, of 5.5% and 11.8% respectively (-15% and -20.7% in real terms) during the first half of the year.

Graph 4.18
Return on assets (ROA)



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

Graph 4.19
Distribution of ROA Among Entities



Note: the lower and upper limit of each box denotes the 25th and 75th percentile, in that order, of the distribution of the ROA of the Cis on each date. The horizontal line inside the box corresponds to the median.
Source: Financial Superintendency of Colombia; calculations by *Banco de la República*.

to their business niche or acquired risk. As of April, the institutions that showed a negative ROA value accounted for 9.7% of the total assets of the CIs, and nine of them had more than 50% of their total loan portfolio placed in the consumer loan modality. Given the lower economic growth outlook for 2023 and the downward trend in the portfolio, the negative trend in profitability could be expected to persist in the short term.

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, *Banco de la República* follows an inflation targeting model[50] with a floating exchange rate system. The exchange rate flexibility is considered a fundamental element for achieving these goals due to the fact

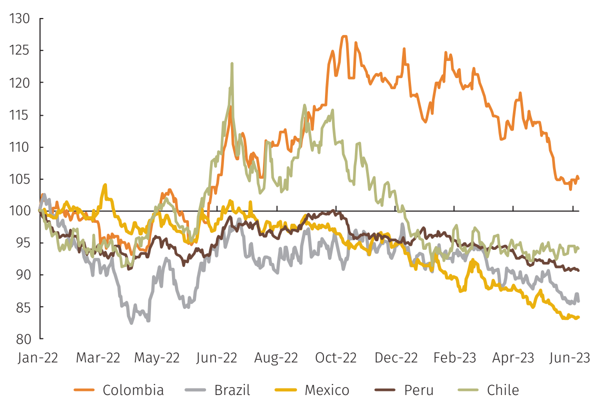
50 Under this approach, monetary policy actions are intended to ensure that future inflation is within the target set in the policy horizon.

that: 1) a major part of the adjustment to foreign shocks is made by the exchange rate,[51] 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 own inflation targets and react to their own economic cycles,[52] 3) it reduces incentives for excessive foreign exchange risk-taking,[53] 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.[54]

The favorable performance of the peso during the first half of 2023 was a reflection of a lower risk perception towards Latin America. There are also some local factors, such as greater flows of foreign currency supply into the spot market and the impact of a positive perception of the strength of the institutions, that has been mentioned by different market agents. There was a significant correction of the weakening seen in the Colombian peso during the second half of 2022 when it appreciated 13.2% as of June 30 (Graph 4.20). According to market agents, the strengthening of the peso was mainly due to the following factors: 1) the supply of dollars, due to the payment of taxes by large taxpayers and the inflow of foreign direct investment; 2) a positive perception of the strength of the local institutions that have played an important role in the review and debate of the reforms proposed by the government, and 3) a correction movement since the local currency had been punished and its performance lagged behind that of other currencies in the region.

Graph 4.20
Performance of the Foreign Exchange Market in the Region

(index, 31 December 2021 =100)



Source: Bloomberg, Data License. Data as of 30 June 2023.

Although the Colombian peso has appreciated more than its peers so far in 2023, if its performance is compared to other currencies in the region since the beginning of the pandemic, the peso's weakness persists (Graph 4.20). Taking the end of 2021 as the horizon for analysis, the Colombian peso has accumulated a depreciation of 5.0% while the currencies of other

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

52 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.

53 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 exchange-rate volatility generates incentives for real sector agents to take actions to mitigate their exposure to this risk.

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

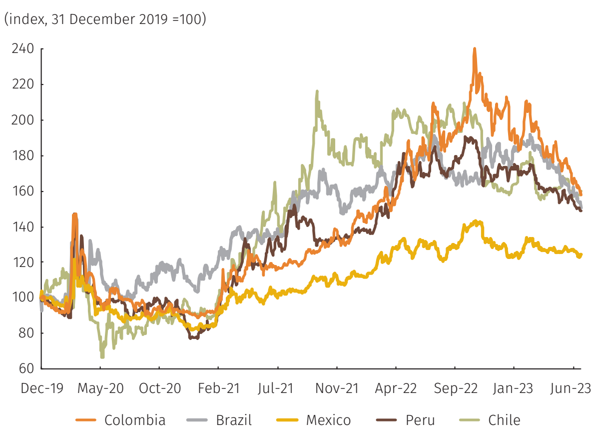
countries in the region have appreciated.[55] This performance, even though the Colombian peso has lagged behind its peers in the region, can be explained by some domestic factors that have generated depreciation pressure, mainly the behavior in the country risk premia spread and factors associated with local uncertainty.

There was an improvement in liquidity in the foreign exchange market[56] during the first half of 2023, and there was no evidence of alterations in an adequate currency price formation. The improvement in liquidity was reflected in a decrease in transaction costs (measured by the bid-ask spread) and an increase in the depth of the spot market. The spot and derivatives foreign exchange markets, in turn, have performed without alterations although costs in the forward market have increased within the latest month.[57]

4.2.2 Debt and Stock Markets

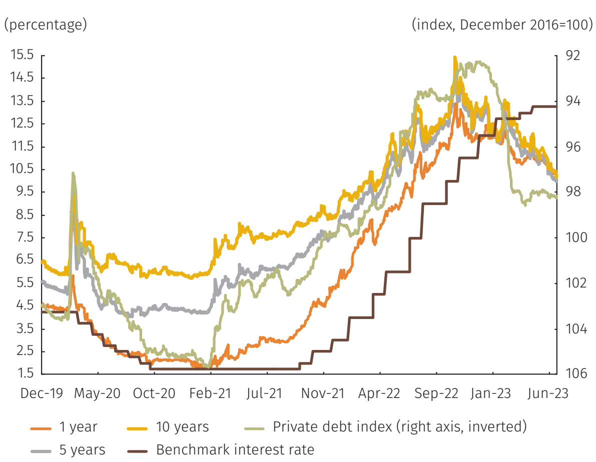
There has been a significant appreciation in local public debt securities during 2023, which is higher than others in the region together with an improvement in the liquidity and volatility of this market. This performance is the result of a partial correction in the high levels of interest rates seen during 2022 along with other global and local factors. Although emerging public debt has performed well during 2023 in line with expectations of an early start in the cycle of interest rate cuts and the increased risk appetite towards these economies (Graph 4.21), Colombian public debt has outperformed its peers. This performance is mainly caused corrections to the high devaluations seen last year, the expectation that inflation may have peaked in the first quarter of 2023, and the perception of several market agents of a high level of local institutional strength. Although the Colombian government bond market has shown significant corrections, if compared to its

Graph 4.21
Interest Rate Index in Some Economies in the Region



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

Graph 4.22
Zero-coupon TES Rate in Pesos by Term, Private Debt Index, and Monetary Policy Ratea



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

55 The BRL, MXN, CLP, and PEN presented variations of -14.0%, -16.3%, -5.8%, and -9.1%, respectively, against the US dollar from 30 December 2021 to 30 June 2023.

56 The *bid-ask spread* (BAS) and market depth measurements are taken as a reference. The BAS is calculated as the average of the difference between the best purchase point and best-selling point in the Set-FX counting session for each second between 8:30 am and 1:00 pm each day divided by the average rate of the daily Set-FX. An increase in the indicator reflects lower liquidity. The depth measures, 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 the 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. Based on information as of June 30, the average BAS stood at 0.061% in the first half of 2023 (1st half 2023) while in the 2nd half of 2022, it stood at 0.068%. The depth measures at $5, $10, and total, in turn, stood at an average of USD 5.9 million (m), USD 11.3 m, and USD 43.9 m respectively in the 1st half of 2023, while they were USD 5.2 m, USD 9.9 m, and USD 41.4 m respectively in the 2nd half of 2022.

57 This higher cost refers to an increase in the spread between the implicit and theoretical devaluation of one-month forward contracts.

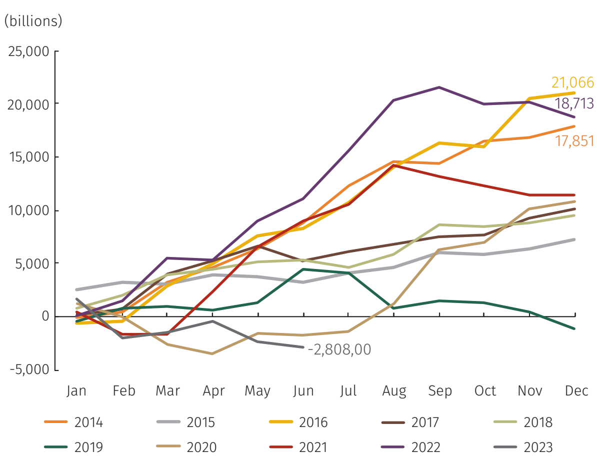
performance since the end of 2021, it is still lagging behind its peers in the region.[58]

Regarding inflation expectations, the different measurements extracted from the local public debt market showed declines. However, their levels still remain above *Banco de la República*'s target. Based on the inflation expectations implied by the public debt market,[59] expected one-year inflation has decreased 210 bp so far this year while expected five-year inflation has fallen 140 bp. Thus, the inflation expected for these periods stood, as of June 30, at 6.4% and 6.0% respectively. The lower inflation expectations helped raise the value of public debt securities by increasing the probability that *Banco de la República*'s inflation target will be reached in the future.

With respect to participants in the public debt market, pension and severance funds have significantly increased their positions in these assets and once again positioned themselves as the main holders of local currency securities since February 2023. The pension and severance pay funds accounted for a 26.5% share of total public debt in local currency at the end of 2022. The share rose 0.7 pp as it went to 27.2% in June 2023.

Foreign investors have sold public debt securities in local currency over the course of 2023. Nevertheless, their market share has not decreased substantially, and they remain the second largest holder. Foreign investors have sold a net COP 3,437 billion (b)[60] and COP 1,252 b,[61] respectively, in peso-denominated and UVR-denominated TES during the year. These are the highest cumulative sales for the beginning of the year since 2014. This performance is associated with episodes of uncertainty about the local context, periods of reduced risk appetite in the international environment and, recently, with profit taking due to the accumulated appreciation of Colombian securities during the year. Thus, the position of foreigners among TES holders declined,[62] placing them as second largest holders after pension and severance funds (Graph 4.23).

Graph 4.23
Cumulative Net Purchases per Year by Foreign Investors in the TES Spot Market



Source: CSD. Calculations: DOAM.

58 A comparison of the performance of the public debt market from January 2022 to June 2023 shows that Colombian short-term securities depreciated 390 bp while securities in the region depreciated 120 bp on average. As for long-term securities, Colombian securities depreciated 170 bp while the region presented an average depreciation of 24 bp.

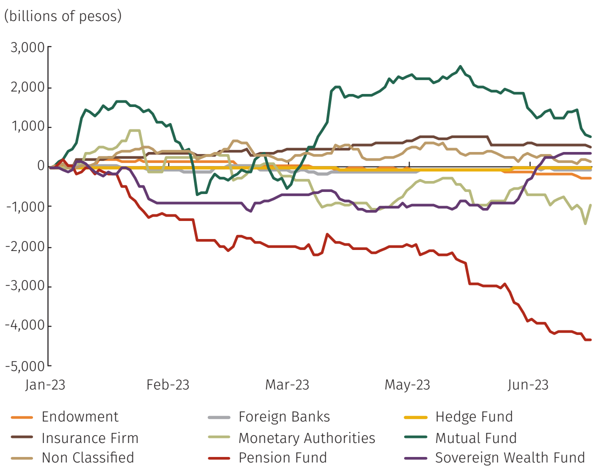
59 The measures correspond to the break-even inflation (BEI) derived from the local public debt market.

60 Foreign investors had sold a net COP 2.463 b on the spot market during 2023 as of 30 June 2023. With respect to the futures market, their position, through *non-delivery forwards* (NDF) contracts for peso-denominated TES, has decreased COP 974 b.

61 Foreign investors have made net sales of COP 345 b on the spot market during 2023. As for the futures market, its position, through NDF contracts of UVR-denominated TES, has declined COP 907 b.

62 Foreign investors accounted for a 26.2% share of total public debt in local currency at the end of 2022. The share decreased 1.8 pp and went to 24.4% in June 2023.

Graph 4.24
Cumulative Net Purchases per Year by Foreign Investors in the TES Spot Market



Source: CSD. Calculations: DOAM.

In addition, based on the type of foreign agent, there has been a shift towards agents with a less stable position (mutual funds) due to greater outflows of international pension funds. Specifically, international pension funds have been the main sellers during 2023 (COP 4,118 b), followed by the monetary authorities with net sales of COP 960 b.[63] In contrast, mutual funds have made COP 1,428 b in purchases[64] (Graph 4.24).

Funding through the placement of corporate bonds has become sluggish so far in 2023. Corporate bond placements through the BVC have amounted to COP 0.29 t so far this year. This represents a drop of 86% compared to the same period in 2022 (COP 2 t), when placements were mainly made by financial sector entities.[65] This has occurred in an environment of high interest rates and increased risk perception. Moreover, there was a significant increase in the amounts placed in CDs during the first quarter of the year.

The MSCI Colcap index fell during the first half of the year in contrast to the average increase registered in the region.[66] 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 MSCI Colcap's performance has been due to the persistence of some local uncertainty factors, the decline in the price of shares in the financial and petroleum sectors, and some corporate events. This took place in an environment of low market liquidity that reached historically low average levels during this half of the year.[67]

4.3 The Financial System's Exposure to Market Risk and the Changes in the Portfolio of Non-Banking Financial Institutions

Profitability of non-banking financial institutions (NBFI) recovered. The profitability of NBFIs as a percentage of their assets (ROA) has risen so far in 2023 compared to the minimum levels reached in 2021, and it was close to pre-pandemic levels as of March 2023. Brokerage firms posted their highest return in the last ten years when they reached 5.9% in April 2023 (Graph 4.25, panel A). For insurance companies, profitability levels were similar to those before the pandemic and

63 Endowment funds have registered COP 184 b in sales; foreign banks, COP 34 b; and hedge funds, COP 19 b so far in 2023.

64 Sovereign wealth funds have made COP 239 b in purchases, non-classified funds COP 269 b, and insurance companies COP 566 b so far in 2023.

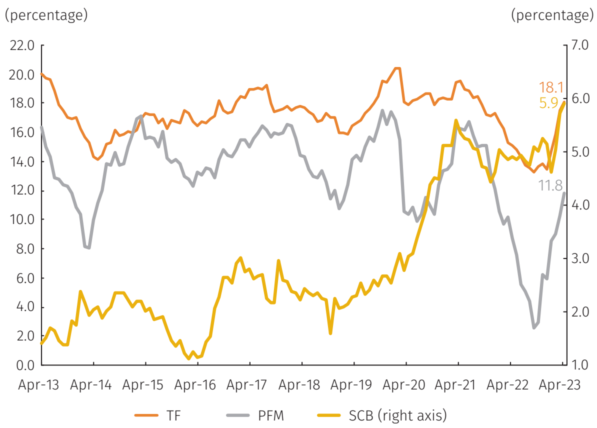
65 The financial sector accounted for 61% of the year's placements in 2022.

66 The MSCI Colcap index depreciated 11.9% in the first half of the year while the main stock market indices of Mexico, Peru, Brazil, and Chile appreciated on average (8.2%).

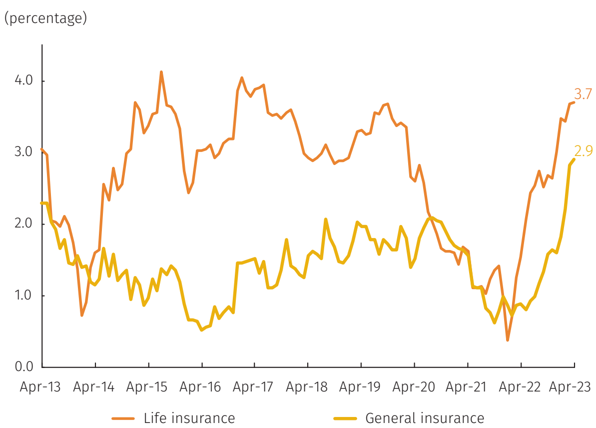
67 The average daily trading of shares belonging to the MSCI Colcap index so far in 2023 (as of June 30) has been COP 57.7 billion (b): the lowest half-yearly level since information has been available (first half of 2008).

Graph 4.25
Profitability of Non-banking Financial Institutions

A. Trust Funds, Pension Fund Managers, and Brokerage Firms

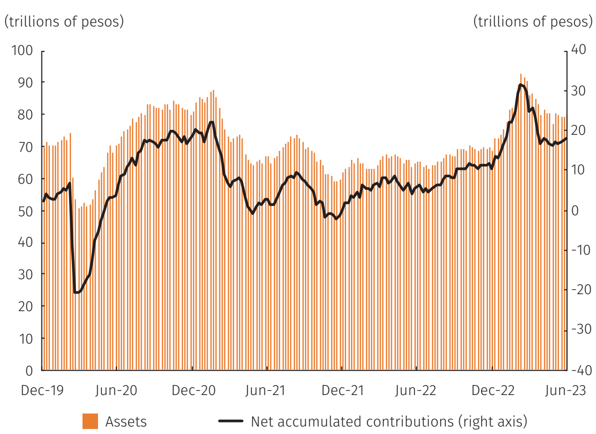


B. General and Life Insurance



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

Graph 4.26
Open-end Collective Investment Funds (net assets and contributions)



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

for general insurance companies, the profitability level stood at 2.9%, the maximum value since the beginning of 2012 (Graph 4.25, panel B).

Assets managed by open-end collective investment funds increased although some withdrawals have been seen since mid-March 2023. Open-end collective investment funds 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.[68] In particular, the open-ended collective investment funds 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 deposits 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. Open-end collective investment funds assets increased between December 2022 and March 2023 and reached their highest historical value at the beginning of March 2023 (around COP 92 t). This was the result of an increase in contributions that reached a total of COP 21 t (Graph 4.26). There was a reversal of the upward trend between mid-March and April 2023, and total assets fell by nearly COP 13 t due to an increase in withdrawals that coincided with a decrease in profitability due to the reduction in CD rates.[69] Following this period, the assets under management have remained relatively stable and were around COP 79 t as of June 2023.

Some open-end collective investment funds have registered drops in their liquidity indicators in recent months, but they remained above the regulatory minimums. The decrease in the **open-end collective investment funds** liquidity until mid-March 2023 was due to the increase in assets and the restructuring of the portfolio. Thereafter, and up to April 2023, the drop in liquidity was accentuated because of a decline in funds available in demand deposits to meet the increase of redemptions registered. Finally, in line with asset and withdrawal stability, the aggregate LRI for June 2023 remains stable and above the regulatory minimum (100%).[70]

68 These funds are classified as: 1) open-ended, with or without a permanence clause, where the investor may redeem his shares at any time; 2) closed, where deadlines for redemptions are established, and 3) stock market, in which case, the withdrawal policy will depend on what is stipulated in the fund's regulations.

69 For more details, see section 2.1.3.1 of the *Financial Stability Report* for the first quarter of 2023.

70 For more details on the liquidity of the open-end collective investment funds, see section 2.1.3.1 of the *Financial Stability Report* for the first quarter of 2023 (Graph 2023.

Shaded section 2
Monetary base and M3

During the first half of 2023, the monetary aggregates showed lower nominal growth than what had been registered throughout 2022, and in real terms, they reached their lowest levels in the last 22 years. The slowdown was mainly caused by declines in the levels (nominal and real) of cash and demand deposits (such as current account and savings account deposits). However, there was also a slower rate of increase in the spread for time deposits that continued to gain a larger share of the broad aggregates. With this, the monetary multiplier, which is the ratio between the volume of money in the broad sense and the monetary base, increased again after having registered reductions since 2017.

For the monetary base, an average annual nominal growth of 1.7% that corresponded to -8.6% in real terms[1] (vs. 11.7% in 2022 in nominal terms and 4.3% in real terms) was registered during the first half of the year. The latter is the largest drop so far this century. This is explained by the trend in cash held by the public (the main component of the monetary base) and bank reserves.[2] As for cash, demand for it had increased significantly during the pandemic, and it appears to be returning to the path it had been on previously. This situation was also widespread throughout the world.[3] A downturn was also seen in the banking reserve due to the shift in deposits from demand deposits to CDs which had begun in 2022 and continued through the first half of the year. CDs and bonds pay a higher yield to their holders compared to savings deposits but have a lower reserve requirement for financial institutions depending on their term,[4] and therefore, changes in the breakdown between time deposits and demand deposits have an impact on the banking reserve. Note that demand deposits, like cash, had increased significantly during the pandemic, so part of this change in participation corresponds to a reversal of the pandemic effect on the demand for liquid assets in a context of high-interest rates and inflation (which are costs for the holders of these types of assets) and where the convergence of the NSFR was also advanced.[5] In addition, total deposits showed more sluggishness so far this year compared to what was seen in 2022. The aforementioned factors as well as the slower economic growth may be contributing to the slowdown in the demand for money in general (Graph S2.1).

At nominal levels, the monetary base fell COP 14,147 b in the first half of 2023 (COP 12,785 b in cash and COP 1,362 b in the bank reserve). Although it is typical for the

1 The CPI excluding food was used as a deflator. Averages are calculated on weekly data (as of Friday).

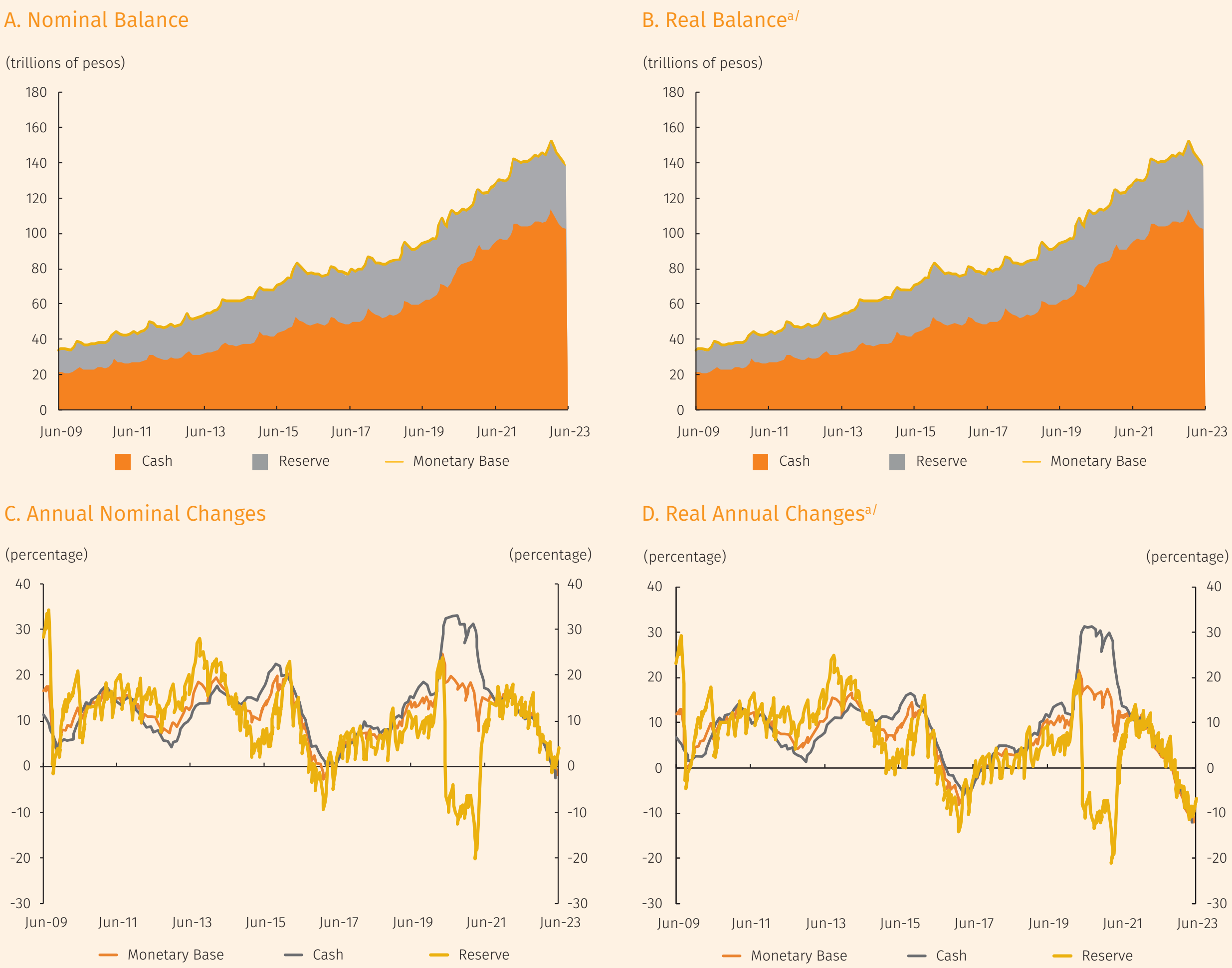
2 The average annual growth of cash was 1.1% and the growth of the reserve, 3.6% (-9.1% and -6.9% in real terms respectively) from the start of the year to June.

3 For example, in Canada it went from 8.6% on average during 2020 and 2021 to -2.4% in the first quarter of 2023, in Chile from 40.7% to -30.7%, in Mexico from 12.5% to 0.6%, in Peru from 23.9% to -10.7%, in the United Kingdom from 5.2% to -10%, and in the United States from 8.4% to -2.7%.

4 Currently, demand deposits have a required reserve ratio of 8.0%, CDs and bonds with a period of less than 18 months of 3.5%, and CDs and bonds with a period of more than 18 months of 0% (External Resolution 5/2008, article 1, available at: https://www.banrep.gov.co/sites/default/files/reglamentacion/archivos/Compendio-Res-Ext-5-2008_31jul2020.pdf

5 This period ended in March 2023.

Graph S2.1
Monetary Base, Cash, and Bank Reserves
(balance and annual percentage change, four-week moving average: data as of Friday)



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

cash balance to decline in the first two months of the year (after reaching a peak in the last weeks of the previous year), on this occasion, the fall has been prolonged and more pronounced due to the aforementioned factors.

From the point of view of sources (Graph S2.2), *Banco de la República* carried out the pertinent operations to guarantee an adequate supply of monetary base in the first half of 2023 in order to ensure that the differences between its supply and demand did not generate significant pressure on the money market. In particular, government deposits at the Bank underwent significant changes. This made it necessary to supplement the use of transitory liquidity operations (repos and contraction deposits) with purchases and sales of TES from the monetary portfolio. Thus, with the maturities of TES at the end of February and other payments[6] made by the Government in

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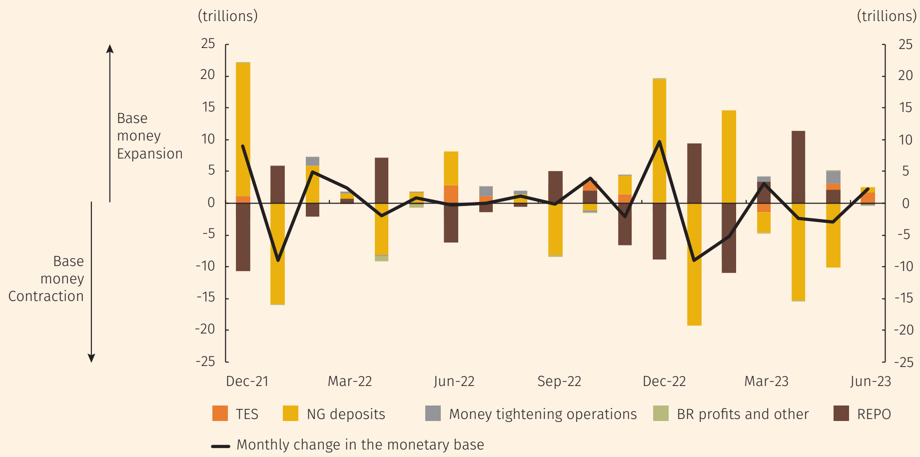
6 TES coupons, short-term TES maturities, transfers, etc.

the first days of March, the Government's deposits in the Bank dropped by close to COP 23,000 b.[7] This generated an expansion of the monetary base of approximately 16.5% of its balance. In view of this, the Bank decided to call auctions of remunerated deposits not constituting reserve requirements in order to collect liquidity surpluses as of the last few days of February[8] and to sell TES from its monetary portfolio during March.[9] Subsequently, when the Government's cash flows led to a further increase in the balance of its deposits at the Bank and generated a contractionary effect on primary liquidity, the Bank decided to extend the maturities of repo[10] operations and to make TES purchases.[11]

M3 and deposits, in turn, had an average nominal annual change of 10.1% and 11.7% (vs. 12.8% and 13.1% in 2022). In real terms, this corresponds to annual growth rates of -1.0% and 0.4% and are the lowest seen in the last 22 years (Graph S2.3). The slowdown in M3 is due to the performance of both cash and deposits. For deposits, the balance of checking and savings accounts (among other demand deposits) fell significantly

Graph S2.2
Monetary Base by Source



Source: *Banco de la República*.

7 Specifically, they reached levels similar to those at the close of 2022. Typically, this period is the lowest point in the balance of government deposits at *Banco de la República*.

8 A call for bids for contraction deposits (interest-bearing deposits not constituting reserve requirements), with terms of seven and fourteen days, was announced for a period starting from February 24 to April 14.

9 The Bank sold TES on the market for COP 1,453.5 b in March (see: https://www.banrep.gov.co/es/noticias/noticias-novedades/compras-ventas-divisas-tes-portafolio-marzo-2023 Furthermore, *Banco de la República* had reduced its TES portfolio COP 1,609 b since, at the request of the Ministry of the Treasury and Public Credit, the profits corresponding to the 2022 fiscal year were paid through the delivery of TES from *Banco de la República*'s monetary intervention portfolio valued at market prices (see https://www.banrep.gov.co/es/noticias/junta-directiva-banrep-aprueba-trasladar).

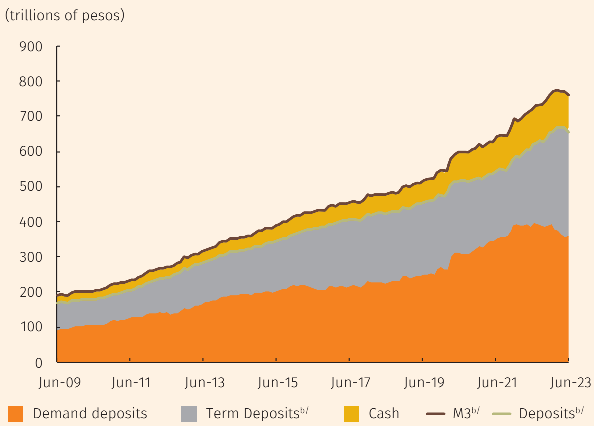
10 Thirty-day and fourteen-day repos were offered starting on May 15 in addition to the seven-day and overnight periods normally offered.

11 Specifically, *Banco de la República* acquired TES on the market for COP 4,836 b between May and June.

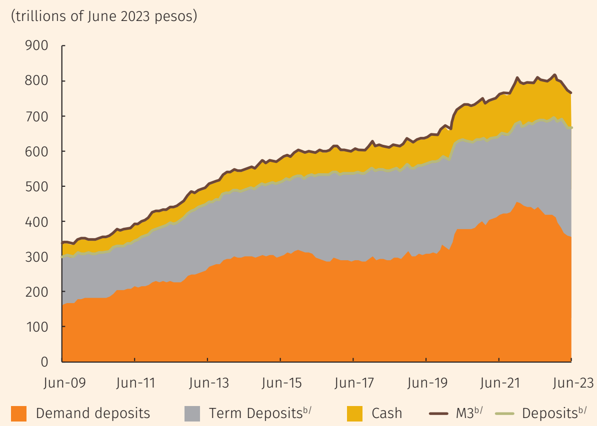
in both nominal and real terms[12] while the growth of CDs slowed at the margin (as of March) although in annual terms it continues at high levels (above 25% in real terms)[13] (Graph S2.3).

Graph S2.3
M3 and its Components
(balance and annual percentage change, four-week moving average: data as of Friday)

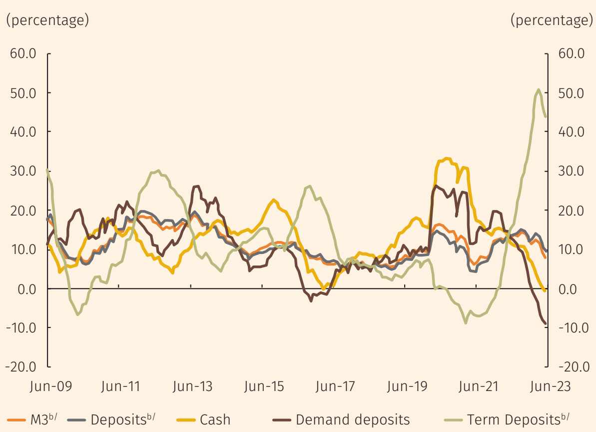
A. Nominal Balance



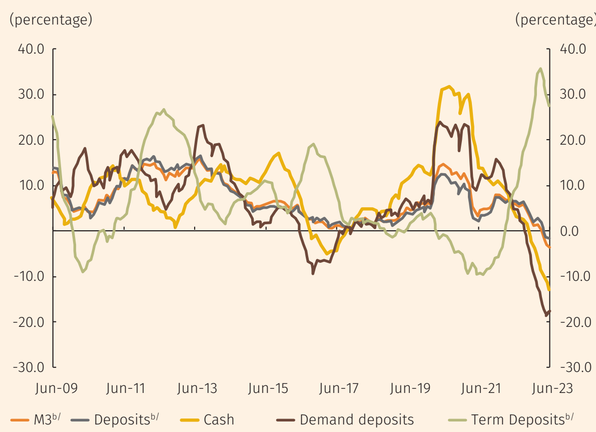
B. Real Balance a/



C. Annual Nominal Changes



D. Real Annual Changes a/



a/ The CPI excluding food is used as a deflator.
b/ Excludes CDs and bonds held by *Banco de la República*.
Source: *Banco de la República*.

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12 Demand deposits showed an average annual nominal variation of -6.0% and -15.5% in real terms in 2023. The balance of demand deposits as of June 2023 was, in nominal terms, at levels similar to those in mid-2021 and, in real terms, to those in April 2020.

13 Specifically, during the first quarter the average nominal annual change in CDs was 59% while, during the second quarter, it was 55.5% (corresponding to 43.3% and 39.4% in real terms).

Box 3
Resilience of the Colombian Financial System: Analysis Based on the Recent Period of Banking Stress in the U.S.

The U.S. financial system experienced a period of stress during March 2023 in which several regional banks including First Republic Bank, Silicon Valley Bank, Signature Bank, and Silvergate Bank, etc., were affected.[1,2] The collapse of these institutions had multiple causes and exposed the potential effects of a strong relaxation of the financial regulation to which these institutions were subject. This was reflected in the balance sheet structure of the entities where there was a high exposure to Treasury bonds that were carried on the books as held-to-maturity securities within the assets of these institutions,[3] a position that was mainly funded through demand deposits highly concentrated in U.S. technology companies. On the asset side, these entities held securities that had been devalued as a result of the Federal Reserve (Fed) funds rate hike while, on the liability side, they had demand deposits whose depositors were institutional clients who accounted for a significant amount of funds and for whom there were no restrictions on making withdrawals at any time. In addition, these institutions did not have minimum liquidity requirements measured by the short-term liquidity risk indicator (LCR) and the net stable funding ratio (NSFR) that are designed to limit exposure to massive withdrawals in periods of stress. These types of regional banks were not subject to compliance with liquidity and capital adequacy standards in accordance with international guidelines, known as the Basel III principles. In the case of the United States, requirements of this type are applicable to the largest financial institutions. The public's loss of confidence in the respective institutions also led to massive withdrawals which, in turn, led to the insolvency of the affected institutions.

In Colombia, unlike what is established in the financial regulation for these regional banks, all credit institutions (CIs) must comply with Basel standards, without exception. These standards serve as a reference for proper banking regulation and supervision.[4] They also constitute a set of minimum standards that countries follow and which are used and monitored by the International Monetary Fund (IMF) to periodically measure the situation of each country's financial system as well as the quality of regulation and supervision.[5] In the case of Colombia, for example, securities held to maturity do not represent a significant share of CIs' assets,[6] and liabilities are diversified between demand deposits and longer-duration securities such as CDs and others, and this reduces exposure to liquidity risk.

1 The assets of these banks were USD 229,100 million (b) for First Republic Bank, USD 209,026 m for Silicon Valley Bank, USD 110,364 m for Signature Bank, and USD 11,353 m for Silvergate Bank.

2 For more details on the situation that led to the collapse of these entities, see Box 3: "Financial Stress in the U.S. Banking System and a Stress Test of Credit Institution Capital Adequacy," published in the Financial Stability Report for the first half of 2023.

3 In accordance with Colombian regulations, CIs have the possibility of accounting the bonds they acquire as held-to-maturity securities. This means that the value of the security is registered based on the valuation made at the time of purchase, and the gains produced by the yields of the security are accounted for on the maturity date instead of registering it as a negotiable security. In this situation, the CI has to value the security based on the interest rate in effect in the market and periodically assume the losses or gains resulting from variations in the market rate.

4 The Basel principles serve as a reference for proper banking regulation and supervision. They constitute a set of minimum standards followed by countries and which are used and monitored by the International Monetary Fund (IMF) to measure and supervise the financial risks incurred by countries in different jurisdictions. For more information on the application of this regulation in the case of Colombia, see the document "Road to Basel: Strengthening Financial Regulation in Colombia", available at: https://www.asobancaria.com/2023/06/13/edicion-1380-road-to-basel-fortaleciendo-la-regulacion-financiera-en-colombia/

5 These standards are monitored by the IMF in its specialized reviews, called financial system stability assessment reviews (FSAP), in which local regulation is evaluated.

6 According to Colombian regulations, banks, financial corporations, financial cooperatives, and finance companies are defined as CIs.

This box presents several exercises that suggest that, in the event of a scenario similar to the one seen in the United States, the Colombian banking system would be resilient enough to face these risks. In other words, CIs would have the necessary funds to meet the requirements of their clients and capital losses in the event of a negative scenario. This is due, in large part, to the high standards in terms of financial regulation that allow Colombia to have a proper financial stability framework and a conservative balance of CIs.

The results show that, in the Colombian regulatory environment where CIs must comply with the regulatory limits established under Basel III standards: 1) the potential impact of reclassifying some investments, which would imply valuing them on a daily basis and not simply when purchased, would be low in terms of CI capital, and this would keep them above the regulatory minimums; 2) liquidity levels are sufficiently high to withstand a strong outflow of demand deposits by the main customers of each financial institution given the adoption of short-term and structural liquidity indicators; and 3) there has been a decrease in the exposure of CIs to the interest rate risk of the trading book in the last six months, which means that increases in interest rates have had less impact on the balance sheet of the CIs. In general, it can be seen that the liquidity and insolvency risks that were exacerbated in some regional banks in the United States are limited by the financial regulation governing CIs in Colombia.

1. Capital adequacy risk

According to current regulations, Colombian CIs must comply with a minimum total capital adequacy level of 9.0%. This means that the share of equity they must have on their balance sheet to back their risk-weighted assets (with riskier assets having a higher weight and less risky assets having a lower weight) must be at least that amount. Since the implementation of this regulation in the mid-1990s, CIs have complied with this indicator. In addition, the local regulation integrates the concepts of Core Equity Tier I, Additional Tier I and Tier II that are part of the Basel III recommendations. With the issuance of Decrees 1477/2018 and 1421/2019, in turn, entities had complied with a regulatory limit equivalent to 3.0% on leverage ratio as of January 2021. This restricts the level of risk that can be taken by these entities.

In order to measure the impact of an event similar to the one presented in the United States on the Colombian financial system, a stress test was done for the CIs. The goal was to quantify the effects on capital adequacy risk the entities would face if there were significant changes in market interest rates that would generate devaluations in their portfolios were to materialize. Specifically, three adverse scenarios of varying intensity were considered in which the entities had to realize the losses caused by the valuation of non-negotiable TES (investment at maturity) at market prices.[7]

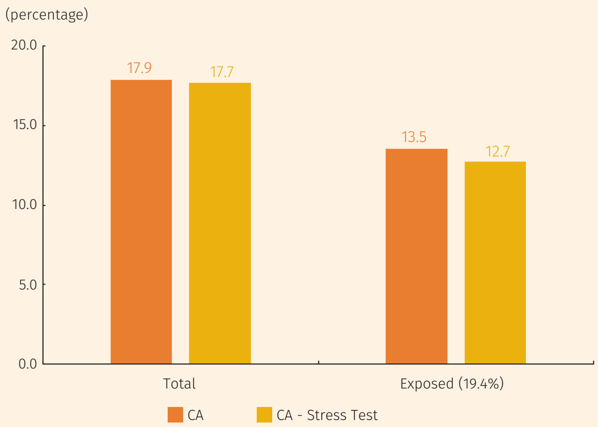
For this exercise, the CI balance sheet information as of March 2023 was used and a devaluation shock was built based on the shift of the zero-coupon TES curve seen during the second half of 2022, a period characterized by historically high devaluations.[8] In this scenario, the CIs experience a devaluation based on the maximum for the period considered (-4.4%).

The results suggest that, based on data from March 2023, in the scenarios analyzed, the aggregate total capital adequacy (TCA) is likely to remain well above the regulatory limit (9.0%, Graph B3.1). This is largely due to the fact that the TCA of the CIs at the beginning of the year is at a level of 17.9% which is almost double the regulatory minimum established in the Colombian regulations. This makes local CIs resilient to these types of shocks. A more detailed analysis of the results of the exercise shows that the TCA indicator in the stress scenario is likely to decline 0.2 percentage points (pp) for all CIs. Moreover, for the group of exposed CIs, the impact would be 0.8 pp and would remain above the regulatory limit. The above results are due to the low participation of held-to-maturity TES with respect to the

7 This would increase the value of the market risk incorporated into the calculation of capital adequacy. Furthermore, the devaluation of the TES that were originally accounted for as held-to-maturity securities would reduce the technical equity of the institutions as a result of their reclassification to marketable securities.

8 For more detail on this exercise see Box 3: "Financial Stress in the U.S. Banking System and a Stress Test of Credit Institution Capital Adequacy" published in the Financial Stability Report for the first half of 2023.

Graph B3.1
Static Stress Test of Capital Adequacy



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

assets of the exposed entities (3.6% as of March 2023), and to the fact that these entities represent 19.4% of the total assets of the CIs as of March 2023.

2. Liquidity Risk

Liquidity risk is defined as the possibility that a financial institution will not be able to meet expected and unexpected cash flows within a time horizon (usually thirty days) using the assets at its disposal. In the United States, in the absence of regulations that would require regional banks to measure and manage their liquidity risk, the latter concentrated on illiquid assets, i.e. assets that cannot be easily and immediately exchanged for cash, while their liabilities were mainly made up of demand deposits from institutional clients belonging to the technology sector that, by their nature, could be withdrawn at any time. Given the above, a fragile situation such as that suffered by Silicon Valley Bank in March, when the assets held by the institution were not sufficient to meet the projected withdrawals (and which, consequently, led to losses on securities held to maturity), led to a loss of confidence among institutional depositors who tried to withdraw the funds they had in demand deposits immediately. Since these funds represented large amounts that were not insured by the Federal Deposit Insurance Corporation (FDIC)[9] and were highly concentrated, they ended up exacerbating its situation and finally led this bank to insolvency.

In Colombia, among different aspects of liquidity regulation in the economy, there is the Liquidity Risk Management System (Sistema de Administración del Riesgo de Liquidez, SARL) that CIs, brokerage firms, and collective investment funds (FICs) must follow and comply with. Specifically, CIs must comply with the short-term liquidity risk indicator (LCR) and with a structural liquidity indicator or net stable funding ratio (NSFR). While the LCR requires the financial institution to manage its liquidity risk over a horizon of up to thirty days, the NSFR requires management to take into account more detailed characteristics of the entity's balance sheet (terms, counterparties, amounts, liquidity or uncertainty) in order for CIs to maintain a stable funding profile with respect to the breakdown of their assets, which is why it is recognized as a structural liquidity indicator.[10] In addition, both indicators follow Basel guidelines, the international benchmark for financial regulation standards.

The situation seen in the United States underscores the relevance of having an active liquidity risk regulation that allows for the monitoring of CIs in order to detect any kind of vulnerability or warning signal. Specifically, it turns out to be important to analyze the diversification of CIs' deposits. In the case of Silicon Valley Bank, the share of deposits held by institutional clients was close to 90%. In Colombia, on the other hand, the demand deposit concentration of CIs' five main clients represents 6.7% of liabilities, on average, and when the top fifty demand deposit clients are considered, they represent 12.3% of liabilities, on average.

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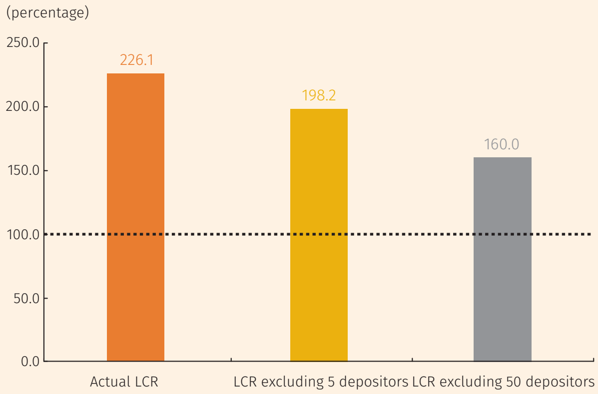
9 The FDIC is a U.S. government institution that fulfills the role assigned to Fogafin in the Colombian institutional framework and serves as an insurer of the deposits of U.S. financial consumers and protects their balances up to a maximum of USD$250,000.

10 *Banco de la República* also has indicators that measure liquidity risk by the CIs' currency (EI and IEC).

In order to assess the resilience of the CIs, a stress test was done in which the LCR of each institution as of 26 May 2023 was taken and their new levels were determined under two hypothetical stress scenarios: 1) withdrawal of the five largest clients' demand deposits, and 2) withdrawal of the fifty largest clients' demand deposits.[11] Only CIs with an actual LCR of less than 400% are considered in this exercise.[12] The results of the exercise show that the CIs' average LCR, which initially stood at 226.1%, would be 198.2% in the first scenario and 160% in the second scenario (Graph B3.2). Thus, the aggregate indicator in both cases would probably be above the regulatory minimum of 100%. This is evidence that the CIs have sufficient liquidity margins to face the adverse scenario considered.

In spite of the fact that the LCR, by construction, poses a stress scenario for demand deposits by making CIs assume a heavy withdrawal of these deposits within the calculation of unanticipated funds outflows, these results show the importance of monitoring the performance of the main counterparties of CIs, especially during transitory episodes of financial stress that are accompanied by the high uncertainty that economic agents are experiencing.

Graph B3.2
LCR Stress Test (withdrawal of demand deposits)



Note: the dotted line represents the regulatory minimum (100%).
Source: Financial Superintendency of Colombia; calculations by *Banco de la República.*

3. Trading Book Interest Rate Risk

The Basel regulation has issued instructions on the measurement and regulation of interest rate risk on the trading book (RTILB in Spanish) since 2019. This risk faced by financial intermediaries refers to the potential loss that entities may assume when there is an increase in short-term interest rates. Given that financial intermediation is based on raising short-term funds through deposits and placing them on the market for a longer term through credit operations, a natural mismatch is generated in CIs. This natural difference in terms means that the sensitivity of the value of assets to changes in the interest rate of assets will be greater than it is for liabilities. Assuming everything else is constant, an increase in interest rates could lower the net interest margin (the difference between the return on assets versus the cost of liabilities), a risk that materialized in the case of Silicon Valley Bank when the Fed raised interest rates starting in 2022 to contain inflation.

In Colombia there have been advances in the measuring and regulation of this risk. The Office of the Financial Superintendent of Colombia (FSC) issued the RTILB regulation in 2022 to be implemented in 2024 following the Basel guidelines. Currently, CIs quantify RTILB using internal models.

One of the indicators used to quantify the RTILB is the WATM gap. This indicator measures the difference between the duration of assets and of liabilities that are sensitive to changes in interest rates weighted for different periods. In Graph B3.3 the calculation of the WATM gap for the CIs from June 2015 to June 2023 is presented. The indicator is negative and thus suggests that an increase in interest rates nega-

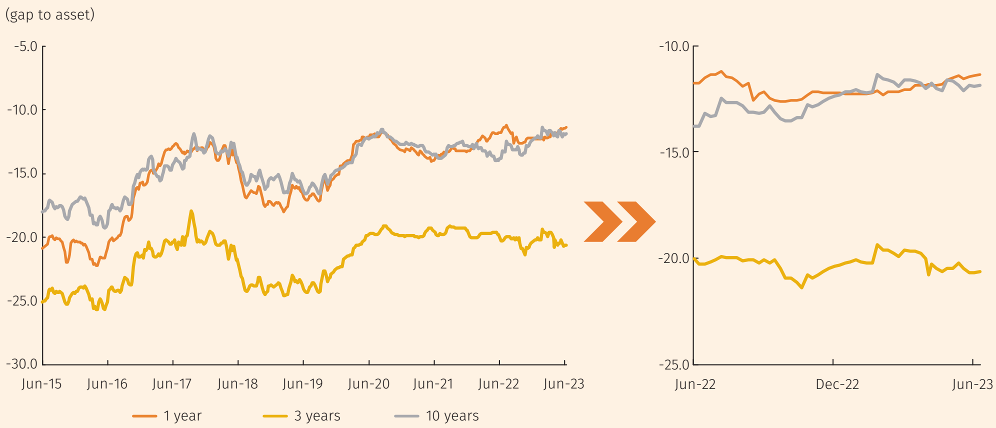
11 The behavior of each depositor over the last two years is taken into account, in terms of the variation of their stock. Thus, the shock per depositor is assumed to be a withdrawal in a proportion equivalent to the 5th percentile of the distribution of withdrawals during this period. This means that the depositors withdraw 64.0% of their balance in the first scenario and 68.6% in the second scenario.

12 Since those institutions with a higher LCR have a business structure that makes them more robust in terms of liquidity.

tively affects the CIs' intermediation margin. Note that since mid-2019, CIs have gradually reduced the WATM gap which suggests a lower exposure to RTILB. This reduction is mainly due to a decrease in the duration of assets and a lengthening of the duration of liabilities, largely due to the implementation of the NSFR. This reduces the maturity mismatch of CIs and, therefore, their sensitivity to future increases in interest rates.

Note that the CIs have adjusted the duration and make-up of their balance sheet in line with the monetary policy rate cycle since June 2022 which reduces their exposure to the RTILB. This is due to the fact that under a negative WATM gap, an increase in interest rates reduces the net interest margin. This performance is also largely the result of compliance with liquidity risk regulations (LCR and the stable funding ratio) that encourage CIs to maintain a level of liquid assets that exceeds net requirements in the short term.

Graph B3.3
WATM gap by Maturities



Note: corresponds to the total value for the CI. 4-week moving average.
Source: Financial Superintendency of Colombia; calculations by *Banco de la República.*

4. Conclusions

The period of stress experienced by the U.S. financial system during March 2023 revealed the effects of the easing of financial regulation enjoyed by regional banks. In Colombia, the financial system has a conservative balance sheet structure in addition to local regulations that measure and regulate capital adequacy and liquidity risks. This regulation includes the implementation of the NSFR and the valuation at market prices of all deposits subject to compliance with local liquidity risk indicators. The FSC also issued a regulation on measuring the interest rate risk of the trading book to be implemented in 2024. This incorporates, along with other items, interest rate shocks along the yield curve and quantifies this risk in terms of capital and net interest margin, which will allow for a more accurate and prospective measurement. Because of local regulation, local entities are resilient in a stressful situation such as the one seen in the United States.

5. Foreign Balance and Foreign Reserves

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

The current account deficit shrank to 4.2% of the GDP in the first quarter of 2023 compared to 6.2% during the same period during the previous year. The current account registered a deficit of USD 3,422 m between January and March 2023, which corresponded to 4.2% of the quarterly GDP and represented a USD 1,950 m decline compared to the foreign imbalance registered a year ago (Table 5.1). This occurred in an environment of more sluggish domestic demand that resulted mainly from the downturn in investment in machinery and equipment. This performance was reflected in a substantial decrease in the value of imports that, together with the growth of exports of services, significantly reduced the trade deficit.

The lower foreign imbalance was mainly due to the decrease in the trade deficit in goods and in the balance of services. The closing of the current account deficit was limited by the increase in net factor income outflows (Table 5.1). The reduction in the trade balance of goods and services may be associated with the lower domestic demand and investment, the higher price of coal, and the greater influx of foreign tourists. This improvement in the deficit was partially offset by an increase in net factor income outflows of USD 552 m that was mainly due to higher interest payments on foreign loans and higher profits for companies with foreign direct investment (FDI) that was reflected in higher outflows for remittance of profits. The above is, specifically, the result of the increase in estimated profits for companies working in mining that is partly offset by the reduction in profits from oil drilling and those of financial institutions and business services. Net income from current transfers remained relatively stable at USD 3,097 b with income from workers' remittances that amounted to USD 2,476 m between January and March 2023 for an annual increase of 21.0% (USD 430 m).

The reduction in the balance of trade in goods and services was primarily due to the decrease in imports (USD 2,220 m) supported by the increase in exports (USD 362 m). The trade deficit in goods decreased USD 1,625 m with respect to a year ago. This was the result of a greater reduction in the value of imports (USD 1,943 m) in comparison to what had been seen in exports (USD 318 m). On one hand, the decline in gross fixed capital formation in the first quarter, particularly in machinery and equipment (-7.9% year-on-year), contributed to the widespread downturn in the value of purchases of goods from abroad. The lower crude oil and coffee prices as well as the slower growth of our trading partners, in turn, were responsible for the reduction in exports of goods although at a slower rate than imports. In the case of the lower deficit in the services balance (USD 957 m), the increased number of international travelers arriving in the country, together with higher sales of computer and technical services, explained the USD 680 m growth in service exports that contributed to reducing the trade deficit. With respect to imports of services, lower purchases associated with freight transportation services also contributed to the decrease in the foreign imbalance. This was partly offset by an increase in payments for travel services and purchases of modern services.

Table 5.1
Colombia's Balance of Payments

Current Account (millions of dollars)	2022 (p) Jan-Mar	2023 (p) Jan-Mar	Change (dollars)
Current Account (A + B + C)	-5,372	-3,422	1,950
Percentage of the GDP	-6.2%	-4.2%	
A. Goods and Services	-4,964	-2,382	2,582
1. Goods	-3,555	-1,930	1,625
Exports FOB	13,764	13,446	-318
Imports FOB	17,319	15,376	-1,943
2. Services	-1,409	-452	957
Exports	2,904	3,585	680
Imports	4,313	4,036	-276
B. Factor Income	-3,585	-4,137	-552
Income	1,586	1,979	393
Outlay	5,171	6,116	945
C. Current Transfers	3,177	3,097	-80
Income	3,506	3,404	-102
Outlays	329	307	-22
Financial Account Annual flows (millions of dollars)	**2022 (p) Jan-Mar**	**2023 (p) Jan-Mar**	**Change (dollars)**
Financial account with change in foreign reserves (A + B + C + D)	-4,901	-2,827	2,074
Percentage of the GDP	-5.7%	-3.5%	
A. Direct Investment (ii - i)	-3,544	-3,565	-20
i. Foreign in Colombia (FDI)	4,832	4,305	-527
Percentage of the GDP (FDI)	5.6%	5.3%	
ii. Colombian abroad	1,288	740	-548
B. Portfolio Investment (1+2)	1,866	913	-953
1. Public Sector (ii - i)	-848	-1,359	-512
i. Foreign Portfolio Investment (a + b)	1,191	1,463	
a. International markets (bonds)	-8	1,729	
b. Local Market (TES)	1,199	-267	
ii. Portfolio Investment Abroad	344	104	
2. Private Sector (ii - i)	2,713	2,272	-441
i. Foreign Portfolio Investment (a + b)	-391	-473	
a. International markets (bonds)	0	-500	
b. Local markets	-391	27	
ii. Portfolio Investment Abroad	2,322	1,799	
C. Other Capital Flows public sector + private sector	-3,349	-345	3,004
D. Reserve Assets	127	169	
Errors and Omissions (E and O)	471	595	124
Memo items:			
Financial account excluding change in foreign reserves	-5,027	-2,996	2,031
Change in Foreign Reserve	127	169	

p: provisional
pr: preliminary
Source: *Banco de la República*.

FDI was the main source of foreign financing in the first quarter of 2023 in spite of the USD 527 m reduction (10.9%) compared to a year earlier. Between January and March 2023, the financial account registered USD 2,827 m (3.5% of the quarterly GDP) in net capital inflows which are lower than those seen a year ago (USD 4,901 m, 5.7% of the quarterly GDP) (Table 5.1). The funds received through FDI (USD 4,305 m), followed by income from foreign portfolio investment (USD 990 m), and the net disbursements from foreign loans and other capital flows (USD 459 m) stand out. Note that the amount of FDI was USD 527 m lower than the amount received a year earlier (Table 5.1). This FDI trend is mainly due to the reduction in investments received in financial and business services (USD 1,391 m), and transportation and communications (USD 331 m) while there was an increase in FDI in mining (USD 309 m), crude oil (USD 220 m), commerce and hotels (USD 211 m), and electricity, gas and water (USD 205 m).

The financing of the foreign deficit was also supported, although to a lesser extent, by foreign portfolio investments and disbursements of loans and other foreign credits. In the first three months of 2023, public and private portfolio foreign investments were estimated at USD 990 m as a result of placements of long-term debt securities in international markets (USD 1,229 m) that were partially offset by net sales of financial instruments in the local market by non-residents (USD 239 m). In loans from abroad and other capital flows (USD 459 m), in turn, net disbursements received by the private sector (USD 796 m) are notable compared to net payments made by the public sector (USD 337 m).

The technical staff forecasts a deficit of 4.0% of the GDP In the current account for 2023. This figure is lower than the 6.2% of the GDP reached in 2022. This correction is due mainly to the lower trade deficit in goods and services. Imports, in particular, are expected to decrease due to the decline in domestic demand, lower international prices of imported raw materials, and lower freight costs contracted with foreign companies. In addition, exports of tourism services are expected to remain strong and surpass the values registered prior to the pandemic. However, the correction of the trade deficit will likely be limited by the reduction in exports of goods as a result of lower international prices for the main export products and the persistence of relatively low levels of production of some of these goods. In addition to this, there is the slowdown in the growth of our trading partners. Moreover, the decrease in the primary income imbalance is also likely to contribute to the annual adjustment of the current deficit as a result of a decline in the outflows associated with the profits of companies with foreign capital and the increase in the yields on foreign reserves, these are factors that could more than offset the higher interest payments on foreign indebtedness. As for secondary income, the positive performance of worker'' remittances could make it possible to maintain a high surplus in this component. Regarding savings and investment aggregates, the correction of the current account deficit in 2023 will likely be consistent with the reduction of the public sector imbalance announced in the MFMP-2023 and with the expected adjustment in private sector consumption and investment.

Lower net foreign financing needs are expected for 2023 due to the decrease in the current account deficit. However, international financial conditions remain relatively tight. In this context, capital inflows from different sources will probably continue to reach the country. FDI, in particular, will probably continue to be the main foreign financing mechanism as it was in the first quarter of the year, although it will be lower than in 2022 given the economic slowdown, the lower prices of tradable goods (commodities) and the base effect due to one-off investment operations carried out a year ago which will not occur again in 2023. Public sector capital flows, in turn, will likely continue to contribute to financing, although to a lesser extent than in previous years in line with the expected decrease in the fiscal deficit for this year.

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 investment of the reserve assets shall be subject to the criteria of safety, liquidity, and return. The safety criterion under which the foreign reserves are managed in Colombia implies proper control of the risk to which the investments are exposed. In order to manage them within acceptable parameters and levels, the Foreign Reserves Committee of *Banco de la República*[71] defines strict limits on each of the different risks that the reserves are exposed to. In order to comply with the liquidity criterion, the Bank invests the foreign reserves in financial assets that are easy to liquidate or in assets with short-term maturities and defines investment tranches on the basis of liquidity and return objectives. Once the criteria are defined to ensure that the foreign reserves portfolio is invested at a low risk, the management policy also 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 investment of the reserves 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 macroeconomic stability. Trade flows may be affected, for example, by a drastic reduction in exports or an increase in imports that tightens foreign liquidity. Financial flows, in turn, may be affected by difficulties in accessing financing from abroad such as reduced access to international loans, or higher capital outflows from both foreign investors and residents. A country's foreign reserves are a determining factor in the perceived creditworthiness of domestic borrowers. This depends on the extent to which credit rating agencies and foreign lenders believe that a suitable level of reserves would allow the residents to meet their obligations in foreign currency such as, for example, paying for imports and servicing the foreign debt, at a time when the country faces difficulty in accessing foreign 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.

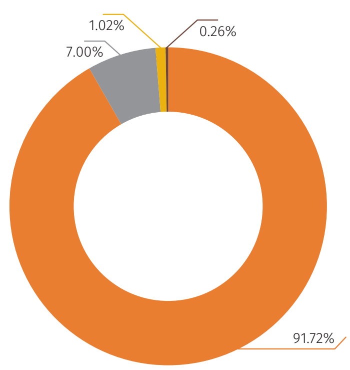
***Banco de la República* holds foreign liquidity buffers in amounts it considers sufficient to meet the aforementioned objective.** To this extent, it is important to have an appropriate level of liquidity in foreign currency to prevent and face foreign shocks and consider different international metrics to measure this. For example, it is desirable for the level of *Banco de la República*'s foreign liquidity to cover the foreign deficit, foreign debt payments, and other potential capital movements.

71 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.

There has been an increase in the level of foreign reserves during 2023. The main factor that explains this is the positive profitability obtained during the year as a result of higher interest received on investments. Net foreign reserves[72] totaled USD 57,838.7 million as of 30 June 2023, which indicates an increase of USD 569.6 m during 2023. The return on the foreign reserves during 2023 excluding the foreign exchange component was 1.29% (USD 744.9 m). This performance is mainly due to higher interest rates which have had a positive impact on the profitability of the foreign reserves due to the higher interest received on the investments. This has been partially offset by the decrease in investment prices due to the increase in short and medium-term interest rates in the main markets in which foreign reserves are invested and the devaluation of other reserve currencies against the U.S. dollar. The latter has generated a negative foreign exchange effect on the valuation of reserves (-USD 123.1 m).

The main component of the foreign reserves is the investment portfolio. This corresponds to investments in financial instruments on the international market and to the certified physical gold (91.23% and 0.49% respectively of the reserves). The breakdown of the foreign reserves is presented in Graph 5.1 as of June 30, 2023.

Graph 5.1
Breakdown of the Foreign Reserves
(Information as of 30 June 2023)



Note: gold is included in the investment portfolio. The item others includes international agreements, cash on hand, and demand deposits.
Source: *Banco de la República*.

5.2.1 Reserve Indicators

The rise in reserve levels seen during the year has partially offset the increase in short-term debt payment obligations in foreign currency. The different indicators for evaluating them, including those of the IMF, show an adequate level for the country. Since foreign reserves are mainly invested in bonds of developed countries that currently have historically high-interest rates, they have shown a positive return so far in 2023. The projected short-term debt payments, in turn, have increased during the year to date. An indicator that is widely used around the world to measure the proper level of foreign reserves is the methodology known as *Assessing Reserve Adequacy* (ARA). This metric is proposed by the IMF and provides that 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 foreign demand.[73] An economy is believed to be maintaining adequate levels of reserves if the

72 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 consists of demand obligations to non-resident agents in foreign currency. The gross foreign reserves came to USD 57, 866.2 m, and the short-term foreign liabilities totaled USD 27.4 m.

73 FMI (2015). "Assessing Reserve Adequacy: Specific Proposals."

ratio of the reserves to this measure is between 1.0 and 1.5. Based on June 2023 figures, the adequate level of reserve for Colombia stands at 1.27 according to the IMF ratio. Other indicators used for assessing the foreign reserves are the ratios of foreign reserves to monetary aggregates, short-term foreign debt, and the current account deficit. In the case of Colombia, these indicators suggested that the level of reserves was an appropriate one as of June 2023.

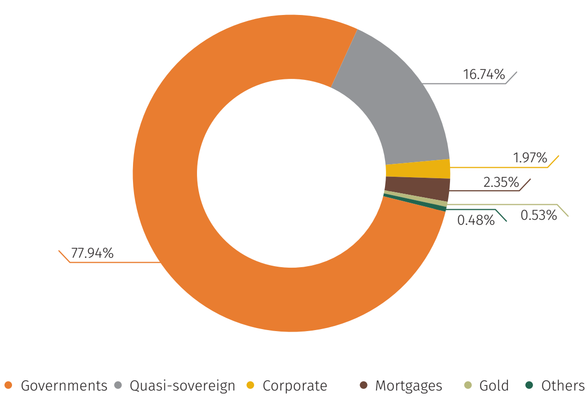
5.2.2 Breakdown of the Investment Portfolio[74]

The investment portfolio was mainly composed of securities issued by governments and entities related to governments at the close of June 2023. The breakdown of the investment portfolio as of June 2023 can be seen in Graph 5.2 when about 94.68% was invested in paper issued by these entities.

The breakdown of the portfolio by rating is evidence of the high credit quality of the assets the portfolio invests in. Graph 5.3 shows that 84.17% of the portfolio is invested in instruments rated AAA and 13.61% in AA. The Bank uses the lowest the investment grade rating granted by at least two of the three main rating agencies (S&P, Moody's, and Fitch Ratings) as a benchmark.

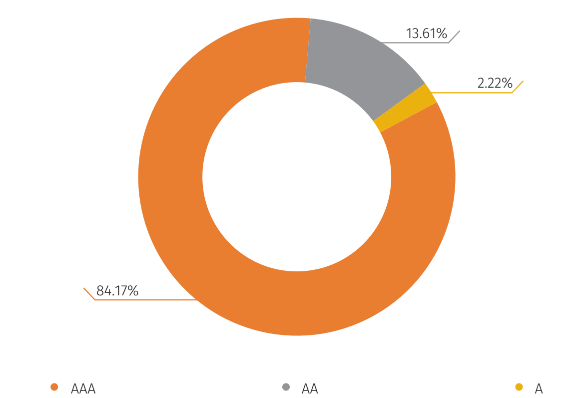
The investment portfolio is made up of currencies that are characterized by their high daily trading volumes and the fact that they belong to countries with elevated credit ratings with the United States dollar being the currency with the highest share. Graph 5.4 shows the foreign exchange components in the investment portfolio as of June 30, 2023. Considering that one of the objectives of foreign reserves is to be able to meet the country's foreign payments in times when foreign financing sources are reduced, the exchange rate breakdown of Colombia's foreign reserves seeks to replicate the behavior of the country's balance of payments outflow. Thus, the reserves attempt to cover the volatility of the country's payments abroad as a consequence of exchange rate movements. The largest share of Colombia's foreign reserves is in US dollars due to the fact that a 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 allowed: Canadian, Australian, New Zealand dollars; Swedish krona; the pound sterling; Swiss franc; euros; yen; Norwegian krone; the reminbi; Hong Kong and Singapore dollars, and Korean won.

Graph 5.2
Components of Investment Portfolio by Sector
(Information as of 30 June 2023)



Source: *Banco de la República.*

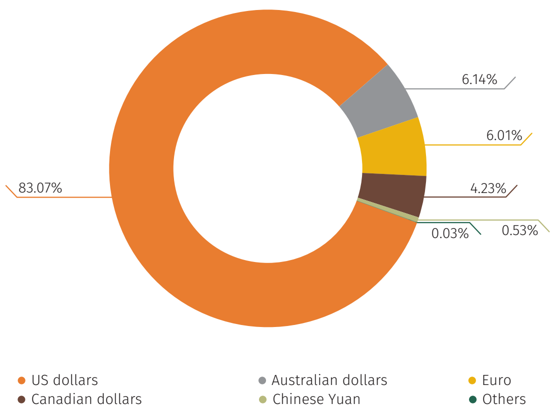
Graph 5.3
Distribution of Investment by Credit Rating
(Information as of 30 June 2023)



Source: *Banco de la República.*

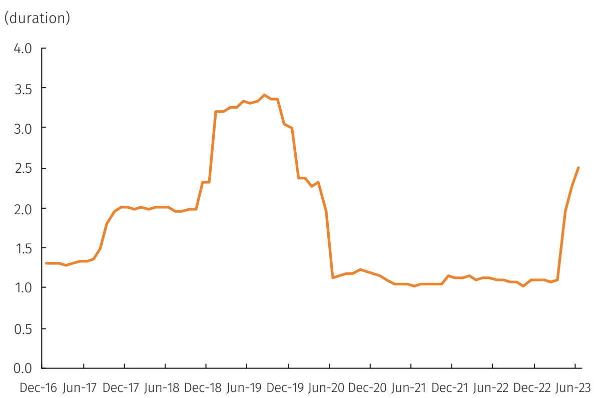
74 The graphs of the breakdown of the portfolio by currency and credit rating were calculated based on the amount in the investment portfolio excluding the gold.

Graph 5.4
Foreign Exchange Breakdown of the Investment Portfolio
(Information as of 30 June 2023)



Source: *Banco de la República.*

Graph 5.5
Duration of the Investment Portfolio



Source: *Banco de la República.*

***Banco de la República* gradually increased the duration[75] of the investment portfolio during 2023 due to the fact that the interest rate levels, which had risen from historic lows, increased the accrual obtained and allowed for a portfolio with a higher level of expected return and assumed risk.** The change in the duration of the investment portfolio can be seen in Graph 5.5. The investment portfolio had a duration of 2.51 as of 30 June 2023, which meant that the value of the portfolio could rise (fall) 2.51% in the event of a 1.0% decline (rise) 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 appreciation. The first corresponds to the interest received from the instruments invested in, and the 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 rise, and vice versa.

The foreign reserves have shown a positive return as of June 30, 2023, mainly due to the interest received on the investments in the investment portfolio (interest factor). Foreign reserves have had a return of 1.29%[76] so far this year. With interest rates in international markets at high levels compared to those seen in the last few years, investments generate higher interest (interest factor).

The investments of foreign reserves are expected to continue to generate high interest (interest factor) in 2023, and this is expected to be the main factor determining the year's profitability. The outlook for the profitability of foreign reserves is favorable given the higher level of interest that the portfolio's assets will receive. Furthermore, the possibility of devaluations as a result of higher increases in interest rates seems lower at this time than in previous periods, considering the fact that inflation has begun to ease in the world's main economies and the monetary authorities have shown signs of ending the upward cycle of their monetary policy rates in the coming months. In the medium term, to the degree that global inflation levels drop, interest rates on sovereign debt securities will tend to fall, and thus, the investment will appreciate and lower interest will be received.

75 Duration is a measurement of risk defined as a percentage decrease (increase) in the value of the portfolio with respect to a 1.0% increase (decrease) in all of the interest rates.

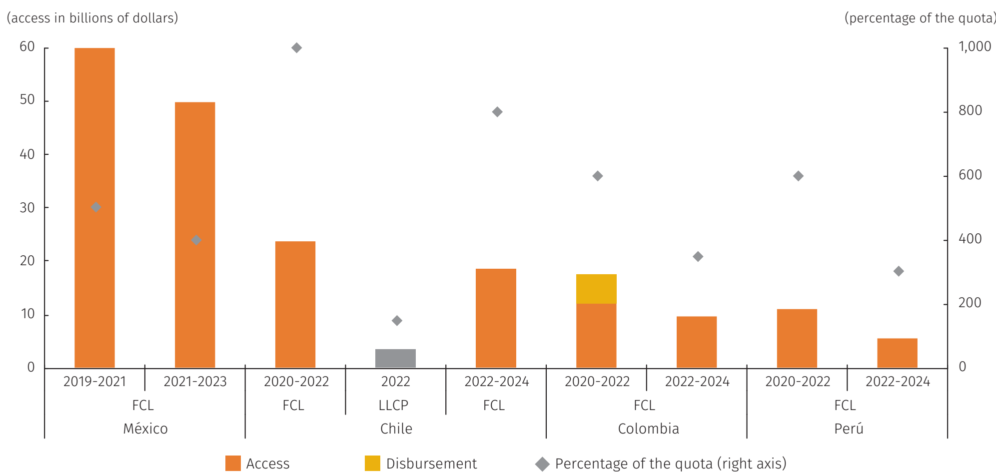
76 This profitability is obtained by dividing the actual return by the average value of the net reserves on 31 December 2022 and on 30 June 2023. Since 2015, the impact of the exchange rate effect on the profitability of the reserves has been excluded.

5.2.4 Measures to Reinforce International Liquidity

The Board of Directors of the International Monetary Fund (IMF) did a mid-term review of the qualification criteria[77] for Colombia's access to the Flexible Credit Line (FCL) in April this year. The Board reaffirmed that the country continues to meet the criteria for access to the instrument's resources. In its evaluation, the IMF Board highlighted the soundness of the country's fundamentals and economic policy frameworks. Furthermore, the IMF technical staff's report emphasized the effectiveness of the authorities' response in mitigating the external shocks that the economy has faced in recent years.

The FCL is an instrument designed to cover extreme external risks of countries with strong fundamentals and sound institutional frameworks for economic policy. This includes an inflation targeting system, a flexible exchange rate, public finances based on a sound institutional framework, and an effective financial regulation and supervision. Four countries currently have access to the FCL: Mexico, Colombia, Peru, and Chile (Graph 5.6). The first two have had this line in place since its creation in 2009 while Chile and Peru have had this instrument since the beginning of the pandemic in 2020. In 2022, Chile decided to exit this instrument to replace it with a Short-term Liquidity Line (SLL) but then decided to reapply for the FCL for a two-year period.

Graph 5.6
Recent FCL Agreements



Sources: IMF, *Banco de la República.*

Colombia's current two-year agreement was approved in April 2021 for an amount equivalent to USD 9,800 million (350% of the country's quota in the IMF). This precautionary line supplements the availability of foreign sources of liquidity, provides additional buffers to deal with external risks, preserves international confidence in the Colombian economy, and facilitates the country's access to international financial markets under favorable conditions.

77 These criteria are: 1) a sustainable external position; 2) a capital account in which private flows predominate; 3) a track record of access to the international capital markets under favorable terms; 4) an appropriate level of foreign 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 solvency problems that could pose a risk to systemic stability; 8) effective oversight of the financial sector; and 9) integrity and transparency of information.

This agreement replaced the previous one, approved in 2020, in which precautionary access was equal to 417% of the country's quota. Colombia has benefited from successive FCL agreements since May 2009 through the present (with modifications in the amount of access depending on external conditions) thanks to its sound institutional policy frameworks and prudent management of the economy. Access to this instrument is justified by the strong track record that builds confidence that the country will continue to pursue robust economic policies.

The authorities recognize the precautionary and temporary nature of the instrument and are committed to progressively reduce the level of access to the FCL as conditions permit. The reduction in access under the current agreement compared to the previous one is in line with the exit strategy from access to the facility as external vulnerabilities diminish. Thus, one year after the renewal of the FCL, the outlook abroad seems to be more favorable although the prospects are accompanied by a high level of uncertainty. In this context, there are a few high risks abroad that are still associated with the tighter international financial conditions and the resurgence of geopolitical tensions. This could have implications for commodity prices, capital flows, and growth, along with other variables. Given this, it is desirable to have external liquidity buffers to complement the coverage provided by the adequate level of foreign reserves.

Moreover, *Banco de la República* also has access to the repo facility with the Federal Reserve (FIMA), an instrument that facilitates access to immediate liquidity in case it is needed 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 U.S. Treasury bonds held in custody at the Fed for U.S. dollars with the commitment to repurchase the securities the next day and pay the corresponding interest. The primary benefit that the access to the FIMA repo facility has for *Banco de la República* is to have liquidity in US dollars without having to sell off the assets of the foreign reserves' portfolios permanently. This access mitigates liquidity and market risk. *Banco de la República* is likely to make use of this repo facility only in the event that, at a time when it is decided to sell dollars on the spot market, the market for buying and selling Treasury bonds happens to have very low liquidity.

Furthermore, *Banco de la República* has had access to liquidity facilities from the Bank for International Settlements (BIS) since June of this year to supplement the availability of foreign liquidity from the foreign reserves. Under these facilities, certain investments held by central banks with this institution serve as collateral for the provision of liquidity by 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[78] for a total amount of USD 1,000 million in June of this year. They would only be used as an exception in the event of extreme market situations. In this respect, *Banco de la República* considers these facilities to be precautionary lines that complement the availability of foreign liquidity from foreign reserves.

78 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 of a request for disbursement from it.

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

In compliance with Act 1484 of 12 December 2011, which authorized *Banco de la República*'s incorporation as a shareholder of the Bank for International Settlements (BIS),[1] this shaded section presents a report on the most relevant activities carried out with that entity during the last year. 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 financial statements of the Bank at their acquisition cost in SDR under "contributions to international organizations and entities."

This year, as stipulated by the BIS Board of Governors in 2022, the decision was made to pay a normal dividend of 285 SDR per share which represents an increase of 10 SDR with respect to the dividend paid in the 2021-2022 period. Therefore, the profits for the 2022-2023 period were allocated to the proposed dividend payment: the General Reserve Fund, the Special Dividend Reserve Fund, and the Free Reserve Fund.[2]

In recent months, some members of the Board of Directors of *Banco de la República* have participated in the periodic meetings that the organization holds 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 monetary policy tightening, inflation trajectory, current global financial conditions, exchange rate pass-through, macro-financial stability frameworks, international trade, cryptocurrency risks, and the design of a central bank digital currency (CBDC).

Likewise, within the framework of the BIS consultative groups that coordinate research and analysis in areas such as financial stability and banking operations, *Banco de la República* participated regularly in the meetings of the Consultative Group of Directors of Financial Stability (CGDFS) in which the risks to financial stability derived from the rise in interest rates have been discussed. The meeting of the Consultative Group on Innovation and the Digital Economy (CGIDE) in which the progress on fast payment systems and the experimental development of a CBDC were reviewed is also noteworthy.

The participation of the Bank's senior management in the conferences and seminars organized for the 22nd BIS Annual Conference[3] that was held in Basel, Switzerland at the end of June this year was also notable. On this occasion, discussions focused on the interaction of fiscal and monetary policy, capital markets, the future of cryptocurrencies, and the mandate of central banks. In addition, in the Annual General Meeting, the organization presented the chapters of the *2023 Annual Eco-*

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

2 The purpose of the General Reserve Fund is to gather resources to meet losses that the BIS may incur. The funds remaining from the annual net income were distributed between the Special Reserve Fund and the Free Reserve Fund in accordance with the Company's bylaws.

3 The presentations of the organization's 22nd annual conference are available at the following link: https://www.bis.org/events/conf230623t/overview.htm

nomic Report.[4] The report is divided into three chapters that focus on developments in the economic environment framed by the trajectory of inflation, the interaction between fiscal and monetary policy to safeguard stability and trust, and the future of the monetary system in accordance with CBDC developments.

Moreover, Bank representatives had the opportunity to attend the virtual conference of the BIS Innovation Summit.[5] This meeting focused on technological innovation in payment systems, climate-related risks, economic uncertainty, and market integration. The event took place at the end of March and brought together central bank governors, senior officials, academicians, and private sector individuals to discuss the above-mentioned issues.

Finally, the BIS held the third Green Swan Conference[6] organized jointly with the Central Bank of Chile, the Network for Greening the Financial System, and the South African Reserve Bank in June 2023. The purpose of this event was to inquire about the practices that the financial sector should adopt related to climate change-related risks. On this occasion, the event focused on the macroeconomic implications of the energy transition and the role of public policies in the development of new technologies.

4 The report is available at the following link: https://www.bis.org/publ/arpdf/ar2023e.htm

5 The agenda and the recording of the event are available at the following link: https://www.bis.org/events/bis_innovation_summit_2023/overview.htm

6 The agenda and the recording of the event are available at the following link: https://www.bis.org/events/green_swan_2023/overview.htm

6. Financial Situation of *Banco de la República*

6.1 Financial Position of *Banco de la República* (balance sheet)[79]

The Bank's assets amounted to COP 323,897 b, liabilities to COP 207,376 b and equity to COP 116,522 b as of 30 June 2023. Compared to December of last year, the assets declined COP 7,813 b (-2.4%), liabilities rose COP 17,766 b (9.4%), and equity dropped COP 25,579 b (-18.0%). The Bank's balance sheet decreased mainly due to the lower value of the foreign reserves in pesos, that resulted from the appreciation of the Colombian peso against the currencies in which these reserves are invested. This also had the effect of reducing the Bank's equity (Table 6.1).

Compared to the end of 2022, in the assets the value of the gross foreign reserves in pesos decreased COP 33,836 b while the balance of repo operations rose COP 15,451 b and that of the TES portfolio held by the Bank rose COP 7,842 b. The Bank did not make any purchases or sales of foreign currencies on the market during the first half the year. The balance of the gross foreign reserves in pesos declined (-12.3%), mainly as a result of the appreciation of the Colombian peso with respect to the reserve currencies. However, its dollar balance rose USD 576 m.[80] The above was partially offset by the COP 15,451 b increase in the balance of repo operations compared to what had been seen at the end of last year,[81] and by the higher balance of COP 7,842 b (21.8%) in the TES portfolio held by the Bank. The increase in the latter was due to the COP 7,472 b appreciation of the monetary portfolio at market prices (COP 2,112 b corresponded to the yield accrual at the purchase interest rate recognized in the P&L and COP 5,360 b to the changes in the market price registered in the ORI) as well as to the COP 3,382 b net purchases of TES in the secondary market that was partially offset by the transfer of COP 1,609 b of TES to the CNG as payment for 2022 results[82], and by the maturity of COP 1,403 b in coupons.

The balance of CNG deposits in the Bank rose COP 32,300 b while the monetary base decreased COP 14,147 b on the same date. The increase in CNG deposits at the Bank over the course of the year was largely offset by the monetary base, which decreased (-9.1%)[83] primarily due to the fall in the demand for cash (-COP 12,785 b, -11.0%).

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79 In this section, the line items are shown by economic rather than by accounting criteria. With respect to the financial statements presented to the Office of the Financial Superintendent 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; and third, other reclassifications of lower value accounts. In this respect, the asset and liability values presented in this *Report* (COP 323,897 b and COP 207,376 b respectively) differ from those registered in the financial statements as of 30 June 2023 (COP 340,421 b and COP 224,165 b respectively).

80 See Chapter 5 of this *Report*.

81 This movement in assets was largely the result of the contractionary effect of higher CNG deposits in the Bank registered as liabilities. See the shaded section "Monetary base and M3."

82 Pursuant to the provisions of Law 2276 of 2022, article 27. See https://www.banrep.gov.co/es/news/board-of-directors-banrep-approves-transfer

83 See the shaded section "Monetary Base and M3."

Table 6.1
Financial Position Statement of *Banco de la República* classified by Economic Criteria[a/]
(billions of pesos)

Accounts	December 2022		June 2023		Change	
	Balance	Percentage share	Balance	Percentage share	Absolute	Percentage
Assets	331,710	100.0	323,897	100.0	-7,813	-2.4
Gross Foreign Reserves	275,577	83.1	241,741	74.6	-33,836	-12.3
Share in international entities and organizations	8,722	2.6	10,080	3.1	1,358	15.6
Inversiones	36,107	10.9	43,751	13.5	7,644	21.2
TES	35,909	10.8	43,751	13.5	7,842	21.8
Private debt securities	198	0.1	0	-	-198	-100.0
Repo operations	5,297	1.6	20,748	6.4	15,451	291.7
Other net assets	6,007	1.8	7,577	2.3	1,570	26.1
Liabilities and equity	331,710	100.0	323,897	100.0	-7,813	-2.4
Liabilities	189,609	57.2	207,376	64.0	17,766	9.4
Foreign-currency liabilities that affect foreign reserves	26	0.0	19	0.0	-7	-25.8
Monetary Base	154,744	46.7	140,597	43.4	-14,147	-9.1
Cash	115,898	34.9	103,112	31.8	-12,785	-11.0
Reserve	38,847	11.7	37,485	11.6	-1,362	-3.5
Interest-bearing deposits not constituting reserve requirements	2,020	0.6	2,522	0.8	503	24.9
Other deposits	59	0.0	55	0.0	-3	-5.8
National Government: National Treasury Office L/C	7,068	2.1	39,368	12.2	32,300	457.0
Obligations to international organizations	25,693	7.7	24,814	7.7	-879	-3.4
Total equity	142,101	42.8	116,522	36.0	-25,579	-18.0
Capital	13	0.0	13	0.0	0	0.0
Reserve	744	0.2	744	0.2	0	0.0
Surplus	149,765	45.1	114,856	35.5	-34,909	-23.3
Foreign exchange adjustment[b/]	150,832	45.5	115,906	35.8	-34,926	-23.2
Special foreign-exchange account settlement	453	0.1	453	0.1	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	-0.6	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	-3,406	-1.1	6,642	-66.1
Results	1,771	0.5	4,314	1.3	2,543	143.5
Fiscal year result	1,506	0.5	4,049	1.3	2,543	168.8
Retained earnings from Prior Years due to Change in the Accounting Treatment of Foreign Reserves	265	0.1	265	0.1	0	0.0
Cumulative results - effect of change in accounting policies	-145	-0.0	0	-	145	-100.0
Accumulated Results Process of Convergence with IFRS	0	-	0	-	0	n.a.

a/ 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; and third, other re-classifications of lower value accounts. In this respect, the asset and liability values presented in this Report (COP 323,897 b and COP 207,376 b respectively) differ from those registered in the financial statements as of 30 June 2023 (COP 340,421 b and COP 224,165 b respectively).
b/ Includes the exchange rate adjustment of the net foreign reserves, liabilities with the IMF for SDR allocations and liabilities with FLAR for Andean pesos.
Source: *Banco de la República*.

Last of all, the equity declined due to the negative change in the foreign reserves exchange adjustment. Equity dropped COP 25,579 b, mainly as a result of the decline in the balance of gross foreign reserves in pesos, which was registered in the exchange adjustment account.[84] This last result was partially offset by the COP 6,642 b change in the account called "other comprehensive income" (OCI). The above was mainly due to the COP 5,360 valuation of the TES portfolio (fair value) and by the remeasurements of the defined benefit plan for COP 1,019 b.

6.2 Income Statement (L&P)

6.2.1 Close of June 2023

***Banco de la República*'s profit came to COP 4,049 b as a result of COP 6,423 b in income and COP 2,374 b in expenditures during the first half of 2023.** The year-to-date result is explained by COP 4,380 b in net monetary income, partially offset by net expenses derived from putting banknotes and coins into circulation and corporate results that amounted to -COP 48 b and -COP 283 b respectively (Table 6.2).[85]

The income was largely driven by the return on the foreign reserves and, to a lesser degree, to the yield of the TES held by the Bank and of the expansion repos from the beginning of 2023 to June. In particular, the yield of foreign reserves registered in the P&L amounted to COP 3,533 b[86], derived from a total yield of COP 3,610 b and a negative net result of COP 77 b transferred from the OCI to the P&L.[87] The income, in turn, generated by the TES portfolio held by *Banco de la República* and by expansion repos amounted to COP 1,927 b and COP 729 b respectively. In both cases, there was an annual increase in accumulated yields up to June: In the case of TES, this was mainly due to the increase in the average balance caused by net purchases in the market[88] and, in the case of repos, due to the higher remuneration rate in accordance with the increases in the policy interest rate defined by the Board of Directors.[89] Corporate revenue for the first half of 2023, in turn, totaled

84 This includes the valuation by exchange rate difference between the obligation of the IMF allocations and the Andean pesos with FLAR.

85 Note that a change in the accounting treatment of the return on foreign reserves was implemented at the end of 2022 as stipulated in Decree 2443/12 December 2022. Therefore, the results for the year to June 2023 are not comparable to those of the same period in 2022 with respect to this item. For more detail, see shaded section 3 (Change in the Accounting Treatment of Foreign Reserves) in the March 2023 *Board of Directors' Report to the Congress of the Republic.*

86 Does not include the effect of the exchange rate differential from changes in the dollar exchange rate vs. other currencies in which these reserves are invested. This effect is registered in the exchange adjustment surplus account of the Bank's equity without affecting the P&L. Note that, in accordance with the change in the accounting treatment of the foreign reserves, the unrealized yields caused by 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 and not on the income statement. When they are made, these valuations are transferred from the OCI to the P&L.

87 The latter value is explained by COP 457 b in realized valuation losses from the passive portfolio that were transferred from the OCI to the P&L, and by COP 380 b in unrealized losses from this same portfolio accumulated over the course of the year, excluded from the P&L, and registered in the OCI.

88 While the increase in the average volume of the TES balance largely accounts for the annual rise in yields, a higher average interest rate (purchase IRR) was also seen during the first half of 2023.

89 The rate of remuneration and the daily volume of expansion repos averaged 13.03% and COP 12,010 b for the year to June, compared to 4.99% and COP 14,774 b during the same period in 2022.

Table 6.2
Banco de la República Income Statement (P&L), January to June
(billions of pesos)

	Actual as of June		Annual changes[a/]	
	2022	2023	Absolute	Percentage
I. Total Income (A+B+C)	-921	6,423	7,344	n.a.
A. Monetary income	-1,211	6,204	7,415	n. a.
1. Interest and returns	-1,292	6,191	7,483	n. a.
Foreign Reserves	-3,011	3,533	6,544	n. a.
Private Debt Securities Held by BR	27	2	-25	-93.3
TES Held by BR	1,336	1,927	592	44.3
Expansion repos	356	729	373	104.6
2. Foreign exchange differences	76	8	-68	-89.4
3. Other monetary income	5	5	0	2.1
B. Revenue from coins issued	156	78	-78	-50.1
C. Corporate income	134	141	7	5.4
II. Total expenditures (A+B+C+D)	1,156	2,374	1,218	105.4
A. Monetary expenditures	608	1,824	1,216	200.2
1. Interest and returns	533	1,694	1,161	218.0
Government Interest-bearing Deposits (DGCPTN)	516	1,495	980	190.0
Monetary contraction deposits	17	199	182	1,052.1
2. Costs of Management and Management of Funds Abroad	17	22	6	33.9
3. Commitment fee for IMF flexible credit	55	50	-4	-7.9
4. Foreign exchange differences	2	56	54	2,226.9
5. Other monetary expenditures	1	1	0	-22.5
B. Spending on banknotes and coins	151	126	-25	-16.3
C. Corporate expenditures	397	424	26	6.6
1. Personnel costs	268	272	4	1.4
2. Overhead	66	80	14	20.7
3. Other Corporative	63	72	9	13.7
4. Flexible budget availability	0	0	0	n. a.
D. Pensioners' expenses	0	0	0	-0.9
III. Fiscal year result (I - II)	-2,077	4,049	6,126	n. a.

a/ There was a change in the accounting treatment of the return on foreign reserves in 2022. Therefore, the results for the year to June 2023 are not comparable with those from the same period in 2022 with respect to this item.
Source: *Banco de la República*.

COP 141 b,[90] which meant an increase of COP 7 b compared to the same period in 2022. Finally, income from the face value of the coins issued and foreign exchange differences amounted to COP 78 b and COP 8 b respectively and were both lower than the values for the same period in 2022.

Outflows in the first half of 2023 are primarily due to the remuneration paid on CNG deposits at the Bank and contraction deposits as well as corporate expenses. Monetary expenses for the year to June amounted to COP 1,824 b, mostly caused by the COP 1,495 b[91] in remuneration on CNG deposits in the Bank and COP 199 b on contraction deposits. Compared to the first half of 2022, the higher remuneration in both cases was linked to increases in both the monetary policy interest rate and average volumes.[92] Corporate expenses, in turn, totaled COP 424 b and thus rose 6.6% in annual terms (COP 26 b). A breakdown of this value into its main components shows that personnel expenses amounted to COP 272 b. This is an annual increase of 1.4% and is lower than the salary adjustment determined by the Collective Bargaining Agreement (14.12%) as a result of the effect on the basis of comparison, since in 2022 the expenses of the retirement plan for the transformation of six branches into cultural agencies were included.[93] Meanwhile, general and other corporate expenses totaled COP 80 b and COP 72 b, respectively, with annual growth rates of 20.7% and 13.7%. The growth in general expenses included expenses associated with technology projects and the Bank's expenses related to the increase in the minimum wage. The increase in "other corporate," in turn, is due to the higher contribution to the Office of the Financial Superintendent of Colombia and the rise in insurance and tax expenses.

6.3.2 Outlook for 2023

A profit of COP 8,408 b which is higher than the 2022 result is projected for 2023, mainly because of the profitability of foreign reserves. The expected increase in reserve yields is likely a response to higher interest rates abroad in a context in which central banks in advanced economies have tightened monetary conditions to contain inflationary pressure. A significant increase in the Bank's income, in particular, is projected for 2023, one that will be COP 9,851 b higher than in 2022 and could largely offset the higher expenditures of COP 2,950 b expected for the year (Table 6.3).

Note that the estimated result assumes an extraordinary nature in the expected level of profits which, in fact, corresponds to the highest projected value of *Banco de la República*'s results since 1994. Therefore, it is important to note that the risks in this projection derive from changes in the assumptions used in the estimation. The risks associated with changes in the yield on foreign reserves and in the

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90 They mainly include income from commissions for banking services and trust business, interest on loans to employees and pensioners, leases, social welfare activities, and income from cultural activities.

91 This value considers accrued interest deposits and interest-bearing cash accounts of the General Office of Public Credit and the National Treasury (DGCPTN in Spanish) at the Bank.

92 During the first half of 2023, the average balance of CNG deposits was COP 24,850 b with an average interest rate of 12.9%. These values were COP 22,037 b and 4.83% for the same period in 2022. With regard to contraction deposits, the average volume for the year 2023 to June was COP 3,452 b with an interest rate of 12.32%, which was higher than in 2022 (COP 990 b and 3.58% respectively).

93 The transformed branches were Ibagué, Montería, Pasto, Riohacha, Quibdó, and Leticia. Discounting the retirement plan registered in 2022, the annual growth in corporate and personnel expenses for the first half of 2023 would have been 14.8% and 13.4% respectively.

Table 6.3
Forecast for *Banco de la República*'s 2023 Income Statement
(billions of pesos)

	Actual 2022	Projection 2023	Annual changes	
			Absolute	Percentage
I. Total Income (A+B+C)	4,448	14,299	9,851	221.5
A. Monetary income	3,850	13,684	9,834	255.4
1. Interest and returns	3,710	13,668	9,958	268.4
Foreign Reserves	-332	7,780	8,112	-2.442.2
TES Held by BR	2,997	3,908	911	30.4
Private Debt Securities Held by BR	40	2	-39	-95.5
Expansion repos	1,005	1,978	974	96.9
2. Foreign exchange differences	135	11	-125	-92.1
3. Other monetary income	5	5	0	1.8
B. Coins issued	316	322	6	1.9
C. Corporate income	282	294	12	4.1
Commissions: Banking services and Fiduciary operations	241	253	11	4.7
Other corporate income	41	41	0	0.2
II. Total expenditures (A+B+C+D)	2,942	5,892	2,950	100.3
A. Monetary expenditures	1,805	4,467	2,662	147.5
1. Interest and returns	1,643	4,226	2,583	157.2
Government Interest-bearing Deposits (DGCPTN)	1,586	3,885	2,299	144.9
Monetary contraction deposits	57	341	284	496.9
2. Costs of Management and Management of Funds Abroad	48	86	38	79.8
3. Commitment fee for IMF flexible credit	103	107	3	3.4
4. Foreign exchange differences	10	47	37	388.6
5. Other monetary expenditures	1	1	0	17.1
B. Banknotes and coins	334	460	126	37.9
C. Corporate expenditures	801	960	158	19.8
1. Personnel costs	517	584	66	12.8
2. Overhead	155	214	59	38.0
3. Other Corporative	129	157	28	22.0
4. Flexible budget availability	0	5	5	n. a.
D. Pensioners' expenses	2	5	3	n. a.
III. Fiscal year result (I - II)	1,506	8,408	6,901	458.1

Source: *Banco de la República*.

income from monetary expansion transactions are particularly noteworthy. Indeed, part of these risks have already materialized during the year, and therefore, the projected profits for 2023 are COP 2,596 b lower than those estimated in the budget approved by the Board of Directors at the end of the previous year. Specifically, the lower estimates for net monetary policy income,[94] a result of the lower growth of the monetary base, and the yield on foreign reserves, could explain 71% and 29% of this reduction respectively. Based on the performance of the monetary base so far this year, the Bank's projected profit for the remainder of the year could have a downward risk compared to the current estimate. More specifically, a reduction of 100 bp in the average annual change in the monetary base will probably reduce its average balance by approximately COP 1.4 trillion in 2023 with a corresponding negative impact on the level of expansion repos and their yield.

With respect to monetary results, a net income of COP 9,217 b is estimated, mainly due to the expected return on foreign reserves. This net income would be COP 7,172 b higher than what was seen in 2022 and would be the result of the higher yield of COP 8,112 b on foreign reserves and the lower net income from monetary policy transactions of COP 736 b. In the first case, the increase in yield would be due to interest accruals and the valuations of the investment portfolio balance that affect the P&L.[95] In the second case, the result is mainly explained by the COP 2,299 b in higher returns on CNG deposits at the Bank and COP 284 b in monetary contraction deposits that would exceed the COP 974 b in higher income from expansion repo operations as well as the COP 911 b in yields on TES held by the Bank. The latter is a result of higher volumes and remuneration rates in all of the abovementioned variables.[96]

A net outflow of COP 138 b is expected in 2023 with regards to putting banknotes and coins into circulation. On one hand, income from the face value of the metal currency issued is estimated at COP 322 b with an annual increase of COP 6 b (1.9%) compared to 2022. The increase in this revenue could result from the expected increase in demand for high denomination coins in the second part of the year. On the other, the costs of issuing and putting monetary species (banknotes and coins) into circulation is likely to amount to COP 460 b and would be COP 126 b higher (37.9%) than those noted the previous year. These outflows are likely to be impacted by higher international input prices, international transportation costs, and the higher exchange rate in recent years.

A net outflow of COP 671 b in corporate and pensioners' results is estimated for 2023. Corporate revenue, mainly composed of commissions from banking services and trust businesses, is projected to be COP 294 b with an annual growth of 4.1% (COP 12 b). Corporate expenses, in turn, are likely to amount to COP 960 b which is 19.8% (COP 158 b) higher in annual terms. By component, personnel expenses are expected to rise 12.8%. This growth is impacted by the effect of the aforementioned

94 Income from interest and yields on the securities portfolio held by the Bank and from expansion repo operations minus outflows from remuneration of CNG deposits with the Bank and from monetary contraction.

95 For this forecast, the yield curves as of 30 June 2023 of the securities in which most of the foreign reserves' portfolio is invested were used.

96 In the case of CNG deposits in the Bank, an average annual increase in their volume of COP 9,281 b and in their interest rate of 569 bp is expected. For contraction deposits and expansion repos, these increases could be COP 2,011 b and 605 bp and COP 1,894 b and 570 bp respectively. Likewise, the balance of TES held by the Bank is likely to show a rise in its average volume and in its yield rate measured at the purchase IIR.

high 2022 base of comparison[97] while general and other corporate are likely to expand at annual rates of 38.0% and 22.0% respectively. In the general expenses, technology and maintenance projects as well as those for adaptations will contribute close to half of the annual variation. In the other corporate expenses, accounting expenses for depreciation, deterioration, and amortization of intangible assets could account for close to 10 pp of this annual growth.

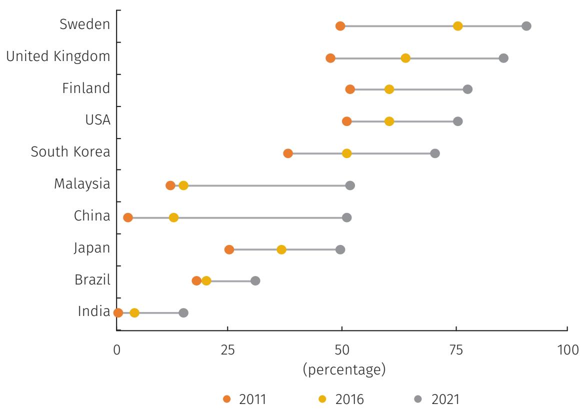
97 Without the base effect of the retirement plan registered in 2022, the growth in personnel expenses would have amounted to 19.4%.

7. Payments in the Colombian Economy

7.1 Progress on the Immediate Payment System

The increased connectivity and digitalization of societies has driven the steady growth of the payments industry worldwide and has allowed money circulation to be more streamlined, efficient, and secure. In developed countries, digital transactions have increased 25 pp between 2011 and 2021. Currently, more than 75% of payments in these economies are made electronically. A similar trend has been generated in emerging countries, but dependence on cash is greater and more than 50% of payments are still made in cash[98] (Graph 7.1).

Graph 7.1
Percentage of Digital Payments over Total Payment Volume



Source: *The Economist*, May 2023.

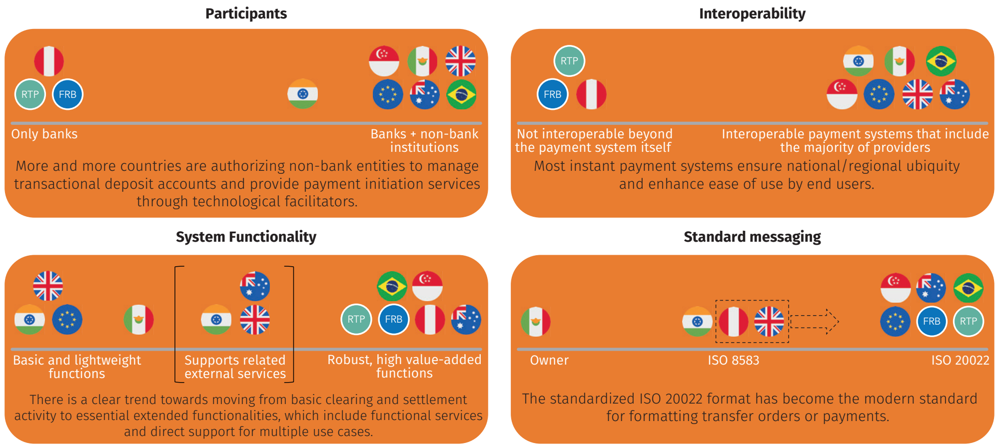
Immediate low-value payment systems have high adoption rates. More than sixty countries have these platforms with some very prominent cases such as UPI in India or PIX in Brazil, where more than 80% of adults use it for their daily payments. These systems are characterized by the fact that they provide an interoperable and continuous service, practically free of charge for money transfers between individuals. In these systems, the users of all transactional accounts provided by issuing institutions can send money from one deposit account to another, at any time and on any day of the week with the guarantee that the funds are delivered to the recipient immediately.

The low costs for users of immediate payment services and the standardization of conditions of use have favored their adoption, especially in segments of the population and productive sectors where cash used to be the only means of payment. Immediate payments have been consolidating under a low or zero cost model for the end user. India, Brazil, Malaysia, and Jordan prohibit the charging of commissions on person-to-person transfers, and there is no interchange fee between participants in contrast to the credit and debit card market. This has enabled small businesses and shopkeepers to accept electronic payments. Moreover, most of these immediate systems operate under uniform operational and business rules that ensure interoperability among participants. For example, the ISO 20022 messaging standard, a unique format for QR codes to initiate transactions,[99] and the same conditions in the user experience are required (Diagram 7.1).

98 Khiaonarong, T.; Humphrey, D. (2022). "Falling Use of Cash and Demand for Retail Central Bank Digital Currency," WP/22/27, International Monetary Fund: *The Economist*, May 2023.

99 Currently, 4.0% of transactions are made by reading these codes from a cell phone. The use of these codes is expected to increase by 16% annually over the next decade. Source: Deloitte.

Diagram 7.1
International Standards for the Provision of Immediate Payments



Source: Glenbrook.

Immediate payment systems are making progress on new uses and features that deliver greater value to the user, and some have begun to explore the path to cross-border transfers. The operation of immediate systems worldwide is mainly focused on payments between individuals and merchants, but their portfolio has expanded to other recipients including payments to the government and utility bills, etc. Also, new functions have been added, such as payment initiation from open finance, which has facilitated the entry of non-financial players and fintech developments. Some countries are exploring plans to interconnect their immediate payment systems and thus make the transition to immediate cross-border payments. One example is the Nexus project, boosted by the Bank for International Settlements (BIS), which integrates the local payment platforms of five Asian countries.[100]

Colombia continues to make progress in financial inclusion and the use of electronic payments. However, cash continues to be the payment instrument most widely used by the people. According to the most recent report by *Banca de las Oportunidades*, 91.3% of the adult population in Colombia had a deposit product at the end of 2022 with savings accounts in first place (79.6% of the adult population), followed by small deposits (62.3%). However, only 61% of adults with savings accounts and 77.4% with small deposits make active use of these products.[101] Progress in digitalizing payments is reflected in the declining preference for cash to make transfers and payments. This trend was spurred by the covid-19 pandemic as it went from being the instrument most used by 87% of adults in 2019 to 75% in 2022.[102] This result contrasts with the peak in cash in circulation during the pandemic, possibly associated with the increased demand for cash for precautionary reasons and savings, which has reversed around the world since 2022.[103] However,

100 BIS (2021). *Nexus: A Blueprint for Instant Cross-border Payments*. BIS Innovation Hub.

101 Office of the Financial Superintendent of Colombia (2023). *Report on Financial Inclusion, 2022*, see: https://www.bancadelasoportunidades.gov.co/sites/default/files/2023-06/Reporte%20de%20Inclusi%C3%B3n%20Financiera%202022_0.pdf

102 *Banco de la República* (2022) *Report on Financial Infrastructure*, available at: https://www.banrep.gov.co/es/reportes-sistemas-de-pago

103 Rösl, G.; Seitz, F. (2023). "Uncertainty, Politics, and Crises: The Case for Cash," IMFS Working Paper Series, No. 186, Goethe University Frankfurt, Institute for Monetary and Financial Stability (IMFS).

the use of electronic payment instruments presents significant socioeconomic gaps since groups with lower incomes, less education, and living in rural areas depend mainly on cash to make their daily purchases and maintain their savings partly due to the limited supply of telecommunication infrastructure (see Box 2: The recent digitalization of payments in Colombia).

The ease of using digital wallets continues to increase in Colombia, and this has made it possible to increase the use of electronic payments. However, their lack of full interoperability deviates from international best practices and hinders the consolidation of the digital payment ecosystem and the realization of the benefits of network economies. Electronic transfer payment models using mobile wallets have a high potential to boost electronic payments since they are a means of payment that is easy and quick to open from a mobile device with low or zero costs for users. These elements have led to there being currently forty million wallets with low-amount deposits compared to fifteen million in 2019. It is worth mentioning that this high number of deposits covers 23.5 million adults and is associated with the need for individuals to have several electronic deposits. The duplication of deposits is partly the result of the closed model of mobile wallets owned by each financial institution with different technical standards and no external interconnection. This structure, in turn, has led to a high growth in the QR network (approximately 1.5 million in 2022) which, not being interoperable, means that only one out of every four QRs is used frequently by applications. Note that the increase in the adoption of small deposits and digital wallets has favored the volume of monetary transactions through these channels and represented an annual growth of 98.6% in the last three years, thus raising their share in digital channels to 27.5%.[104] However, the total amount transacted through digital wallets is still very low and, in value, represents 4.2% of digital channels and only 12% of total retail payments in Colombia in volume. This offers great potential for growth and consolidation of the instant payment ecosystem.

The interconnection options for immediate transfer services in the country have increased in recent years. However, they are at an early stage of development and their costs and frictions in the user experience limit their acceptance by the public. The *Transfiya* system[105] registers about twenty participating entities. However, the service is not well publicized to users and its functional conditions limit its use. Indeed, the service is only available for person-to-person payments with a daily limit of up to COP 2 million or fifteen transactions per day. The transaction can only be initiated by entering the recipient's cell phone number and is not finalized until the recipient accepts the transaction in his/her financial institution's channel. The operations of this clearinghouse grew 321% in 2022 and reached 37.8 million transactions, but its share is barely 1.0% of the country's electronic transactions (SFC, 2022). *Redeban*, in turn, has announced the creation of *EntreCuentas*, a new immediate payment system for retailers based on interoperable QR codes and with lower costs than the conventional credit and debit card market. However, the start-up date and the number of participants that will join the initial phase is not yet known.

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104 Office of the Financial Superintendent of Colombia (2022). *Operations report*, second half of the year.

105 Immediate payment chamber created in 2019 by ACH Colombia, owned by banking establishments.

To foster interoperability and the smooth functioning of the ecosystem, *Banco de la República* will provide the industry with a directory and a centralized settlement service. Furthermore, they will operate an immediate payment system that will be interconnected with private payment systems. The Bank is making progress on the construction of a new immediate transfer system that, either directly or through existing payment systems, all financial institutions will be able to connect to and thus expand interoperability in transfers between individuals and to businesses as well as adding other uses. The design includes a centralized directory that will serve as a repository for all the keys[106] in the ecosystem along with a centralized settlement module where the settlement of all transactions will take place. *Banco de la República* is in the process of selecting the technology provider for the system, a provider that must meet industry standards and have experience in the field. The selection process is expected to be completed before the end of the year.

The new instant payment ecosystem seeks to encourage competition and innovation in the economy's transactions, and its design has been structured with the support of the industry through the Payment System Forum created by *Banco de la República* in 2022. Following the recommendations of the International Monetary Fund and the World Bank, *Banco de la República* created the Payment System Forum in August 2022 to ensure that the architecture of the system would follow international best practices and reflect the needs of the industry. The forum has enabled an active public-private interaction through various working groups, plenary sessions, and workshops with more than 150 attendees including financial institutions, cooperatives, fintechs, technology providers, and government agencies. At the end of the first stage of the forum, *Banco de la República* presented the architecture that the new immediate payment ecosystem will follow in December 2022.

Pursuant to the recently passed Act 2294/2023, Article 104, *Banco de la República* is moving forward with setting up a regulatory agenda that enhances interoperability, efficiency, security, and affordability in the country's new instant payment ecosystem. The consolidation of the immediate transfer ecosystem requires the definition of technical, operational, and business standards that reinforce interoperability between low-value immediate payment systems and their participants. In the second stage of the forum, which took place in the first half of 2023, *Banco de la República* discussed the standards for initiating, validating, sending, and receiving transfers with the industry as well as the rules regarding timing and user experience that will support them. The general regulatory guidelines for the ecosystem are expected to be implemented as of 2024 and thus modernize the payment infrastructure and speed up the country's digitalization trajectory.

Digital payments are a tool for economic development and contribute to financial inclusion, especially for the most vulnerable segments of the population. The growing availability of electronic payment services has facilitated access to and use of financial services and the generation of valuable transaction information. This can serve as an approximation of the ability to pay in order to make credit and formal insurance more widely available. In Brazil, for example, it is estimated that 30% of PIX users got a bank account for the first time. These effects were evident in the covid-19 pandemic when mechanisms were created to disperse state aid

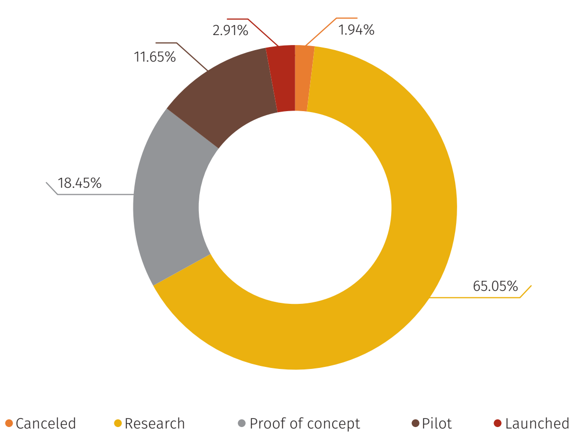
106 Refers to the user's identifier, and this is associated with the respective payment method. E-mail, cell phone, and ID card, etc. can serve as identifiers.

through the payment system. This made it possible to deliver aid more efficiently and transparently and to boost access to financial products. Colombia made progress in this area with the Solidarity Income program that included close to one million households and succeeded in reducing operating costs by nearly fivefold on average per transaction. The country should take advantage of the lessons learned from this program to strengthen and digitalize the subsidy payment platform. In this regard, the recent announcement by *Prosperidad Social* that transfers under the *Renta Ciudadana* program will be made through *Banco Agrario* in order to guarantee the delivery of funds in rural areas is a unique opportunity to leverage the digitalization plans of this institution in order to start opening accounts and setting up access to digital instruments and channels that will reduce dependence on cash in the rural sector where distribution costs are particularly high. However, it would be advisable to broaden the number of entities that could be part of the network for dispersing these resources and take advantage of the advances in financial inclusion that have been made with the broad coverage of transaction accounts and electronic wallets issued by deposit institutions. This promotes competition, opens up the number of easy, fast, and safe options for subsidy recipients and builds on the experience gained during the pandemic.

7.2 Global overview of central bank digital currency (CBDC)

Of the 193 sovereign states considered by the United Nations, 53.3%, or 111 countries, are currently exploring the risks and benefits of a central bank digital currency (CBDC) https://cbdctracker.org/). These countries account for nearly two-thirds of the global population and more than 90% of world output. Most of them are in the research and monitoring stages of international developments (65%). Thirty percent are experimenting with implementing proof of concept, prototypes, or pilots with a similar percentage of countries experimenting with wholesale and retail CBDC (widely available to the population). And only three countries, Bahamas, Jamaica, and Nigeria, have officially issued CBDC (Graph 7.2).

Graph 7.2
Central Bank Activities Related to CBDC (wholesale and retail)



Source: sitio web *cbdctracker*, calculations by *Banco de la República*

Recent international reports have underscored macroeconomic, technical, operational, and regulatory challenges to moving forward with the implementation of a retail CBDC. In the case of Sweden, one of the first countries to implement a retail CBDC pilot, a report was recently published stating that the challenges of the Swedish payment system could be addressed with other measures without the need to issue a CBDC.[107] The governor of the Bank of Korea, in turn, stated that the distributed ledger technology (DLT) used in the Korean

107 https://www.centralbanking.com/fintech/cbdc/7957236/sweden-does-not-yet-need-cbdc-inquiry-finds

experiments is not yet robust enough to meet the scalability needs of a retail CBDC and referred to the challenges of providing high levels of privacy as well as the allocation of responsibilities and costs of an eventual public-private implementation.[108] Canada, Australia, England, and the European Union, in turn, are actively studying the macroeconomic and financial risks as well as the technological and design challenges of a general access CBDC with multi-year work agendas for developing pilots and proof-of-concepts, but without any commitment to eventual issuance.

Emerging countries are in the experimentation and monitoring stages and, in some cases, in the implementation of a retail CBDC. In the cases of Jamaica, Bahamas, and Nigeria, there have been challenges in the adoption and distribution channels of their retail CBDCs. India, Indonesia, Malaysia, Brazil, China, and Ghana, in turn, are in the experimental stages. Chile and Peru have entered a public consultation stage while the rest of the countries, including Colombia, have adopted a strategy of monitoring progress in retail CBDC where it has been adopted. With respect to the risks of issuing a retail CBDC expressed by central banks in emerging countries, the most relevant are those related to the effects on financial stability and monetary policy, operational and cybersecurity risks, privacy and consumer protection implications, and regulatory challenges all of which are highly sensitive to the credibility of central banks.[109] Recent retail CBDC experiments include BIS's Aurum, Polaris, and Rosalind which evaluate different retail CBDC architectures and designs and experiment with aspects of privacy, scalability, application programming interface (API) development, and digital payments with offline CBDC.[110]

The potential of the CBDC to resolve some of the frictions in cross-border payments has been highlighted on the international agenda. In this environment, BIS is leading several multilateral projects while several countries have done regional experiments to assess their advantages and challenges. Among the projects led by the BIS innovation center network are Dunbar and m-Bridge which are studying the connection of multiple national CBDCs (mCBDCs) for wholesale payments issued on distributed ledger technology. Icebreaker, which seeks to evaluate cross-border payments between retail mCBDCs and is agnostic to domestic CBDC technologies, is also notable. And so is Mariana, which is exploring smart-contract-based mCBDC platforms that seek to automate market makers in the foreign exchange markets. The New York Federal Reserve, in partnership with fifteen central banks, in turn, is moving forward with the Ubin+ project. This one explores the creation of a regulated network for issuing and exchanging digitized financial assets between central banks and traditional financial institutions. Some steps have also been taken in this direction in Latin America: one case is the development of a proof of concept between *Banco de la República* and the Central Bank of Brazil in the context of the Real Digital Lift Challenge.[111] Swift, a private cooperative specializing

108 https://www.bis.org/review/r221028b.htm

109 https://www.bis.org/publ/bppdf/bispap123.htm

110 See recent reports from Aurum (https://www.bis.org/publ/othp57.pdf), Polaris (https://www.bis.org/publ/othp64.htm), and Rosalind (https://www.bis.org/publ/othp69.pdf).

111 The Digital Real Lift Challenge of the Central Bank of Brazil and Fenasban is an initiative launched in 2021 that was intended to engage the various players in the financial industry with their proposals for the development of services based on the possible issuance of a Brazilian CBDC.

in international financial transaction messaging, is moving forward with an mCBDC pilot with 18 central banks with instant settlement without the need for domestic CBDC systems to provide access to foreign financial institutions. Among the lessons learned from these experiences is the one that technological feasibility and greater efficiency can be achieved by limiting or eliminating the need for banking correspondents. Nevertheless, there are still concerns about scalability, regulatory frictions between jurisdictions, in particular with respect to access requirements for participants (financial and non-financial) in these schemes, exchange rate setting and governance aspects of the systems by the central banks involved.[112]

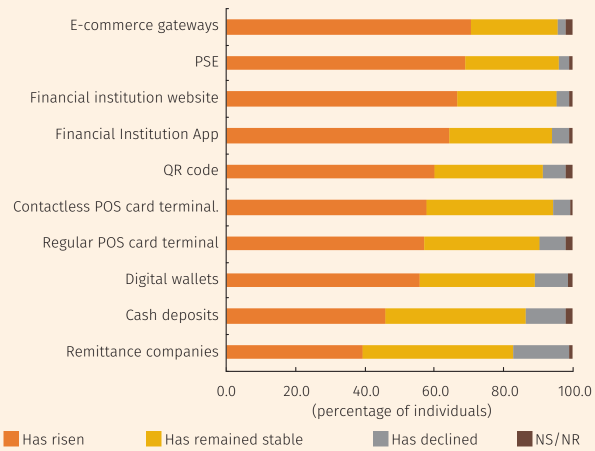
Banco de la República **will continue to monitor international progress and experiences regarding the issuance of a retail CBDC while focusing on experiments in the cases in which the high-value payment system is used.** The Colombian high-value payment system currently operates with the highest international standards of security, efficiency, and interoperability with the different financial infrastructures. However, recent literature shows that the digitalization of financial assets on automated platforms and with novel functions, such as smart contracts, can lead to significant efficiencies that could contribute to greater financial deepening and payment efficiency. *Banco de la República* is currently involved in experimental projects on wholesale payments and the money and capital markets. Also, recognizing the potential mCBDC platforms have to reduce costs in cross-border payments, the Bank will continue to take advantage of opportunities for experimenting with other countries and multilateral entities such as BIS, Cemla and IDB who have been developing technological sandboxes in cutting-edge financial innovations.

112 See, for example, the published reports on the Dunbar project (https://www.bis.org/publ/othp47.htm), mBridge (https://www.bis.org/about/bisih/topics/cbdc/mcbdc_bridge.htm) and Icebreaker (https://www.bis.org/publ/othp61.htm).

Box 4
The Recent Digitization of Payments in Colombia*

In recent years, Colombia economy has seen a growing trend in the digitalization of payments (perhaps partly as a consequence of the pandemic). This is evident in the increased use of electronic channels. According to the *Banca de las Oportunidades* (BdO) Financial Inclusion Demand Survey done in collaboration with the Office of the Financial Superintendent of Colombia (FSC) and *Banco de la República* (Banrep) in 2022,[1] the use of e-commerce gateways by the adult population in Colombia rose 71% compared to two years ago, 64% reported an increase in the frequency of using financial institutions' mobile applications, and 56% reported an increase in the use of digital wallets in the same period (Graph B4.1).

Graph B4.1
Frequency of Electronic Channel Use Compared to Two Years Ago



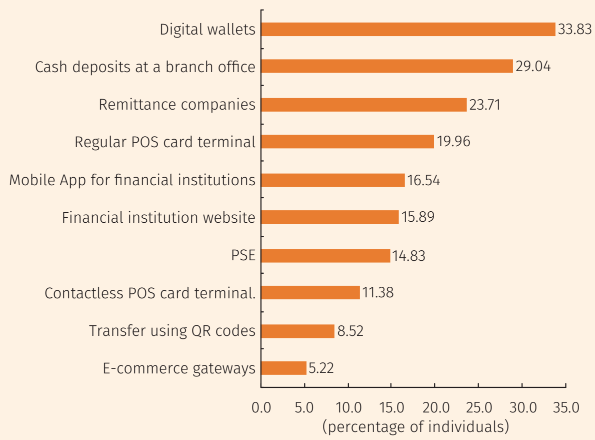
Source: Financial Inclusion Demand Survey (BDO, 2022), calculations by *Banco de la República*.

The increase in the use of digital channels[2] in the last two years was greater in cities than in rural areas (54% versus 45.6%). These differences in the use of digital channels were also found among individuals belonging to high-income households[3] (73%) versus low-income households[4] (42%), and among those with higher levels of education (70.7% of adults with postgraduate studies and 64.9% with university studies). By age, the greatest growth in the use of digital payments was seen in the 46-55 and 18-35 age groups (62% and 55%, respectively) while a smaller proportion of adults between 36 and 45 used them more (46%).

It should be noted that in the month immediately prior to the time the survey was done, Colombians made significant use of digital channels to make their payments (Graph B4.2). There is, in particular, a higher use of digital wallets by individuals with higher incomes and in urban areas (65% and 39.4%). Nonetheless, their use is also important in low-income households and rural areas (26.6% and 25.3%) although at lower levels.

In terms of digital wallet ownership, levels similar to those of savings accounts are found in cities and proportionally higher ones in rural areas (Graph B4.3). Likewise, the ownership of digital wallets stands out in the low-income population while the ownership of savings accounts and debit cards is higher in high-income groups (Graph B4.4). By gender, men have more savings accounts and debit cards (48.2% and 36.2%) than women (32.9% and 21.4%).

Graph B4.2
Usage of Payment Channels during the Past Month



Source: Financial Inclusion Demand Survey (BDO, 2022), calculations by *Banco de la República*.

* This is an extended version of the Banrep Blog: "Gaps in the development of digital payments in Colombia" of 31 May 2023.

1 The survey was done between April and May 2022 of people over 18 years of age, men and women residing in all municipalities around the country with a sample of 5,513 surveys. The main results of the survey are available at: https://www.bancadelasoportunidades.gov.co/sites/default/files/2022-12/Encuesta%20de%20demanda%202022%20VF.pdf

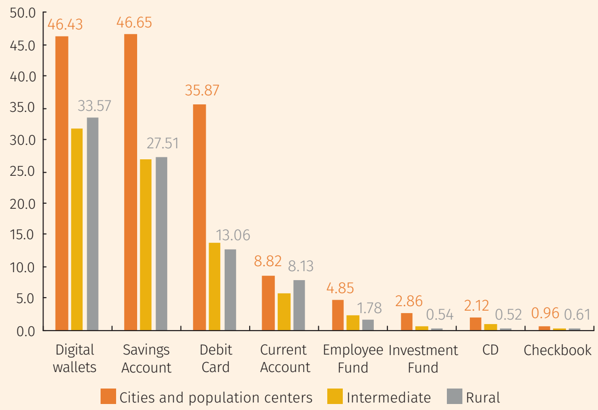
2 Such as e-commerce gateways, PSE payments, financial institution websites, QR codes, dataphones and electronic wallets.

3 Households with monthly incomes above four million pesos.

4 Households with monthly incomes of less than 1.5 million pesos.

Graph B4.3
Holdings of products or Means of Payment by Geographic Area

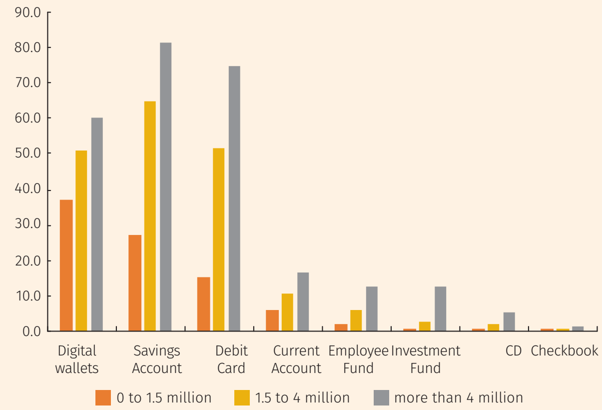
(percentage of individuals)



Note: According to the DNP, the category of intermediate municipalities, includes those with populations between 25,000 and 100,000 inhabitants or those with a high population density (more than 10 inhabitants/km2).
Source: Financial Inclusion Demand Survey (BDO, 2022), calculations by *Banco de la República*.

Graph B4.4
Holding of Products or Means of Payment by Household Income

(percentage of individuals)



Source: Financial Inclusion Demand Survey (BDO, 2022), calculations by *Banco de la República*.

The increased digitalization of the economy is also seen in the way individuals receive their main income. According to the survey, about 53% of the adult population in Colombia receives their income through electronic transfers (35% through transfers to bank accounts and 18% through transfers to mobile wallets and digital wallets). Meanwhile, 35% of individuals receive their income in cash, 10% through money orders, 0.2% through checks, and 0.8% through other options. In cities, income is most often received through electronic transfers (60% versus 34% in rural areas) and, in high-income households, it is received mainly through transfers to bank accounts (64%). Cash as a means of receiving income, in turn, predominates in rural areas (42.5% versus 31.1% in cities) and in low-income households (43% versus 12% in high-income households).

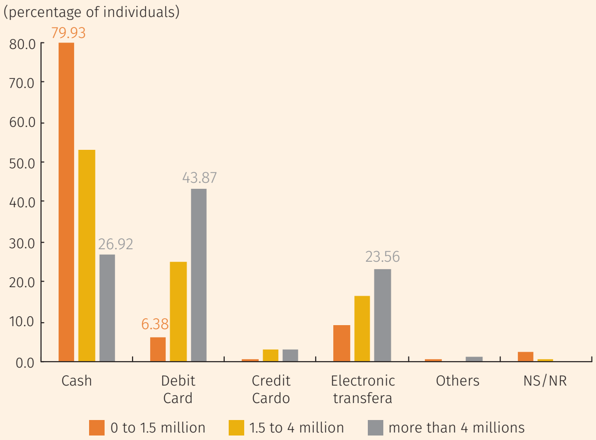
Despite recent digitalization, cash is still the instrument most used by Colombians to make their regular payments. This is followed by electronic payment instruments such as debit cards and electronic transfers with a significant share. The preference for cash is more prevalent in low-income households and in rural areas (79.9% and 83.1% respectively) while the use of debit cards and electronic transfers is more prevalent in high-income households (Graph B4.5).

The increased use of digital means of payment can be explained, in part, by the perception that users have about the low costs and ease of use compared to other electronic payment instruments, especially cards. According to the survey, a high percentage of individuals perceive cash, e-wallets, and the internet to be inexpensive or not expensive at all (74%, 66%, and 50% respectively). Meanwhile, cards, especially credit cards, are perceived as highly expensive. At the same time, 57% of the individuals surveyed perceive digital wallets as a very easy-to-use instrument for making payments.

The survey shows that 54.4% of the adult population in Colombia does not save. Among those who save, in turn, 39.5% keep their sav-

Graph B4.5
Use of Payment Instruments by Household Income

(percentage of individuals)



Source: Financial Inclusion Demand Survey (BDO, 2022), calculations by *Banco de la República*.

ings in cash, 20.8% in banks, cooperatives or employee funds, 17.7% in electronic wallets, 3.3% do so by buying bonds, stocks, and currencies, and 3.1% buy cryptoassets. Specifically, individuals in high-income households prefer to save in the financial system while low-income individuals keep their money at home. Likewise, cash savings is the preferred option for young people between 18 and 25 years of age (49.6%), and between 26 and 35 (38.4%). Note that 1.3% of low-income individuals and 5.9% of middle-income individuals[5] prefer to invest their savings in cryptoassets while their investments in stocks, bonds, or currencies are significantly lower (0.7% and 2.9% respectively).

The growing use of electronic payments, and their importance in the development of the payment ecosystem is a significant step forward in achieving the objectives of efficiency in public payment policy. Nevertheless, it is necessary to continue with efforts to close the significant existing gaps in access to and use of electronic payments, transactional products, and formal savings products by the lower income, less educated, and rural populations.

5 Households with monthly incomes between 1.5 and 4 million pesos.

Appendix
Management Policy for the Foreign Reserve Investment Portfolio

According to good practice recommendations, the management of foreign reserves should be based on liquidity, safety, and return criteria. In that respect, an attempt must be made 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 the management of Colombia's foreign reserves 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 their transactions are exposed in order to keep them low. Some of the main policies for risk management are as follows:

Liquidity Risk: reserves are invested in financial assets that are permanently in 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 in a limited group of eligible assets classes with strict investment limits on duration, spread duration, foreign exchange composition, and sector exposures. 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 entities related to governments 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 exchange traded 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.

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 (*Banco de la República's* bylaws). 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 their currency components in order to cover the country's payments abroad since these are made in many currencies. It is important to keep in mind 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 cash-on-delivery mechanisms. Counterparties in fixed income trading are required to be market makers, and the counterparties in currency trading are required to have high credit ratings. The purpose for payment on delivery mechanisms is to make the exchange of papers for cash or exchange of payments in a foreign currency exchange transaction a simultaneous one in order to eliminate the possibility of a default by one of the parties to the trade.

The foreign currency exchange counterparties must have a minimum credit rating of A- if they have an ISDA framework contract.[1] If they do not have said contract, the minimum rating is A+.

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 within the next twelve months. Currently, this tranche consists of working capital and a passive portfolio. The working capital is the portfolio into which the funds that come from intervention in the 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. The value of the short-term tranche as of June 2023 was USD 29,913.7 million, of which USD 1,227.1 million corresponded to working capital and USD 28,686.6 million to the passive portfolio.

The passive 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 is higher than that of the working capital portfolio, a foreign exchange breakdown that is intended to duplicate the performance of the country's balance of payments outflow, and a profitability that is similar to that of its benchmark index.[2] The passive portfolio is invested in instruments that are in line with those in the benchmark and are 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 raise 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 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 value expected from a possible loss not surpass 1.0% over a three-year horizon. 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 index.[3] As of June 2023, the value of the medium-term tranche came to USD 22,981.2 m.

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 June 2023, the market value of the gold tranche in the reserves came to USD 286.1 m.

The securities in the investment portfolio are deposited in financial institutions known as custodians.[4] The entities that provide custody service for the securities in the foreign

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1 The purpose of the framework contract established by the International Swaps and Derivatives Association (ISDA) is to establish the terms and conditions that govern over-the-counter derivatives traded between entities.

2 The concept and components of the benchmark index will be explained in the next section.

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

4 Currently, the minimum credit rating allowed for the trustees is A-.

reserves are the New York Federal Reserve, Euroclear, J.P. Morgan Chase, and State Street. The investments in physical gold are in the custody of the Bank of England.

3. Benchmark indices

To manage the reserve investment portfolio, *Banco de la República* has defined theoretical portfolios or benchmarks[5] for short- and medium-term tranches. Different indices are built for each one of these tranches in order to reflect their investment goals. The benchamarks serve as a frame of 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[6] objective foreign exchange components are determined. Once the foreign exchange components are defined, a portfolio is sought that maximizes risk-adjusted return[7] and complies with the loss restrictions defined by this tranche. The foreign exchange components for this index are intended to duplicate the trend of the outflows from the country's balance of payments.[8] 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 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 June 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 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 horizon. First of all, no currency exchange component 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 not exceed 1.0% of the value of the tranche is defined for a horizon of three years is intended 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 June 2023, the benchmark indices defined for the two tranches have a low level of market risk with an effective duration of 2.19 for the short-term tranche index and of 2.89 for the medium-term tranche. Graph A1.1 shows the benchmark indices approved for the short- and medium-term tranches.[9]

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5 In the capital markets, a benchmark index alludes to a basket of assets with predetermined weights in accordance with certain rules that define their components. In general, an index tries to comprehensively duplicate 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 benchmark indices 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).

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

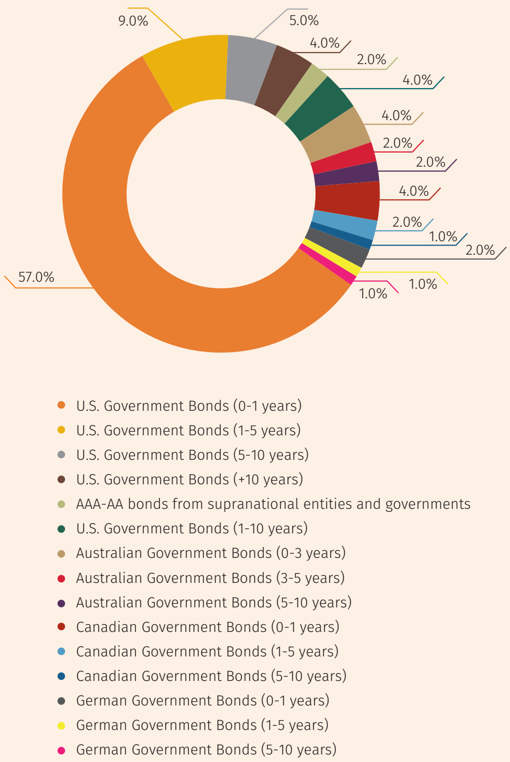
7 *A detailed description of the methodology for building the benchmark index is located in the boxes entitled "Technical Explanation of the Methodology for Building the Benchmark Index" and "Market Risk Restrictions on the Optimization Process" in the 2013 and 2019 Management Reports on the Foreign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

8 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.

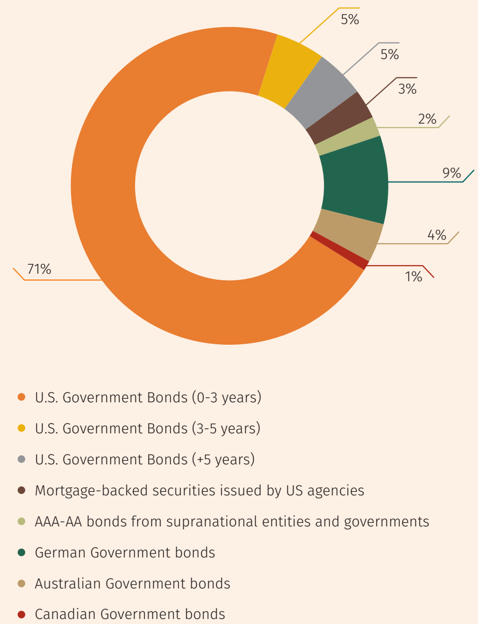
9 For the different sectors that the benchmark index is made up of, the indices published by ICE data indices are used.

Graph A1.1
Breakdown of the Benchmark Indices for the Short- and Medium-term Tranches.
(information as of 30 June 2023)

A. Short Term Tranche



B. Medium Term Tranche



Source: *Banco de la República.*

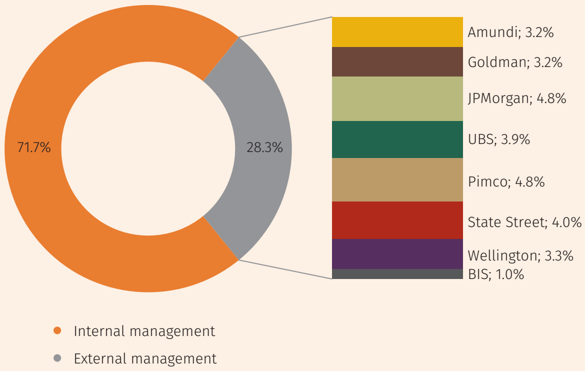
4. External Management Program

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 38,152 million (71.74% of the investment portfolio) at the end of June 2023 while the external management program came to USD 15,029 million (28.26% of the investment portfolio).

The main reasons for using external managers are to generate returns that are higher than the benchmark index 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 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, the amount managed will be modified or their continuation in the program will be reviewed. The private companies that participate in the external management program currently are: Amundi Asset Management, Goldman Sachs Asset Management, L.P., J.P. Morgan Asset Management (UK) Limited, Pacific Investment Management Company LLC, State Street Global

Graph A1.2
Management of the Investment Portfolio
(information as of 30 June 2023)



Source: *Banco de la República*.

Advisors Trust Company, UBS Asset Management (Americas) Inc., Wellington Management Company LLP (Graph A1.2). The funds that these companies manage are in *Banco de la República's* custody accounts, and the administrators' 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 the purpose for them is to invest in the assets that are appropriate for global foreign reserves in an effort by different countries to work cooperatively.[10]

10 Investments are currently made in a fund of securities issued by the Chinese government (USD 279.34 m) and a fund of securities issued by non-financial corporations (USD 266.96 m).

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